

*Geophysical Research Letters*

Supporting Information for

**Hydrologic versus geomorphic drivers of trends in flood hazard**

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Dataset S1

Graphs of trends in the flow frequency due to channel capacity (channel capacity effects)

Graphs of trends in the flood stage flow frequency (flow frequency effects)

**Additional Supporting Information (File S2, uploaded separately)**

Plots of all field data (stream channel measurements).

**Introduction**

The supporting information for this paper contains the following information:

- **Methods (File S1, p3-20):** detailed Methods used to prepare the data in the manuscript, Figures S1 to S9 and their captions, a table of symbols and acronyms used in the Methods, and supporting references for the Methods.
- **Dataset S1 (File S1, p21-33):** complete data used in the manuscript, for all 401 stream gauges.
- **Graphs of trends in the flow frequency due to channel capacity (File S1, p34-134)** (channel capacity effects on flood hazard frequency). Graphs indicate trend in flow frequency due to channel capacity changes. Purple circles indicate  $\hat{Q}$  exceedance frequency values (in units of flood stage flow frequency, days per year), which were extracted from the exceedance curve (see Figure S8 in the Methods). Purple curve indicates mean-unbiased exponential IRLS trend for these exceedance frequencies. Note: the curves are exponential, but the curvature is indistinct for many sites due to the scatter

in the underlying data. The corresponding example for these graphs is Figure S9 in the Methods.

- **Graphs of trends in the flood stage flow frequency (File S1, p135-235)** (flow frequency effects on flood hazard frequency). Graphs indicate flow frequency trend (in units of flood stage flow frequency, d/y) versus year. Purple circles represent computed values of flood stage flow frequency (number of days with mean daily discharge equaling or exceeding the long-term average  $Q_{FS}$  each year). The purple exponential curve represents the mean-unbiased exponential trend in annual flood stage flow frequency. The corresponding example for these graphs is Figure S6 in the Methods.
- **Plots of field data (File S2):** all stream channel measurements used to compute the flow frequency and channel capacity trends. Scatterplots indicate, for each site: cross-sectional channel discharge ( $m^3/s$ ) versus gauge height (m), channel width (m) versus gauge height (m), cross-sectional flow area ( $m^2$ ) versus gauge height (m), cross-sectional average flow velocity (m/s) versus gauge height (m), and cross-sectional average flow velocity (m/s) versus flow area ( $m^2$ ).

## Methods

### 1. Background

Cross-sectional discharge ( $Q$ ) – or the volume of flow ( $\text{m}^3/\text{s}$ ) that is carried in a river channel at any given level of stage (the water surface level, noted by the USGS as gauge height  $G$ ) – is computed as:

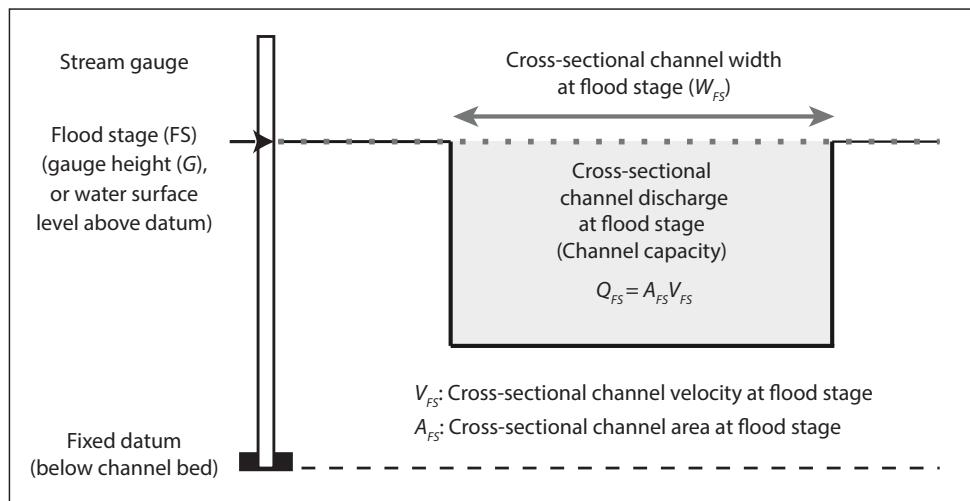
$$Q = AV \quad (1a)$$

where  $A$  is measured cross-sectional channel area ( $\text{m}^2$ ) and  $V$  is measured cross-sectional average flow velocity ( $\text{m/s}$ ), for the specified level of stage. Flooding occurs when the water level rises above the flood stage. The US National Weather Service defines flood stage as “an established gauge height for a given location above which a rise in water surface level begins to create a hazard to lives, property, or commerce” [National Weather Service, 2014]. Flood stage is therefore the chosen water level for flood warnings, and is “not necessarily the same as bankfull stage” [National Weather Service, 2014]. The volume of discharge that can be carried in a river channel cross-section at flood stage ( $Q_{FS}$ ) can be computed as:

$$Q_{FS} = A_{FS}V_{FS} \quad (1b)$$

where  $A_{FS}$  is the channel cross-sectional area at flood stage ( $\text{m}^2$ ), and  $V_{FS}$  is the cross-sectional average flow velocity at flood stage ( $\text{m/s}$ ) (Fig. S1). This volume of flow that can be carried within the channel at flood stage can also be described as the channel capacity at flood stage (CC):

$$CC = Q_{FS} \quad (2)$$



**Figure S1.** Schematic channel cross-section indicating channel flow at flood stage ( $Q_{FS}$ ). Flood stage is represented as a horizontal dotted line, and channel datum below the channel is indicated as a horizontal dashed line.

Because channel capacity may change over time, we refer to the average cross-sectional discharge at flood stage, over a given period, as  $\overline{Q}_{FS}$ .

The frequency with which flooding occurs – which we term the flood hazard frequency (FHF) – depends on two factors: the capacity of the local channel cross section to carry the flow

delivered from upstream (the channel capacity), and the frequency distribution of flows generated from the upstream basin. Thus flood hazard frequency can be altered by changes in a river's flow frequency distribution, its channel capacity, or both:

(i) **Flow frequency distributions** may change in response to: a) climatic shifts that affect the phase, intensity, duration, and timing of precipitation, snowmelt, and/or runoff; b) anthropogenic modifications to basin water delivery (e.g., damming, upstream extraction, diversions, regulation); and c) landscape changes (e.g., agricultural conversion, deforestation, urbanization) that alter storm runoff. Trends in flow frequency may affect flood hazard frequency at a cross section even under stable conditions of channel capacity.

(ii) **Channel capacity (the volume of flow carried at flood stage)** may change due to (a) shifts in the cross-sectional channel area at flood stage ( $A_{FS}$ ) caused by bed aggradation/degradation or channel narrowing/widening, and/or (b) changes in the cross-sectional average flow velocity at flood stage ( $V_{FS}$ ), which is controlled by depth, width, and boundary roughness (e.g., grain size and bank vegetation). Both  $A_{FS}$  and  $V_{FS}$  can also be affected by climatic variability, anthropogenic flow alterations, bed grain size coarsening and fining, vegetation growth and removal, and/or landscape changes that modify the balance between sediment erosion and deposition in the channel. Trends in channel capacity may affect flood hazard frequency at a cross section even under stable conditions of flow frequency.

Below we outline how these two distinct causes of change in flood hazard frequency can be quantified independently, in order to assess their respective impacts on flood hazard.

## 2. Data and Initial Filtering

Our source data are: flood stage estimates, mean daily streamflow records, and manual USGS field measurements of cross-sectional channel discharge, cross-sectional channel area, and cross-sectional average flow velocity.

(i) Flood stage values are provided by the US National Weather Service [*National Oceanic and Atmospheric Administration*, 2014].

(ii) Historical mean daily streamflow records are stored by the US Geological Survey (USGS) and made publicly available online [*U.S. Geological Survey*, 2014d]. In this analysis, we used mean daily streamflow data rather than annual peak flow data because we sought to characterize flows that could potentially occur more frequently than once per year. We retained only sites with mean daily streamflow records that were at least 90% complete. For the 401 sites, the mean record completeness is 99.7%, and the mean record length is 57.1 years.

(iii) Manual field measurements are made by the USGS at more than 7,000 active stream gauges across the USA to maintain rating curves between stage and discharge [*U.S. Geological Survey*, 2014b]. In stream gauging, rating curves are used to convert stage measurements to estimates of discharge flowing through the river channel cross-section. To develop the rating curves, the USGS make manual field measurements of channel dimensions (cross-sectional channel area and width ( $W$ )) and cross-sectional average flow velocity, and thereby calculate stream discharge from equation (1a) [*Carter and Davidian*, 1968]. These measurements are repeated regularly to ensure that the rating curves are accurately maintained. Archives of these manual field measurements are publicly available online [*U.S. Geological Survey*, 2014c]. We retained only gauging sites with a minimum of 10 repeat channel cross-sections at each location

after all filtering (described in section 4 below). The mean number of measurements for the 401 sites is 40 channel cross-sections, and the mean record length is 37.3 years.

Following all of the filtering steps (section 4), we retained only sites where the discharge and manual field measurement records both spanned at least 20 years between 1 January 1950 and 30 June 2013.

### **3. Evaluation of flow modification**

To assess channel capacity and flow frequency effects in the context of climate change, we divided our sites into categories of flow modification that indicate whether flow alterations might mask the influence of climate on streamflow generation and thus flood hazard frequency. We characterized the degree of flow modification for each site as follows:

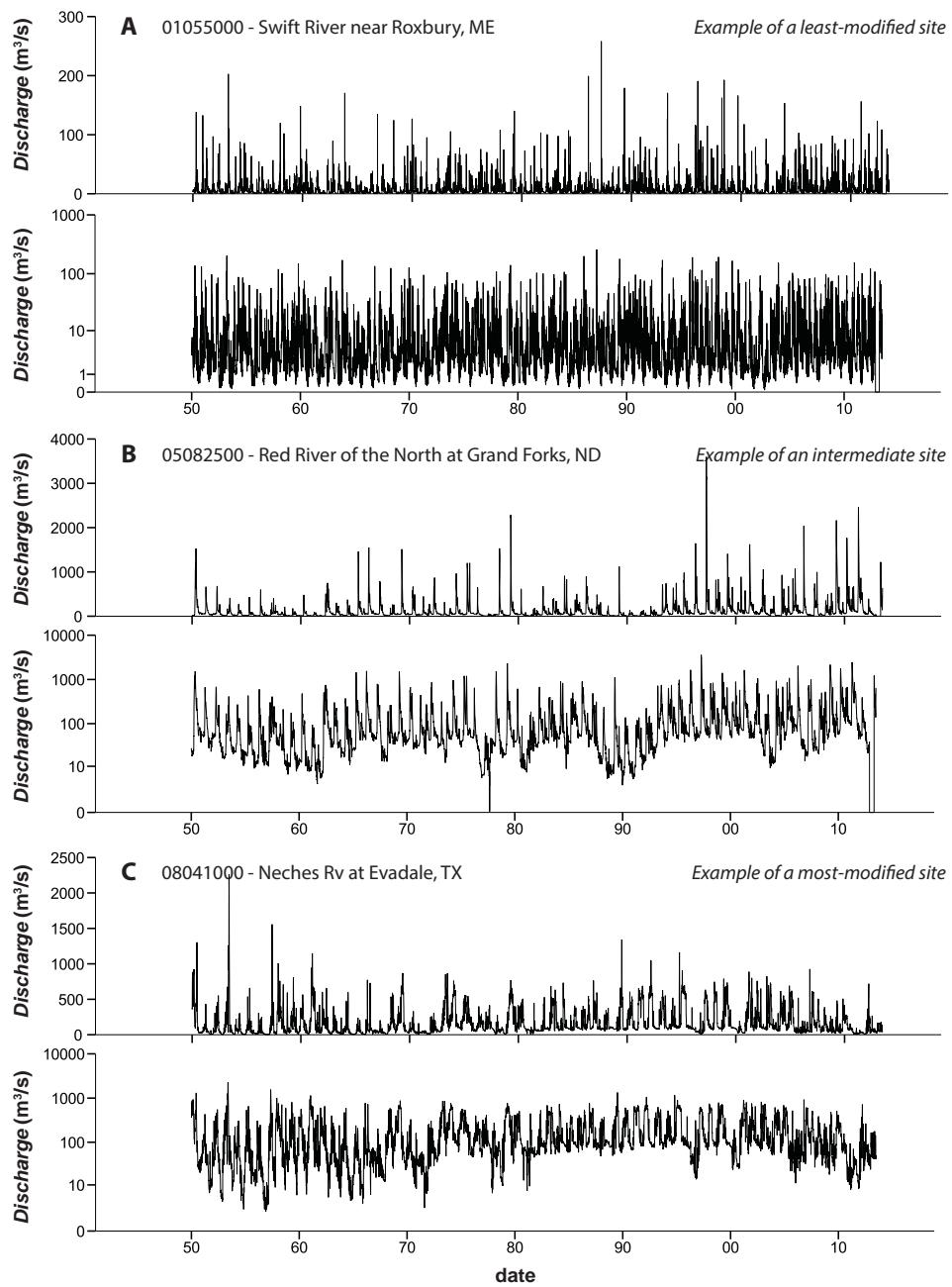
(i) We carefully scrutinized the mean daily streamflow time series [*U.S. Geological Survey, 2014d*] for each site on both linear and logarithmic axes (Fig. S2), since the linear form of the hydrograph is most useful for distinguishing any changes in the highest flows, while the logarithmic form amplifies any differences in low flows and aids in detecting water withdrawals or diversions.

(ii) We evaluated any entries under “remarks” in the Annual Water Data Reports [*U.S. Geological Survey, 2014a*], for all of our sites where these reports were available. The remarks provide information on the causes of flow modification (e.g., diversions, dams, different types of regulation, power plants, lakes, mills), and on the magnitude/type of modification (e.g., some/considerable regulation, permanent/ intermittent regulation, regulation of low/high flows, size of diversions).

(iii) We screened maps and aerial images covering each basin in Google Earth, to detect any evidence of human impacts (e.g., storage, artificial diversion, or any activities in the basin) that could alter natural flows. Many of our sites (93%) are also in the Geospatial Attributes of Gages for Evaluating Streamflow (GAGES II) dataset [*Falcone, 2011*], which contains screening comments by personnel from the National Water-Quality Assessment Program regarding evidence of anthropogenic flow alterations. We cross-referenced our own screening remarks with the National Water-Quality Assessment Program comments, when these were available.

Following these steps, we classified our sites into three relative categories according to their degree of flow modification (Fig. S2):

- Sites where the magnitudes of flood peaks were clearly affected by flow modification were classified as '*Most modified*'.
- Sites where flow modification was visible or reported, but did not appear to affect the magnitudes of flood peaks, were classified as '*Intermediate*'.
- Sites where flow modification was not clearly detectable from the mean daily streamflow data, not mentioned in the water reports, and not visible from the screening of maps and satellite photos were classified as '*Least modified*'.

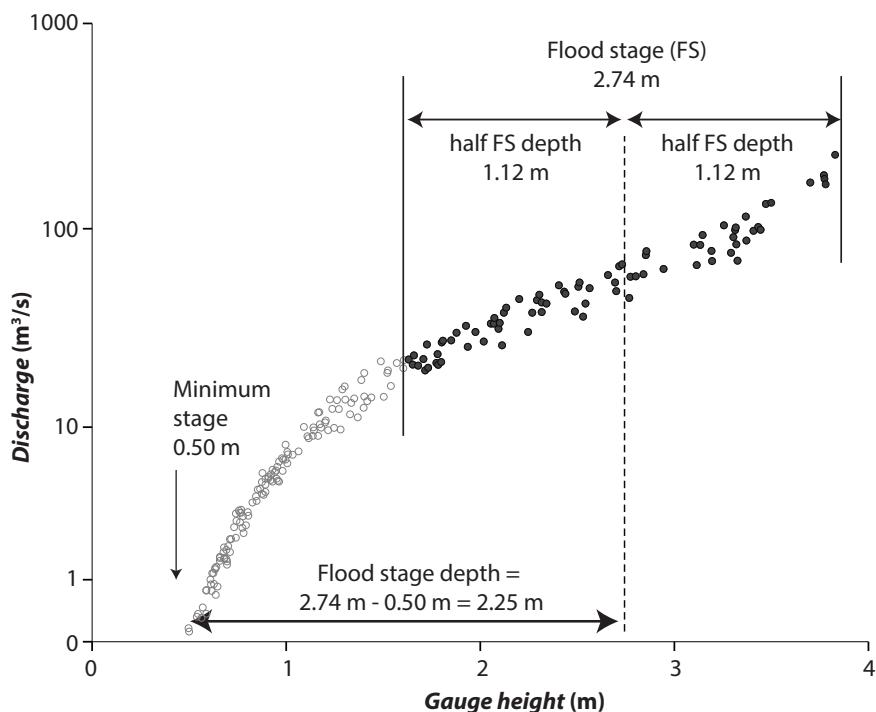


**Figure S2.** Evaluation of flow modification plotted on linear and log scales. Three hydrographs of mean daily streamflow time series (1950–2013) exemplify three relative degrees of flow modification. (a) Swift River near Roxbury (ME) is a *Least modified* site, with minimal disturbance, as visible in its regular annual peaks and flow pattern; (b) The Red River of the North (ND) is an *Intermediate* site, where low flows have been visibly modified, but the peaks have been modified to a much lesser extent; and (c) the Neches River at Evadale (TX) is a *Most modified* site where flow peaks have been capped by multiple upstream reservoirs that became operational after the mid-1960s, and where low flows have been visibly augmented.

#### 4. Further filtering steps: manual field measurement location and consistency

We carried out several additional filtering steps to ensure consistency in manual field measurements for the computation of channel capacity. In addition, in order to quantify changes in  $Q_{FS}$ ,  $A_{FS}$ , and  $V_{FS}$  in each cross-section (Fig. S1), we carried out tests to identify any manual field measurements that had obviously not been made consistently in the same location over time.

##### A- Selection of manual field measurements close to flood stage



**Figure S3.** Selection of manual field measurements at USGS site 06480000, Big Sioux River near Brookings, SD (Note: For consistency, the same site is used in Figs. S3-S9). Flood stage is indicated by dashed vertical black line (2.74m). Dark grey circles represent manual field measurements selected within a range of half the flood stage depth on either side of flood stage, and were retained for subsequent analysis (see section 4A). Open circles indicate measurements that were omitted from the subsequent analysis because they fell outside this range around flood stage.

The purpose of our paper is to quantify the effects of channel capacity and flow frequency trends on flood hazard frequency at flood stage. However, manual field measurements of channel capacity are rarely made exactly at flood stage, so measurements made over a wider range of stages were used, based on a procedure that extrapolates channel capacity changes to flood stage, as explained below. To maximize the available data for estimating channel capacity, while minimizing potential errors in its estimation, we retained only measurements that were taken at flood stage, plus or minus a range of half the channel depth. We measured channel depth at flood stage by the difference between flood stage and the minimum stage value, excluding outliers (Fig. S3). This range is wide enough to encompass a large number of manual field measurements, but narrow enough to exclude measurements made at low flow, as well as those taken when the flow was well above floodplain elevation, which are less relevant to the hydraulics at flood stage.

B- Within the Water Data Reports [U.S. Geological Survey, 2014a], under the section “gage”, we identified:

(i) Weirs and artificial controls at the gauging location. These are hard structures in the river channel that resist erosion and stabilize the stage-discharge relation, thereby facilitating the measurement of discharge. They are used to eliminate or alleviate “the adverse effects of unstable conditions due to shifting bed or banks, the formation of ice in winter, progressive growth of aquatic vegetation during the summer, and other phenomena which at times affect the stage-discharge relation at low stages” [Carter and Davidian, 1968]. This means that they prevent part of the channel from adjusting its cross-sectional shape. Thus, we removed any sites where either weirs or controls were mentioned, since they would artificially limit changes in channel capacity.

(ii) Changes in manual field measurement location and gauge datum. The gauge datum is the level plane that represents zero elevation of the stream gauge (Fig. S1). Its level is intended to remain unchanged over the life of the gauging station, and therefore is selected well below the estimated maximum scour depth [Kennedy, 1990; Kenney, 2010]. Changes in gauge location and gauge datum are typically reported in the Water Data Reports, noted as follows: e.g, “Oct. 1975 to Aug. 1983 crest-stage gage at site 500 ft upstream at different datum”. For every mention of a change in datum or gauge location, we recorded the most recent year of the change, and systematically removed any manual field measurements that were made in that year or any preceding years. The exact date of change in datum/location was not always provided in the reports, so we conservatively discarded the full year of data in which such a change occurred.

C- Within the USGS manual field measurements [U.S. Geological Survey, 2014c], we removed:

(i) Manual field measurements made in icy conditions. Such measurements are undesirable because ice in the channel might affect inferred channel geometry.

- The data column *meas\_type* describes the method used to suspend or place measurement instrumentation into the water, and indicates discharge measurements that were made through river ice (ICE).
- The data column *control\_type\_cd* describes the condition of the rating control at the time of the measurement, and specifies when the control was covered by ice (CICE), affected by anchor ice (AICE), or by shore ice (SICE). All measurements taken in icy conditions were discarded.

(ii) Missing measurements. If any one of the *Q*, *A*, *V*, or *W* measurements had a negative, zero, or missing value on a given date, we removed the entire collection of measurements (*Q*, *A*, *V*, and *W*) made on that day.

(iii) Measurement inaccuracies. To remove any potential inaccuracies in *Q*, *A*, or *V*, we filtered for potential measurement errors by calculating, following equation (1a):

$$\frac{Q}{AV} \quad (3)$$

and removing any measurements where this ratio was not equal to 1, within a range of  $\pm 1\%$ .

(iv) Measurements taken at a distance from the gauge:

- The data column *chan\_loc\_cd* specifies which measurements were made at the gauge (ATGA), or at a different location upstream (UPST) or downstream (DNST) from the gauging station. We deleted all measurements that were marked UPST or DNST.

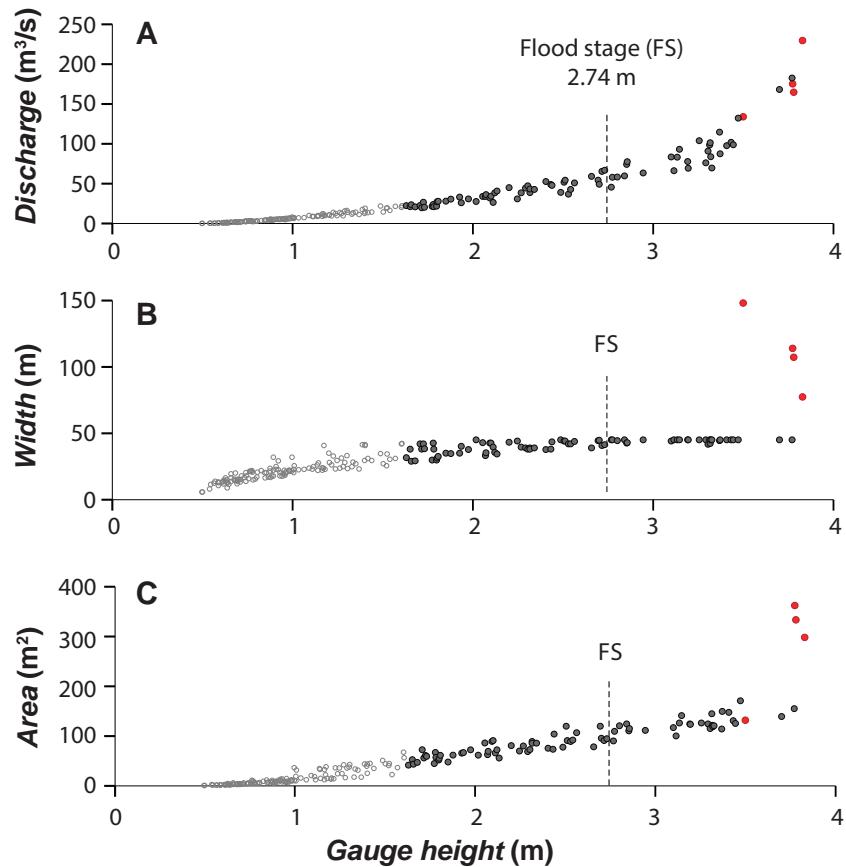
- The data column *chan\_loc\_dist* indicates the distance at which measurements were known to have been taken from the gauging station. We removed all measurements where the indicated values were larger than zero.

#### D- Visual verification of measurement location

Despite the above-mentioned indications regarding manual field measurement location in the Water Data Reports and field measurement files, precise measurement locations are typically missing from the data files for the majority of measurements. Manual field measurements are often made at a distance from the principal gauging site, which is not an issue if the measurement location is consistent over time. However, if the measurement location is variable, computed trends in channel capacity will be incorrect. It is therefore vital that such measurements are identified and excluded from the analysis.

Unfortunately, it is difficult to discern, using automated methods, where manual field measurements are made, and scatterplots (e.g.,  $Q$  versus  $G$ ) do not always reveal these inconsistencies in measurement location (e.g., Fig. S4a). Therefore, we visually cross-verified scatterplots of  $W$ ,  $A$ , and  $V$  versus  $G$ . This step was helpful for detecting likely changes in measurement location. In particular, the presence of groups of outliers across the various scatterplots is a strong indicator of shifts in measurement location (or datum). We systematically removed these measurements.

For example, the scatterplot of  $Q$  v.  $G$  for site 06480000, Big Sioux River near Brookings, SD (Fig. S4a), exhibits some scatter about flood stage, but does not obviously suggest that manual field measurements were made in different locations. Close inspection of the scatterplots of  $W$ , and  $A$ , versus  $G$  (Fig. S4b-c), however, reveals inconsistencies that suggest that measurements were in fact made in different locations. We manually filtered manual field measurements where the measurement locations were obviously inconsistent. File S2 provides full documentation of these removed measurements (final scatterplots showing which measurements were discarded or retained, following all filtering steps).

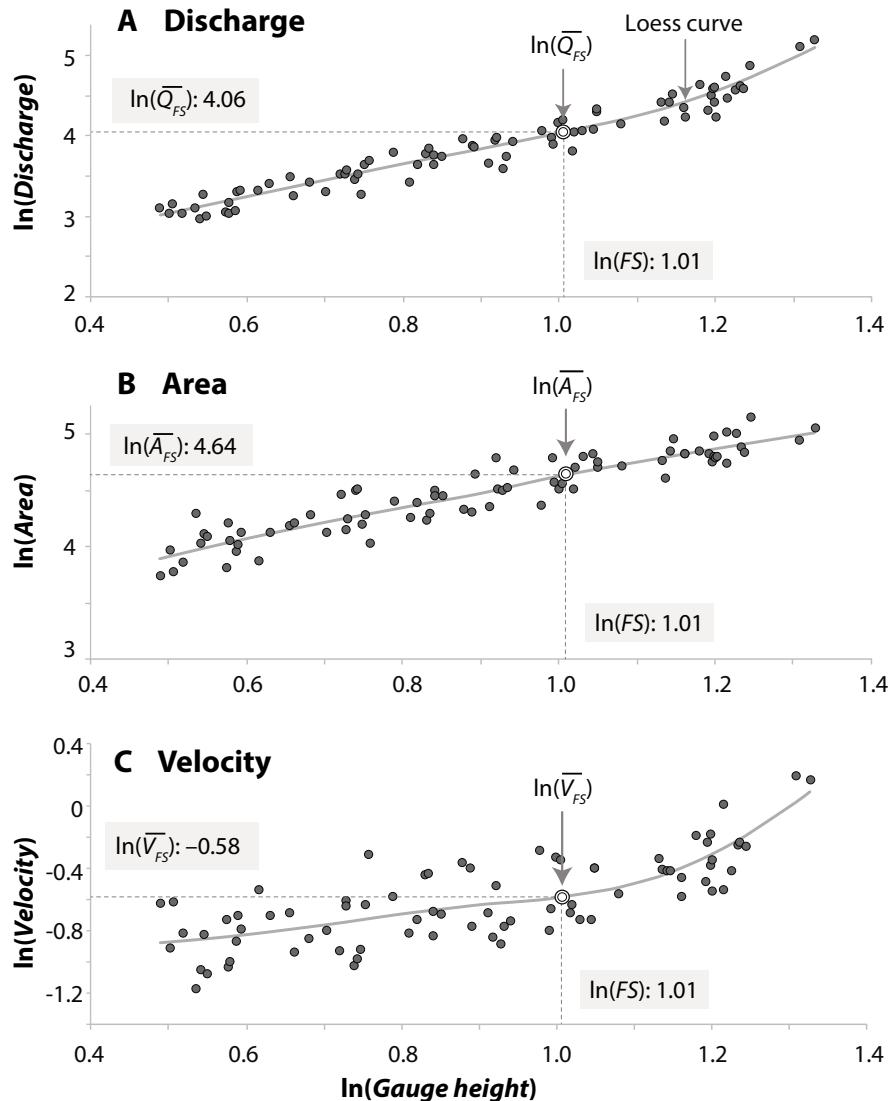


**Figure S4.** Example of manual field measurement filtering at Big Sioux River near Brookings, SD. Flood stage is indicated by the dashed vertical black line. The scatterplot of cross-sectional channel discharge versus gauge height (a) gives no indication that the manual field measurements come from multiple measurement locations. By contrast, the scatterplots relating gauge height to width (b) and cross-sectional area (c) clearly suggest the presence of different measurement locations or measurement error at high values of stage. We systematically cross-compared scatterplots at all sites, and retained only the measurements that did not visibly belong to multiple measurement locations (selecting only the most consistent-looking location, in cases where several measurement locations were apparent - see File S2 for filtering of all 401 sites). The dark grey circles represent retained measurements that are within a range of half the flood stage depth on either side of flood stage (see Fig. S3), and that do not obviously indicate different measurement locations. Open circles indicate measurements that were outside range of half the flood stage depth on either side of flood stage, and were excluded from subsequent analysis. The four red circles indicate measurements that were within the range of retained measurements but were discarded from subsequent analysis because they were indicative of a different measurement location or measurement error.

## 5. Estimation of cross-sectional channel discharge, flow area, and average flow velocity at flood stage from manual field measurements

For each site, we define the average value of  $Q$ ,  $A$ , and  $V$  at flood stage ( $\overline{Q}_{FS}$ ,  $\overline{A}_{FS}$ , and  $\overline{V}_{FS}$ ), from the available manual field measurements. While flood stage values of  $Q$ ,  $A$ , and  $V$  may vary over time,  $\overline{Q}_{FS}$ ,  $\overline{A}_{FS}$ , and  $\overline{V}_{FS}$  are fixed values representing their averages over the entire period

of record.  $\overline{Q}_{FS}$  is used to compute both the flow frequency and channel capacity effects (sections 6 and 7, respectively), while  $\overline{A}_{FS}$  and  $\overline{V}_{FS}$  are used to compute the trend in cross-sectional channel area and cross-sectional average flow velocity at flood stage (section 8).



**Figure S5.** Rating curves for (a)  $\ln(Q)$  (b),  $\ln(A)$  and (c),  $\ln(V)$  v  $\ln(G)$  (m), 1984-2013, at Big Sioux River near Brookings, SD. Dark grey circles represent manual field measurements that were retained following filtering steps (as indicated in Figs. S3-4). The grey curve represents the Loess fit to the measurements. The interpolated values of  $\overline{Q}_{FS}$ ,  $\overline{A}_{FS}$ , and  $\overline{V}_{FS}$  at flood stage ( $\ln(FS)=1.01$ ) are indicated by thin dashed grey lines.

To quantify these values, we used Loess, Locally Weighted Scatterplot Smoothing [Cleveland, 1979], which fits smooth curves through scatterplots, point by point, based on local iteratively reweighted regression on nearby measurements. For each site, we converted the measurements to metric units, and fit Loess curves relating the natural logarithms of  $Q$ ,  $A$  and  $V$  ( $\ln(Q)$ ,  $\ln(A)$ ,  $\ln(V)$ ) to  $G$  ( $\ln(G)$ ). Loess fits a smooth nonparametric curve that systematically discounts the influence of outliers (points with unusually large deviations from the rest of the data). The degree of smoothing

is controlled by the parameter  $\alpha$  [Ripley, 2014]. We chose  $\alpha=0.75$  because it provided a good fit to our data.

Using the predict.loess function from the R statistical programming language [Ripley, 2014] and the defined values of flood stage (Section 2), we identified and recorded the y-axis values where each curve intersected flood stage. Thus, we obtained the value of  $\overline{Q}_{FS}$  from the  $\ln(G)$ - $\ln(Q)$  curve, (Fig. S5a), we obtained  $\overline{A}_{FS}$  from the  $\ln(G)$ - $\ln(A)$  curve (Fig. S5b), and we obtained  $\overline{V}_{FS}$  from the  $\ln(G)$ - $\ln(V)$  curve (Fig. S5c) for each site.

## 6. Effects of streamflow trends on flood hazard ("flow frequency effect"), estimated from mean daily streamflow data

### A- Computing flow frequency

To isolate trends in flow frequency from changes in channel capacity, we quantified the annual flood-stage flow frequency ( $FF$ ) as the number of mean daily streamflow values in each year that equaled or exceeded a fixed flood stage discharge:

$$FF = \text{sum}(Q \geq \overline{Q}_{FS}) \quad (4)$$

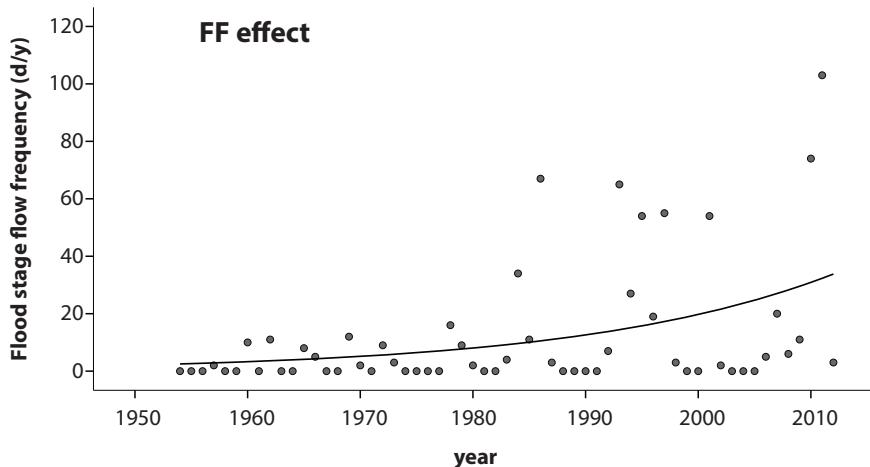
where  $Q$  is each mean daily streamflow value, and  $\overline{Q}_{FS}$  is the reference cross-sectional discharge at flood stage for each site, determined in section 5 above. Note that (4) expresses the frequency of flows that exceed the *fixed average* flood stage discharge, although the *actual* flood stage discharge may change over time as channel capacity changes. Thus,  $FF$  quantifies the flood hazard frequency, and changes in flood hazard frequency (see below), that would arise in the absence of trends in channel capacity. Because streamflow can potentially remain above flood stage for several days within the same event, a flow frequency of several days per year does not necessarily mean that there were several events in that year. We only calculated flow frequency for calendar years with nearly complete data ( $\geq 350$  mean daily streamflow values).

### B- Trend characterization

We sought to characterize long-term trends in flow frequency using a simple curve with few parameters. Linear trends are not suitable for this purpose because they can predict negative flow frequency values, which are physically impossible. Instead we fitted exponential trends to the flow frequency time series (on linear axes, in order to preserve values of  $FF=0$ ), as shown in Fig. S6. To eliminate one fitting coefficient, but still guarantee that the mean flow frequency in the fitted curve would equal the mean observed  $FF$ , we fitted the following unbiased-mean exponential curve to the flow frequency time series using nonlinear least squares:

$$\frac{FF}{\text{mean}(FF)} = \frac{\exp(r\Delta t)}{\text{mean}(\exp(r\Delta t))} \quad (5)$$

where  $\text{mean}(FF)$  is the mean of the observed annual flood stage flow frequencies,  $r$  is the fractional change in flow frequency per unit of time, and  $\Delta t = \text{date}-\text{mean(date)}$ . If  $\Delta t$  is expressed in decades, then 100 times the coefficient  $r$  yields the rate of change in flood-stage flow frequency in percent per decade, as reported in Fig. 2 of the main paper.



**Figure S6.** Flow frequency trend (in units of flood stage flow frequency, d/y) versus year at Big Sioux River near Brookings, SD. Dark grey circles represent computed values of flood stage flow frequency (number of days with mean daily discharge equaling or exceeding the long-term average  $Q_{FS}$  each year). The grey exponential curve represents the mean-unbiased exponential trend in annual flood stage flow frequency. This site has a mean flood stage flow frequency of 12 days per year, and a trend in flood stage flow frequency of 45% per decade.

#### C- Trend significance

We used a Monte Carlo permutation method to assess the significance of these trends, because permutation tests require no distributional assumptions and the flow frequency distributions are sometimes strongly skewed. Using the annual flow frequency values obtained in section 6A, we generated 10,000 sample time series by randomly re-ordering the flow frequency values, and calculated the trend parameter  $r$  using equation (5) for each re-sampled time series. We estimated the statistical significance of the real-world  $r$  value from the fraction of permutation trials that gave equal or greater absolute values of  $r$ . This permutation test assumes that there is negligible serial correlation in the flow frequency time series. The lag-1 serial correlation in the residuals from the fitted flow frequency trends averaged  $-0.013$  (median value) across our 401 sites, demonstrating that this assumption is reasonable for these data.

## 7. Effects of channel capacity trends on flood hazard ("channel capacity effects"), estimated from manual field measurements and mean daily streamflow data

Changes in channel capacity can also affect flood hazard frequency, independently from any shifts in flow frequency. In this section, we quantify the "channel capacity effect" as the trend in flood hazard frequency that would arise from measured shifts in channel capacity at flood stage, if the flow frequency distribution were held constant.

#### A- Estimated values of flow at flood stage (Fig. S7)

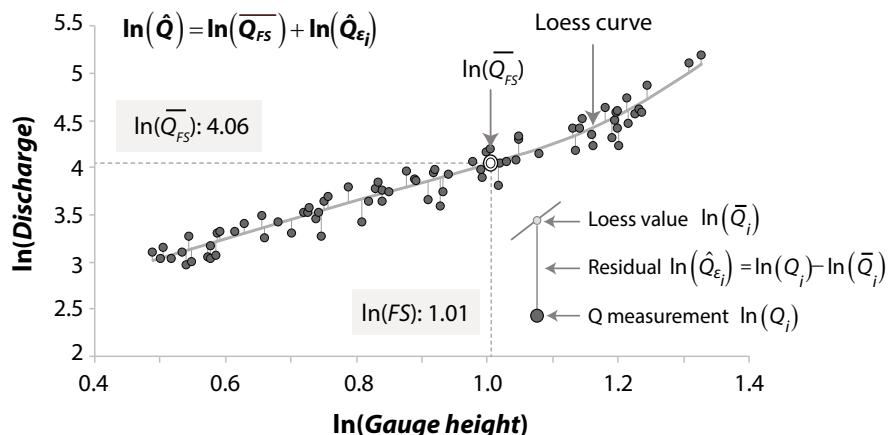
We evaluate the channel capacity effect on flood hazard frequency at the same flood hazard threshold as the flow frequency effect, namely the defined flood stage ( $G=FS$ ). However, since manual field measurements of cross-sectional discharge are rarely made exactly at flood stage, we need to estimate what  $Q$  would have been at flood stage, at the time when each manual field

measurement was made. As explained by *Helsel and Hirsch* [1993], in cases where several variables (e.g., time and  $G$ ) may affect the magnitude of a response variable (here,  $Q$ ), the effects of the extraneous explanatory variable ( $G$ ) may be removed by fitting a smooth curve to its relationship with the response variable (here, a curve relating  $Q$  to  $G$ ) and using the residuals from this curve in subsequent analyses. This procedure corrects for changes in  $G$  without assuming that the relationship between  $G$  and  $Q$  has any particular functional form.

To remove the effect of differences in gauge height on the relationship between the manually measured  $Q$  and time, we used the Loess curve (Fig. S7) relating the natural logarithms of  $Q$  to  $G$ , computed in section 5. We computed the residuals of each Loess curve as:

$$\ln(\hat{Q}_{\varepsilon_i}) = \ln(Q_i) - \ln(\bar{Q}_i) \quad (6)$$

where  $\ln(Q_i)$  are the natural logarithms of the observed values of  $Q$ , and  $\ln(\bar{Q}_i)$  are the natural logarithms of the estimated values from the Loess curve, obtained using the predict.loess function from the R statistical programming language [Ripley, 2014], as explained in section 5. Assuming that the Loess curve represents the time-averaged values of  $\ln(Q)$  for each value of  $\ln(G)$ , the values of the residuals (positive or negative) indicate whether each measurement of  $\ln(Q)$  is less than or greater than the fitted value of  $\ln(Q)$  for that value of  $\ln(G)$ . We can then infer that the residuals are representative of the temporal changes in  $\ln(Q_{FS})$ , under the premise that the temporal trend of residuals at flood stage is the same as that of residuals over the rest of the curve as a whole. For example, if early values of  $Q$  tend to lie above the line (positive residuals) and later values of  $Q$  tend to lie below the line (negative residuals), it is reasonable to infer a temporal trend toward lower discharges at any given gauge height, including flood stage (i.e., a decrease in channel capacity).



**Figure S7.** Estimating values of cross-sectional discharge at flood stage,  $\ln(\hat{Q})$ , at Big Sioux River near Brookings, SD (section 7A). Dark grey circles represent manual field measurements of cross-sectional discharge that were retained following filtering steps (as indicated in Figs S3-S4). The grey curve represents the Loess fit to the measurements. Vertical grey lines represent residuals from the Loess rating curve, which indicate how each measurement of  $\ln(\text{Discharge})$  deviates from the average value of  $\ln(\text{Discharge})$  for the corresponding value of  $\ln(\text{Gauge height})$ . The interpolated value of  $\ln(Q_{FS})$  is indicated by the thin dashed grey line. Assuming that the residuals are representative of the temporal changes in  $\ln(Q_{FS})$ , we calculate the estimated values of cross-sectional discharge at flood stage at each point in time,  $\ln(\hat{Q})$ , as the sum of  $\ln(Q_{FS})$  and the residual  $\ln(\hat{Q}_{\varepsilon_i})$ .

We obtain the estimated values of flow at flood stage as:

$$\ln(\hat{Q}) = \ln(\overline{Q_{FS}}) + \ln(\hat{Q}_{\varepsilon_i}) \quad (7)$$

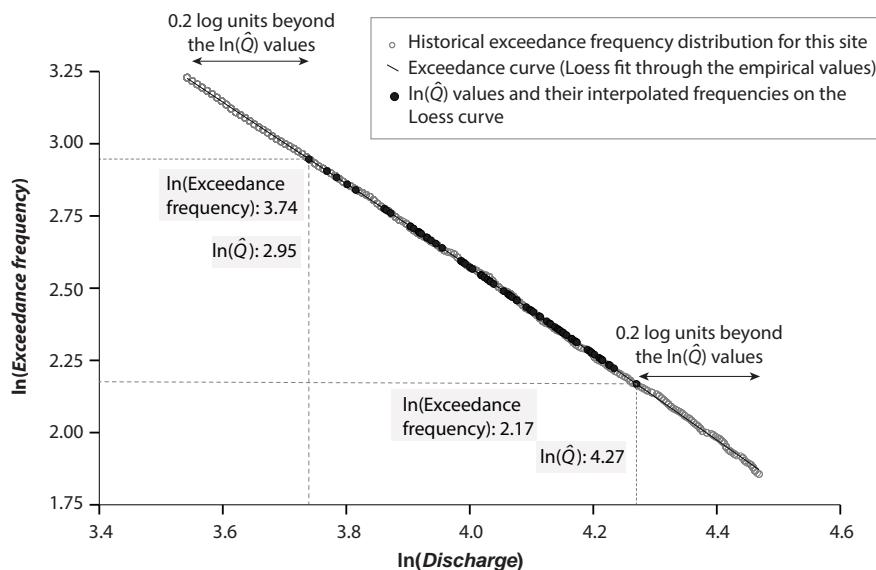
where  $\ln(\hat{Q}_{\varepsilon_i})$  are the residuals of the Loess curve relating  $\ln(Q)$  to  $\ln(G)$ .  $\overline{Q_{FS}}$  was computed in section 5. The resulting  $\ln(\hat{Q})$  values are the logarithms of the estimated discharge that would be required, at the time of each manual field measurement, to reach flood stage (Fig. S7).

#### B- Quantifying channel capacity effects on flood hazard frequency (Fig. S8)

To estimate how changes in channel capacity affect flood hazard frequency, we estimated how frequently each value of  $\hat{Q}$  would be attained, given the probability distribution of daily streamflow values for each site. To do this, we first computed the exceedance curve relating the exceedance frequency  $F$  to  $Q$ , as:

$$F_i = 365.25 * \frac{\text{rank}(Q)_i}{(n+1)} \quad (8)$$

where  $\text{rank}(Q)_i$  is the rank of each mean daily streamflow value, in descending order, so that the largest flow has the smallest rank, and  $n$  is the total number of mean daily streamflow values between 1 January 1950 and 30 June 2013. Multiplying by 365.25 annualizes the flood frequency, to obtain the exceedance frequency in days per year.



**Figure S8.** Exceedance curve relating  $\ln(\text{Exceedance frequency})$  to  $\ln(\text{Discharge})$  at Big Sioux River near Brookings, SD. Exceedance frequencies of historical mean daily streamflow values are indicated as open grey circles. The thin black line indicates Loess fit to these exceedance frequencies. Extracted exceedance frequencies for estimated  $\hat{Q}$  values are indicated as filled, dark grey circles: these are the exceedance frequencies used to compute the trend in flood hazard attributable to changes in channel capacity (Fig. S9).

For each site, we plotted the exceedance curve for mean daily streamflow values, using log-log axes so that the distribution would not be sharply curved (Fig. S8). To smooth any variability in the exceedance curves, we fit a Loess curve (as explained in section 5) to the mean daily

streamflow values. We used only mean daily streamflow values within a range of 0.2 log units above or below the  $\ln(\hat{Q})$  values, to ensure a good Loess fit near the  $\ln(\hat{Q})$  values (because these are often located at the tail of the exceedance frequency distribution) (Fig. S8).

We then extracted the exceedance frequencies of each  $\ln(\hat{Q})$  from the Loess curve. At 3 sites (<1% of all sites), a total of 25  $\hat{Q}$  values (<0.2% of all  $\hat{Q}$  values) were found to exceed the highest mean daily streamflow values on record, and so could not be interpolated from the Loess curve. These values were considered unreliable and so were removed from the computation of channel capacity effects.

#### C- Quantification of flood hazard frequency trends due to changes in channel capacity (Fig. S9)

In the same way as for flow frequency in section 6, we sought to characterize the long-term trend in flood hazard frequency due to changes in channel capacity, using a simple curve with few parameters. However, in contrast with flow frequency, where there is little error in the estimated flow frequency values (because it is clear whether each streamflow value equals or exceeds  $\bar{Q}_{FS}$ ), we are more likely to find outliers in channel capacity, due to measurement errors or undetected variations in manual field measurement locations. It is therefore important that we downweight the influence of any such outliers to limit their influence on the trend estimates. To downweight the influence of outliers, we computed an iteratively reweighted least squares [IRLS: *Holland and Welsch, 1977*] trend in the non-logged frequencies obtained for  $\hat{Q}$  from the exceedance curve for each site (Fig. S9). IRLS is an iterative procedure that is typically used to mitigate the influence of outliers in regression models. In our IRLS routine, we used a Cauchy weighting function [*Holland and Welsch, 1977*] applied to the residuals from the fitted function, so as to minimize the influence of outliers, as:

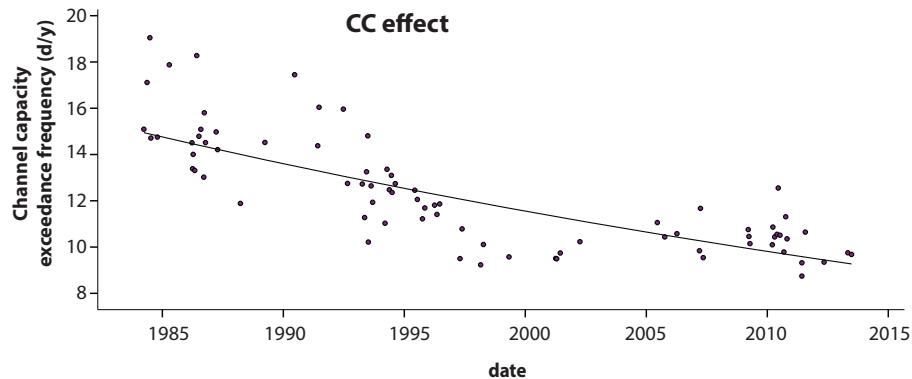
$$w_i = \frac{1}{1 + \frac{a_i^2}{3.536 MAR}} \quad (9)$$

where  $a_i$  is the residual corresponding to an individual point, and  $MAR$  is the median absolute residual. So that the effects of changes in channel capacity and flow frequency are quantitatively comparable, we used the same exponential unbiased mean form of the least squares trend as for flow frequency. We fit the trend in the corresponding  $F_i$  values as:

$$\frac{F_i}{wt.mean(F_i)} = \frac{\exp(r\Delta t)}{wt.mean(\exp(r\Delta t))} \quad (10)$$

where  $wt.mean(F_i)$  is the weighted mean of the exceedance frequency at flood stage,  $\hat{Q}$ , using the IRLS weights for each point,  $r$  is the fractional change in channel capacity per unit of time, and  $\Delta t$  = date-mean(date), as before. Figure S9 shows the exponential trend passing through the exceedance frequencies, after IRLS down-weighting of outliers. We tested for lag-1 serial correlation in the residuals from the fitted trends, and found a median correlation of 0.13. Accounting for serial correlation barely modified the significance of the estimated trends (it increased p-values by +0.0037 on average, for the 401 sites). Thus, we concluded that the raw IRLS exponential weighted mean model could be used without correcting for serial correlation. The effects of channel capacity changes on flood hazard are computed in percent per decade ( $r$  times 100, with  $\Delta t$  expressed in decades), allowing for a direct comparison between channel capacity and flow frequency effects (Figs. S6 and S9). This also means that the sum of the channel capacity

and flow frequency effects (both in percent per decade) corresponds to the total change in flood hazard frequency (in percent per decade) at each site.



**Figure S9.** Trend in flood frequency due to channel capacity changes, at Big Sioux River near Brookings, SD. Dark grey circles indicate  $\hat{Q}$  exceedance frequency values, which were extracted from the exceedance curve (dark grey circles in Fig. S8). Dark grey curve indicates mean-unbiased exponential IRLS trend for these exceedance frequencies. Note: the curves are exponential, but the curvature is indistinct for many sites due to the scatter in the underlying data. At this site, the  $\hat{Q}$  exceedance frequency values display considerable variability due to the frequent adjustments of the sand and silt channel boundaries in this river. The channel capacity effect on the flood hazard frequency is  $-16\%$  per decade.

## 8. Trends in cross-sectional channel area and cross-sectional average flow velocity at flood stage, using manual field measurements

Channel capacity can be divided into the two components that determine the volume of flow at flood stage, namely cross-sectional channel area and cross-sectional average flow velocity (equation (1b)). Our aim is to determine the proportions of changes in channel capacity that result from shifts in  $A_{FS}$  and from shifts in  $V_{FS}$  for each site, assuming that the flow frequency distribution remains constant over time. To do this, we quantify the temporal trend in  $A_{FS}$  and  $V_{FS}$  in percent per decade.

### A- Estimated values of cross-sectional channel area and cross-sectional average flow velocity at flood stage

In the same way as described for flow, in section 7A, manual field measurements of  $A$  and  $V$  are rarely made exactly at flood stage. However, we estimate trends in  $A$  and  $V$  at flood stage by removing the effect of differences in gauge height. To do this, we use the Loess curves relating the natural logarithms of  $A$  and  $V$  to  $G$ , which were computed in section 5. In the same manner as for  $Q$  in Fig. S7, we compute the residuals to each Loess curve as:

$$\ln(\hat{A}_{ei}) = \ln(A_i) - \ln(\bar{A}_i) \quad (11a)$$

$$\ln(\hat{V}_{ei}) = \ln(V_i) - \ln(\bar{V}_i) \quad (11b)$$

where  $\ln(A_i)$  and  $\ln(V_i)$  are the natural logarithms of the observed manual field measurements, and  $\ln(\bar{A}_i)$  and  $\ln(\bar{V}_i)$  are the natural logarithms of the estimated values from the Loess curve,

obtained using the predict.loess function from the R statistical programming language [Ripley, 2014], as explained in section 5.

Assuming that the Loess curve represents the time-averaged values of  $\ln(A)$  and  $\ln(V)$  for each value of  $\ln(G)$  (Fig. S5b-c), the values of the residuals (positive or negative) indicate whether each manual field measurement of  $\ln(A)$  or  $\ln(V)$  is less than or greater than the average value of  $\ln(A)$  or  $\ln(V)$  for that value of  $\ln(G)$ , following the same procedure as for  $Q$  in Fig. S7. As long as the temporal trend of residuals at flood stage is the same as that of residuals over the rest of the curve as a whole, we can then assume that the residuals are representative of the temporal changes in  $\ln(A_{FS})$  or  $\ln(V_{FS})$ . We obtain the estimated values of  $\ln(A)$  and  $\ln(V)$  at flood stage as:

$$\ln(\hat{A}) = \ln(\bar{A}_{FS}) + \ln(\hat{A}_{\epsilon_i}) \quad (12a)$$

$$\ln(\hat{V}) = \ln(\bar{V}_{FS}) + \ln(\hat{V}_{\epsilon_i}) \quad (12b)$$

where  $\ln(\hat{A}_{\epsilon_i})$  are the residuals of the Loess curve relating  $\ln(A)$  to  $\ln(G)$ , and  $\ln(\hat{V}_{\epsilon_i})$  are the residuals of the Loess curve relating  $\ln(V)$  to  $\ln(G)$ .  $\bar{A}_{FS}$  and  $\bar{V}_{FS}$  were obtained in section 5. The resulting  $\ln(\hat{A})$  and  $\ln(\hat{V})$  values are the estimates of  $\ln(A)$  and  $\ln(V)$  that would be required, at the time of each manual field measurement, to reach flood stage.

## B- Trend characterization

We can compute the time trends in  $\hat{A}$  and  $\hat{V}$  using a similar curve as for the channel capacity trend in section 7C:

$$\frac{\hat{A}}{\text{mean}(\hat{A})} = \frac{\exp(r\Delta t)}{\text{mean}(\exp(r\Delta t))} \quad (13a)$$

$$\frac{\hat{V}}{\text{mean}(\hat{V})} = \frac{\exp(r\Delta t)}{\text{mean}(\exp(r\Delta t))} \quad (13b)$$

where  $\text{mean}(\hat{A})$  and  $\text{mean}(\hat{V})$  are the means of the estimates of  $A$  and  $V$  at flood stage;  $r$  is the fractional change in  $\hat{A}$  or  $\hat{V}$  per unit time; and  $\Delta t = \text{date}-\text{mean(date)}$ .

## Table of symbols and acronyms

$Q$	discharge ( $\text{m}^3/\text{s}$ )
$G$	gauge height or stage (m)
$A$	channel cross-sectional area ( $\text{m}^2$ )
$V$	cross-sectional mean velocity (m/s)
$Q_{FS}$	cross-sectional discharge at flood stage ( $\text{m}^3/\text{s}$ )
$A_{FS}$	cross-sectional channel area at flood stage ( $\text{m}^2$ )
$V_{FS}$	cross-sectional average flow velocity at flood stage (m/s)
$CC$	channel capacity at flood stage ( $\text{m}^3/\text{s}$ )
$\overline{Q}_{FS}$	cross-sectional average discharge at flood stage over the period of record ( $\text{m}^3/\text{s}$ )
FHF	flood hazard frequency (days/y)
USGS	United States Geological Survey
$W$	channel width (m)
$\overline{A}_{FS}$	cross-sectional average channel area at flood stage over the period of record ( $\text{m}^2$ )
$\overline{V}_{FS}$	cross-sectional average flow velocity at flood stage over the period of record (m/s)
FF	flow frequency at flood stage (days/y)
$r$	fractional change in values per unit of time
$\Delta t$	date-mean(date)
$\ln(\hat{Q}_{\varepsilon_i})$	residual to the Loess curve relating $\ln(Q)$ to $\ln(G)$
$\ln(Q_i)$	natural logarithm of the observed value of $Q$
$\ln(\bar{Q}_i)$	estimated value from the Loess curve relating $\ln(Q)$ to $\ln(G)$
$\ln(\hat{Q}_i)$	natural logarithm of the estimated value of $Q$ at flood stage
$\ln(\overline{Q}_{FS})$	natural logarithm of $\overline{Q}_{FS}$
$F_i$	exceedance frequency of each daily streamflow value
$\text{rank}(Q)_i$	rank of each mean daily streamflow value, in descending order
$n$	total number of mean daily streamflow values for each site
IRLS	Iteratively Reweighted Least Squares
$w_i$	weight
$a_i$	residual
MAR	median absolute residual
$\ln(\hat{A}_{\varepsilon_i})$	residual to the Loess curve relating $\ln(A)$ to $\ln(G)$
$\ln(\hat{V}_{\varepsilon_i})$	residual to the Loess curve relating $\ln(V)$ to $\ln(G)$
$\ln(A_i)$	natural logarithm of the observed value of $A$
$\ln(V_i)$	natural logarithm of the observed value of $V$
$\ln(\bar{A}_i)$	estimated value from the Loess curve relating $\ln(A)$ to $\ln(G)$
$\ln(\bar{V}_i)$	estimated value from the Loess curve relating $\ln(V)$ to $\ln(G)$
$\hat{A}$	estimated value of $A$ at flood stage
$\hat{V}$	estimated value of $V$ at flood stage

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## Dataset S1.

### Pages 22-27:

**DA (km<sup>2</sup>):** USGS values of drainage area, measured at the stream gauge

**Elev. (m):** USGS values of elevation, measured at the datum of the stream gauge

**Precip. (mm/year):** mean annual precipitation averages, measured at the gauge, from 800m PRISM data, 1971-2000 (<http://www.prism.oregonstate.edu/>)

**CC length (years):** length of the trend in the flow frequency due to channel capacity (CC effect)

**CC effect (%/decade):** trend in the flow frequency due to channel capacity (IRLS unbiased-mean exponential curve), where the flow frequency due to channel capacity is the number of days in the year that the estimated volume of flow at flood stage ( $\hat{Q}$ ) is equalled or exceeded, within the fixed historical flow frequency distribution.

**CC effect SE (%/decade):** standard error of the trend in the flow frequency due to channel capacity

**CC effect p:** significance of the trend in the flow frequency due to channel capacity

**FF length (years):** length of the trend in the flood stage flow frequency (FF effect)

**Mean FF (days/year):** mean of the annual flood stage flow frequencies (FF), where FF is the number of days in the year where the mean daily discharge equals or exceeds the average flow at flood stage,  $\bar{Q}_{FS}$

**FF effect (%/decade):** trend in the flood stage flow frequency (nonlinear least squares unbiased-mean exponential curve)

**FF effect SE (%/decade):** standard error of the trend in the flood stage flow frequency

**FF effect p:** significance of the trend in the flood stage flow frequency

### Pages 28-33:

$\bar{U}_{FS}$  (m/s)

Time-averaged values of average cross-sectional channel velocity ( $U$ ), cross-sectional flow area ( $A$ ), channel width ( $w$ ), cross-sectional average channel depth ( $h$ ), and cross-sectional discharge ( $Q$ ), at flood stage (FS), obtained from the rating curves relating  $U$ ,  $A$ ,  $w$ ,  $h$ , or  $Q$  to  $G$  (Gauge height).

$\bar{A}_{FS}$  (m<sup>2</sup>)

$\bar{w}_{FS}$  (m)

$\bar{h}_{FS}$  (m)

$\bar{Q}_{FS}$  (m<sup>3</sup>/s)

**Q (%/decade):** trend in the estimated values of cross-sectional channel discharge at flood stage ( $\hat{Q}$ )

**Q SE (%/decade):** standard error of the trend in  $\hat{Q}$

**Q p:** significance of the trend in  $\hat{Q}$

**A (%/decade):** trend in the estimated values of cross-sectional flow area at flood stage ( $\hat{A}$ )

**A SE (%/decade):** standard error of the trend in  $\hat{A}$

**A p:** significance of the trend in  $\hat{A}$

**U (%/decade):** trend in the estimated values of cross-sectional average flow velocity at flood stage ( $\hat{V}$ )

**U SE (%/decade):** standard error of the trend in  $\hat{V}$

**U p:** significance of the trend in  $\hat{V}$

**Flow modification:** relative level of relative flow modification (Least, Intermediate, or Most)

PRISM data, 1971-2000 (<http://www.prism.oregonstate.edu/>)

**Q<sub>50</sub> (m<sup>3</sup>/s):** mean of the annual 50<sup>th</sup> streamflow percentiles, over the period of record, computed using USGS mean daily discharge data

**Q<sub>90</sub> (m<sup>3</sup>/s):** mean of the annual 90<sup>th</sup> streamflow percentiles, over the period of record, computed using USGS mean daily discharge data

STAID	DA (km <sup>2</sup> )	Elev. (m)	Precip. (mm/y)	Flow modification	CC length (yrs)	CC effect (%/dec)	CC effect SE (%/dec)	CC effect p	FF length (yrs)	Mean FF (d/y)	FF effect (%/dec)	FF effect SE (%/dec)	FF effect p
01055000	251	188	1187	Least	33	-8.4	2.5	5.26E-03	62	0.44	6.7	10.8	5.39E-01
01064500	997	127	1199	Least	26	-2.4	2.8	4.11E-01	62	0.79	1.2	8.2	8.89E-01
01098530	275	34	1188	Most	23	-20.2	7.7	1.20E-02	32	7.97	49.0	20.1	3.39E-02
01099500	1036	21	1137	Intermediate	24	-3.2	4.9	5.25E-01	62	2.94	33.3	13.8	4.26E-02
01100000	12005	2	1133	Most	21	-16.3	9.7	1.08E-01	62	1.37	7.9	12.5	5.30E-01
01131500	3921	244	987	Intermediate	58	-1.0	1.7	5.67E-01	62	2.51	0.5	7.1	9.41E-01
01152500	697	109	999	Intermediate	61	-6.4	3.8	1.01E-01	62	0.06	5.7	26.9	8.18E-01
01196500	298	6	1305	Intermediate	24	42.9	8.8	1.06E-04	62	0.32	45.9	14.0	7.70E-03
01350355	1150	209	938	Most	27	12.7	6.8	8.39E-02	36	0.11	24.8	44.1	5.78E-01
01357500	8936	15	966	Intermediate	36	9.9	4.8	4.49E-02	62	0.13	48.9	25.7	9.89E-02
01364500	1085	12	1149	Most	24	-0.4	1.6	7.95E-01	41	1.50	57.2	19.6	1.64E-02
01389500	1974	37	1309	Intermediate	49	-6.2	1.3	3.47E-05	62	4.02	15.8	10.3	1.43E-01
01420500	624	351	1152	Least	55	1.1	1.2	3.87E-01	62	0.40	24.7	13.0	6.94E-02
01426500	1541	288	1118	Most	61	-1.3	1.7	4.51E-01	62	0.54	-23.4	12.2	7.24E-02
01447800	751	370	1201	Most	47	8.4	4.6	7.81E-02	54	0.18	38.1	32.8	2.86E-01
01465500	544	12	1248	Intermediate	31	1.2	2.8	6.84E-01	62	0.67	8.9	10.0	3.89E-01
01477000	158	7	1154	Intermediate	38	-5.2	1.8	1.10E-02	62	0.19	18.0	16.0	2.73E-01
01478000	53	7	1159	Intermediate	35	31.4	7.3	1.90E-04	62	0.13	18.8	21.1	3.85E-01
01479000	231	2	1147	Intermediate	36	-7.7	4.6	1.15E-01	62	0.33	15.3	17.7	4.01E-01
01480870	233	59	1211	Most	36	2.7	2.9	3.65E-01	39	0.88	10.9	22.2	6.38E-01
01503000	5781	256	990	Intermediate	42	-8.4	2.2	6.36E-04	62	3.35	5.9	8.1	4.76E-01
01509000	756	331	1019	Intermediate	35	4.6	1.3	2.01E-03	62	2.26	7.2	7.4	3.49E-01
01512500	3841	266	973	Intermediate	58	0.8	0.9	3.86E-01	62	0.84	0.3	10.9	9.76E-01
01531500	20194	212	895	Intermediate	21	7.2	3.7	6.98E-02	62	1.54	0.9	9.5	9.28E-01
01533400	22585	183	945	Intermediate	31	-1.3	1.8	4.85E-01	35	1.11	21.0	28.1	4.63E-01
01554000	47397	125	1089	Intermediate	38	0.1	3.1	9.81E-01	62	0.70	5.9	13.4	6.51E-01
01560000	445	320	991	Intermediate	43	-1.8	2.2	4.34E-01	62	1.22	25.1	9.6	2.11E-02
01568000	536	129	1084	Least	34	-0.5	3.5	8.93E-01	62	0.52	42.0	12.3	5.00E-03
01571500	552	94	1086	Intermediate	39	-2.0	1.8	2.96E-01	57	0.93	32.7	14.2	4.31E-02
01604500	572	190	934	Most	26	4.2	1.5	1.65E-02	62	0.67	-10.5	9.7	2.82E-01
01638500	24996	61	1077	Intermediate	29	3.3	3.4	3.48E-01	62	1.32	4.8	9.1	5.95E-01
02029000	11865	77	1137	Intermediate	56	-0.8	1.1	4.97E-01	62	0.43	11.4	14.1	4.29E-01
02035000	16193	50	1113	Intermediate	56	1.0	1.5	5.26E-01	62	0.87	6.2	11.5	5.90E-01
02039500	782	86	1150	Intermediate	39	-4.1	3.0	1.98E-01	62	1.38	7.0	10.4	5.02E-01
02049500	1588	0	1214	Intermediate	53	10.9	1.5	<1.00E-06	62	5.75	20.7	9.1	3.64E-02
02066000	7682	94	1167	Most	55	1.1	1.6	4.94E-01	61	5.11	5.6	7.4	4.55E-01
02071000	2727	156	1177	Intermediate	50	-7.7	2.9	2.10E-02	62	0.76	1.4	11.7	9.12E-01
02075500	6700	98	1160	Most	58	-3.5	1.5	2.66E-02	61	3.13	0.5	7.4	9.41E-01
02082585	2396	16	1191	Intermediate	36	-1.1	4.4	8.04E-01	35	1.14	-8.7	30.0	7.73E-01
02082950	458	35	1183	Least	53	7.1	1.3	3.75E-06	52	0.72	-1.3	15.8	9.32E-01
02083500	5654	3	1173	Intermediate	51	2.5	1.3	6.91E-02	62	8.68	1.8	8.0	8.22E-01
02088000	216	56	1192	Intermediate	44	-2.5	2.3	2.85E-01	62	0.21	-15.8	18.5	3.96E-01
02088500	601	33	1220	Intermediate	55	-1.9	2.4	4.47E-01	62	1.60	-5.9	13.0	6.48E-01
02089000	6213	13	1278	Most	51	1.1	1.1	3.01E-01	62	11.10	-4.6	9.1	6.20E-01
02089500	6972	3	1289	Most	40	0.4	1.3	7.78E-01	62	32.29	-5.3	6.2	4.00E-01
02096960	3302	86	1202	Intermediate	39	-4.6	1.0	1.55E-04	38	2.33	-28.7	14.8	7.38E-02
02104220	241	52	1214	Least	22	-16.7	2.8	<1.00E-06	23	2.29	-17.0	37.2	6.51E-01
02106500	1751	8	1289	Least	44	6.6	1.8	4.82E-04	60	2.44	14.9	13.0	2.70E-01
02131000	22870	8	1228	Intermediate	41	3.2	3.3	3.43E-01	62	22.46	-3.5	6.5	5.93E-01
02132000	2668	18	1090	Intermediate	47	-1.2	1.1	2.52E-01	62	3.35	1.1	11.0	9.27E-01
02175000	7071	6	1305	Intermediate	48	0.4	0.6	5.30E-01	62	31.19	-6.1	7.8	4.46E-01
02215500	13416	27	1190	Intermediate	63	0.7	1.4	6.09E-01	62	4.60	2.8	10.7	7.92E-01
02217500	1031	169	1250	Intermediate	41	-15.6	5.9	1.63E-02	62	0.13	-1.4	18.3	9.41E-01
02223500	11396	45	1208	Most	40	6.0	1.1	3.12E-06	62	5.22	-6.2	7.2	3.93E-01
02225500	2875	22	1210	Least	62	6.4	0.4	<1.00E-06	62	33.06	-1.2	5.4	8.17E-01
02226500	3108	20	1279	Least	46	-1.7	1.3	1.98E-01	62	6.97	3.2	8.0	6.86E-01
02228000	7226	5	1339	Intermediate	45	-1.6	0.6	9.94E-03	62	41.48	-1.1	5.6	8.49E-01
02231000	1813	13	1348	Least	58	0.7	1.0	4.73E-01	62	15.40	-5.3	6.8	4.45E-01
02295637	2139	9	1312	Most	25	-1.7	4.3	6.92E-01	62	5.03	-19.3	13.8	1.80E-01
02297310	565	3	1286	Least	48	18.1	1.9	<1.00E-06	61	7.06	-7.2	10.2	4.90E-01
02298830	593	2	1474	Intermediate	44	5.8	2.6	3.00E-02	62	30.98	-5.4	5.7	3.43E-01
02299950	169	12	1351	Least	41	10.7	3.2	1.85E-03	45	4.74	3.1	8.2	7.08E-01
02300500	386	0	1348	Most	30	10.6	4.4	2.83E-02	62	8.02	-7.6	6.5	2.54E-01
02312000	1476	15	1339	Intermediate	55	4.6	1.3	6.79E-04	62	11.60	-11.2	13.8	4.22E-01
02312500	2098	12	1317	Intermediate	54	7.3	5.5	1.99E-01	62	9.63	-12.4	14.8	4.10E-01
02313000	4727	8	1331	Most	41	0.4	0.9	6.45E-01	62	13.57	-34.6	18.3	9.38E-02
02315500	6294	0	1353	Least	25	12.4	2.0	1.94E-06	62	8.54	6.6	12.1	5.84E-01
02317500	3626	23	1327	Intermediate	59	-2.5	0.9	7.18E-03	62	5.57	4.7	10.1	6.47E-01
02323500	24968	0	1458	Intermediate	43	-7.1	1.9	5.36E-04	62	14.24	-1.2	11.5	9.16E-01
02326000	513	4	1475	Least	54	-4.7	1.0	4.49E-05	61	3.38	-1.1	14.8	9.42E-01
02327100	264	0	1602	Least	43	0.2	1.4	8.82E-01	47	1.79	5.8	14.6	6.88E-01
02329000	2953	18	1505	Intermediate	39	-1.9	1.1	9.74E-02	62	16.25	-0.1	7.2	9.89E-01
02336000	3756	229	1343	Most	38	10.7	10.9	3.33E-01	62	0.98	-64.4	13.3	1.00E-03
02339500	9195	168	1337	Most	24	-5.1	2.7	7.92E-02	62	0.76	-3.3	12.7	7.95E-01
02344350	337	231	1283	Intermediate	21	-16.5	1.5	<1.00E-06	26	1.93	-5.1	27.5	8.55E-01
02344700	262	222	1293	Least	28	-6.2	2.1	6.58E-03	47	1.50	-3.6	11.6	7.54E-01
02347500	4792	102	1241	Least	52	-2.8	1.2	2.88E-02	62	2.65	-5.1	8.3	5.36E-01
02352500	13753	46	1343	Most	30	4.6	3.0	1.49E-01	62	1.14	14.7	15.1	3.35E-01
02353000	14867	34	1350	Intermediate	26	-6.1	1.9	5.86E-03	55	2.23	3.6	15.4	8.18E-01

STAID	DA (km <sup>2</sup> )	Elev. (m)	Precip. (mm/y)	Flow modification	CC length (yrs)	CC effect (%/dec)	CC effect SE (%/dec)	CC effect p	FF length (yrs)	Mean FF (d/y)	FF effect (%/dec)	FF effect SE (%/dec)	FF effect p
02359000	2023	6	1528	Least	44	-0.7	1.5	6.62E-01	62	2.28	12.0	12.3	3.44E-01
02366500	11355	0	1660	Least	24	1.2	1.6	4.63E-01	62	16.51	-0.1	6.5	9.81E-01
02368000	1616	14	1653	Intermediate	56	-0.2	1.1	8.71E-01	62	0.71	1.7	19.9	9.27E-01
02383500	2152	188	1363	Most	26	-7.6	5.3	1.71E-01	62	1.08	-39.3	12.7	1.24E-02
02384500	653	205	1438	Intermediate	29	-1.6	5.6	7.81E-01	30	2.68	-11.5	16.2	4.95E-01
02385800	166	210	1416	Intermediate	41	-4.6	6.1	4.55E-01	51	0.21	17.4	25.1	4.93E-01
02397000	10464	169	1384	Intermediate	33	4.0	3.5	2.68E-01	62	6.71	-10.1	7.6	2.18E-01
02398000	497	187	1429	Least	42	0.1	1.7	9.64E-01	62	1.37	-12.9	7.4	9.44E-02
02431000	1585	74	1462	Most	36	15.2	3.5	4.43E-04	62	0.43	-3.1	16.9	8.54E-01
02439400	2067	67	1474	Least	30	-1.2	0.9	1.72E-01	45	22.65	-6.5	6.7	3.39E-01
02456500	2292	79	1438	Intermediate	25	-4.8	2.6	9.12E-02	62	1.81	-3.8	8.1	6.29E-01
02473000	4527	36	1584	Intermediate	23	-1.3	4.3	7.76E-01	62	0.71	-11.0	19.7	5.70E-01
02474500	1585	32	1579	Least	40	-23.5	2.5	<1.00E-06	62	1.32	-4.5	14.6	7.64E-01
02478500	6967	16	1682	Intermediate	25	-5.4	1.9	7.46E-03	62	30.30	1.1	4.8	8.07E-01
02479560	1456	14	1674	Least	30	0.0	5.1	9.97E-01	38	0.85	3.4	29.8	9.06E-01
02481880	1347	115	1477	Intermediate	27	1.7	3.5	6.32E-01	31	23.09	-9.3	11.4	4.31E-01
02482000	2341	104	1436	Intermediate	30	-12.8	1.7	<1.00E-06	62	13.56	0.2	5.5	9.75E-01
02482550	3486	96	1466	Least	30	-4.1	2.3	8.53E-02	49	21.58	-5.7	7.6	4.51E-01
02483000	1064	98	1510	Least	30	-2.9	3.7	4.37E-01	62	16.69	2.6	4.7	5.91E-01
02484000	785	114	1450	Least	35	5.5	5.0	2.82E-01	62	2.08	1.7	10.3	8.60E-01
02488500	12932	48	1580	Intermediate	58	-9.5	1.5	<1.00E-06	62	18.75	1.6	6.9	8.20E-01
03015000	2113	372	1124	Intermediate	55	8.4	3.0	1.11E-02	62	0.89	-10.5	15.9	5.14E-01
03094000	1489	266	977	Most	54	-0.4	1.1	7.43E-01	62	2.33	-4.3	8.2	6.12E-01
03155000	3926	178	1118	Intermediate	59	4.5	4.6	3.34E-01	62	0.14	15.6	26.3	5.41E-01
03179000	1023	465	988	Intermediate	59	-1.6	0.6	1.82E-02	61	1.34	-0.4	9.0	9.60E-01
03200500	2233	174	1120	Intermediate	39	17.9	2.9	1.57E-05	50	0.31	-31.3	20.0	1.50E-01
03212500	5553	173	1136	Intermediate	45	2.2	7.9	7.83E-01	61	0.79	-51.9	13.7	5.30E-03
03213700	2424	189	1169	Least	33	-14.1	3.6	9.28E-04	44	0.38	8.7	19.8	6.62E-01
03237500	1002	156	1122	Least	60	3.0	2.9	3.25E-01	62	0.63	7.6	10.0	4.56E-01
03263000	2976	232	998	Most	22	10.4	6.3	1.28E-01	62	0.35	18.2	17.0	3.10E-01
03282000	6882	191	1226	Intermediate	40	-0.5	1.8	7.98E-01	62	1.29	-18.3	8.8	4.97E-02
03308500	4333	138	1313	Most	58	-6.7	1.7	7.85E-04	62	2.92	-35.2	8.3	2.00E-04
03322900	1173	246	962	Intermediate	23	0.6	2.0	7.67E-01	47	5.92	31.5	9.8	6.20E-03
03331500	2217	211	979	Least	23	23.7	4.9	6.23E-05	62	7.95	2.1	8.5	8.08E-01
03333450	378	250	1012	Least	25	6.0	4.5	2.13E-01	50	1.98	23.4	10.2	3.04E-02
03335500	18822	154	936	Intermediate	42	1.7	0.8	4.71E-02	62	35.14	10.6	3.9	8.10E-03
03336000	21285	144	1005	Intermediate	32	5.7	1.6	1.37E-03	62	38.65	9.7	3.9	1.91E-02
03339000	3341	154	1010	Intermediate	24	-23.9	3.2	1.68E-06	62	1.30	9.2	9.9	3.68E-01
03340500	28796	140	1081	Most	21	1.4	1.3	2.92E-01	62	56.46	7.4	3.6	4.98E-02
03341500	31761	136	1095	Intermediate	26	-1.1	1.0	2.45E-01	62	46.30	7.3	4.0	7.94E-02
03342000	34087	126	1076	Intermediate	62	3.5	0.4	<1.00E-06	62	52.06	9.6	4.0	2.10E-02
03343400	482	190	1028	Least	31	-0.2	3.2	9.50E-01	51	6.40	7.9	7.6	3.04E-01
03345500	3926	136	1086	Intermediate	44	-23.6	2.1	<1.00E-06	62	6.27	13.7	7.1	6.34E-02
03346000	824	139	1087	Least	26	1.2	4.3	7.88E-01	62	1.03	24.3	9.1	1.56E-02
03347000	624	280	988	Most	23	-6.4	5.3	2.52E-01	62	1.41	19.8	9.2	4.65E-02
03351310	46	217	1010	Least	22	-35.1	17.0	5.92E-02	42	0.07	1.7	45.4	9.66E-01
03352500	772	220	1029	Most	30	3.1	5.1	5.59E-01	62	1.32	24.8	10.0	2.16E-02
03353600	63	216	1010	Least	24	-12.9	9.6	2.01E-01	52	0.30	12.6	17.1	4.66E-01
03358000	635	215	1129	Intermediate	27	-6.2	3.5	9.61E-02	62	1.87	-0.8	8.5	9.27E-01
03360500	12142	142	1153	Intermediate	29	0.9	1.7	5.75E-01	62	25.40	8.7	4.2	4.37E-02
03361650	243	240	1052	Least	29	-20.4	7.4	1.37E-02	44	0.93	10.5	15.1	4.96E-01
03361850	204	231	1043	Intermediate	28	-2.8	4.9	5.77E-01	44	1.71	4.0	10.7	7.11E-01
03362500	1228	197	1074	Least	38	-6.6	5.7	2.77E-01	62	4.90	9.0	6.2	1.62E-01
03371500	10000	144	1173	Intermediate	28	4.8	1.4	1.82E-03	54	14.31	15.8	6.3	1.94E-02
03374000	28814	122	1150	Intermediate	28	0.7	1.4	5.90E-01	62	38.16	6.2	4.0	1.29E-01
03376500	2129	119	1164	Most	23	-11.0	2.9	3.77E-04	62	16.98	-9.3	6.9	1.80E-01
03377500	74165	113	1167	Most	27	0.2	1.2	8.60E-01	62	32.60	6.6	4.8	1.70E-01
03379500	2929	120	1104	Most	31	3.3	1.6	4.91E-02	62	40.54	10.5	3.8	7.50E-03
03403500	2486	287	1294	Intermediate	55	-1.8	3.1	5.62E-01	54	3.98	-5.5	6.6	3.92E-01
03436100	2398	115	1316	Least	35	0.1	1.3	9.38E-01	50	1.42	-1.1	11.7	9.26E-01
03443000	767	628	1494	Intermediate	43	3.2	1.5	3.93E-02	62	5.67	-0.5	6.2	9.40E-01
03451500	2448	594	968	Intermediate	59	0.6	0.7	4.19E-01	62	0.22	19.0	23.8	4.44E-01
03453500	3450	502	1010	Intermediate	56	-8.0	2.3	2.44E-03	62	0.38	4.1	16.2	8.01E-01
03455000	4812	308	1163	Intermediate	26	-4.5	3.0	1.63E-01	62	0.85	-4.3	10.8	6.89E-01
03524000	1380	457	1068	Intermediate	46	-1.7	5.7	7.71E-01	62	0.63	-22.4	10.7	5.41E-02
03575000	886	195	1451	Least	32	-6.2	2.0	6.46E-03	44	0.37	17.7	22.4	4.47E-01
04024000	8884	336	793	Intermediate	43	5.1	1.4	1.17E-03	62	1.95	-4.0	13.4	7.63E-01
04041500	896	216	836	Most	22	4.1	6.0	5.01E-01	62	2.27	-20.3	8.3	2.31E-02
04062500	1699	396	763	Most	20	-4.8	1.5	5.30E-03	62	1.00	-58.1	15.1	2.70E-03
04073500	3471	227	814	Intermediate	52	11.4	0.9	<1.00E-06	62	8.22	-1.6	14.3	9.11E-01
04079000	5853	228	808	Intermediate	53	7.8	1.9	1.34E-04	62	4.40	-10.0	10.2	3.30E-01
04085427	1362	180	776	Intermediate	35	-0.2	4.3	9.67E-01	39	0.63	-51.9	54.5	3.60E-01
04087204	65	192	873	Intermediate	36	-39.3	9.4	4.02E-04	48	0.10	144.0	59.6	9.08E-02
04087240	492	187	896	Least	39	7.4	3.7	5.77E-02	48	0.20	44.6	37.3	2.72E-01
04099750	935	248	945	Intermediate	22	7.4	9.0	4.25E-01	43	9.30	14.3	14.9	3.52E-01
04101500	9495	193	1006	Most	58	1.7	1.3	2.12E-01	62	2.78	10.4	15.0	4.86E-01
04106000	2616	230	948	Intermediate	20	4.1	6.1	5.14E-01	62	0.43	-0.9	23.9	9.65E-01
04113000	3186	245	825	Intermediate	59	2.1	1.3	1.32E-01	62	0.71	-16.7	16.4	3.25E-01
04115000	1124	196	846	Least	28	23.5	3.0	<1.00E-06	62	5.56	1.7	8.9	8.44E-01

STAID	DA (km <sup>2</sup> )	Elev. (m)	Precip. (mm/y)	Flow modification	CC length (yrs)	CC effect (%/dec)	CC effect SE (%/dec)	CC effect p	FF length (yrs)	Mean FF (d/y)	FF effect (%/dec)	FF effect SE (%/dec)	FF effect p
04116000	7356	188	901	Intermediate	63	3.8	2.0	6.89E-02	60	0.56	-13.4	18.8	4.73E-01
04119000	12691	179	931	Intermediate	44	6.1	4.0	1.51E-01	62	0.17	4.5	25.3	8.58E-01
04121500	3711	298	842	Intermediate	36	6.5	3.5	7.14E-02	62	0.78	-16.4	17.8	3.68E-01
04122500	1764	182	865	Least	23	-23.2	10.6	3.86E-02	62	0.33	5.3	17.9	7.58E-01
04142000	829	198	776	Intermediate	27	-6.1	3.8	1.35E-01	62	4.76	-2.6	6.1	6.69E-01
04144500	1393	216	836	Intermediate	33	-1.5	4.5	7.35E-01	62	1.98	-9.3	12.0	4.52E-01
04151500	2178	178	810	Intermediate	24	-1.4	1.5	3.50E-01	62	3.17	7.6	8.4	3.82E-01
04154000	1077	217	812	Most	36	2.1	3.1	5.02E-01	62	1.70	-12.5	13.2	3.54E-01
04164000	1150	176	833	Least	20	-6.6	7.8	4.18E-01	62	0.33	5.3	15.9	7.37E-01
04168000	215	181	841	Most	52	1.2	2.2	5.96E-01	62	0.62	0.9	12.6	9.47E-01
04178000	1580	242	921	Intermediate	27	11.9	3.0	2.50E-04	62	14.00	-2.0	5.7	7.29E-01
04181500	1608	232	908	Intermediate	62	-1.9	1.9	3.30E-01	62	9.14	15.4	6.6	3.12E-02
04182000	1974	228	943	Intermediate	34	1.5	3.9	7.13E-01	62	2.19	18.1	9.0	5.76E-02
04183000	5095	221	953	Intermediate	24	3.5	1.8	7.72E-02	55	5.32	25.3	8.3	5.60E-03
04186500	860	218	916	Intermediate	35	-4.2	2.1	6.04E-02	62	3.19	9.1	7.1	2.14E-01
04193500	16395	182	869	Intermediate	22	-15.0	4.1	1.05E-03	62	7.54	3.8	6.3	5.63E-01
04201500	692	198	979	Intermediate	22	0.3	7.2	9.70E-01	62	1.79	21.4	6.8	4.10E-03
04229500	508	186	858	Intermediate	23	6.3	15.7	6.94E-01	61	0.22	1.3	22.6	9.55E-01
04230500	518	171	868	Intermediate	27	-9.1	7.0	2.07E-01	62	1.48	-6.0	8.7	4.95E-01
04282000	795	145	1001	Intermediate	40	1.5	2.2	5.16E-01	62	3.08	-3.9	6.5	5.61E-01
04293500	1241	123	1000	Least	26	-12.6	8.0	1.41E-01	62	0.40	36.6	16.8	6.24E-02
05059700	2183	322	520	Intermediate	22	-16.9	3.2	5.63E-06	55	2.79	81.1	20.0	5.80E-03
05062000	2525	268	583	Least	46	-10.0	0.8	<1.00E-06	62	17.25	26.0	6.1	3.00E-04
05064500	56462	252	549	Intermediate	28	-4.8	2.3	4.47E-02	50	8.14	46.5	14.3	7.90E-03
05066500	3116	268	529	Least	24	-8.2	4.3	7.04E-02	62	2.16	44.9	13.5	5.10E-03
05079000	13649	254	535	Most	61	-0.1	0.8	9.05E-01	62	6.27	9.2	9.3	3.32E-01
05082500	77959	237	529	Intermediate	26	-10.8	2.1	2.58E-06	62	17.16	30.3	7.2	5.00E-04
05227500	15903	360	740	Most	30	2.0	1.1	7.12E-02	62	61.02	-2.2	4.7	6.35E-01
05280000	6838	272	746	Least	50	-5.5	1.3	1.51E-04	62	6.43	20.2	12.2	1.18E-01
05330000	41958	210	755	Intermediate	22	-8.1	4.1	5.65E-02	62	6.62	35.4	14.7	3.83E-02
05374000	2979	247	821	Intermediate	51	-8.4	2.3	1.88E-03	29	0.70	-14.7	43.5	7.36E-01
05382000	5387	201	858	Intermediate	41	6.2	1.6	5.98E-04	62	2.65	-7.1	7.9	3.80E-01
05404000	20953	244	852	Most	48	-45.7	2.3	<1.00E-06	62	1.14	-10.6	17.0	5.53E-01
05412500	4002	193	860	Least	61	8.5	1.3	<1.00E-06	62	2.46	-1.6	9.5	8.70E-01
05413500	697	185	864	Least	61	-13.9	2.2	<1.00E-06	62	0.97	-40.5	11.7	5.50E-03
05430500	8651	226	879	Most	24	5.7	1.3	1.26E-04	62	11.98	30.3	12.0	2.36E-02
05437500	16480	216	900	Intermediate	28	-1.4	2.3	5.37E-01	62	7.56	25.9	14.8	1.17E-01
05439000	201	254	944	Least	25	0.0	9.4	9.99E-01	32	0.42	-4.8	38.9	8.97E-01
05446500	24732	172	934	Intermediate	32	2.0	0.9	4.15E-02	62	18.27	21.5	9.8	4.08E-02
05449500	1111	348	843	Least	60	3.6	1.6	3.06E-02	62	0.69	3.8	17.0	8.20E-01
05451500	3968	260	893	Intermediate	59	20.0	3.2	<1.00E-06	62	0.57	21.6	23.1	3.68E-01
05451900	145	240	906	Least	33	7.4	5.8	2.16E-01	62	0.13	3.2	23.0	8.90E-01
05453100	7236	220	907	Least	48	-2.6	0.5	1.47E-06	55	30.11	13.6	9.2	1.55E-01
05455500	1487	193	909	Least	58	6.1	0.7	<1.00E-06	62	4.78	22.0	10.5	5.71E-02
05458000	793	297	892	Least	59	3.4	1.6	4.34E-02	57	1.45	6.7	12.4	5.95E-01
05462000	4522	270	879	Intermediate	54	27.0	3.0	<1.00E-06	58	0.49	6.2	19.5	7.54E-01
05463000	899	269	880	Least	60	17.2	2.3	<1.00E-06	62	0.14	29.7	23.9	2.61E-01
05464000	13328	251	861	Intermediate	58	-6.6	0.8	<1.00E-06	62	2.81	10.7	13.6	4.46E-01
05465000	20168	177	922	Least	44	1.9	1.6	2.50E-01	62	14.16	24.2	11.6	6.98E-02
05465500	32375	164	902	Most	33	-1.3	1.5	3.83E-01	62	19.78	21.8	10.0	5.25E-02
05471050	2080	235	887	Intermediate	38	-11.1	3.4	1.69E-03	26	2.28	60.1	49.8	2.75E-01
05472500	1891	199	903	Intermediate	63	-4.2	0.8	3.02E-06	62	7.63	30.5	11.0	2.15E-02
05474000	11168	159	956	Intermediate	61	-9.0	1.1	<1.00E-06	62	6.32	32.1	11.5	2.01E-02
05476750	5843	321	825	Intermediate	32	-1.0	1.9	6.07E-01	47	5.56	24.6	28.7	4.11E-01
05479000	3388	317	825	Intermediate	49	-11.0	2.1	2.84E-06	62	0.29	24.1	26.4	3.75E-01
05481000	2186	302	854	Least	57	-2.9	0.9	2.85E-03	62	0.41	124.8	41.6	6.43E-02
05481300	14121	272	858	Intermediate	40	-9.6	3.6	1.52E-02	44	1.62	43.2	36.2	2.75E-01
05481950	927	246	870	Least	49	-27.1	4.5	<1.00E-06	51	0.23	50.4	27.6	1.06E-01
05482300	1813	349	827	Least	23	-3.0	2.8	2.81E-01	53	10.04	9.8	10.9	3.75E-01
05483450	971	317	866	Intermediate	34	42.8	3.3	<1.00E-06	32	17.79	-1.8	17.6	9.19E-01
05484500	8912	256	877	Intermediate	57	-7.2	2.1	1.19E-03	62	1.41	27.4	14.0	8.30E-02
05485640	240	243	873	Least	38	-13.0	3.5	1.17E-03	40	0.34	28.6	31.2	3.65E-01
05486000	904	240	883	Least	44	-3.6	4.6	4.37E-01	62	0.60	34.4	14.8	4.47E-02
05488500	32321	204	911	Most	52	-40.4	1.2	<1.00E-06	62	12.76	30.7	14.9	8.09E-02
05489500	34639	190	922	Most	29	-16.3	4.0	8.58E-05	62	9.90	43.9	18.6	5.18E-02
05490500	36358	167	942	Most	21	-27.7	4.7	3.31E-06	62	3.24	73.5	29.0	6.53E-02
05495000	1036	153	962	Least	23	10.1	3.1	8.15E-03	62	1.90	34.8	10.1	4.00E-03
05502300	945	214	986	Most	58	-21.7	1.7	<1.00E-06	37	6.05	8.0	13.3	5.53E-01
05515500	1391	203	997	Least	23	2.1	5.4	6.96E-01	62	38.08	2.4	5.5	6.67E-01
05517000	1127	207	998	Least	23	0.0	8.7	9.99E-01	62	1.83	9.2	11.1	4.13E-01
05517530	3564	197	984	Least	29	0.4	2.6	8.66E-01	37	14.53	-10.7	16.5	5.30E-01
05522500	526	196	976	Intermediate	26	13.1	4.0	4.82E-03	62	3.60	22.9	9.5	2.91E-02
05524500	1163	190	964	Least	28	1.2	6.5	8.55E-01	61	6.23	20.7	6.8	4.50E-03
05525000	1777	187	971	Least	32	-3.8	4.2	3.72E-01	62	9.52	8.4	6.4	1.99E-01
05525500	1155	190	965	Least	31	6.3	3.9	1.15E-01	62	2.97	20.2	6.9	6.80E-03
05526000	5416	182	946	Least	30	-0.7	4.7	8.87E-01	62	1.03	16.5	12.9	2.22E-01
05527800	319	202	892	Most	21	4.8	6.3	4.54E-01	44	28.33	3.2	8.4	7.03E-01
05529000	932	191	937	Least	22	12.6	3.8	6.32E-03	62	5.29	17.0	8.7	6.21E-02
05536275	269	179	972	Intermediate	30	-37.1	4.6	<1.00E-06	62	1.94	17.1	5.9	7.80E-03

STAID	DA (km <sup>2</sup> )	Elev. (m)	Precip. (mm/y)	Flow modification	CC length (yrs)	CC effect (%/dec)	CC effect SE (%/dec)	CC effect p	FF length (yrs)	Mean FF (d/y)	FF effect (%/dec)	FF effect SE (%/dec)	FF effect p
05536290	539	175	971	Intermediate	31	11.6	3.2	1.78E-03	62	0.60	-1.2	11.6	9.21E-01
05540500	839	172	941	Least	24	-0.4	3.2	9.03E-01	62	0.79	24.8	11.2	4.31E-02
05543830	326	242	882	Intermediate	40	14.0	5.6	2.61E-02	49	0.96	66.0	21.9	1.88E-02
05548280	497	227	900	Least	26	6.1	2.7	3.10E-02	45	15.91	-1.5	10.1	8.89E-01
05555300	3240	159	942	Intermediate	22	9.2	4.6	6.29E-02	62	3.32	9.8	7.8	2.22E-01
05569500	2776	155	939	Intermediate	25	3.5	4.3	4.27E-01	62	7.40	9.7	7.1	1.86E-01
05572000	1425	191	1008	Least	32	13.1	1.8	<1.00E-06	62	11.44	10.7	5.8	8.25E-02
05578500	868	186	995	Most	32	12.2	2.3	2.93E-06	62	33.22	10.0	5.1	5.77E-02
05584500	1696	150	958	Intermediate	27	-4.5	3.1	1.68E-01	62	6.02	18.1	7.7	3.01E-02
05592500	5025	138	1003	Most	63	2.1	1.1	6.57E-02	62	14.41	-0.9	5.7	8.78E-01
06025500	6413	1534	250	Intermediate	32	6.7	2.0	2.10E-03	62	3.57	-5.8	12.6	6.50E-01
06043500	2137	1575	529	Intermediate	32	-6.3	3.7	1.05E-01	62	0.27	10.0	30.4	7.31E-01
06054500	37993	1190	300	Intermediate	29	-0.2	2.7	9.47E-01	62	1.08	31.0	22.6	2.15E-01
06099500	8397	941	286	Most	26	33.0	4.7	<1.00E-06	62	0.78	-13.3	16.0	4.08E-01
06115200	106156	683	428	Most	33	24.8	4.8	1.55E-05	62	1.81	-14.1	20.9	4.98E-01
06334500	5113	948	367	Most	28	9.2	3.8	2.52E-02	55	1.95	23.5	16.1	1.67E-01
06340500	5802	522	424	Intermediate	25	-8.6	3.5	3.00E-02	62	0.89	-28.4	15.8	9.85E-02
06349500	4351	499	498	Intermediate	25	-15.5	9.5	1.28E-01	62	1.90	22.1	20.3	3.17E-01
06354000	10619	510	418	Intermediate	25	2.8	2.2	2.10E-01	62	2.71	-0.3	12.0	9.74E-01
06354882	917	515	438	Intermediate	26	-8.9	1.5	5.31E-05	27	2.77	31.7	34.8	3.89E-01
06360500	12675	506	452	Intermediate	26	-2.2	3.0	4.62E-01	57	0.52	85.9	28.3	2.89E-02
06436760	1194	826	437	Most	29	-6.1	8.7	5.04E-01	30	0.26	140.1	53.9	3.50E-02
06437000	15076	770	425	Intermediate	51	-3.9	4.4	3.92E-01	62	0.16	173.8	43.3	3.45E-02
06441500	8151	435	483	Least	28	-17.1	7.1	2.56E-02	62	0.59	-39.7	19.2	7.96E-02
06471000	14729	388	518	Most	29	-6.8	2.7	1.39E-02	62	33.73	51.4	11.2	7.00E-04
06471500	3895	399	524	Most	42	-7.3	3.9	7.49E-02	62	1.46	68.1	17.2	3.20E-03
06473000	25136	379	523	Most	29	-12.7	1.4	<1.00E-06	62	22.60	107.7	20.4	2.60E-03
06477000	45584	368	569	Most	26	-4.3	1.1	3.14E-04	61	23.65	77.0	15.6	8.00E-04
06477500	1520	395	580	Least	33	4.3	2.5	9.36E-02	56	4.47	25.7	14.8	1.07E-01
06479010	5835	343	655	Intermediate	27	-44.5	3.1	<1.00E-06	28	2.69	-60.7	58.2	3.19E-01
06479525	2836	508	599	Intermediate	27	3.3	2.5	1.88E-01	35	10.36	33.8	26.8	2.34E-01
06480000	8645	473	635	Intermediate	29	-16.3	1.2	<1.00E-06	58	12.14	44.9	14.3	1.13E-02
06481000	10168	444	652	Intermediate	29	4.9	1.8	7.62E-03	62	6.11	29.3	14.6	6.71E-02
06607500	9132	311	772	Intermediate	54	-13.9	3.2	9.13E-05	62	0.18	-1.6	24.3	9.45E-01
06625000	686	2124	282	Intermediate	31	5.3	4.3	2.28E-01	62	0.29	300.5	76.3	3.42E-02
06795500	761	437	729	Least	44	-4.6	4.7	3.44E-01	62	0.33	29.6	19.2	1.39E-01
06796000	182336	385	811	Most	31	-35.3	8.6	1.76E-04	62	0.32	-0.4	18.7	9.84E-01
06799350	12111	394	749	Intermediate	33	33.3	7.4	5.26E-05	39	0.65	67.4	47.1	2.28E-01
06800000	953	369	769	Most	21	-28.9	10.2	1.24E-02	60	0.39	12.4	16.4	4.50E-01
06805500	221108	307	834	Most	38	-20.2	3.4	<1.00E-06	58	0.69	28.9	24.7	2.73E-01
06807000	1061900	276	855	Most	46	13.3	0.4	<1.00E-06	62	12.70	42.9	16.1	3.23E-02
06807410	1577	331	903	Intermediate	28	0.9	4.4	8.34E-01	52	0.32	-3.7	18.8	8.42E-01
06811500	2051	271	838	Most	40	3.4	2.6	2.04E-01	62	0.29	-2.1	14.7	8.86E-01
06818000	1104635	241	904	Most	25	-1.6	2.3	4.82E-01	62	21.48	19.3	10.5	8.25E-02
06847000	5387	660	595	Most	23	20.1	2.5	<1.00E-06	43	0.41	-128.9	54.0	1.04E-01
06853020	57239	493	692	Most	23	14.2	5.0	9.27E-03	22	0.78	-29.2	83.3	7.14E-01
06876700	995	380	768	Intermediate	20	-15.3	4.8	5.10E-03	52	2.43	0.8	20.7	9.68E-01
06876900	17534	354	788	Most	62	-0.3	2.4	9.17E-01	62	3.49	-84.9	21.9	1.16E-02
06880000	1134	436	736	Intermediate	42	-6.0	1.6	3.43E-04	39	2.34	32.4	15.2	4.58E-02
06881000	7019	400	756	Intermediate	22	3.3	1.4	3.14E-02	58	5.53	0.1	8.4	9.91E-01
06882000	11518	354	817	Most	31	-19.3	4.2	9.00E-05	62	1.52	-16.4	12.7	2.13E-01
06890100	1116	281	940	Intermediate	44	-25.2	6.0	7.17E-04	42	0.12	-28.1	34.8	4.28E-01
06894000	477	219	1050	Most	27	9.5	7.6	2.23E-01	62	0.25	10.1	14.7	4.94E-01
06897500	5828	216	967	Intermediate	20	-11.2	6.2	8.92E-02	62	2.49	17.9	11.0	1.28E-01
06898000	1816	266	931	Most	45	-21.8	4.1	8.38E-06	62	0.46	21.9	16.9	2.19E-01
06902000	17819	192	975	Intermediate	34	-2.2	1.1	5.55E-02	62	20.38	8.2	6.0	1.84E-01
06905500	4843	193	963	Intermediate	57	-22.8	1.8	<1.00E-06	62	5.87	12.1	8.5	1.69E-01
06906800	1406	199	1016	Least	24	1.5	2.3	5.13E-01	24	3.76	-23.8	26.0	3.83E-01
06913500	3238	261	991	Intermediate	20	-8.0	3.7	4.95E-02	62	1.17	-6.6	12.9	6.11E-01
06934500	1353275	147	1163	Most	24	-6.6	1.0	<1.00E-06	62	26.24	14.5	8.1	8.76E-02
07010000	1805230	116	1040	Most	50	-1.8	1.0	7.08E-02	62	14.02	22.4	11.3	7.07E-02
07014500	3820	177	1057	Least	63	-4.1	1.2	1.77E-03	62	6.75	2.1	5.9	7.31E-01
07016500	2093	149	1079	Least	63	1.0	1.0	3.23E-01	62	2.79	11.6	9.2	2.36E-01
07018100	1904	159	1059	Intermediate	25	1.9	2.1	4.00E-01	62	3.02	1.7	7.2	8.16E-01
07019000	9811	123	1050	Intermediate	33	-9.0	2.6	2.31E-03	62	4.06	9.2	8.3	2.71E-01
07022000	1847188	91	1189	Most	54	-11.2	2.2	<1.00E-06	62	28.95	22.0	8.7	2.06E-02
07029500	3833	99	1408	Least	27	7.2	3.4	4.12E-02	62	1.48	8.1	10.6	4.60E-01
07060500	25848	96	1173	Most	25	0.7	1.6	6.57E-01	62	0.78	-74.0	21.8	1.58E-02
07072500	19088	70	1271	Intermediate	24	-1.4	1.4	3.23E-01	62	54.62	1.2	5.0	8.12E-01
07147800	4869	330	913	Most	28	-14.5	4.3	4.04E-03	62	2.56	-0.6	9.5	9.52E-01
07151000	11577	284	907	Most	27	-5.6	2.6	4.06E-02	62	3.14	11.5	10.0	2.56E-01
07153000	1393	245	1002	Most	26	-27.1	2.8	<1.00E-06	62	0.56	11.0	16.5	5.04E-01
07171000	9283	197	1059	Most	26	-2.9	3.6	4.30E-01	62	1.40	12.4	12.4	3.31E-01
07185000	15348	228	1145	Most	29	-3.8	1.7	3.98E-02	62	12.73	6.8	6.6	3.05E-01
07186000	3015	254	1148	Least	24	0.9	3.3	7.80E-01	62	1.95	19.6	9.1	4.57E-02
07188000	6516	227	1157	Intermediate	23	-10.1	2.7	1.80E-03	62	2.06	13.8	9.3	1.61E-01
07195500	1632	272	1213	Intermediate	36	-1.5	1.2	2.15E-01	56	2.12	2.0	7.9	7.94E-01
07227500	50363	911	488	Most	58	-41.9	22.4	6.46E-02	62	0.16	-64.7	26.0	6.32E-02
07230500	1199	274	966	Most	28	-110.5	23.9	4.30E-05	62	16.70	11.0	8.1	1.97E-01

STAID	DA (km <sup>2</sup> )	Elev. (m)	Precip. (mm/y)	Flow modification	CC length (yrs)	CC effect (%/dec)	CC effect SE (%/dec)	CC effect p	FF length (yrs)	Mean FF (d/y)	FF effect (%/dec)	FF effect SE (%/dec)	FF effect p
07241550	35677	322	961	Most	25	-14.3	8.1	1.02E-01	43	1.32	22.5	22.6	3.43E-01
07268000	1362	83	1468	Least	27	24.8	10.0	3.02E-02	61	2.42	1.0	6.9	8.83E-01
07312200	1689	302	715	Most	26	-0.8	1.8	6.73E-01	51	2.50	4.2	14.2	7.66E-01
07312500	8133	282	756	Most	22	-2.3	3.7	5.33E-01	62	1.21	-27.8	14.3	7.36E-02
07336200	2924	128	1188	Intermediate	29	2.3	5.0	6.56E-01	39	1.65	-12.8	16.0	4.24E-01
07340000	6889	91	1389	Most	43	-4.2	2.0	4.67E-02	62	3.33	-81.7	11.4	<1.00E-06
07340500	935	116	1402	Most	29	-4.9	1.7	6.02E-03	29	1.37	-34.5	24.9	1.96E-01
07346045	945	52	1272	Least	24	-4.1	2.0	5.57E-02	43	21.89	-4.7	10.0	6.52E-01
07348700	1567	53	1349	Least	43	-0.7	0.8	3.77E-01	54	70.84	-0.9	4.9	8.52E-01
07375000	267	19	1690	Least	37	0.4	3.6	9.11E-01	62	2.07	1.3	7.8	8.70E-01
07375500	1673	2	1671	Intermediate	58	10.0	2.1	1.02E-04	62	9.68	4.2	5.4	4.43E-01
08015500	4403	4	1631	Intermediate	26	-1.9	2.8	5.03E-01	62	11.55	1.5	6.3	8.10E-01
08019000	1515	97	1119	Most	49	-0.7	2.2	7.58E-01	62	9.57	5.0	6.2	4.26E-01
08028000	945	36	1513	Intermediate	47	-12.1	1.4	<1.00E-06	60	8.34	9.1	6.9	1.99E-01
08032000	2966	80	1161	Intermediate	41	-7.1	0.8	<1.00E-06	62	59.56	4.5	5.1	3.82E-01
08038000	1303	52	1354	Most	49	-4.0	1.1	7.00E-04	34	31.39	29.8	15.3	7.01E-02
08039100	231	58	1339	Intermediate	46	-5.6	2.9	6.95E-02	24	2.44	36.1	27.0	1.98E-01
08041000	20593	3	1458	Most	42	-5.0	5.0	3.19E-01	62	1.35	-95.7	30.3	3.46E-02
08041500	2227	8	1489	Least	42	-3.3	1.8	7.44E-02	62	3.86	6.7	8.2	4.08E-01
08041700	870	0	1467	Intermediate	41	3.2	1.5	4.06E-02	44	29.16	0.5	7.6	9.47E-01
08057000	15815	112	965	Most	26	-14.6	4.7	3.45E-03	62	18.14	12.3	7.7	1.23E-01
08065000	33237	53	1101	Intermediate	60	-16.8	0.9	<1.00E-06	62	25.41	14.5	6.5	3.55E-02
08065350	36029	43	1144	Most	21	-14.4	8.2	9.34E-02	48	2.51	-4.6	18.0	7.95E-01
08066250	43626	12	1339	Most	33	-10.4	5.3	6.25E-02	46	4.98	9.0	16.4	5.82E-01
08066300	394	19	1356	Intermediate	33	6.9	5.0	1.95E-01	46	2.34	8.5	11.9	4.88E-01
08068090	2492	10	1306	Least	24	1.5	2.2	5.05E-01	27	1.54	2.2	39.7	9.55E-01
08117500	1883	9	1188	Intermediate	57	-6.1	0.6	<1.00E-06	57	14.91	1.2	7.3	8.66E-01
08123850	38617	581	549	Most	33	1.8	4.5	6.91E-01	44	0.38	-3.9	30.6	8.91E-01
08151500	10870	296	699	Intermediate	55	-8.7	1.3	<1.00E-06	62	1.05	-4.0	10.4	6.97E-01
08162000	108788	16	1206	Most	25	-16.5	9.7	1.18E-01	62	0.81	2.1	15.5	8.91E-01
08164000	2116	4	1094	Least	55	-2.3	1.2	6.50E-02	62	6.10	10.9	8.0	1.89E-01
08164300	860	49	1068	Least	48	2.6	1.7	1.45E-01	50	1.45	-9.5	11.3	4.07E-01
08164503	461	12	1122	Intermediate	32	8.0	2.2	1.16E-03	34	0.34	5.3	42.6	8.97E-01
08164600	238	9	1057	Least	37	14.0	2.6	1.74E-05	41	0.83	-3.0	19.6	8.77E-01
08175000	1422	54	928	Intermediate	49	-0.1	1.5	9.65E-01	52	2.26	-2.3	12.0	8.43E-01
08178800	490	161	819	Intermediate	46	-8.3	3.5	2.49E-02	51	0.23	4.2	20.4	8.35E-01
08183500	5473	87	760	Most	50	-9.8	1.6	2.11E-06	62	1.57	20.6	16.0	2.27E-01
08188500	10155	28	937	Most	58	-7.3	0.9	<1.00E-06	62	6.19	12.7	11.8	3.01E-01
08189200	227	5	975	Least	35	-7.2	4.7	1.39E-01	41	3.83	-8.1	15.8	6.16E-01
08194000	13393	112	600	Most	43	8.3	2.3	1.34E-03	62	3.33	-7.4	12.0	5.35E-01
08194500	20961	56	619	Intermediate	57	-3.7	0.7	<1.00E-06	62	20.31	-7.8	7.6	3.16E-01
08211520	234	-1	818	Intermediate	22	5.3	3.1	1.14E-01	39	0.75	19.5	21.8	3.82E-01
08279500	26936	1765	319	Most	23	1.7	7.6	8.20E-01	62	0.94	2.6	25.8	9.18E-01
09112500	749	2440	443	Intermediate	25	-5.4	8.5	5.28E-01	62	0.87	-26.4	25.5	3.20E-01
09128000	10285	1989	355	Most	23	-0.4	3.4	9.15E-01	62	2.30	-52.6	23.6	7.10E-02
09211200	11085	1944	197	Most	27	8.9	2.4	7.41E-04	48	1.92	-29.1	29.6	3.45E-01
10039500	6423	1845	372	Most	43	9.5	2.3	6.48E-05	62	3.02	15.7	20.4	4.71E-01
10312150	4665	1231	134	Most	25	15.0	4.7	1.65E-03	45	2.41	5.1	33.5	8.75E-01
10321000	11163	1503	257	Intermediate	57	-0.1	2.0	9.78E-01	62	3.76	7.5	20.9	7.23E-01
11348500	3706	1300	451	Intermediate	35	13.1	3.7	2.03E-03	62	0.98	-17.8	18.2	3.41E-01
12048000	404	174	765	Least	39	-9.7	4.9	6.64E-02	62	0.06	15.0	27.1	5.69E-01
12194000	7089	40	1929	Most	57	-2.4	0.8	6.50E-03	62	1.10	11.9	10.9	2.84E-01
12304500	1984	561	620	Intermediate	40	3.2	2.1	1.32E-01	55	1.54	-11.5	14.5	4.31E-01
12340000	5931	1019	492	Intermediate	50	12.8	2.8	5.26E-05	62	0.14	15.3	26.3	5.52E-01
12340500	15537	975	423	Intermediate	49	-2.3	1.8	2.12E-01	62	2.03	-4.4	16.8	7.96E-01
12344000	2717	1202	412	Intermediate	21	-48.1	11.9	4.07E-04	62	0.65	-7.7	20.6	7.02E-01
12353000	23318	940	386	Intermediate	39	2.5	2.7	3.60E-01	62	0.43	-3.9	27.1	8.81E-01
12354500	27736	793	514	Intermediate	39	4.6	3.5	1.97E-01	62	0.27	-6.7	29.7	8.11E-01
12358500	2922	954	712	Least	52	-0.1	1.5	9.66E-01	62	0.46	-15.7	17.0	3.68E-01
12363000	11562	908	432	Most	55	11.1	1.3	<1.00E-06	62	2.66	-134.0	22.1	1.40E-03
12370000	1738	933	581	Intermediate	48	1.0	1.9	5.89E-01	62	0.35	-8.7	31.0	7.62E-01
12389000	51691	746	478	Most	42	14.0	1.9	<1.00E-06	62	0.92	-30.1	21.4	1.91E-01
12401500	5698	560	521	Intermediate	36	-20.3	5.2	3.47E-04	62	0.78	6.2	13.0	6.35E-01
12422500	11111	517	452	Intermediate	48	15.4	3.5	1.27E-04	62	1.51	31.5	18.7	1.21E-01
12424000	1785	523	452	Intermediate	34	-6.8	4.4	1.38E-01	62	0.13	5.0	24.6	8.34E-01
12442500	9195	347	382	Intermediate	36	1.1	1.8	5.36E-01	62	0.57	-29.6	30.9	3.60E-01
12449950	4589	274	333	Intermediate	41	7.4	2.5	5.61E-03	52	0.38	-26.3	34.5	4.53E-01
12459000	2590	313	461	Intermediate	25	5.1	7.7	5.17E-01	62	0.17	6.6	26.3	7.92E-01
12472800	248640	119	382	Most	52	1.1	1.2	3.73E-01	62	3.32	-78.8	18.7	3.80E-03
12484500	4128	396	272	Most	61	4.2	0.6	<1.00E-06	62	0.33	28.7	19.0	1.67E-01
12510500	14543	139	216	Most	57	1.7	2.1	4.20E-01	62	0.83	3.8	15.4	8.03E-01
13037500	14898	1529	356	Most	34	-16.4	3.3	3.26E-06	62	2.17	-97.6	24.6	6.60E-03
13060000	25356	1402	300	Most	34	-3.0	2.3	2.07E-01	62	0.87	44.2	30.1	1.81E-01
13168500	6957	792	223	Intermediate	35	13.2	2.8	5.50E-05	62	0.78	1.2	30.0	9.62E-01
13247500	5750	800	444	Most	24	-11.7	4.1	8.91E-03	62	0.22	4.2	26.0	8.62E-01
13249500	7071	732	381	Most	22	8.9	3.8	2.41E-02	62	0.62	-1.5	18.6	9.42E-01
13251000	8392	652	265	Most	20	13.0	5.2	2.06E-02	62	0.22	36.0	24.2	1.77E-01
13266000	3756	672	351	Intermediate	25	22.8	4.8	4.42E-05	59	1.48	6.0	11.6	6.09E-01
14046500	13183	498	352	Intermediate	25	-6.8	2.3	6.31E-03	62	0.87	0.6	12.8	9.57E-01

STAID	DA (km <sup>2</sup> )	Elev. (m)	Precip. (mm/y)	Flow modification	CC length (yrs)	CC effect (%/dec)	CC effect SE (%/dec)	CC effect p	FF length (yrs)	Mean FF (d/y)	FF effect (%/dec)	FF effect SE (%/dec)	FF effect p
14190500	622	52	1206	Intermediate	42	-4.2	2.6	1.19E-01	62	3.56	-5.9	6.3	3.60E-01
14301000	1728	10	3126	Least	62	1.5	1.9	4.56E-01	62	3.43	-1.3	6.5	8.45E-01
15024800	51593	8	1862	Least	25	-3.8	9.5	6.92E-01	35	0.22	100.1	57.3	1.40E-01
15258000	1642	128	1712	Intermediate	30	-4.7	2.0	2.07E-02	62	3.05	0.8	10.8	9.36E-01
15292000	15954	206	710	Least	28	-18.3	2.7	<1.00E-06	62	0.67	-18.7	20.5	3.56E-01
0208111310	280	1	1231	Least	20	1.0	5.8	8.60E-01	24	4.04	3.4	30.7	9.16E-01

STAID	$\overline{U}_{FS}$ (m/s)	$\overline{A}_{FS}$ (m <sup>2</sup> )	$\overline{w}_{FS}$ (m)	$\overline{b}_{FS}$ (m)	$\overline{Q}_{FS}$ (m <sup>3</sup> /s)	Q (%/dec)	Q SE (%/dec)	Q p	A (%/dec)	A SE (%/dec)	A p	$\overline{U}$ (%/dec)	$\overline{U SE}$ (%/dec)	$\overline{U}$ p	$Q_{50}$ (m <sup>3</sup> /s)	$Q_{50}$ (m <sup>3</sup> /s)
01055000	1.27	90.6	42.2	2.15	115.2	2.53	0.95	1.86E-02	2.47	0.62	1.61E-03	1.85	1.09	1.13E-01	2.5	14.7
01064500	1.66	210.1	68.4	3.07	349.1	0.68	0.76	3.88E-01	0.02	0.14	9.07E-01	0.68	0.81	4.23E-01	13.7	63.0
01098530	0.47	47.3	28.6	1.65	22.4	7.07	2.14	2.01E-03	5.85	1.36	1.12E-04	5.15	2.21	2.53E-02	4.0	12.8
01099500	1.42	61.3	38.6	1.59	86.9	0.87	1.08	4.28E-01	1.59	1.10	1.60E-01	-0.13	1.02	8.98E-01	14.8	41.5
01100000	1.90	654.9	113.7	5.76	1245.6	3.11	1.45	4.45E-02	1.45	0.52	1.15E-02	1.76	1.31	1.92E-01	165.4	509.7
01131500	1.19	425.0	132.0	3.22	504.1	0.33	0.48	5.05E-01	-0.33	0.18	8.78E-02	0.83	0.37	3.67E-02	53.7	160.6
01152500	2.11	84.8	42.1	2.01	178.9	1.32	0.59	3.55E-02	1.04	0.33	4.77E-03	-0.05	0.30	8.65E-01	6.7	28.3
01196500	0.97	82.8	39.0	2.13	80.4	-7.65	2.05	1.42E-03	-8.15	1.92	4.81E-04	-3.91	1.76	3.96E-02	4.6	12.0
01350355	2.04	281.4	105.9	2.66	574.4	-5.37	2.04	1.94E-02	-4.14	0.97	8.95E-04	-2.43	2.88	4.14E-01	3.7	42.1
01357500	3.13	738.6	190.6	3.88	2314.5	-1.72	0.97	8.66E-02	0.54	0.33	1.15E-01	-2.04	0.99	4.82E-02	98.6	382.3
01364500	1.74	118.4	33.7	3.51	206.1	0.22	0.90	8.09E-01	-0.08	0.44	8.64E-01	-0.31	0.82	7.11E-01	5.9	32.3
01389500	1.52	120.1	41.0	2.93	183.0	2.56	0.45	<1.00E-06	-0.15	0.24	5.21E-01	2.52	0.44	<1.00E-06	16.7	69.7
01420500	2.25	122.4	59.4	2.06	275.3	-0.37	0.48	4.52E-01	-0.40	0.27	1.55E-01	-0.51	0.45	2.65E-01	9.2	33.8
01426500	1.69	198.4	68.1	2.91	335.1	0.31	0.38	4.30E-01	-0.09	0.18	6.46E-01	0.29	0.36	4.29E-01	15.6	55.5
01447800	2.31	101.0	55.4	1.82	233.2	-0.85	0.66	2.10E-01	-1.30	0.42	4.57E-03	0.77	0.40	6.14E-02	11.8	36.7
01465500	1.35	136.7	64.5	2.12	184.1	-0.33	1.29	8.05E-01	-2.04	1.13	1.02E-01	1.62	0.78	6.27E-02	4.1	16.8
01477000	1.15	56.4	27.0	2.09	64.7	3.42	0.86	1.21E-03	1.32	0.50	2.02E-02	3.23	0.67	2.92E-04	1.9	4.4
01478000	0.57	57.5	25.9	2.22	32.9	-14.59	3.61	3.76E-04	-4.54	2.21	4.96E-02	-14.42	3.43	2.57E-04	0.4	1.2
01479000	0.90	85.9	35.1	2.45	77.4	4.42	1.73	2.17E-02	-1.54	1.72	3.87E-01	4.27	2.07	5.85E-02	2.3	5.0
01480870	0.84	61.7	39.4	1.57	51.8	-1.57	1.43	2.86E-01	-0.88	1.50	5.65E-01	-1.25	1.18	3.03E-01	2.7	7.1
01503000	1.49	434.9	134.3	3.24	649.6	2.15	0.55	3.80E-04	1.09	0.43	1.63E-02	1.27	0.43	5.95E-03	60.2	238.7
01509000	1.01	108.7	57.0	1.91	110.2	-1.62	0.49	3.51E-03	-0.90	0.38	2.92E-02	-1.66	0.51	3.65E-03	8.2	30.7
01512500	1.84	312.9	115.4	2.71	575.9	-0.17	0.19	3.72E-01	-0.14	0.12	2.61E-01	-0.07	0.16	6.53E-01	36.8	168.8
01531500	1.71	1505.9	249.7	6.03	2574.3	-2.54	0.91	1.54E-02	0.33	0.88	7.18E-01	-2.94	1.00	1.26E-02	163.0	757.5
01533400	1.84	1772.9	322.9	5.49	3273.9	0.39	0.57	5.06E-01	0.33	0.28	2.51E-01	-0.23	0.38	5.53E-01	193.4	835.3
01554000	1.81	4035.7	719.9	5.61	7288.8	-0.03	0.76	9.66E-01	-0.47	0.41	2.69E-01	0.35	0.47	4.73E-01	453.1	1761.3
01560000	1.25	72.6	33.4	2.17	90.6	0.77	0.74	3.18E-01	0.42	0.76	5.97E-01	0.93	0.86	3.01E-01	2.7	15.2
01568000	1.49	114.6	36.5	3.14	170.7	0.22	1.59	8.92E-01	0.51	0.99	6.19E-01	-0.04	1.59	9.82E-01	4.2	16.8
01571500	0.87	76.6	38.1	2.01	66.8	0.74	0.61	2.51E-01	-1.00	0.44	3.91E-02	0.01	0.84	9.90E-01	6.1	13.6
01604500	1.20	66.9	41.7	1.60	80.5	-2.28	0.79	1.24E-02	-0.64	0.57	2.77E-01	-1.89	0.89	5.56E-02	1.6	11.9
01638500	1.44	1775.4	390.5	4.55	2548.1	-1.04	1.13	3.79E-01	0.28	0.15	1.03E-01	-1.13	0.98	2.83E-01	151.0	547.9
02029000	1.69	1139.0	231.0	4.93	1926.4	0.26	0.34	4.52E-01	0.03	0.19	8.58E-01	0.41	0.25	1.18E-01	85.8	303.0
02035000	1.51	1370.6	245.3	5.59	2063.8	-0.22	0.39	5.79E-01	-0.45	0.50	3.92E-01	0.52	0.37	1.86E-01	113.4	406.3
02039500	0.63	177.4	86.4	2.05	112.3	1.51	1.30	2.63E-01	-1.56	0.76	5.88E-02	2.04	0.96	5.14E-02	4.5	13.6
02049500	0.47	197.8	46.4	4.26	92.2	-3.22	0.53	<1.00E-06	-1.23	0.15	<1.00E-06	-2.13	0.56	2.05E-04	9.9	44.2
02066000	1.05	453.1	88.1	5.14	474.8	-0.42	0.69	5.47E-01	-0.40	0.35	2.62E-01	-0.39	0.73	5.97E-01	51.5	145.0
02071000	1.26	361.2	100.2	3.61	456.4	2.56	0.85	1.07E-02	1.22	0.70	1.08E-01	2.04	0.90	4.51E-02	23.3	52.5
02075500	1.32	399.1	82.7	4.83	526.8	1.25	0.49	1.74E-02	1.81	0.48	7.88E-04	-0.20	0.48	6.76E-01	52.4	131.4
02082585	0.92	291.0	65.7	4.43	267.2	0.23	0.94	8.11E-01	0.64	0.85	4.55E-01	-0.10	0.93	9.13E-01	11.7	50.4
02082950	0.70	120.1	51.1	2.35	84.0	-3.16	0.57	1.67E-06	-0.26	0.28	3.63E-01	-3.11	0.57	2.60E-06	2.1	9.2
02083500	0.68	424.8	115.4	3.68	288.6	-0.87	0.45	6.74E-02	-0.55	0.21	1.73E-02	-0.93	0.44	4.39E-02	31.7	148.8
02088000	0.86	85.2	33.5	2.54	73.2	1.28	1.05	2.35E-01	0.77	0.65	2.53E-01	1.18	1.08	2.88E-01	1.3	5.2
02088500	0.62	106.8	44.3	2.41	66.5	0.69	0.68	3.16E-01	-0.07	0.30	8.28E-01	0.57	0.57	3.30E-01	2.9	15.7
02089000	0.71	367.0	90.6	4.05	261.5	-0.37	0.33	2.63E-01	0.43	0.28	1.34E-01	-0.42	0.37	2.65E-01	36.2	153.1
02089500	0.67	294.3	79.9	3.68	198.4	-0.17	0.55	7.57E-01	0.06	0.34	8.58E-01	-0.20	0.58	7.29E-01	44.7	168.1
02096960	1.48	281.7	93.7	3.01	418.0	2.41	0.52	1.17E-04	0.74	0.43	1.02E-01	2.63	0.49	2.38E-05	14.3	67.1
02104220	0.42	29.9	28.1	1.07	12.7	5.03	0.82	<1.00E-06	1.28	0.69	6.94E-02	5.21	0.87	<1.00E-06	2.6	4.9
02106500	0.74	190.5	48.1	3.96	140.1	-2.59	0.65	1.59E-04	0.90	0.18	4.58E-06	-3.15	0.69	1.88E-05	14.2	45.7
02131000	0.28	2412.4	1520.1	1.59	671.2	-1.07	1.24	4.03E-01	-1.94	1.01	7.47E-02	0.78	1.04	4.67E-01	199.8	518.2
02132000	0.81	182.1	58.3	3.12	148.0	0.40	0.32	2.18E-01	0.26	0.27	3.32E-01	0.35	0.32	2.77E-01	18.7	56.1
02175000	0.61	249.6	81.7	3.06	153.1	-0.18	0.29	5.30E-01	-0.39	0.18	2.89E-02	-0.28	0.29	3.37E-01	43.9	121.9
02215500	0.88	779.9	286.3	2.72	686.3	-0.27	0.40	5.09E-01	0.17	0.31	5.82E-01	-0.25	0.38	5.08E-01	94.4	312.9
02217500	1.37	214.7	58.3	3.68	294.7	2.02	0.67	7.25E-03	2.28	0.64	2.42E-03	1.01	0.65	1.39E-01	10.3	25.0
02223500	1.29	499.5	90.7	5.51	645.2	-2.22	0.41	2.11E-06	-0.79	0.32	1.60E-02	-2.05	0.40	7.20E-06	69.1	271.3
02225500	0.54	145.2	44.1	3.29	78.9	-3.70	0.25	<1.00E-06	-0.97	0.29	1.16E-03	-3.69	0.27	<1.00E-06	8.5	73.2
02226500	0.27	687.7	354.3	1.94	188.1	0.65	0.50	2.06E-01	-0.31	0.21	1.44E-01	0.73	0.54	1.85E-01	8.6	80.4
02228000	0.27	562.7	480.9	1.17	152.0	1.14	0.40	8.06E-03	0.38	0.37	3.06E-01	1.11	0.40	8.91E-03	22.1	158.4
02231000	0.36	198.9	52.9	3.76	71.8	-0.39	0.56	4.81E-01	-0.93	0.45	4.25E-02	-0.09	0.56	8.66E-01	6.3	36.7
02295637	0.75	136.1	38.9	3.50	101.8	0.17	1.71	9.22E-01	-2.88	1.70	1.09E-01	-0.85	1.90	6.62E-01	8.3	31.4
02297310	0															

STAID	$\overline{U}_{FS}$ (m/s)	$\overline{A}_{FS}$ (m <sup>2</sup> )	$\overline{w}_{FS}$ (m)	$\overline{h}_{FS}$ (m)	$\overline{Q}_{FS}$ (m <sup>3</sup> /s)	Q (%/dec)	Q SE (%/dec)	Q p	A (%/dec)	A SE (%/dec)	A p	U (%/dec)	U SE (%/dec)	U p	Q <sub>50</sub> (m <sup>3</sup> /s)	Q <sub>90</sub> (m <sup>3</sup> /s)
02352500	1.22	963.2	234.2	4.11	1173.6	-0.93	0.63	1.64E-01	-0.37	0.23	1.42E-01	-1.04	0.68	1.49E-01	105.8	349.7
02353000	0.97	1008.5	206.4	4.89	977.8	1.89	0.60	6.42E-03	2.09	0.42	1.91E-04	2.00	0.81	2.78E-02	126.0	351.1
02359000	0.98	175.1	35.0	5.00	171.0	0.19	0.49	6.93E-01	0.05	0.27	8.51E-01	0.20	0.49	6.79E-01	29.9	72.6
02366500	0.29	1798.9	686.7	2.62	525.3	-0.42	0.55	4.65E-01	-0.09	0.55	8.78E-01	-0.11	0.61	8.59E-01	126.2	375.2
02368000	0.37	1004.1	467.0	2.15	376.5	0.15	0.73	8.36E-01	0.56	0.61	3.66E-01	0.10	0.48	8.35E-01	19.0	57.3
02383500	0.79	401.6	122.6	3.27	317.5	2.34	1.41	1.20E-01	0.23	0.39	5.64E-01	1.66	1.34	2.35E-01	29.7	79.4
02384500	0.74	186.7	106.5	1.75	137.6	0.87	2.36	7.19E-01	3.10	2.20	1.83E-01	-2.35	1.98	2.58E-01	6.9	28.1
02385800	0.89	111.3	60.6	1.84	99.5	1.24	1.68	4.68E-01	4.86	1.00	4.95E-05	-3.60	2.05	9.12E-02	1.4	6.8
02397000	1.14	686.5	90.5	7.59	784.3	-0.62	0.70	3.84E-01	-0.71	0.28	1.42E-02	-0.83	0.71	2.46E-01	122.5	385.1
02398000	0.77	172.4	105.3	1.64	133.4	-0.09	1.09	9.34E-01	0.16	0.48	7.47E-01	0.04	1.19	9.74E-01	5.0	19.4
02431000	1.00	674.5	260.2	2.59	679.1	-8.88	1.80	1.23E-04	-4.22	1.17	2.37E-03	-8.27	1.85	3.83E-04	10.1	53.7
02439400	0.52	220.9	76.5	2.89	114.6	0.73	0.55	1.93E-01	0.50	0.66	4.53E-01	1.43	0.57	1.51E-02	20.5	83.8
02456500	0.97	531.8	89.1	5.97	516.4	2.00	1.28	1.41E-01	-0.04	0.50	9.45E-01	2.06	1.31	1.42E-01	16.1	91.9
02473000	1.26	765.0	135.4	5.65	959.9	0.26	0.99	7.97E-01	0.21	1.01	8.43E-01	0.34	0.86	7.00E-01	35.4	163.7
02474500	1.15	242.9	72.4	3.35	281.0	5.93	0.72	<1.00E-06	1.85	0.64	5.60E-03	5.91	0.75	<1.00E-06	8.7	63.7
02478500	0.95	329.1	65.1	5.06	312.0	3.13	1.06	5.47E-03	1.83	0.72	1.51E-02	3.02	0.94	2.62E-03	48.4	265.6
02479560	0.90	399.9	148.8	2.69	358.7	-0.03	1.28	9.82E-01	0.14	1.16	9.03E-01	-0.42	1.15	7.22E-01	15.3	70.7
02481800	0.19	340.6	179.9	1.89	63.9	-1.03	2.39	6.70E-01	-0.07	1.11	9.47E-01	-0.99	2.41	6.86E-01	4.3	44.7
02482000	0.68	230.8	48.9	4.72	157.4	6.47	0.83	<1.00E-06	0.14	0.90	8.77E-01	6.98	0.99	<1.00E-06	9.6	83.4
02482500	0.40	487.5	177.8	2.74	194.0	2.79	1.50	6.87E-02	-0.48	1.54	7.56E-01	5.21	1.45	7.39E-04	19.4	124.9
02483000	0.57	147.8	39.7	3.72	83.8	1.28	2.74	6.46E-01	-4.74	2.24	4.69E-02	2.16	3.18	5.06E-01	3.2	40.8
02484000	0.67	270.3	165.6	1.63	181.0	-1.13	1.65	5.01E-01	0.86	0.87	3.33E-01	-2.10	1.54	1.84E-01	2.6	35.7
02488500	1.02	728.1	142.3	5.12	742.6	4.08	0.71	<1.00E-06	1.03	0.42	1.72E-02	4.04	0.68	<1.00E-06	66.3	515.4
03015000	1.98	130.3	61.9	2.10	258.7	-1.77	0.43	5.76E-04	-1.59	0.46	2.99E-03	-1.00	0.34	9.20E-03	28.8	107.0
03094000	1.09	102.0	44.7	2.28	111.2	0.14	0.38	7.12E-01	0.57	0.26	3.77E-02	-0.44	0.36	2.22E-01	9.8	40.2
03155000	1.42	782.2	108.3	7.23	1108.0	-0.64	0.48	1.93E-01	-0.37	0.19	5.69E-02	-0.45	0.49	3.63E-01	24.6	149.2
03179000	1.99	84.7	33.3	2.55	168.2	0.65	0.26	1.97E-02	0.37	0.24	1.33E-01	0.66	0.25	1.21E-02	5.8	30.6
03200500	1.62	391.9	84.6	4.63	634.8	-4.66	0.78	2.40E-05	-0.81	0.68	2.52E-01	-4.67	0.84	6.62E-05	17.8	73.5
03212500	0.84	1024.7	147.3	6.96	864.2	-0.77	1.79	6.71E-01	-0.43	0.42	3.15E-01	0.25	1.44	8.63E-01	31.1	160.6
03213700	1.30	409.4	62.3	6.57	534.1	4.10	1.36	7.35E-03	2.61	0.64	6.91E-04	2.65	1.63	1.21E-01	16.7	67.0
03237500	1.45	253.0	64.8	3.90	367.7	-0.84	0.67	2.30E-01	0.35	0.28	2.32E-01	-0.80	0.54	1.59E-01	3.2	27.6
03263000	1.31	395.3	99.1	3.99	516.7	-2.19	1.07	6.63E-02	-1.78	1.52	2.69E-01	0.63	1.07	5.65E-01	12.3	67.4
03282000	1.45	864.1	98.9	8.74	1250.1	0.12	0.48	8.04E-01	0.32	0.46	5.00E-01	-0.32	0.43	4.69E-01	41.6	257.1
03308500	1.07	555.5	91.9	6.04	595.4	1.82	0.49	1.15E-03	-0.58	0.49	2.46E-01	1.82	0.60	6.30E-03	34.0	190.6
03322900	0.90	108.7	60.8	1.79	98.4	-0.31	0.83	7.16E-01	0.19	0.58	7.46E-01	-0.46	0.86	6.02E-01	3.3	34.0
03331500	0.50	181.7	77.7	2.34	91.9	-6.88	1.90	1.31E-03	-0.98	0.71	1.80E-01	-6.90	1.98	1.92E-03	18.3	52.1
03333450	0.59	99.1	46.9	2.12	58.3	-2.16	2.01	3.07E-01	-1.72	1.16	1.70E-01	-0.48	1.73	7.87E-01	1.3	9.5
03335500	0.86	578.4	179.5	3.22	498.0	-0.93	0.45	4.55E-02	-1.22	0.44	8.43E-03	-0.53	0.43	2.26E-01	112.8	468.6
03336000	0.91	602.6	135.5	4.45	545.4	-3.22	0.93	1.52E-03	-0.50	0.59	4.01E-01	-3.64	0.83	1.25E-04	138.4	525.3
03339000	1.27	335.3	90.6	3.70	427.1	6.81	0.99	5.35E-06	5.62	0.71	1.52E-06	6.55	1.49	6.23E-04	13.1	70.8
03340500	0.82	714.4	186.9	3.82	584.0	-0.91	0.82	2.83E-01	1.63	0.67	2.74E-02	-0.63	1.27	6.30E-01	185.1	733.4
03341500	0.80	918.1	178.9	5.13	736.8	0.65	0.56	2.58E-01	0.00	0.35	1.00E+00	0.60	0.48	2.28E-01	206.9	825.4
03342000	0.95	800.3	173.9	4.60	760.6	-2.24	0.28	<1.00E-06	-1.78	0.25	<1.00E-06	-1.66	0.24	<1.00E-06	225.1	872.2
03343400	0.30	111.9	50.3	2.23	33.6	0.05	1.55	9.73E-01	0.10	0.80	9.04E-01	-0.23	1.41	8.74E-01	1.7	11.2
03345500	1.30	211.9	48.9	4.34	274.5	8.33	1.13	<1.00E-06	-0.26	1.04	8.07E-01	9.48	1.10	<1.00E-06	14.1	85.0
03346000	0.70	289.9	124.2	2.33	202.7	-0.47	1.76	7.91E-01	-3.09	1.05	9.08E-03	1.68	2.03	4.19E-01	1.4	16.7
03347000	1.34	83.2	51.4	1.62	110.8	2.44	2.15	2.81E-01	0.31	0.99	7.60E-01	1.06	1.76	5.59E-01	2.6	15.1
03351310	0.98	33.3	28.6	1.17	32.8	6.62	4.00	1.22E-01	1.13	4.12	7.88E-01	7.41	2.89	2.47E-02	0.2	1.1
03352500	0.79	149.4	87.4	1.71	117.8	-0.93	1.43	5.30E-01	-1.87	1.62	2.79E-01	0.62	1.69	7.24E-01	4.4	20.1
03353600	1.64	15.7	14.1	1.11	25.7	3.17	2.40	2.11E-01	4.73	2.42	7.65E-02	1.41	2.85	6.32E-01	0.2	1.6
03358000	1.10	111.2	34.4	3.24	122.6	1.89	1.19	1.34E-01	1.97	1.13	1.04E-01	0.41	0.86	6.42E-01	2.4	16.2
03360500	1.13	386.8	92.4	4.19	438.3	-0.56	0.99	5.76E-01	0.31	0.75	6.84E-01	-0.78	0.97	4.29E-01	83.4	334.1
03361650	0.67	59.5	38.4	1.55	39.9	3.62	1.55	3.23E-02	0.96	0.91	3.08E-01	2.91	1.52	7.41E-02	1.3	7.5
03361850	0.79	54.1	30.0	1.81	42.7	0.80	1.48	5.98E-01	0.67	1.65	6.93E-01	1.38	1.00	1.94E-01	1.0	6.3
03362500	0.96	131.7	59.9	2.20	126.2	3.04	3.08	3.46E-01	-0.28	3.27	9.33E-01	1.72	3.20	6.04E-01	6.7	33.7
03371500	0.85	584.2	124.5	4.69	499.0	-2.21	0.63	1.37E-03	-0.60	0.52	2.61E-01	-1.67	0.63	1.25E-02	68.7	297.3
03374000	0.97	886.9	183.4	4.83	860.0	-0.45	0.84	6.01E-01	0.32	0.54	5.55E-01	0.04	0.85	9.68E-01	233.8	816.9
03376500	0.81	132.2	32.7	4.04	106.6	4.06	1.02	2.61E-04	5.97	0.60	<1.00E-06	0.30	1.45	8.34E-01	14.2	73.9
03377500	1.05	1992.7	308.6	6.46	2088.4	-0.09	0.51	8.62E-01	0.06	0.51	9.09E-01	-0.09	0.52	8.60E-01	533.8	1888.7
03379500	0.60	135.0	34													

STAID	$\overline{U}_{FS}$ (m/s)	$\overline{A}_{FS}$ (m <sup>2</sup> )	$\overline{w}_{FS}$ (m)	$\overline{h}_{FS}$ (m)	$\overline{Q}_{FS}$ (m <sup>3</sup> /s)	Q (%/dec)	Q SE (%/dec)	Q p	A (%/dec)	A SE (%/dec)	A p	$\overline{U}$ (%/dec)	$\overline{U}$ SE (%/dec)	$\overline{U}$ p	$Q_{50}$ (m <sup>3</sup> /s)	$Q_{90}$ (m <sup>3</sup> /s)
04113000	1.01	181.9	66.3	2.75	184.2	-0.45	0.26	8.99E-02	-0.89	0.22	1.46E-04	0.26	0.26	3.21E-01	18.4	55.6
04115000	0.50	104.6	57.3	1.82	52.7	-9.49	1.19	<1.00E-06	-7.32	0.88	<1.00E-06	-7.39	1.45	3.56E-06	4.0	18.5
04116000	1.07	419.1	109.2	3.84	450.3	-0.81	0.41	5.51E-02	0.12	0.16	4.58E-01	-0.82	0.40	4.64E-02	38.5	122.6
04119000	1.34	581.8	133.3	4.36	777.4	-0.81	0.44	8.68E-02	0.72	0.24	1.11E-02	-1.67	0.36	5.05E-04	83.1	214.8
04121500	1.31	111.8	47.2	2.37	146.6	-0.79	0.52	1.41E-01	-0.51	0.33	1.33E-01	-0.66	0.55	2.39E-01	23.9	58.3
04122500	0.77	98.8	37.5	2.63	76.3	2.39	1.13	4.51E-02	3.10	1.02	6.17E-03	1.43	1.27	2.73E-01	18.5	30.4
04142000	0.88	46.3	27.1	1.71	40.9	2.19	1.39	1.35E-01	-0.99	0.66	1.53E-01	3.05	1.58	7.47E-02	6.6	16.2
04144500	1.06	66.9	42.4	1.58	70.7	0.42	1.00	6.79E-01	-1.27	0.57	3.54E-02	1.94	1.05	7.53E-02	6.8	23.4
04151500	0.51	330.0	91.7	3.60	169.0	0.72	0.69	3.12E-01	0.61	0.43	1.81E-01	0.70	0.75	3.64E-01	6.0	35.5
04154000	0.87	58.0	29.8	1.95	50.2	-0.67	0.82	4.23E-01	0.63	0.39	1.23E-01	-0.65	0.93	4.94E-01	7.6	17.1
04164000	0.91	120.7	41.7	2.90	109.4	1.76	2.00	3.97E-01	-0.84	1.10	4.63E-01	2.05	2.21	3.75E-01	8.4	21.6
04168000	0.98	35.3	15.4	2.30	34.5	-0.59	0.86	4.98E-01	-1.01	0.35	6.44E-03	1.08	0.64	1.01E-01	0.6	4.0
04178000	0.53	128.2	47.8	2.68	68.0	-4.79	1.16	1.71E-04	0.17	0.52	7.45E-01	-5.04	1.23	1.83E-04	6.6	40.8
04181500	0.64	155.3	51.3	3.03	99.8	0.75	0.70	2.97E-01	0.53	0.57	3.64E-01	0.66	0.71	3.62E-01	3.8	40.6
04182000	0.86	235.0	65.7	3.58	201.7	-0.45	1.02	6.69E-01	-0.51	0.91	5.82E-01	0.01	0.71	9.86E-01	4.7	53.2
04183000	0.92	359.0	94.9	3.78	328.5	-1.01	0.55	8.88E-02	-0.97	0.38	2.60E-02	-1.47	0.53	1.58E-02	22.1	141.6
04186500	0.88	124.7	43.7	2.86	109.1	1.81	0.84	4.75E-02	-0.63	0.31	5.92E-02	1.78	0.89	6.42E-02	1.9	18.3
04193500	1.72	574.3	244.3	2.35	987.0	5.17	1.49	1.79E-03	2.47	0.66	1.00E-03	3.86	1.40	1.06E-02	56.6	413.4
04201500	1.77	74.8	47.9	1.56	132.4	-0.05	2.41	9.83E-01	-1.68	2.66	5.40E-01	1.77	2.67	5.20E-01	2.9	19.7
04229500	2.90	24.2	19.1	1.27	70.2	-2.10	3.57	5.64E-01	2.33	2.45	3.55E-01	-0.85	3.83	8.27E-01	1.5	8.2
04230500	1.37	42.0	25.7	1.63	57.7	3.05	2.17	1.72E-01	-0.26	0.48	5.91E-01	3.51	1.81	6.47E-02	3.1	14.2
04282000	1.13	86.7	29.9	2.90	97.6	-0.44	0.71	5.48E-01	1.64	0.92	9.57E-02	-2.06	0.98	5.52E-02	10.4	34.3
04293500	2.00	167.3	43.4	3.85	334.3	2.48	1.41	1.04E-01	2.04	0.35	1.22E-04	1.36	1.19	2.78E-01	14.0	62.2
05059700	0.62	72.9	39.7	1.83	45.3	10.38	1.84	1.73E-06	7.52	1.48	1.09E-05	9.12	2.05	7.85E-05	0.1	2.3
05062000	0.66	39.1	11.0	3.54	25.9	7.66	0.68	<1.00E-06	0.52	0.24	3.51E-02	7.64	0.68	<1.00E-06	1.4	10.6
05064500	0.76	649.7	122.5	5.30	495.3	3.46	1.37	1.66E-02	0.00	0.68	9.98E-01	3.88	1.37	7.63E-03	26.0	137.8
05066500	0.55	176.0	53.3	3.30	96.0	5.55	2.65	4.91E-02	-0.83	1.66	6.23E-01	5.02	2.98	1.08E-01	0.3	4.8
05079000	1.11	216.7	61.0	3.55	240.8	0.04	0.37	9.11E-01	-1.09	0.22	8.07E-06	0.56	0.38	1.48E-01	29.0	75.3
05082500	0.92	541.7	94.3	5.74	497.6	7.27	1.40	1.59E-06	6.60	0.48	<1.00E-06	11.23	1.89	<1.00E-06	54.8	257.3
05227500	0.51	244.3	59.0	4.14	124.2	-1.26	0.61	4.61E-02	-1.16	0.42	9.61E-03	-0.74	0.62	2.40E-01	64.8	160.7
05280000	0.98	173.2	73.4	2.36	169.0	1.95	0.44	1.29E-04	1.25	0.30	2.53E-04	1.49	0.49	5.02E-03	9.3	69.1
05330000	1.42	593.2	93.9	6.32	841.8	2.64	1.29	5.17E-02	1.02	0.74	1.81E-01	2.79	1.33	4.68E-02	62.1	345.5
05374000	1.47	217.4	69.7	3.12	319.0	2.67	0.74	2.10E-03	2.48	0.64	1.32E-03	1.22	0.69	9.69E-02	7.9	28.0
05382000	1.07	405.5	135.5	2.99	432.9	-2.11	0.59	1.00E-03	-1.69	0.50	1.61E-03	-2.00	0.63	2.86E-03	24.9	111.4
05404000	1.27	924.8	173.5	5.33	1172.9	8.39	0.46	<1.00E-06	4.16	0.73	<1.00E-06	4.66	0.58	<1.00E-06	142.9	315.7
05412500	1.41	201.9	55.6	3.63	285.0	-5.39	0.57	<1.00E-06	-1.73	0.50	8.10E-04	-4.42	0.45	<1.00E-06	17.1	62.4
05413500	0.68	111.3	32.7	3.40	75.3	8.22	1.15	<1.00E-06	1.33	0.96	1.74E-01	8.32	1.14	<1.00E-06	3.7	6.5
05430500	0.98	199.8	88.8	2.25	195.2	-1.96	0.45	9.88E-05	-0.08	0.26	7.61E-01	-2.15	0.44	2.00E-05	47.9	120.1
05437500	1.00	443.0	163.8	2.70	442.0	0.29	0.58	6.13E-01	-0.37	0.34	2.78E-01	0.41	0.55	4.61E-01	109.2	242.1
05439000	0.82	43.9	25.0	1.76	36.2	0.36	3.09	9.10E-01	-4.79	1.10	3.01E-04	8.05	3.48	3.12E-02	0.8	4.4
05446500	0.76	687.0	275.1	2.50	523.3	-0.71	0.34	4.11E-02	-0.86	0.30	5.19E-03	-0.36	0.33	2.81E-01	160.3	351.1
05449500	1.02	111.7	44.3	2.52	113.4	-1.61	0.56	4.73E-03	1.58	0.45	6.95E-04	-2.67	0.60	2.01E-05	3.0	15.7
05451500	0.96	382.7	144.2	2.65	366.2	-8.71	1.17	<1.00E-06	-9.63	0.98	<1.00E-06	-3.01	0.96	2.74E-03	12.8	57.1
05451900	0.74	73.1	29.9	2.44	53.8	-2.47	1.67	1.52E-01	-2.57	1.31	6.27E-02	-1.16	1.68	4.97E-01	0.5	2.0
05453100	0.75	216.7	77.5	2.80	163.2	1.72	0.33	<1.00E-06	1.56	0.30	<1.00E-06	1.72	0.33	<1.00E-06	26.7	113.8
05455500	1.11	115.8	40.6	2.85	128.0	-3.49	0.38	<1.00E-06	-1.28	0.27	6.99E-06	-3.40	0.39	<1.00E-06	3.5	24.7
05458000	1.45	62.2	36.3	1.71	90.1	-2.05	0.82	1.56E-02	1.67	0.63	1.06E-02	-3.44	1.07	2.28E-03	2.1	10.3
05462000	1.65	281.7	76.7	3.67	464.1	-7.30	1.02	<1.00E-06	-10.19	0.88	<1.00E-06	1.26	0.96	1.88E-01	16.6	67.1
05463000	1.17	203.1	78.6	2.58	238.5	-5.35	0.84	<1.00E-06	-6.44	0.58	<1.00E-06	-3.31	1.08	3.24E-03	2.8	12.7
05464000	1.60	451.1	155.1	2.91	721.3	2.38	0.29	<1.00E-06	0.75	0.44	9.23E-02	3.08	0.34	<1.00E-06	55.4	195.7
05465000	0.65	896.3	332.1	2.70	584.9	-0.79	0.67	2.43E-01	-2.48	0.49	7.25E-06	0.27	0.79	7.37E-01	95.1	305.8
05465500	1.20	655.4	154.1	4.25	787.1	0.49	0.58	4.00E-01	0.89	0.56	1.13E-01	0.16	0.59	7.86E-01	147.2	521.0
05471050	1.03	192.7	73.8	2.61	198.8	3.98	1.24	2.09E-03	3.42	0.93	4.52E-04	1.16	1.06	2.76E-01	7.5	35.8
05472500	0.77	133.9	43.1	3.11	103.5	2.13	0.42	4.45E-06	2.51	0.39	<1.00E-06	1.41	0.48	4.33E-03	5.4	30.6
05474000	1.31	408.3	109.3	3.74	534.8	3.37	0.44	<1.00E-06	1.74	0.36	1.54E-05	1.91	0.41	3.07E-05	32.4	182.6
05476750	1.71	118.7	56.0	2.12	202.6	0.29	0.57	6.07E-01	0.24	0.46	6.04E-01	0.07	0.56	8.96E-01	12.3	71.1
05479000	1.44	218.6	68.9	3.18	314.8	3.78	0.64	<1.00E-06	1.33	0.35	3.21E-04	3.13	0.66	1.39E-05	6.0	42.9
05481000	1.69	188.0	62.3	3.02	317.9	1.53	0.41	6.64E-04	1.65	0.40	2.06E-04	0.81	0.42	6.08E-02	4.2	31.6
05481300	1.15	683.3	181.5	3.76	787.0	2.38	0.85	1.05E-02	0.22	0.63	7.30E-01	2.73	0.67	5.41E-04	33.8	208.0
0																

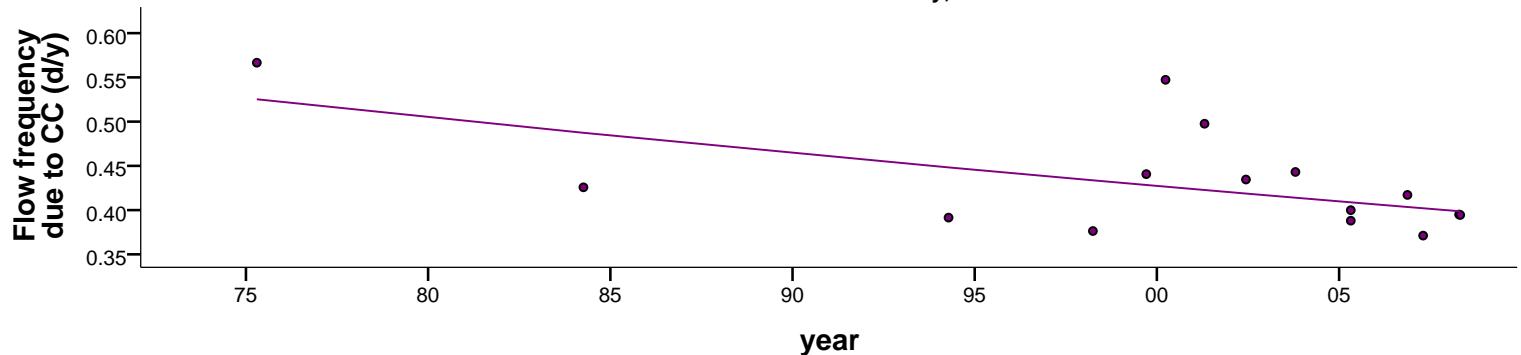
STAID	$\overline{U}_{FS}$ (m/s)	$\overline{A}_{FS}$ (m <sup>2</sup> )	$\overline{w}_{FS}$ (m)	$\overline{h}_{FS}$ (m)	$\overline{Q}_{FS}$ (m <sup>3</sup> /s)	Q (%/dec)	Q SE (%/dec)	Q p	A (%/dec)	A SE (%/dec)	A p	$\overline{U}$ (%/dec)	U SE (%/dec)	$\overline{U}$ p	$Q_{50}$ (m <sup>3</sup> /s)	$Q_{90}$ (m <sup>3</sup> /s)
05529000	0.46	123.5	46.2	2.67	56.7	-4.05	1.08	3.23E-03	-2.53	1.11	4.65E-02	-3.65	1.13	9.06E-03	5.0	22.0
05536275	0.66	56.3	30.6	1.84	37.0	14.57	1.78	<1.00E-06	4.53	1.40	5.10E-03	14.36	2.52	3.26E-05	1.3	6.5
05536290	0.51	143.1	45.6	3.14	72.7	-2.69	0.73	1.48E-03	-0.39	0.49	4.38E-01	-2.59	0.77	3.41E-03	2.4	11.9
05540500	1.07	104.9	56.0	1.87	112.0	-0.19	1.28	8.87E-01	-0.16	0.14	3.00E-01	1.07	0.94	2.86E-01	5.9	19.7
05543830	1.29	23.1	20.2	1.15	29.8	-4.60	1.57	1.09E-02	-0.55	0.46	2.53E-01	-2.92	1.39	5.53E-02	2.1	7.1
05548280	0.51	25.9	25.3	1.03	13.1	-2.98	1.24	2.58E-02	-2.70	1.17	3.20E-02	-0.86	0.82	3.09E-01	3.1	7.7
05555300	0.97	293.2	61.4	4.77	284.7	-3.75	2.10	9.40E-02	2.99	1.48	6.24E-02	-2.96	2.97	3.36E-01	9.1	63.6
05569500	0.92	167.1	45.2	3.69	153.1	-2.26	2.52	3.78E-01	0.09	1.02	9.28E-01	-2.70	2.59	3.09E-01	10.1	47.9
05572000	0.47	139.0	85.3	1.63	64.9	-6.75	0.89	<1.00E-06	-5.63	0.76	<1.00E-06	-6.35	0.95	<1.00E-06	4.9	31.1
05578500	0.47	42.5	23.3	1.83	19.9	-9.57	1.65	<1.00E-06	0.17	0.89	8.47E-01	-8.70	1.68	4.04E-06	2.8	17.9
05584500	0.72	176.5	47.2	3.74	127.2	2.59	1.84	1.74E-01	1.76	0.94	7.66E-02	2.07	1.97	3.08E-01	3.6	26.2
05592500	0.87	217.6	51.8	4.20	189.0	-0.76	0.41	7.00E-02	1.09	0.29	2.93E-04	-0.66	0.47	1.65E-01	22.5	112.3
06025500	2.07	110.1	61.2	1.80	228.1	-1.60	0.50	2.60E-03	-2.62	0.46	1.26E-06	0.67	0.57	2.48E-01	12.9	86.6
06043500	2.86	71.0	44.4	1.60	202.6	0.87	0.53	1.11E-01	-0.12	0.45	7.95E-01	1.07	0.45	2.36E-02	12.1	60.0
06054500	1.97	346.3	121.0	2.86	682.2	0.01	0.30	9.83E-01	-0.39	0.22	8.52E-02	0.20	0.31	5.31E-01	110.1	242.5
06099500	1.64	151.1	67.6	2.23	247.8	-8.04	1.21	<1.00E-06	-0.56	1.02	5.87E-01	-8.14	1.46	4.95E-06	10.4	62.3
06115200	1.49	801.7	182.3	4.40	1191.5	-9.10	1.41	<1.00E-06	-3.64	0.91	3.67E-04	-8.93	1.48	1.31E-06	212.4	409.2
06334500	0.88	104.0	67.4	1.54	91.6	-3.47	1.38	2.11E-02	-1.93	1.06	8.62E-02	-3.08	1.27	2.56E-02	0.3	4.2
06340500	1.29	155.1	45.1	3.44	200.1	4.14	2.05	6.59E-02	2.14	1.27	1.20E-01	4.39	2.09	6.02E-02	0.8	5.8
06349500	0.56	59.0	13.7	4.30	33.2	5.59	3.94	1.79E-01	-1.02	1.78	5.75E-01	7.58	3.16	3.35E-02	0.1	1.3
06354000	1.15	123.3	74.1	1.66	141.6	-2.29	1.67	1.80E-01	0.20	1.33	8.82E-01	-3.65	1.86	6.02E-02	0.8	9.4
06354882	0.73	34.8	11.8	2.95	25.4	9.01	1.73	1.65E-04	8.04	2.03	1.88E-03	4.35	2.87	1.55E-01	0.03	0.7
06360500	1.73	256.9	49.9	5.14	446.2	1.52	1.87	4.31E-01	0.58	0.94	5.47E-01	0.82	1.36	5.57E-01	0.2	7.9
06436760	1.27	122.1	29.7	4.11	154.9	2.11	2.66	4.53E-01	-4.55	1.40	1.76E-02	4.82	1.35	1.18E-02	0.2	1.8
06437000	1.76	258.3	89.9	2.87	454.3	0.94	0.90	3.15E-01	0.26	0.83	7.55E-01	0.62	0.88	4.96E-01	3.1	11.8
06441500	1.66	182.6	62.7	2.91	303.3	5.95	2.34	1.96E-02	4.71	1.77	1.62E-02	-0.39	2.20	8.62E-01	0.02	3.8
06471000	0.28	82.3	36.7	2.24	22.8	5.38	2.13	1.29E-02	-0.83	0.64	1.99E-01	5.33	2.18	1.59E-02	1.1	11.4
06471500	0.63	131.6	35.5	3.71	82.8	3.79	1.81	5.21E-02	-0.42	1.03	6.89E-01	3.92	2.00	6.73E-02	0.2	1.7
06473000	0.37	116.8	64.6	1.81	43.2	10.67	0.95	<1.00E-06	2.53	0.42	<1.00E-06	7.73	1.01	<1.00E-06	1.6	19.1
06477000	0.55	125.5	52.2	2.41	68.6	3.35	0.83	2.27E-04	5.85	0.81	<1.00E-06	1.02	1.25	4.17E-01	3.2	21.8
06477500	0.62	32.0	23.7	1.35	19.9	-3.53	1.92	7.48E-02	-0.92	0.72	2.09E-01	-3.11	1.68	7.35E-02	0.01	0.4
06479010	0.99	126.2	40.6	3.11	125.5	19.44	0.99	<1.00E-06	14.67	0.81	<1.00E-06	17.17	2.00	<1.00E-06	3.0	16.3
06479525	0.29	68.2	63.8	1.07	19.9	-2.16	1.65	2.00E-01	-0.60	1.38	6.65E-01	-1.83	1.57	2.53E-01	0.7	4.7
06480000	0.56	103.3	43.5	2.37	57.8	10.05	0.74	<1.00E-06	9.20	1.17	<1.00E-06	11.10	0.71	<1.00E-06	2.0	14.3
06481000	0.65	183.8	70.2	2.62	119.0	-2.29	0.81	6.51E-03	-0.51	0.53	3.42E-01	-2.16	0.83	1.09E-02	3.2	19.4
06607500	1.81	382.0	73.6	5.19	692.8	1.64	0.36	4.29E-05	2.20	0.34	<1.00E-06	0.94	0.44	3.92E-02	18.3	75.3
06625000	2.01	45.8	31.7	1.44	92.2	-0.59	0.50	2.40E-01	-0.24	0.25	3.34E-01	-0.38	0.44	3.97E-01	2.2	23.6
06795500	0.70	100.0	26.4	3.79	70.5	3.21	2.40	1.91E-01	1.57	0.77	4.97E-02	2.49	2.50	3.28E-01	0.5	1.7
06796000	1.81	676.4	429.4	1.58	1221.6	9.09	2.53	8.13E-04	1.84	1.90	3.39E-01	4.54	1.92	2.22E-02	98.8	195.7
06799350	2.07	221.9	106.0	2.09	458.6	-23.22	4.66	1.18E-05	-7.85	3.20	1.87E-02	-2.69	2.49	2.86E-01	16.4	45.9
06800000	1.39	82.2	25.0	3.28	114.3	10.69	2.84	1.90E-03	9.95	2.65	2.13E-03	6.23	2.95	5.33E-02	0.6	2.2
06805500	1.61	1166.1	390.5	2.99	1877.5	7.59	1.14	<1.00E-06	8.05	1.03	<1.00E-06	1.18	0.92	2.01E-01	133.8	298.7
06807000	1.63	1444.1	221.4	6.52	2360.2	-3.98	0.14	<1.00E-06	-1.61	0.13	<1.00E-06	-4.02	0.13	<1.00E-06	1049.1	1346.5
06807410	1.34	207.9	58.1	3.58	278.2	-1.02	2.58	6.97E-01	4.77	1.46	4.03E-03	-2.87	1.56	8.22E-02	4.6	16.2
06811500	1.84	306.3	61.5	4.98	564.4	-2.00	1.60	2.31E-01	-0.76	0.79	3.54E-01	-2.49	1.64	1.52E-01	2.9	10.1
06847000	1.50	1655.0	251.8	6.57	2483.3	0.70	0.82	3.97E-01	0.72	0.50	1.53E-01	0.66	0.78	4.02E-01	1138.3	1602.7
06853020	0.87	111.1	72.9	1.52	96.5	-7.81	2.49	4.95E-03	-5.83	1.70	2.69E-03	-3.29	2.53	2.07E-01	2.6	4.4
06876700	0.62	64.3	23.1	2.79	39.5	7.74	3.12	2.38E-02	0.19	3.09	9.51E-01	10.30	2.97	3.15E-03	0.3	1.8
06876900	0.88	211.1	49.7	4.25	185.7	0.13	1.48	9.32E-01	0.86	0.83	3.20E-01	-0.94	1.27	4.67E-01	4.1	18.5
06880000	0.61	59.4	25.0	2.38	36.5	3.40	0.95	7.06E-04	0.37	0.83	6.55E-01	3.19	0.75	7.38E-05	0.4	1.7
06881000	0.89	115.9	41.1	2.82	103.0	-2.24	0.99	3.42E-02	-2.42	1.06	3.25E-02	-1.60	1.05	1.42E-01	4.1	16.3
06882000	1.29	347.5	70.8	4.91	449.7	6.87	1.48	7.10E-05	2.58	0.51	2.70E-05	3.50	2.11	1.09E-01	8.2	42.3
06890100	1.49	291.6	55.0	5.30	434.1	6.89	1.40	1.49E-04	4.31	1.32	5.30E-03	5.69	1.19	2.47E-04	1.3	8.9
06894000	1.16	154.6	54.3	2.85	179.7	-2.20	2.62	4.10E-01	0.83	1.10	4.61E-01	-2.59	2.66	3.42E-01	1.5	7.8
06897500	1.32	531.2	98.8	5.38	703.6	3.37	2.20	1.43E-01	4.95	2.12	3.21E-02	1.15	2.58	6.62E-01	7.2	69.1
06898000	2.04	177.4	51.5	3.45	362.1	5.18	1.39	7.41E-04	2.62	0.78	2.02E-03	1.68	1.50	2.69E-01	2.3	21.5
06902000	1.22	466.0	87.2	5.34	567.3	2.08	1.04	5.22E-02	2.69	0.59	5.18E-05	1.60	1.31	2.29E-01	28.7	272.0
06905500	1.26	251.7	58.5	4.30	316.5	10.21	0.69	<1.00E-06	9.19	0.59	<1.00E-06	7.88	0.96	<1.00E-06	12.6	76.2
06906800	1.26	229.1	55.6	4.12	288.2	-0.99	1.25	4.51E-01	-0.04	0.19	8.28E-01	-0.40	0.58	5.15E-01	1.7	20.5
06913500	0.70	536.8	90.9	5.91												

STAID	$\overline{U}_{FS}$ (m/s)	$\overline{A}_{FS}$ (m <sup>2</sup> )	$\overline{w}_{FS}$ (m)	$\overline{h}_{FS}$ (m)	$\overline{Q}_{FS}$ (m <sup>3</sup> /s)	Q (%/dec)	Q SE (%/dec)	Q p	A (%/dec)	A SE (%/dec)	A p	U (%/dec)	U SE (%/dec)	U p	Q <sub>50</sub> (m <sup>3</sup> /s)	Q <sub>90</sub> (m <sup>3</sup> /s)
07227500	2.99	139.5	71.5	1.95	417.6	10.88	2.78	1.74E-04	8.62	1.78	5.11E-06	-1.40	2.31	5.46E-01	0.7	7.1
07230500	0.87	23.6	27.8	0.85	20.5	52.48	5.04	<1.00E-06	15.17	4.79	3.06E-03	7.44	3.77	5.61E-02	0.6	5.5
07241550	1.03	205.3	70.4	2.91	211.0	4.08	2.80	1.68E-01	5.94	1.85	7.57E-03	8.60	4.07	5.62E-02	6.2	26.8
07268000	0.64	704.7	413.2	1.71	450.3	-16.41	5.82	1.66E-02	-0.77	3.36	8.23E-01	-13.68	4.70	1.56E-02	5.7	44.5
07312200	0.48	113.8	48.4	2.35	55.1	0.62	1.48	6.78E-01	-3.54	1.11	2.60E-03	0.40	1.81	8.27E-01	0.1	1.8
07312500	0.56	264.6	94.6	2.80	148.3	0.71	1.14	5.37E-01	0.43	0.59	4.76E-01	0.66	1.16	5.73E-01	2.2	8.9
07336200	1.44	474.3	84.8	5.60	681.0	-0.66	1.38	6.40E-01	-0.92	0.97	3.63E-01	-0.01	0.97	9.95E-01	9.4	113.3
07340000	1.04	725.1	115.3	6.29	753.2	1.03	0.50	4.88E-02	-0.05	0.28	8.63E-01	0.87	0.53	1.12E-01	43.6	286.0
07340500	0.81	401.9	112.4	3.58	326.3	2.49	0.89	6.93E-03	4.40	0.44	<1.00E-06	1.80	1.41	2.06E-01	3.9	36.4
07346045	0.18	183.8	137.5	1.34	33.0	2.52	1.15	4.24E-02	-0.07	1.82	9.70E-01	2.47	1.61	1.44E-01	3.9	22.3
07348700	0.21	112.0	35.3	3.18	24.0	0.94	1.00	3.55E-01	0.68	0.29	2.59E-02	0.98	0.95	3.14E-01	2.7	39.5
07375000	0.45	129.9	59.7	2.18	58.7	-0.19	1.80	9.19E-01	-0.31	1.96	8.79E-01	-1.11	0.88	2.37E-01	1.9	7.2
07375500	0.42	387.2	204.5	1.89	163.2	-5.72	1.17	8.88E-05	-5.96	1.39	3.94E-04	-4.37	0.99	3.00E-04	17.9	54.1
08015500	0.37	903.4	445.8	2.03	338.3	1.09	1.88	5.72E-01	1.11	1.93	5.76E-01	-0.47	1.43	7.50E-01	25.5	150.1
08019000	0.25	366.1	186.5	1.96	90.9	0.56	1.76	7.54E-01	1.98	1.81	2.95E-01	-0.59	2.07	7.80E-01	1.1	23.6
08028000	0.63	135.9	39.2	3.47	85.5	5.95	0.77	<1.00E-06	6.34	0.76	<1.00E-06	5.31	1.22	2.56E-04	3.8	27.5
08032000	0.29	114.1	66.1	1.73	33.2	4.77	0.62	<1.00E-06	0.42	0.54	4.38E-01	5.02	0.64	<1.00E-06	7.3	38.7
08038000	0.34	97.8	31.3	3.13	33.5	2.51	0.73	1.18E-03	2.06	0.46	4.80E-05	2.36	0.76	3.29E-03	4.0	23.0
08039100	0.20	197.7	161.8	1.22	39.5	2.40	1.52	1.29E-01	-0.12	1.23	9.22E-01	1.56	1.65	3.57E-01	0.4	4.3
08041000	0.51	1868.2	760.2	2.46	953.9	1.57	1.12	1.75E-01	0.48	0.55	3.90E-01	1.37	1.06	2.09E-01	94.9	386.5
08041500	0.41	485.2	193.0	2.51	200.6	1.45	0.84	9.45E-02	-0.69	0.56	2.25E-01	2.38	0.80	6.25E-03	8.7	53.7
08041700	0.31	147.3	74.7	1.97	45.5	-2.34	1.07	3.45E-02	-1.29	0.54	2.16E-02	-1.66	1.15	1.58E-01	2.1	33.3
08057000	0.89	256.5	59.9	4.28	229.6	9.46	2.14	8.75E-05	2.85	0.57	1.83E-05	4.91	2.85	9.33E-02	13.9	145.4
08065000	0.86	598.2	128.8	4.64	513.2	8.98	0.41	<1.00E-06	5.20	0.55	<1.00E-06	8.69	0.48	<1.00E-06	48.0	390.8
08065350	0.88	1425.4	142.1	10.03	1249.0	3.10	1.99	1.34E-01	6.76	1.25	2.67E-05	-0.30	2.37	9.01E-01	59.7	508.3
08066250	1.18	1144.8	128.8	8.89	1351.6	2.02	1.09	7.59E-02	1.63	0.48	2.45E-03	0.50	0.81	5.45E-01	78.6	598.9
08066300	0.41	117.2	102.8	1.14	48.3	-2.18	2.18	3.38E-01	-4.19	1.46	1.69E-02	3.02	2.19	1.98E-01	1.3	6.6
08068090	1.07	269.5	89.8	3.00	289.1	-1.16	1.94	5.59E-01	-0.82	1.66	6.33E-01	-0.28	0.66	6.79E-01	3.5	46.6
08117500	0.54	155.0	67.8	2.29	84.2	3.80	0.40	<1.00E-06	3.14	0.36	<1.00E-06	3.62	0.45	<1.00E-06	3.5	29.7
08123850	0.87	172.3	42.4	4.06	150.4	-1.68	3.15	6.03E-01	0.62	1.57	6.97E-01	-0.80	3.36	8.16E-01	0.2	1.5
08151500	1.69	207.0	144.4	1.43	349.4	9.61	1.17	<1.00E-06	8.43	0.90	<1.00E-06	4.77	1.54	4.59E-03	4.5	10.9
08162000	1.27	1018.9	167.4	6.09	1297.2	2.49	1.87	2.09E-01	-0.05	0.63	9.33E-01	1.10	1.92	5.80E-01	32.0	102.6
08164000	0.50	304.6	247.8	1.23	151.8	1.95	0.92	4.03E-02	0.98	0.58	1.01E-01	1.77	0.97	7.61E-02	1.8	10.7
08164300	0.46	388.0	228.9	1.69	180.1	-1.90	1.26	1.52E-01	-1.08	0.95	2.79E-01	-0.45	0.97	6.55E-01	0.7	2.8
08164503	0.52	393.8	140.3	2.81	206.4	-3.76	0.99	7.71E-04	-1.60	0.59	1.13E-02	-3.77	1.03	1.12E-03	0.6	7.1
08164600	0.62	176.4	54.9	3.22	109.5	-8.81	1.53	8.95E-06	-2.10	1.15	8.34E-02	-6.26	1.72	1.55E-03	0.1	1.4
08175000	0.52	207.0	128.8	1.61	106.9	0.03	0.73	9.66E-01	0.65	0.44	1.69E-01	-0.46	0.41	2.85E-01	0.3	3.0
08178800	0.78	119.0	64.1	1.86	92.3	3.04	0.94	3.24E-03	0.17	0.64	7.96E-01	2.37	0.78	5.29E-03	0.4	1.5
08183500	1.31	172.8	45.1	3.83	225.8	7.25	0.93	<1.00E-06	8.68	0.84	<1.00E-06	4.14	2.06	5.66E-02	8.7	19.3
08188500	0.76	244.2	62.7	3.90	186.4	5.29	0.58	<1.00E-06	1.94	0.43	3.80E-05	5.27	0.59	<1.00E-06	10.3	29.6
08189200	0.43	60.3	38.6	1.56	26.0	3.34	2.02	1.12E-01	5.81	0.92	2.05E-06	-1.59	1.51	3.02E-01	0.0003	1.4
08194000	0.32	442.8	280.7	1.58	141.5	-5.72	1.64	2.09E-03	-5.25	1.20	2.71E-04	-2.66	1.54	9.92E-02	0.001	6.1
08194500	0.55	69.4	45.4	1.53	38.2	4.70	0.70	<1.00E-06	0.62	0.64	3.35E-01	5.18	0.72	<1.00E-06	0.1	14.8
08211520	0.66	100.8	33.9	2.97	66.2	-3.97	2.41	1.25E-01	-1.46	1.08	2.04E-01	-1.12	2.20	6.20E-01	0.1	0.5
08279500	2.30	81.1	30.3	2.68	186.8	-0.29	1.13	8.01E-01	-1.38	0.54	2.28E-02	-1.47	1.16	2.23E-01	14.6	34.3
09112500	2.30	35.3	26.5	1.33	81.1	0.84	1.24	5.04E-01	-2.30	1.04	3.44E-02	1.81	1.41	2.06E-01	2.9	27.8
09128000	2.56	91.6	42.5	2.15	234.6	0.11	1.10	9.20E-01	-1.83	0.75	2.34E-02	1.57	1.24	2.20E-01	17.1	52.7
09211200	1.73	169.7	85.3	1.99	292.8	-1.83	0.50	8.54E-04	-1.74	0.35	2.39E-05	-0.87	0.51	9.81E-02	28.9	92.3
10039500	0.71	121.5	48.5	2.51	85.7	-2.21	0.52	6.71E-05	-2.50	0.32	<1.00E-06	-0.95	0.64	1.43E-01	5.7	26.4
10312150	1.33	41.9	28.6	1.47	55.7	-2.31	0.68	7.49E-04	3.45	0.39	<1.00E-06	-5.26	0.72	<1.00E-06	12.0	27.6
10321000	1.39	63.8	33.2	1.92	88.4	0.13	0.55	8.10E-01	-0.02	0.35	9.59E-01	-0.26	0.46	5.77E-01	2.6	26.5
11348500	1.05	101.8	71.5	1.42	106.6	-2.74	0.93	7.97E-03	-2.59	0.95	1.40E-02	-1.46	0.52	1.16E-02	2.8	12.3
12048000	2.94	43.5	28.6	1.52	128.2	2.21	1.00	4.34E-02	0.67	0.55	2.39E-01	-0.03	0.46	9.41E-01	8.6	20.2
12194000	2.53	702.9	141.0	4.98	1775.2	0.76	0.24	4.27E-03	0.52	0.22	2.85E-02	0.74	0.25	6.05E-03	380.9	673.9
12304500	2.59	77.0	46.7	1.65	199.2	-0.49	0.33	1.43E-01	0.57	0.27	3.81E-02	-0.84	0.35	1.90E-02	7.9	69.4
12340000	2.62	169.0	68.1	2.48	442.4	-1.37	0.27	1.16E-05	-0.80	0.13	<1.00E-06	-0.73	0.38	6.46E-02	19.9	120.1
12340500	2.12	245.7	79.8	3.08	520.7	0.46	0.29	1.22E-01	0.00	0.16	9.78E-01	0.47	0.30	1.33E-01	47.0	206.4
12344000	2.48	92.8	53.1	1.75	230.1	4.78	1.42	2.30E-03	3.59	0.89	4.09E-04	-0.15	1.35	9.11E-01	10.2	72.6
12353000	2.57	485.5	127.6	3.80	1250.1	-0.35	0.36	3.32E-01	-0.51	0.12	1.68E-04	-0.74	0.40	6.77E-02	78.3	407.8
12354500	2.72	626.6	128.1	4.89	1704.6	-0										

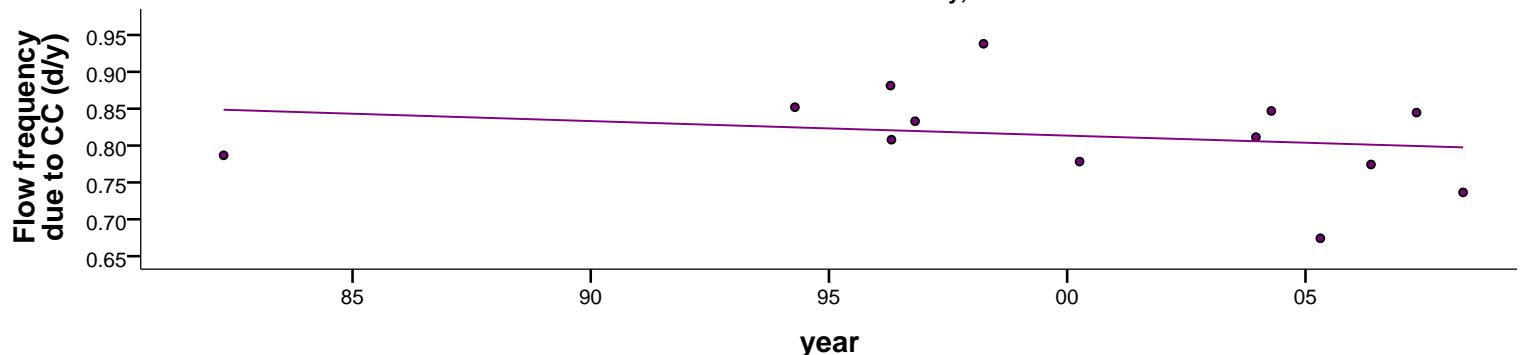
STAID	$\overline{U}_{FS}$ (m/s)	$\overline{A}_{FS}$ (m <sup>2</sup> )	$\overline{w}_{FS}$ (m)	$\overline{h}_{FS}$ (m)	$\overline{Q}_{FS}$ (m <sup>3</sup> /s)	Q (%/dec)	Q SE (%/dec)	Q p	A (%/dec)	A SE (%/dec)	A p	U (%/dec)	U SE (%/dec)	U p	$Q_{50}$ (m <sup>3</sup> /s)	$Q_{90}$ (m <sup>3</sup> /s)
13266000	2.30	113.7	56.7	2.01	261.2	-8.66	1.66	1.06E-05	-3.07	0.90	1.74E-03	-5.57	1.61	1.62E-03	10.5	74.2
14046500	2.43	200.6	70.1	2.86	487.8	1.81	0.63	7.61E-03	2.28	0.64	1.33E-03	0.79	0.63	2.24E-01	23.8	150.1
14190500	0.69	277.8	70.8	3.92	192.6	1.12	0.75	1.48E-01	0.09	0.37	8.19E-01	1.12	0.78	1.67E-01	9.9	57.9
14301000	2.05	271.3	72.2	3.76	555.8	-0.43	0.57	4.47E-01	0.20	0.47	6.70E-01	-0.90	0.33	8.48E-03	32.1	200.2
15024800	2.19	3487.7	418.2	8.34	7655.6	0.79	0.95	4.09E-01	-1.91	0.85	2.88E-02	2.30	0.89	1.18E-02	863.7	3794.5
15258000	1.25	257.1	108.4	2.37	321.5	0.93	0.36	1.38E-02	1.46	0.34	8.65E-05	0.87	0.43	5.15E-02	47.3	191.8
15292000	3.31	477.3	141.3	3.38	1581.7	4.09	0.59	<1.00E-06	0.15	0.61	8.03E-01	4.83	0.54	<1.00E-06	96.4	720.7
0208111310	0.46	62.9	43.2	1.46	28.8	-0.17	2.99	9.54E-01	2.48	2.58	3.45E-01	-3.56	2.86	2.23E-01	0.7	6.2

Graphs of trends in the flow frequency due to channel capacity (channel capacity effects on flood hazard frequency)

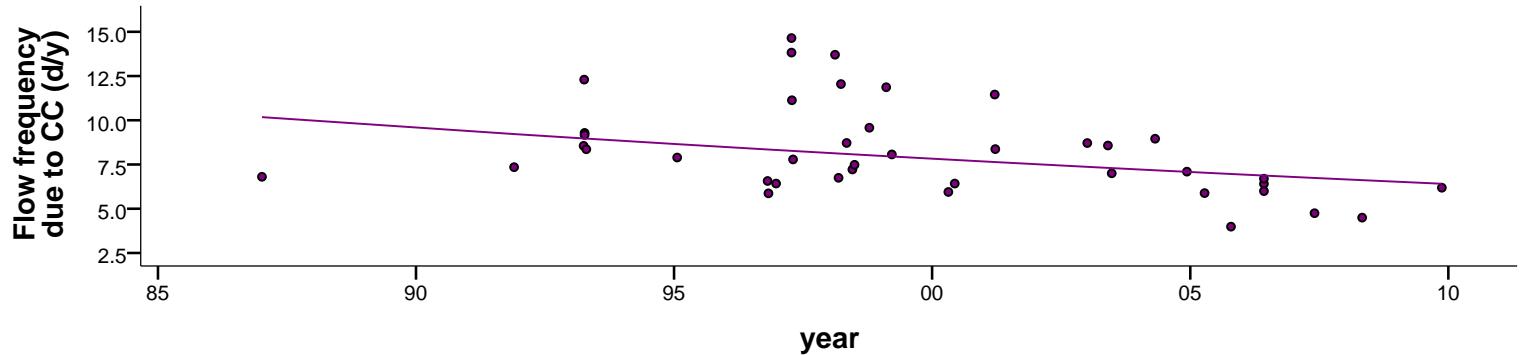
name: 01055000 - Swift River near Roxbury, Maine



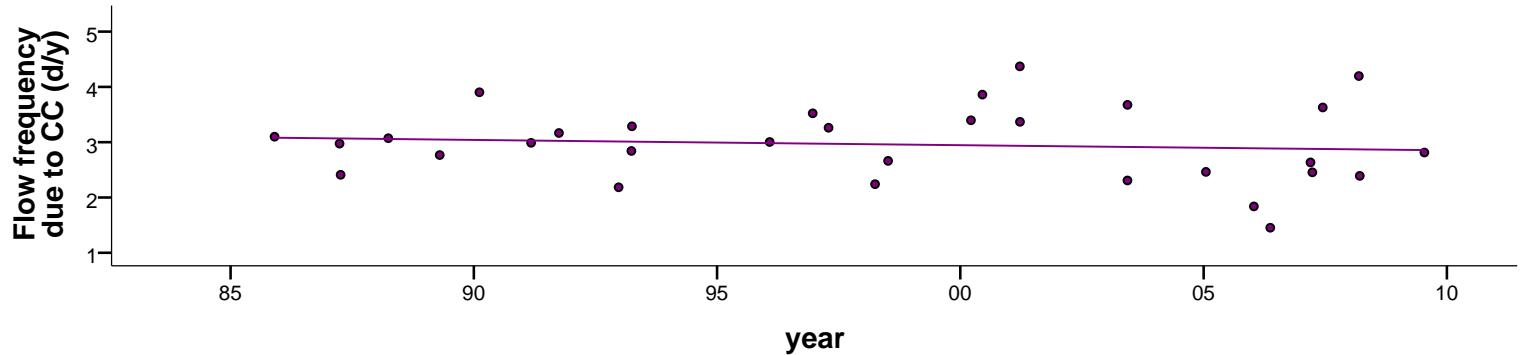
name: 01064500 - Saco River near Conway, NH



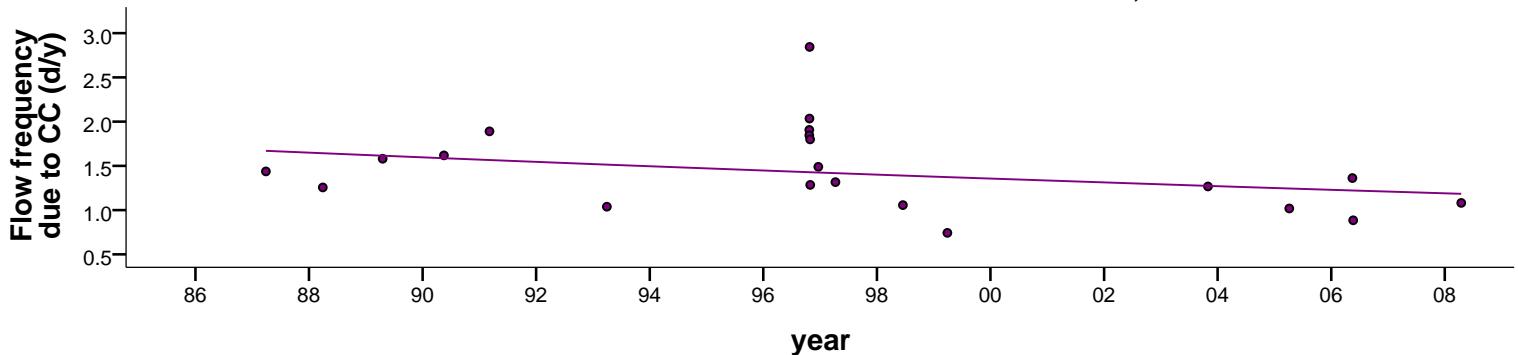
name: 01098530 - SUDBURY RIVER AT SAXONVILLE, MA



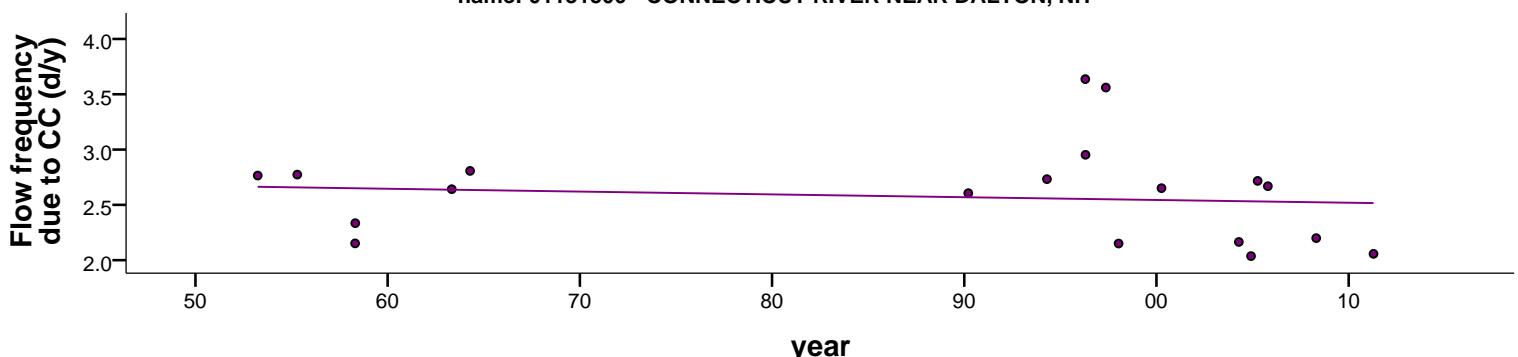
name: 01099500 - CONCORD R BELOW R MEADOW BROOK, AT LOWELL, MA



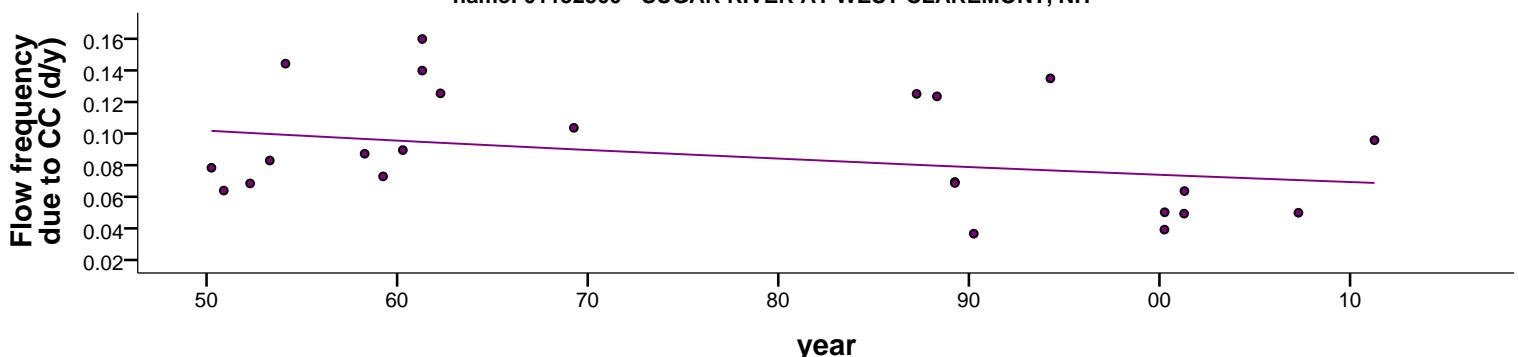
name: 01100000 - MERRIMACK RIVER BL CONCORD RIVER AT LOWELL, MA



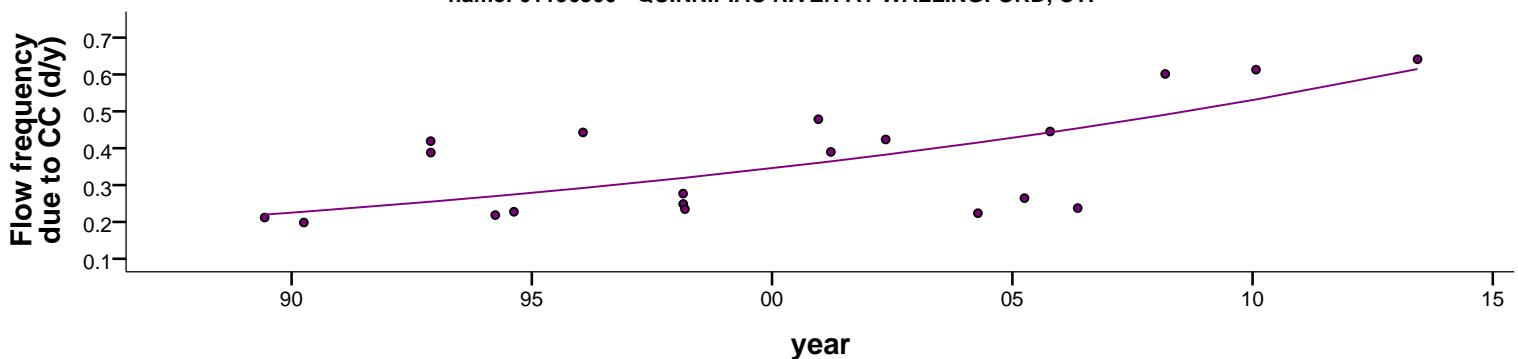
name: 01131500 - CONNECTICUT RIVER NEAR DALTON, NH



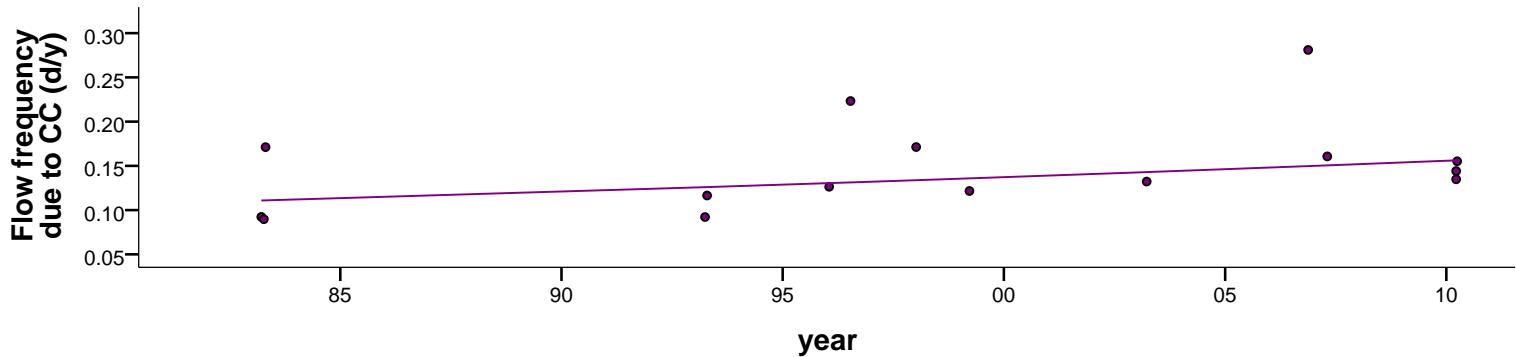
name: 01152500 - SUGAR RIVER AT WEST CLAREMONT, NH



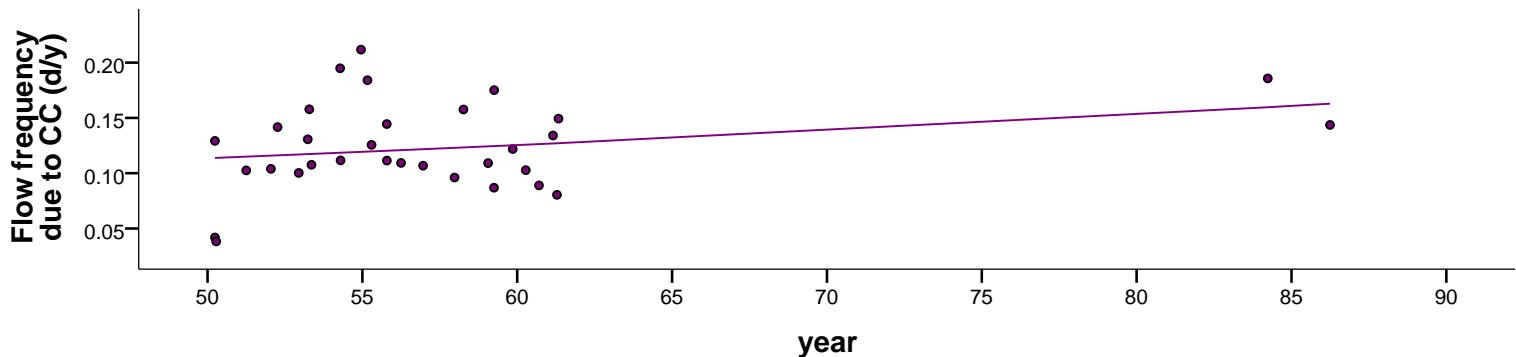
name: 01196500 - QUINNIPAC RIVER AT WALLINGFORD, CT.



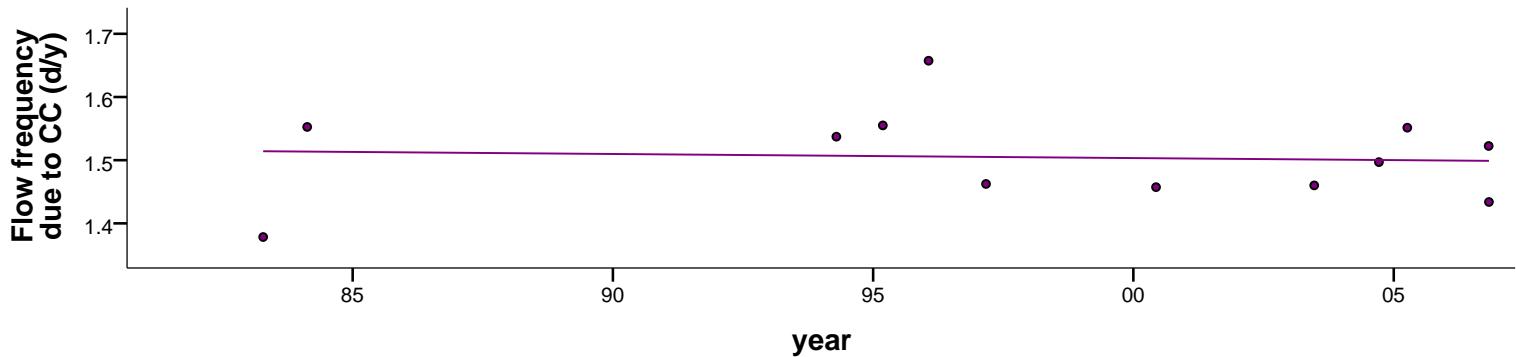
name: 01350355 - SCHOHARIE CREEK AT BREAKABEEN NY



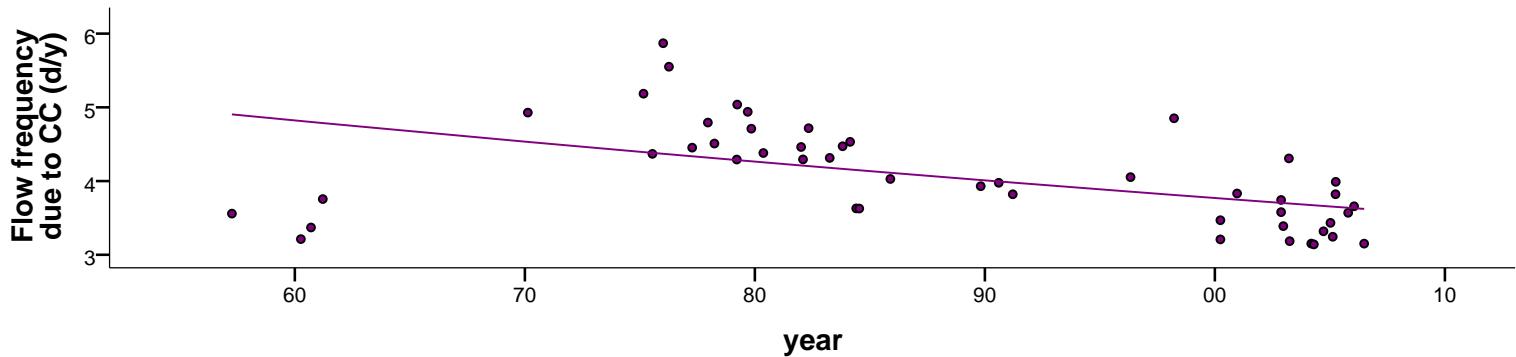
name: 01357500 - MOHAWK RIVER AT COHOES NY



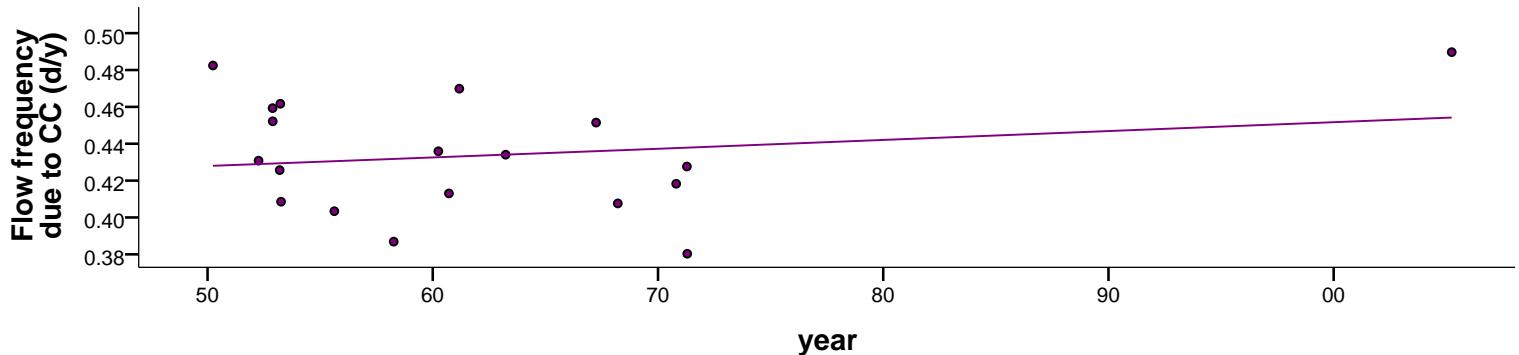
name: 01364500 - ESOPUS CREEK AT MOUNT MARION NY



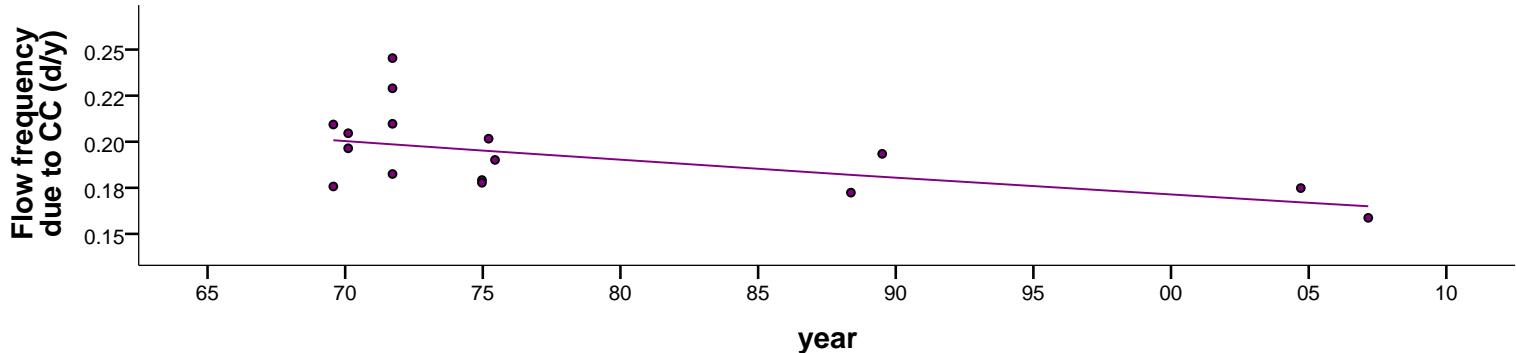
name: 01389500 - Passaic River at Little Falls NJ



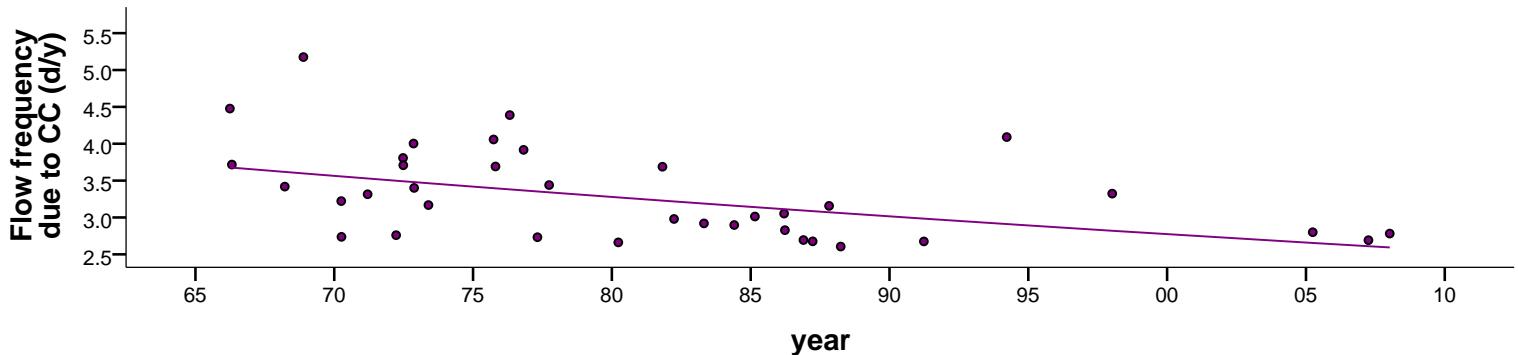
name: 01420500 - BEAVER KILL AT COOKS FALLS NY



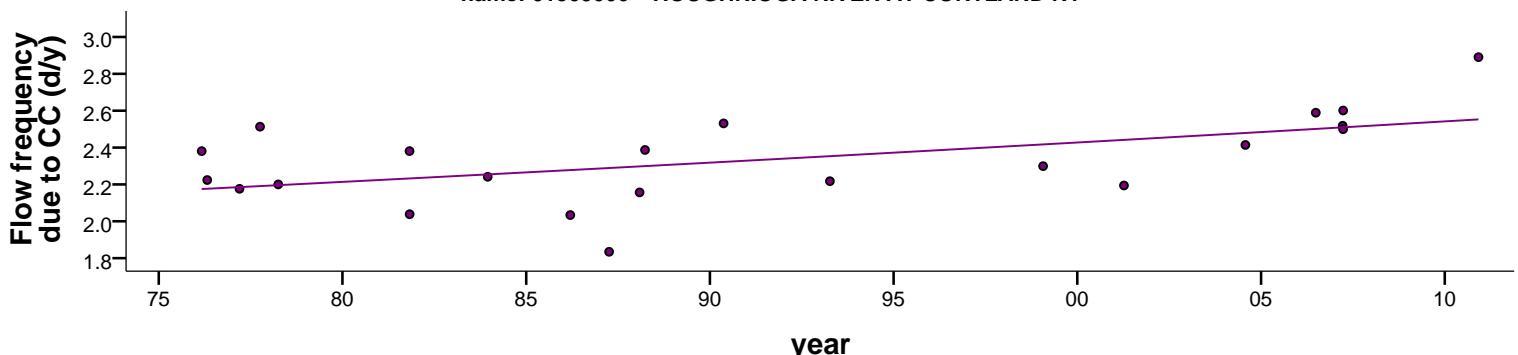
name: 01477000 - Chester Creek near Chester, PA



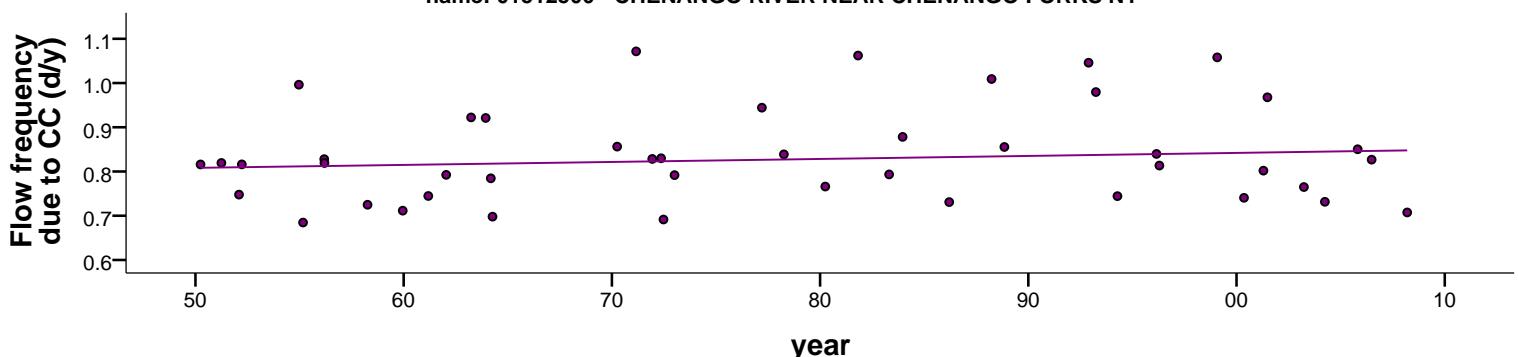
name: 01503000 - SUSQUEHANNA RIVER AT CONKLIN NY



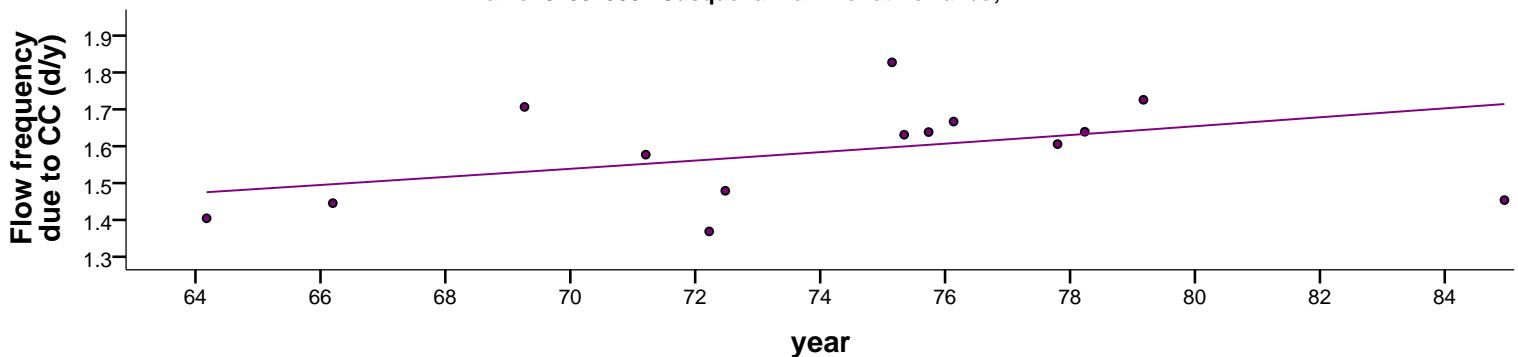
name: 01509000 - TIOUGHNIOGA RIVER AT CORTLAND NY



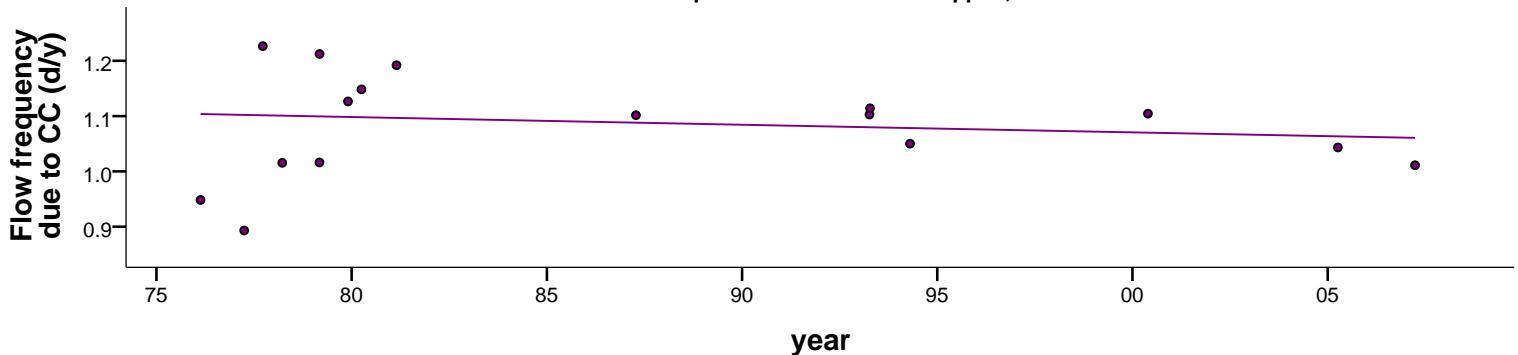
name: 01512500 - CHENANGO RIVER NEAR CHENANGO FORKS NY



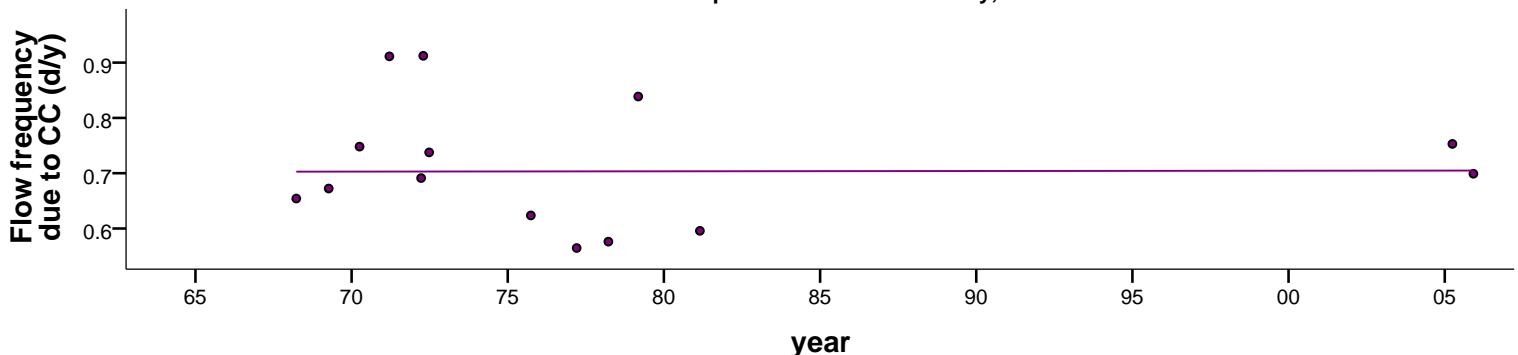
name: 01531500 - Susquehanna River at Towanda, PA



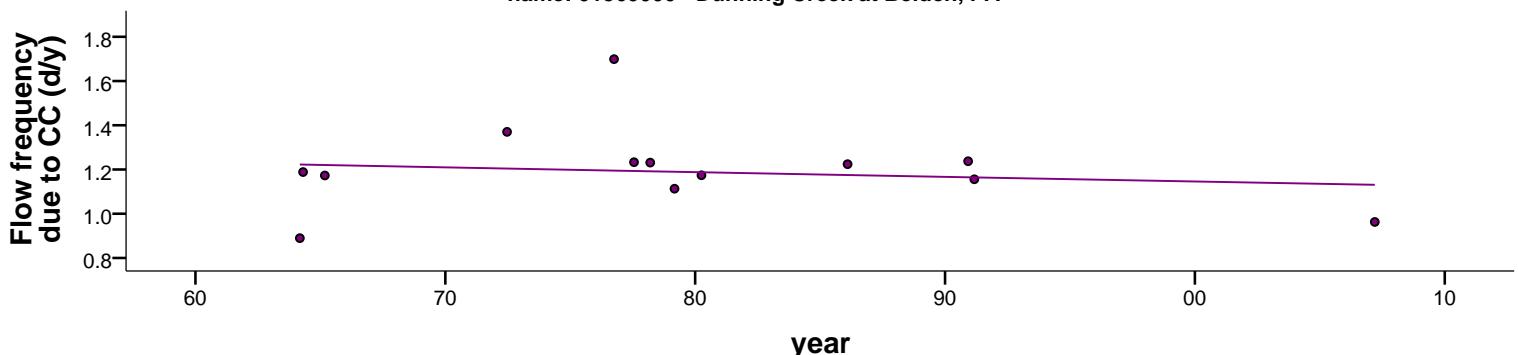
name: 01533400 - Susquehanna River at Meshoppen, PA



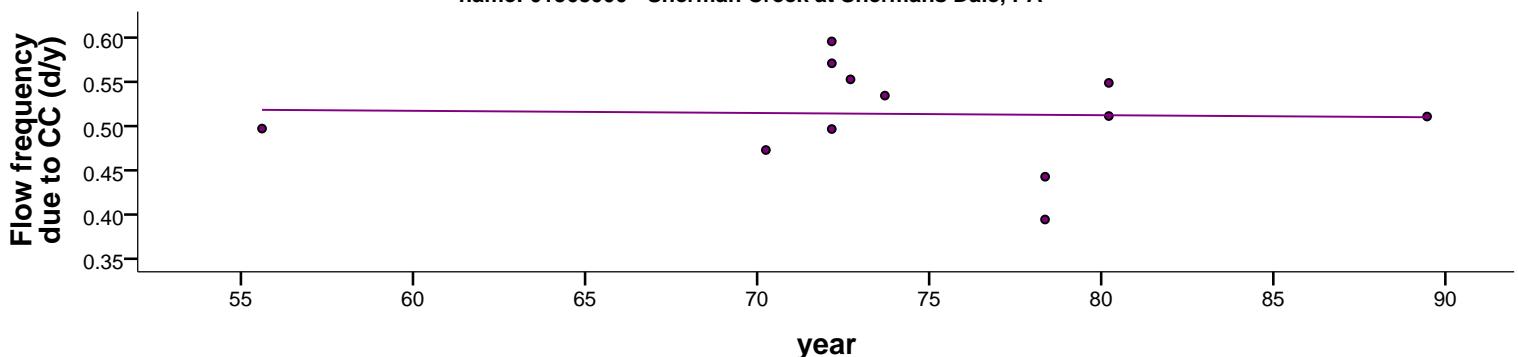
name: 01554000 - Susquehanna River at Sunbury, PA



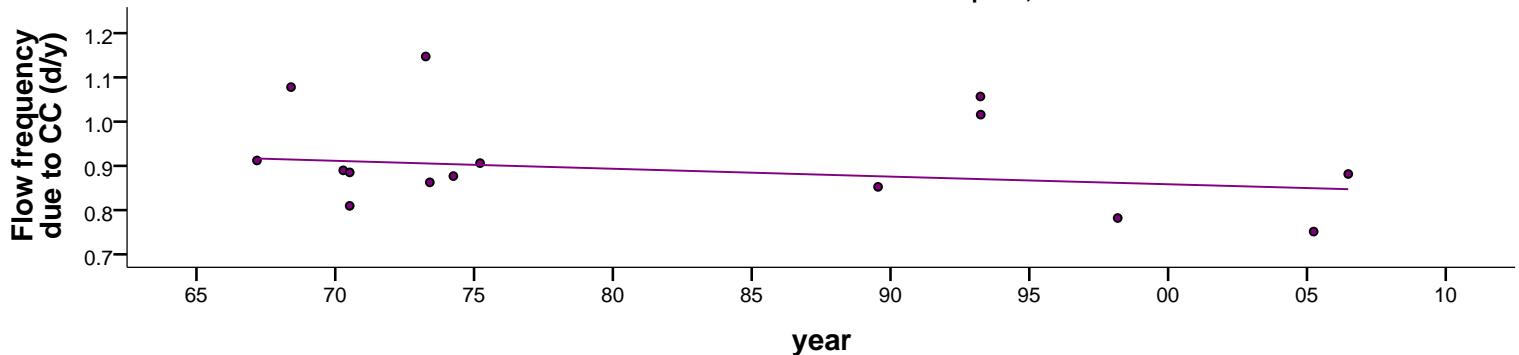
name: 01560000 - Dunning Creek at Belden, PA



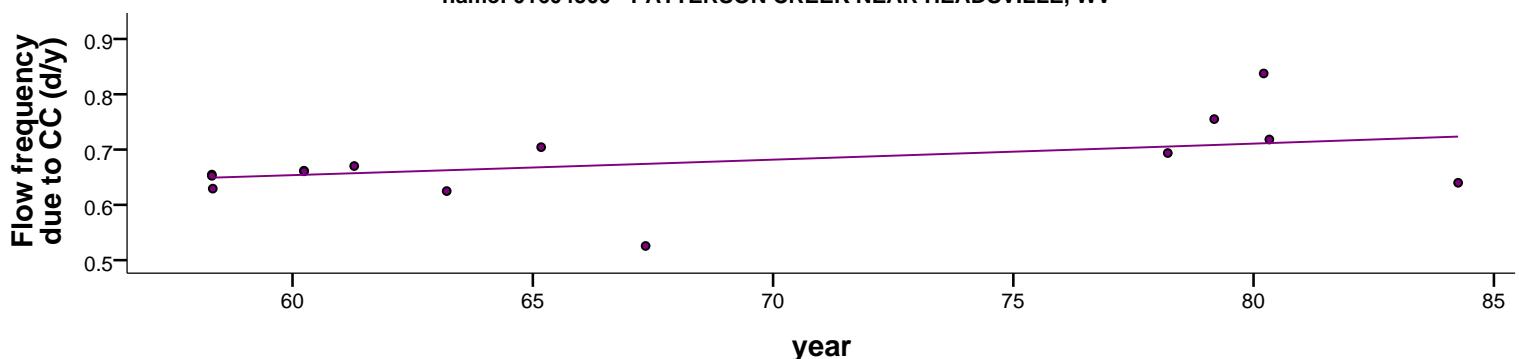
name: 01568000 - Sherman Creek at Shermans Dale, PA



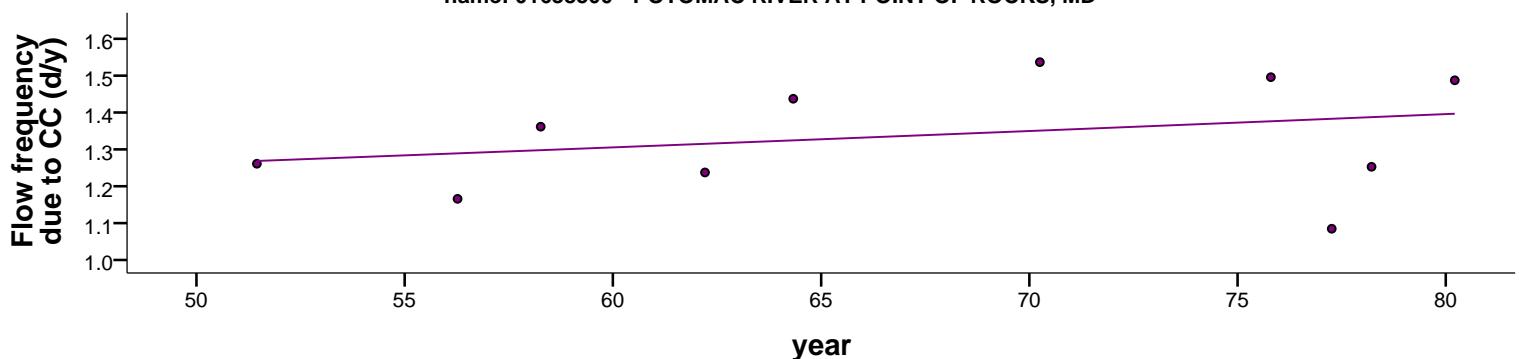
name: 01571500 - Yellow Breeches Creek near Camp Hill, PA



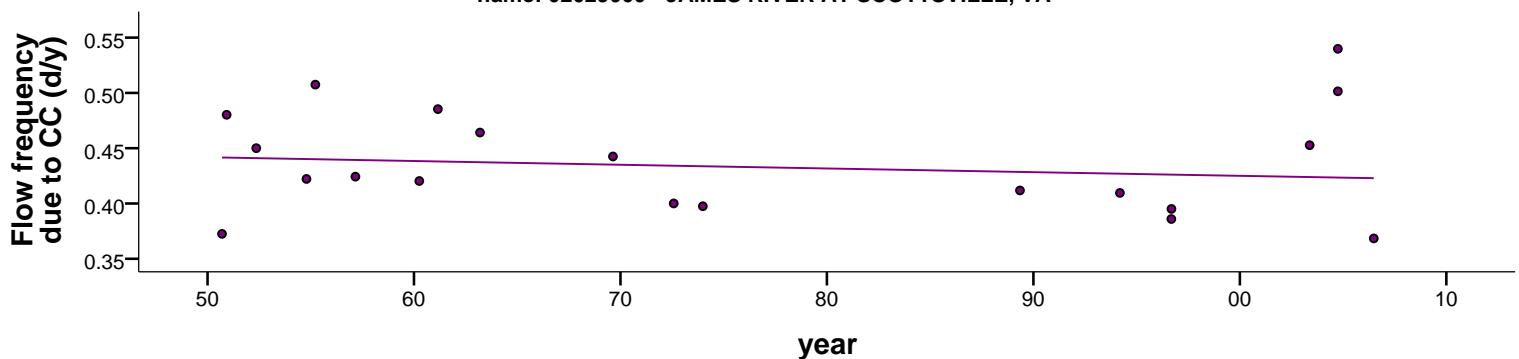
name: 01604500 - PATTERSON CREEK NEAR HEADSVILLE, WV



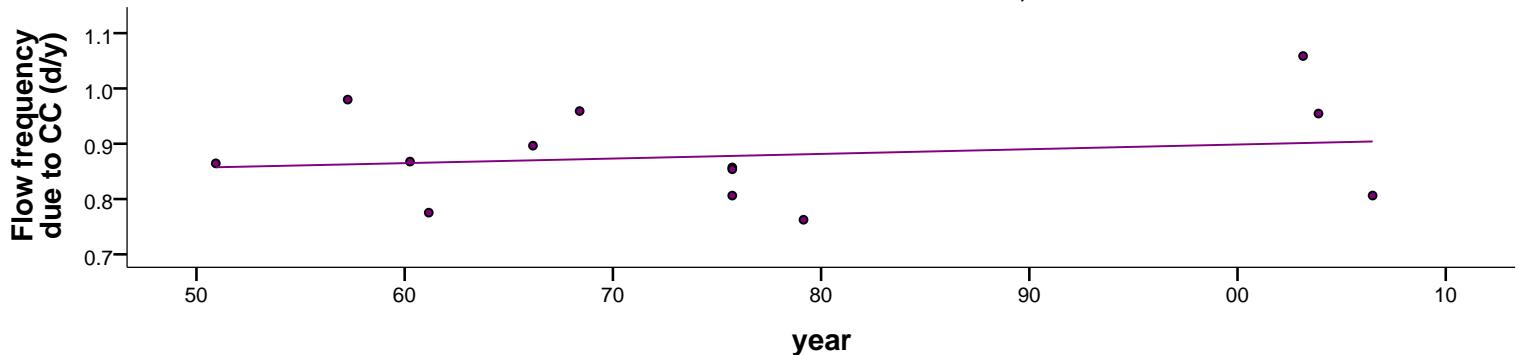
name: 01638500 - POTOMAC RIVER AT POINT OF ROCKS, MD



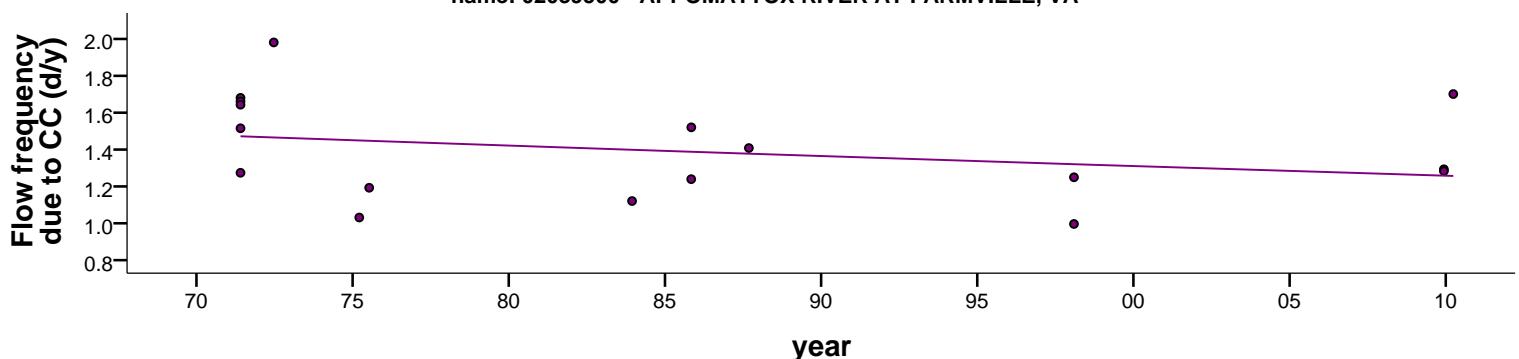
name: 02029000 - JAMES RIVER AT SCOTTSVILLE, VA



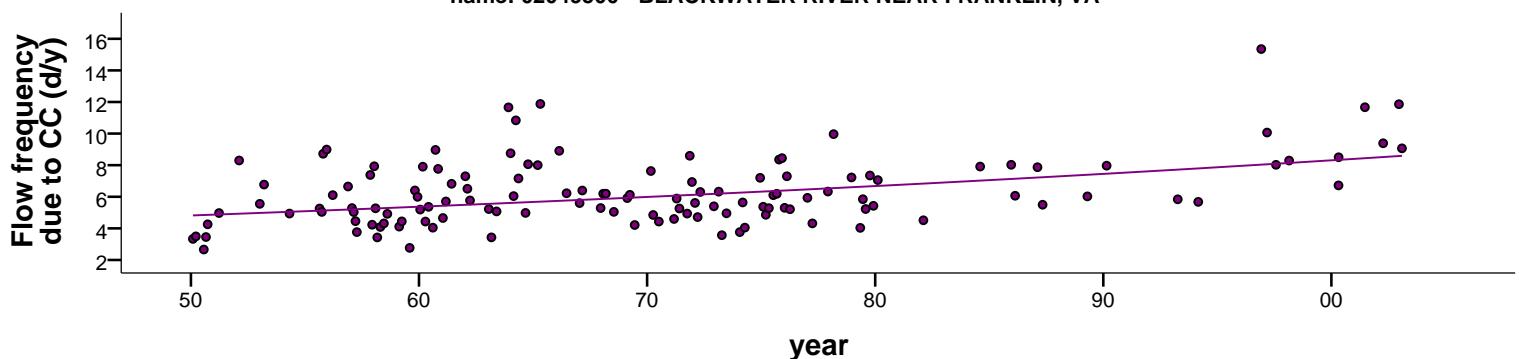
name: 02035000 - JAMES RIVER AT CARTERSVILLE, VA



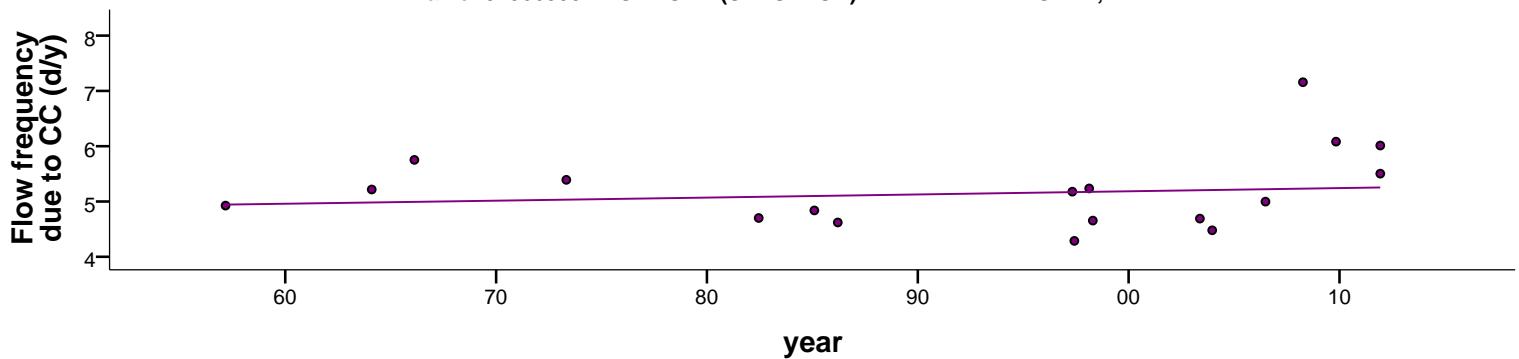
name: 02039500 - APPOMATTOX RIVER AT FARMVILLE, VA



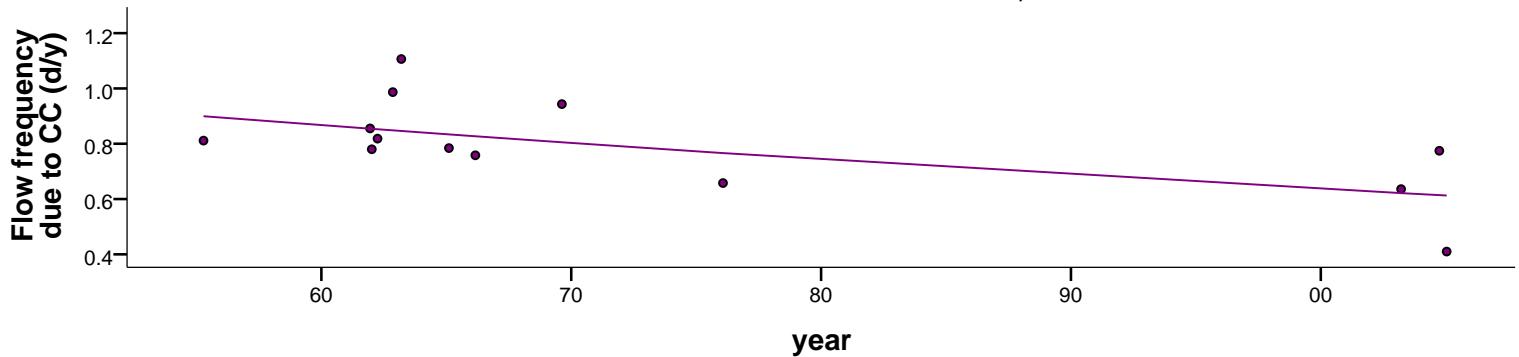
name: 02049500 - BLACKWATER RIVER NEAR FRANKLIN, VA



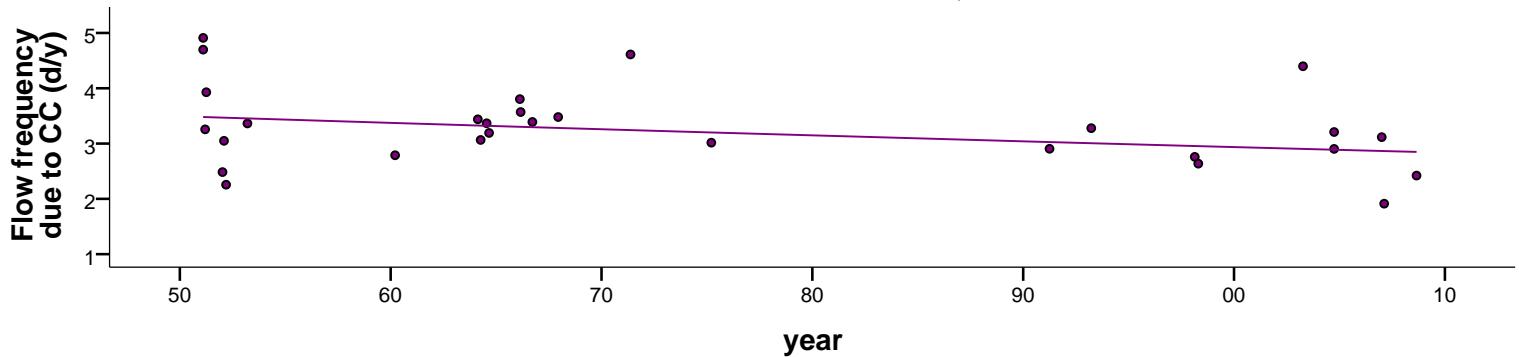
name: 02066000 - ROANOKE (STAUNTON) RIVER AT RANDOLPH, VA



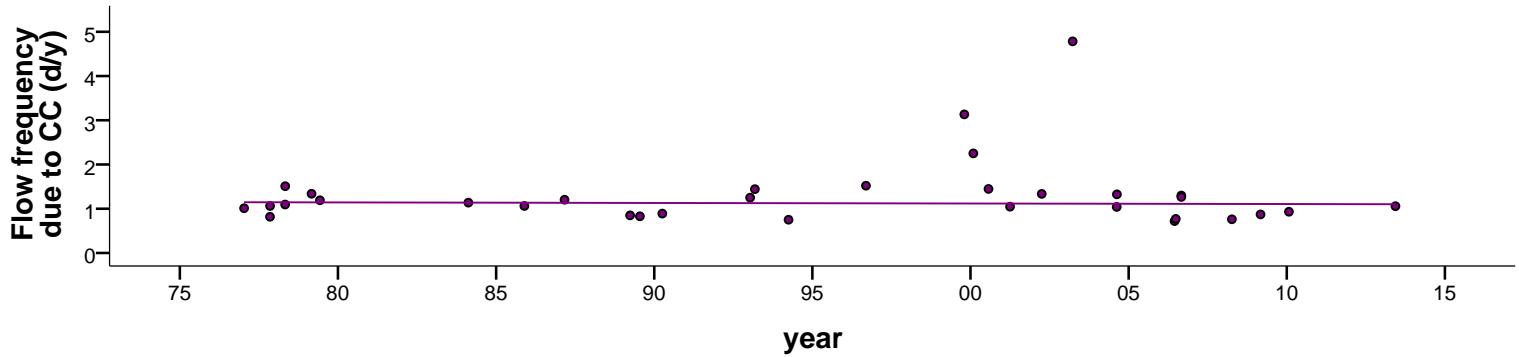
name: 02071000 - DAN RIVER NEAR WENTWORTH, NC



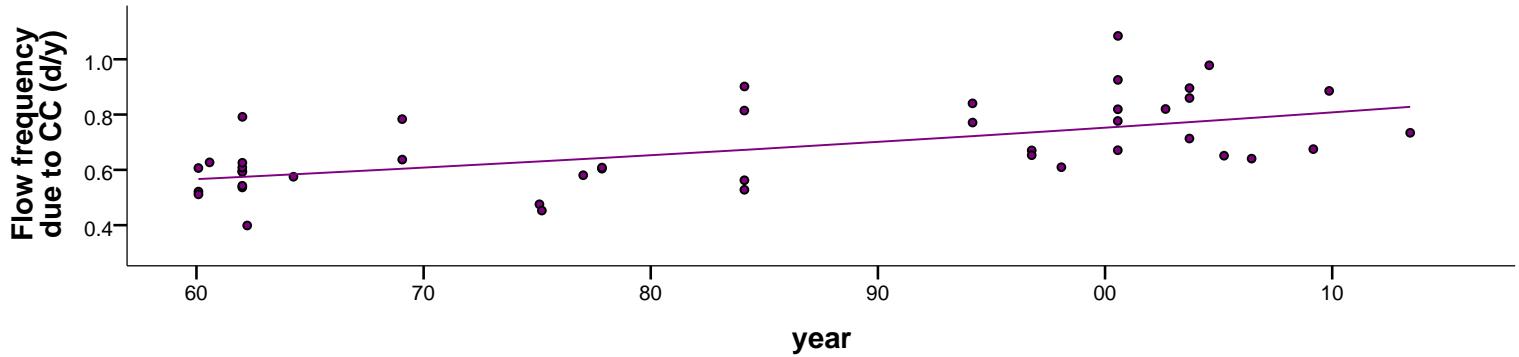
name: 02075500 - DAN RIVER AT PACES, VA



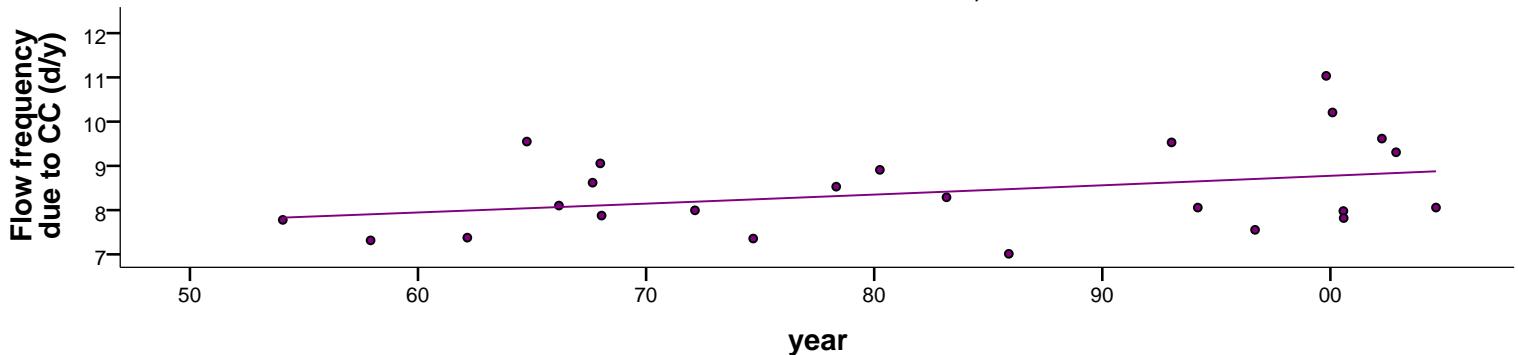
name: 02082585 - TAR RIVER AT NC 97 AT ROCKY MOUNT, NC



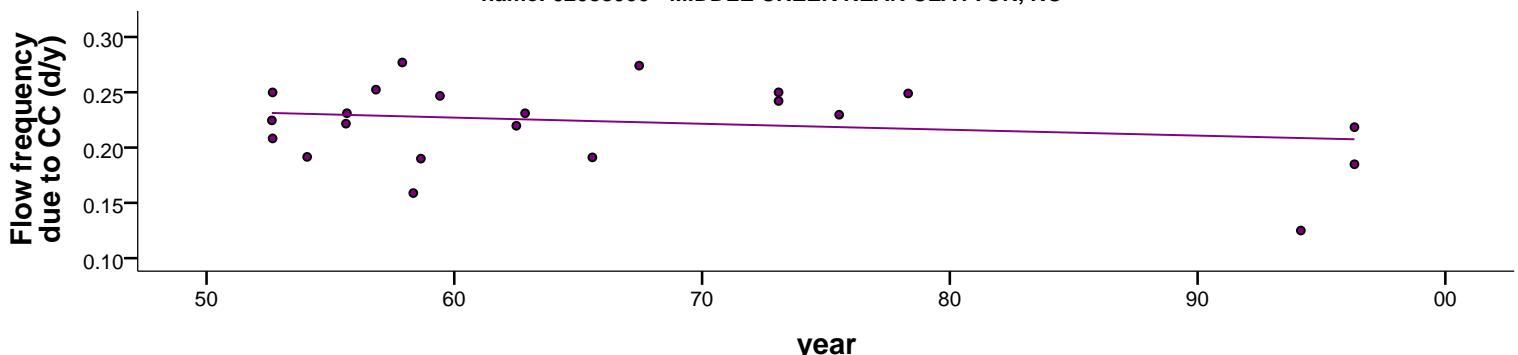
name: 02082950 - LITTLE FISHING CREEK NEAR WHITE OAK, NC



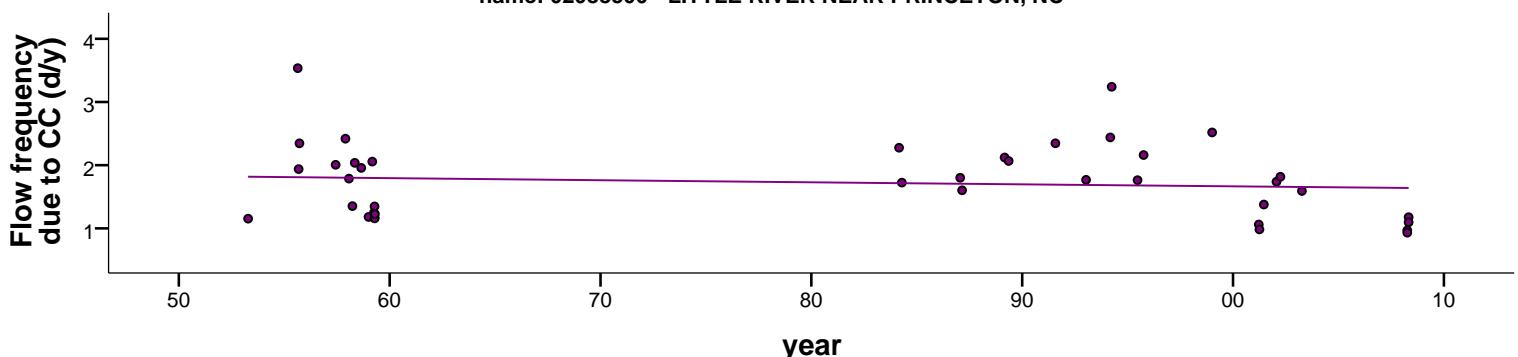
name: 02083500 - TAR RIVER AT TARBORO, NC



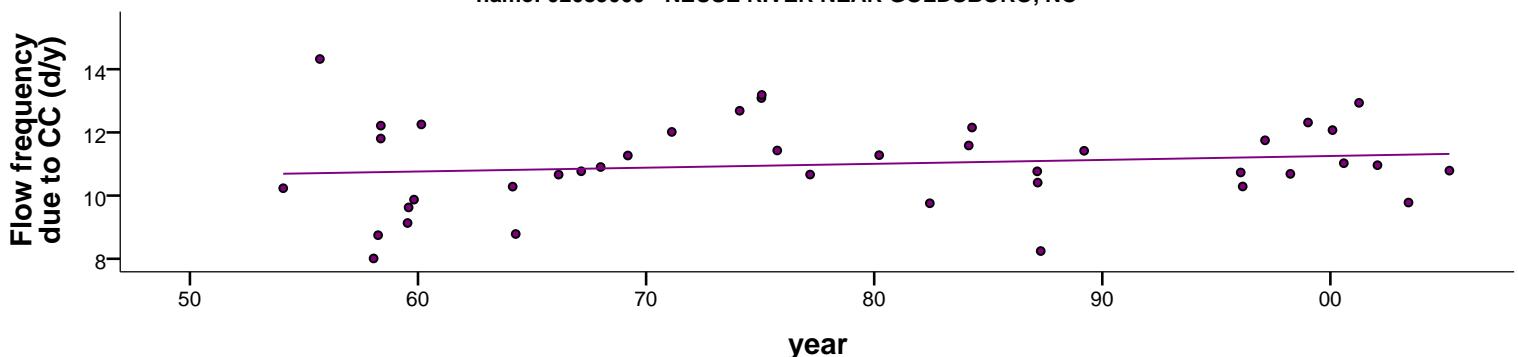
name: 02088000 - MIDDLE CREEK NEAR CLAYTON, NC



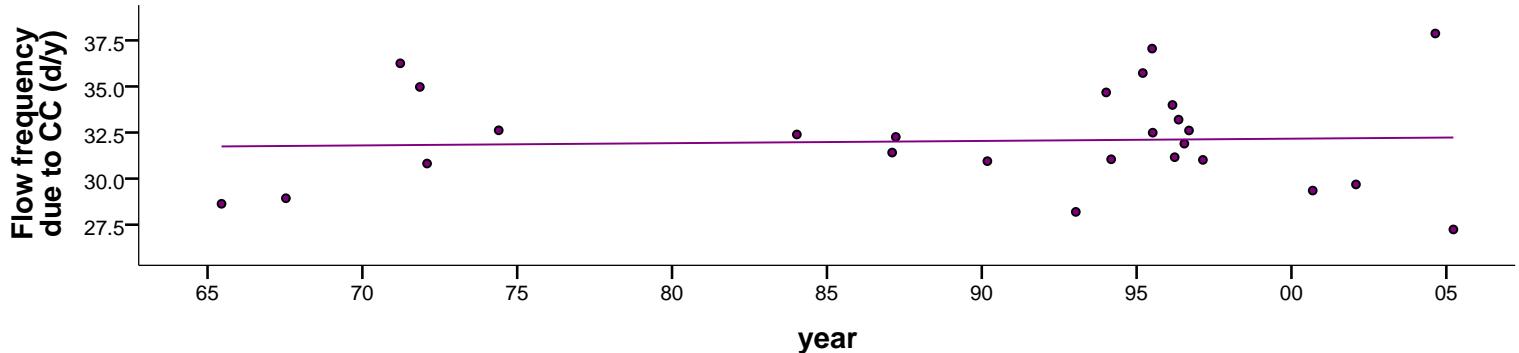
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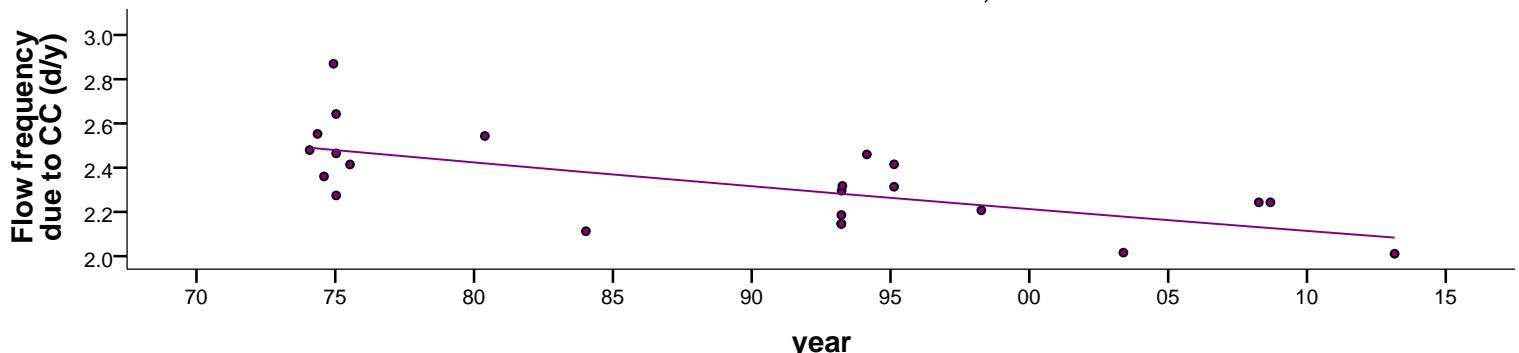
name: 02089000 - NEUSE RIVER NEAR GOLDSBORO, NC



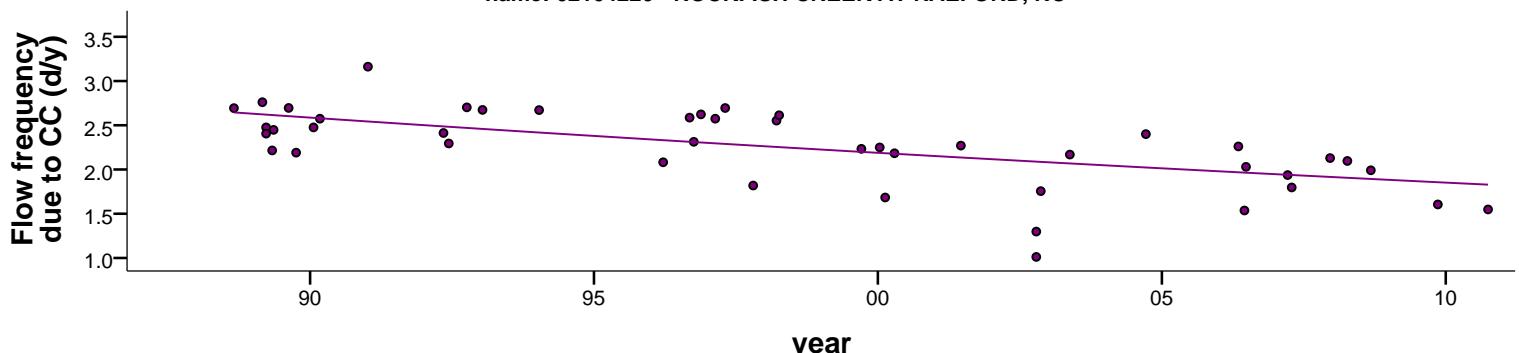
name: 02089500 - NEUSE RIVER AT KINSTON, NC



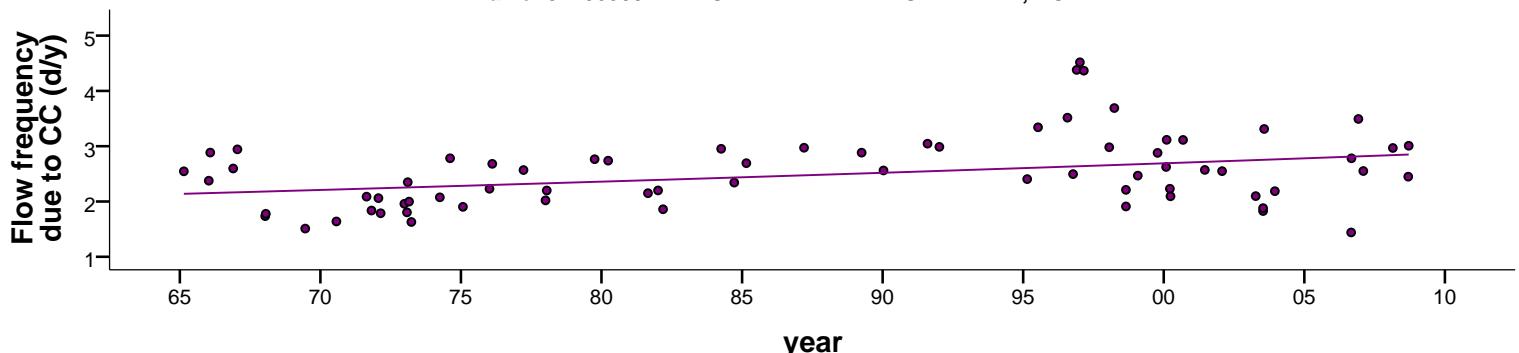
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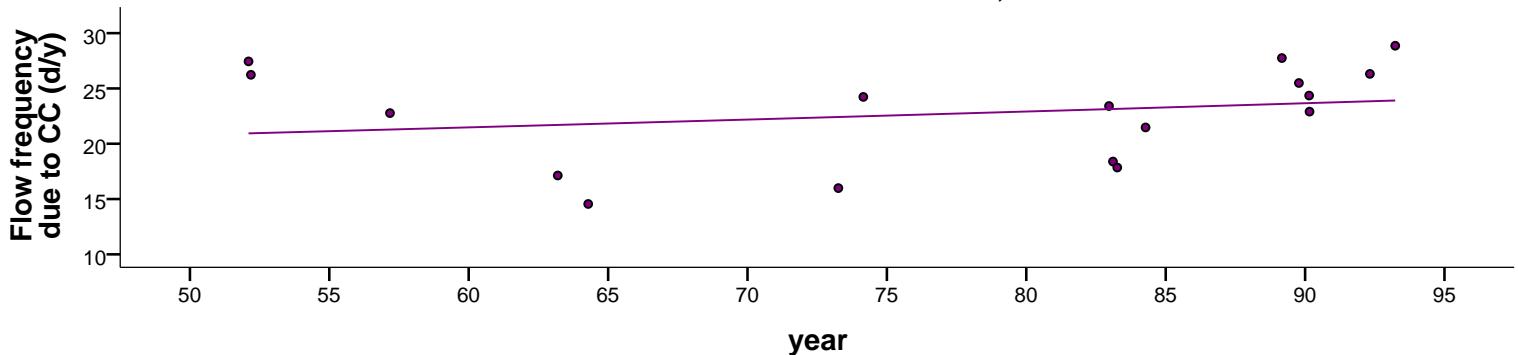
name: 02104220 - ROCKFISH CREEK AT RAEFORD, NC



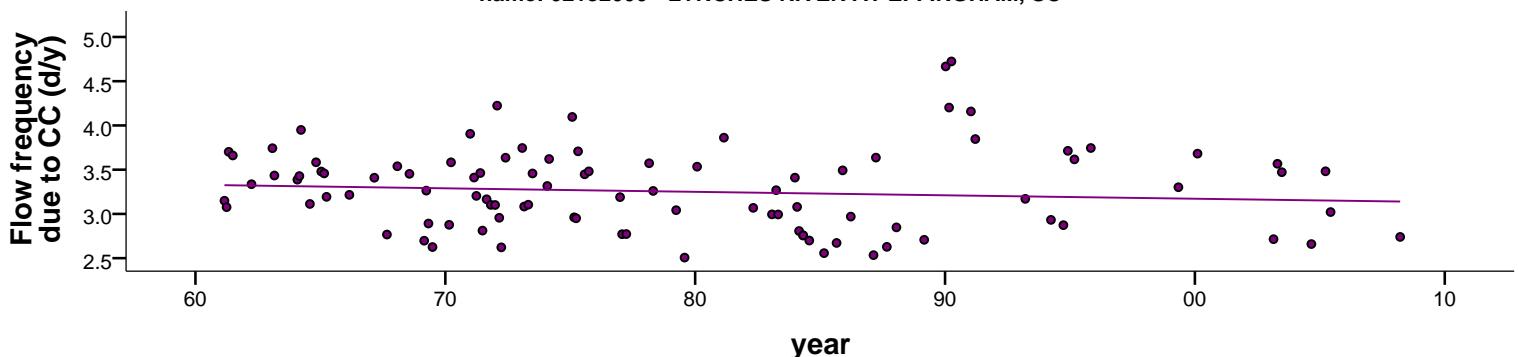
name: 02106500 - BLACK RIVER NEAR TOMAHAWK, NC



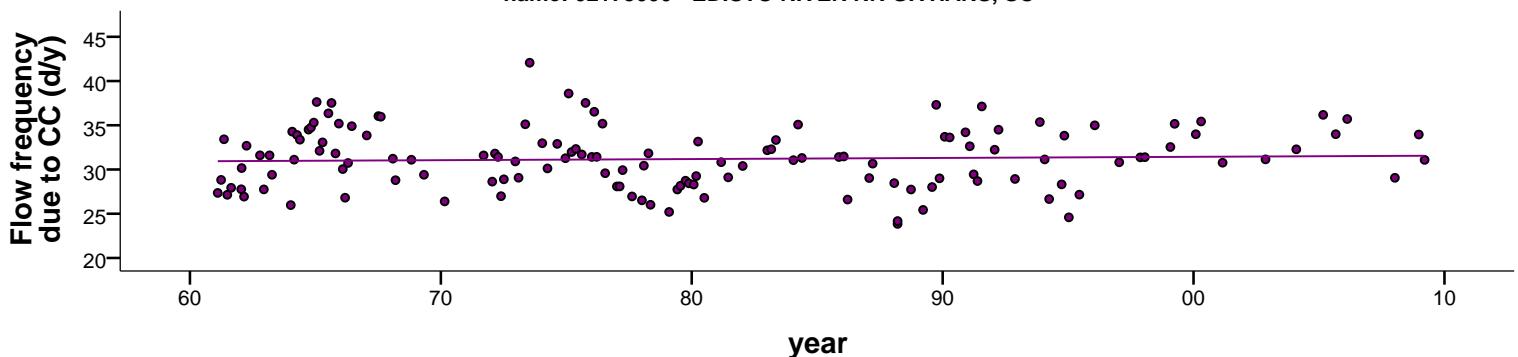
name: 02131000 - PEE DEE RIVER AT PEEDEE, SC



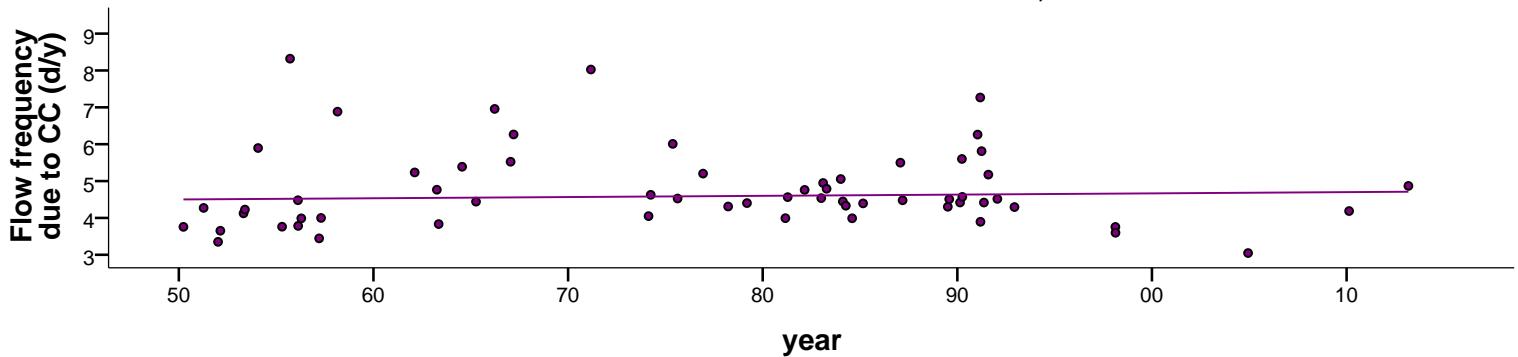
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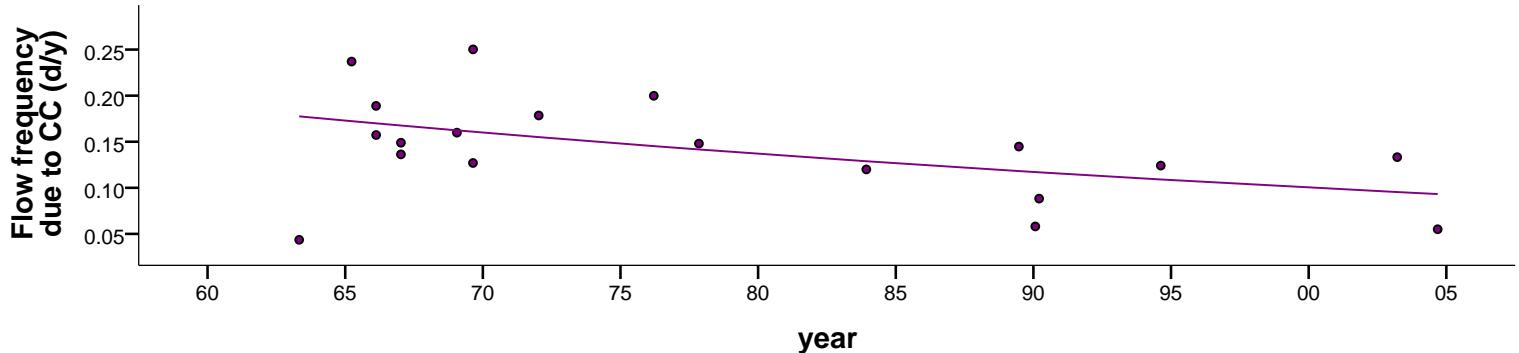
name: 02175000 - EDISTO RIVER NR GIVHANS, SC



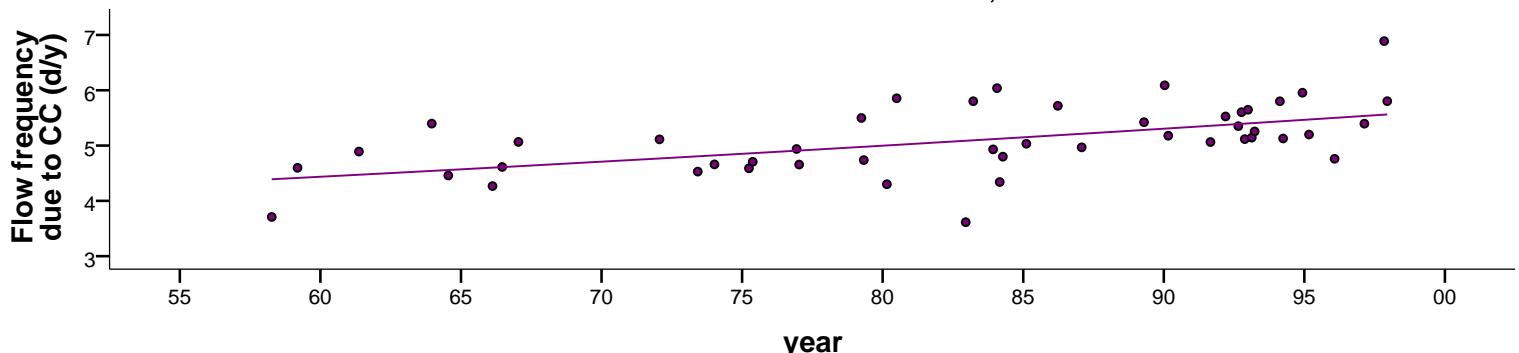
name: 02215500 - OCMULGEE RIVER AT LUMBER CITY, GA



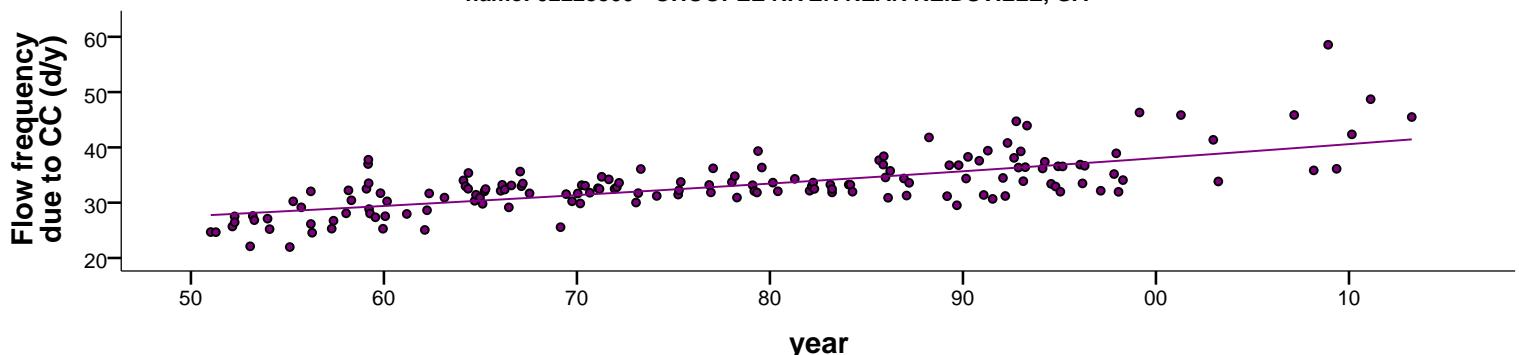
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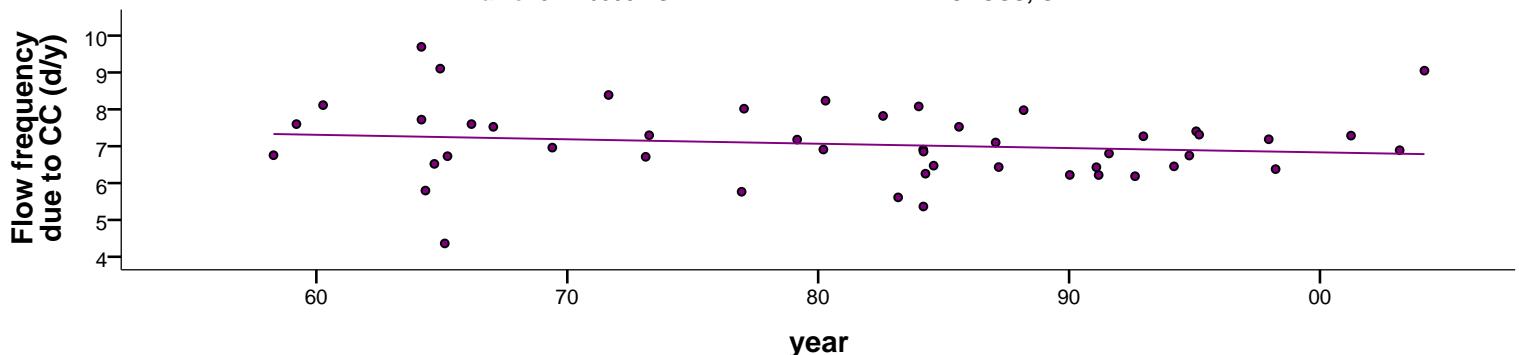
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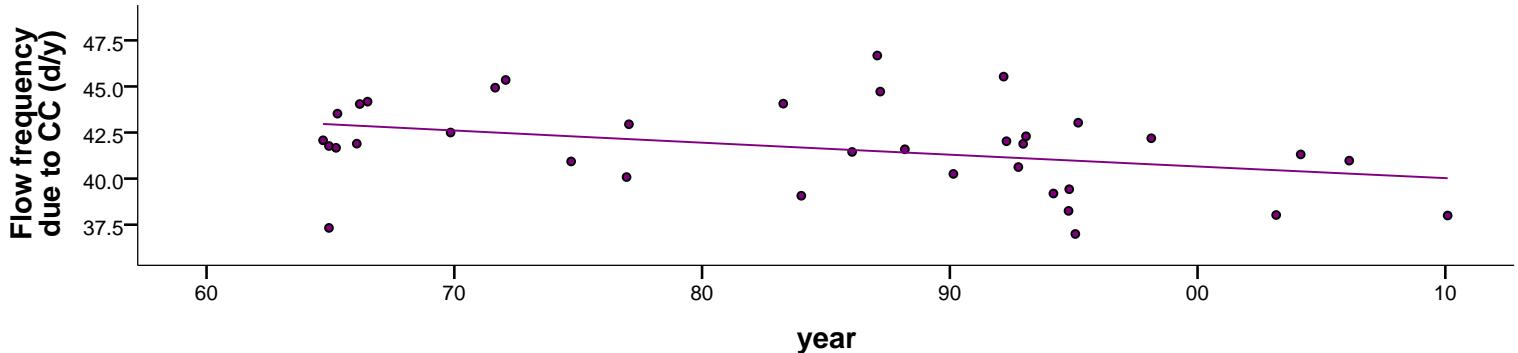
name: 02225500 - OHOOPEE RIVER NEAR REIDSVILLE, GA



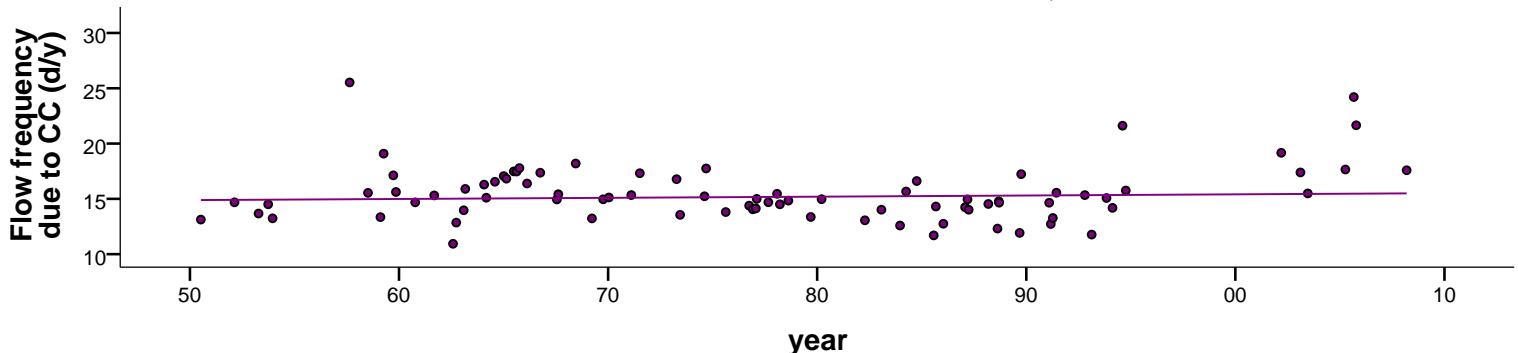
name: 02226500 - SATILLA RIVER NEAR WAYCROSS, GA



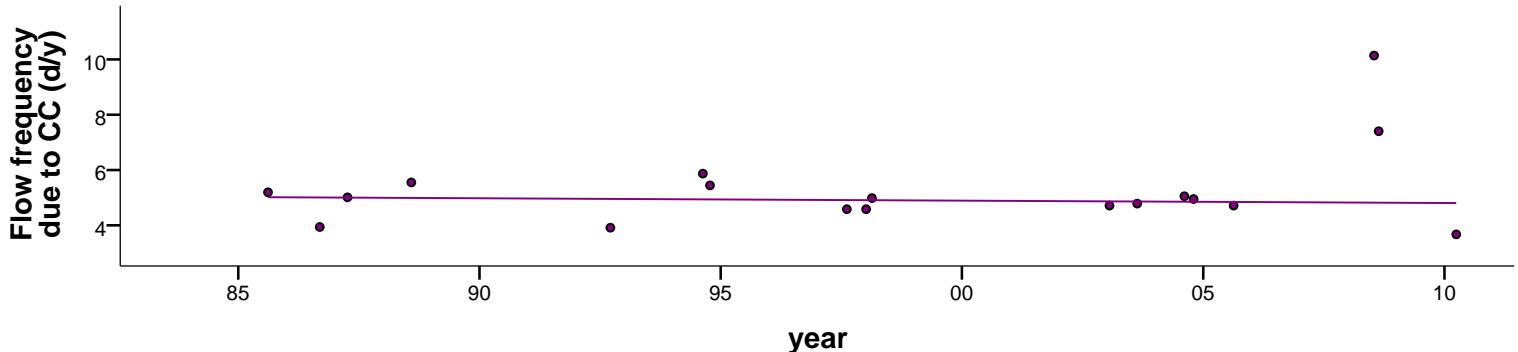
name: 02228000 - SATILLA RIVER AT ATKINSON, GA



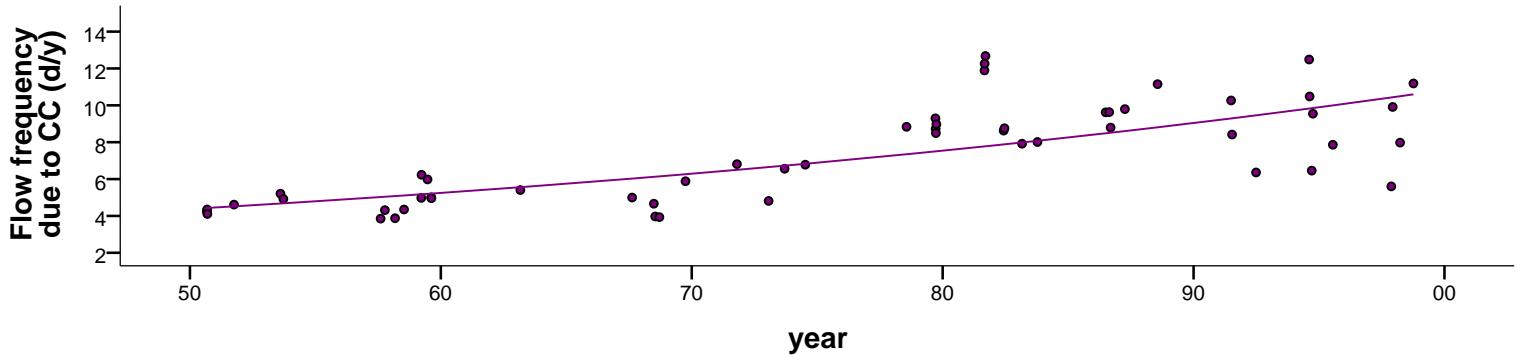
name: 02231000 - ST. MARYS RIVER NEAR MACCLENNY, FL



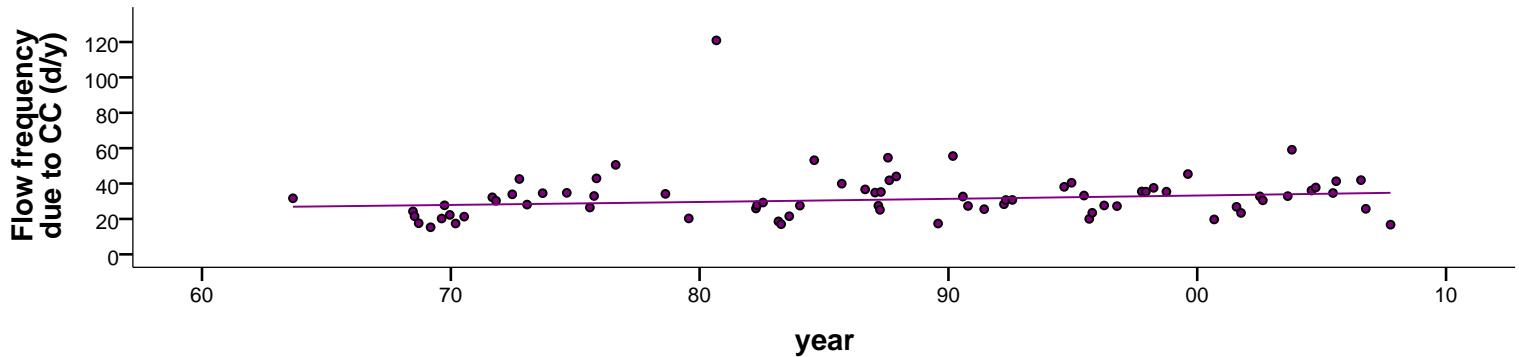
name: 02295637 - PEACE RIVER AT ZOLFO SPRINGS FL



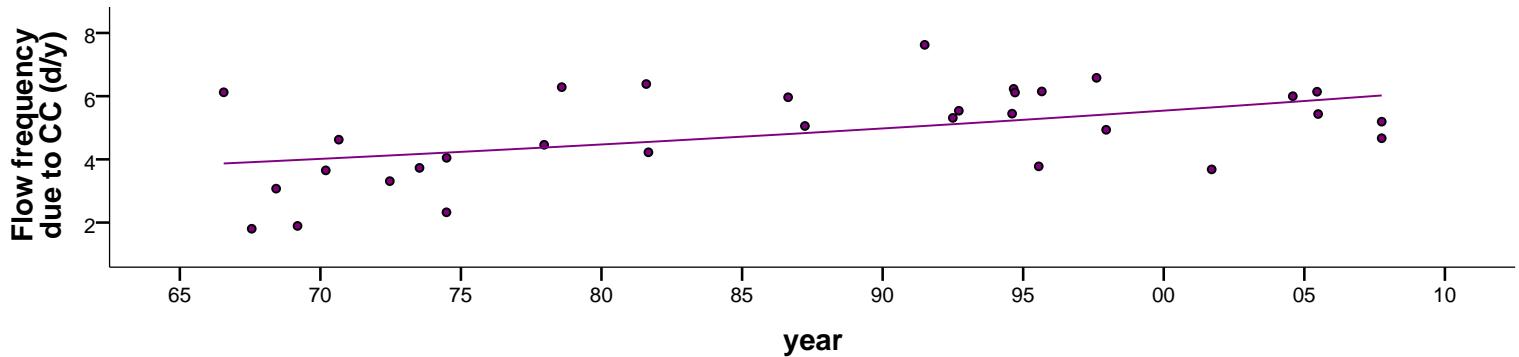
name: 02297310 - HORSE CREEK NEAR ARCADIA FL



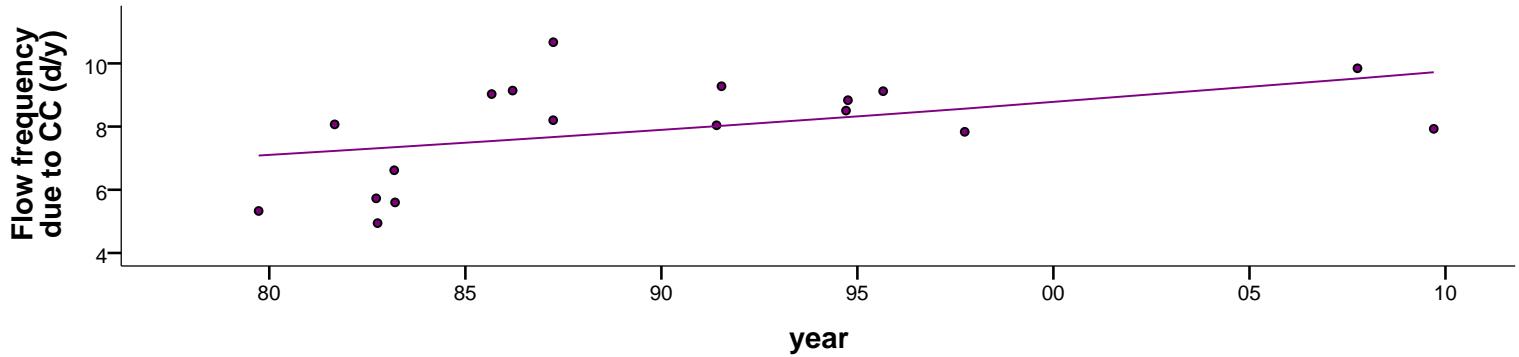
name: 02298830 - MYAKKA RIVER NEAR SARASOTA FL



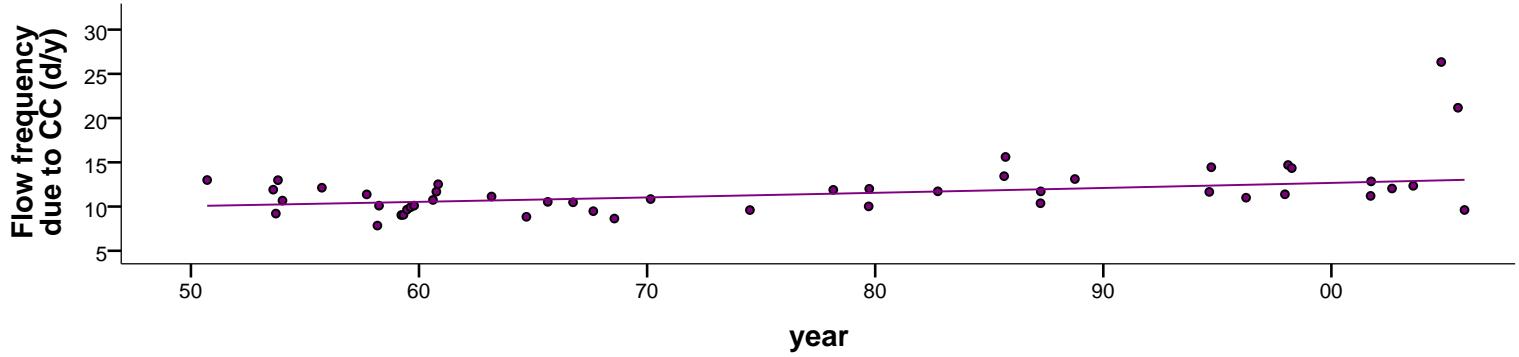
name: 02299950 - MANATEE RIVER NEAR MYAKKA HEAD FL



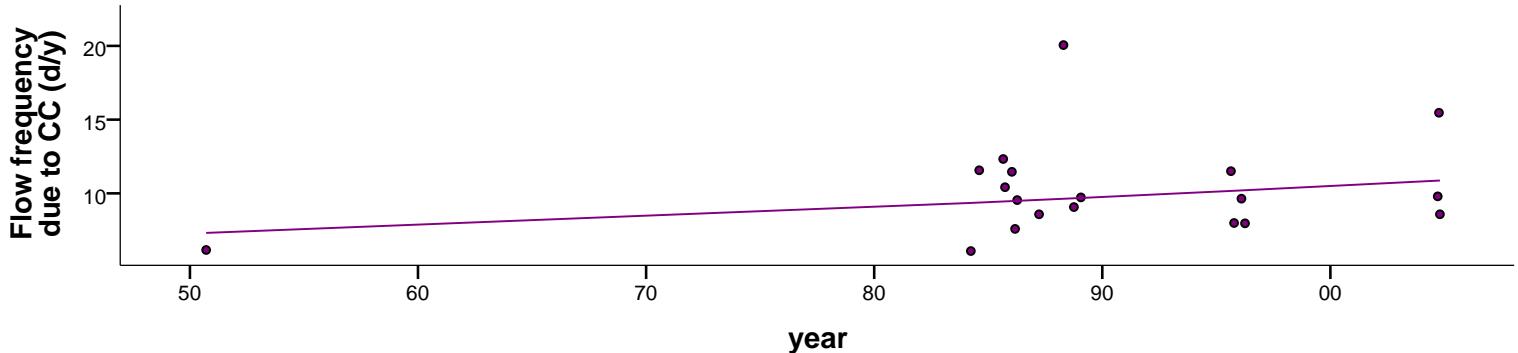
name: 02300500 - LITTLE MANATEE RIVER NEAR WIMAUMA FL



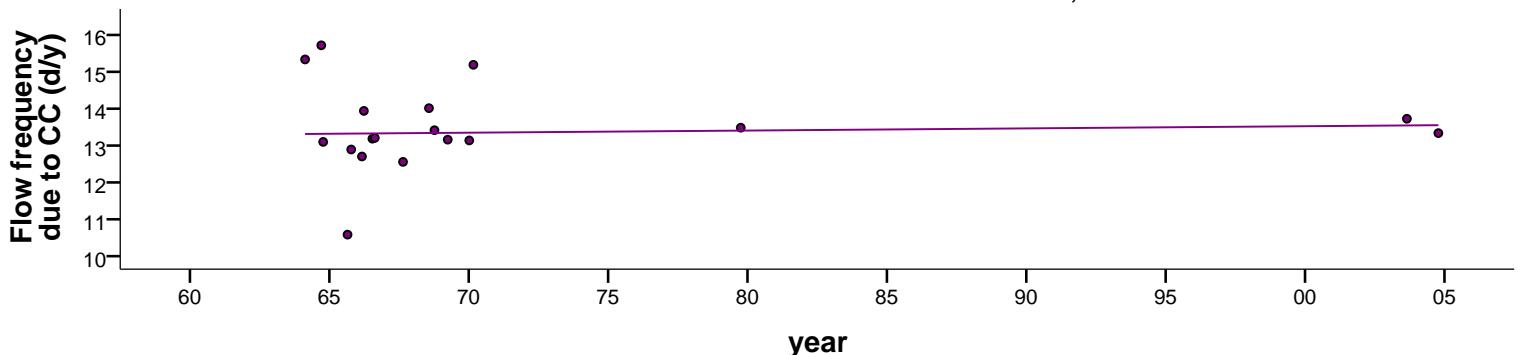
name: 02312000 - WITHLACOOCHEE RIVER AT TRILBY, FL



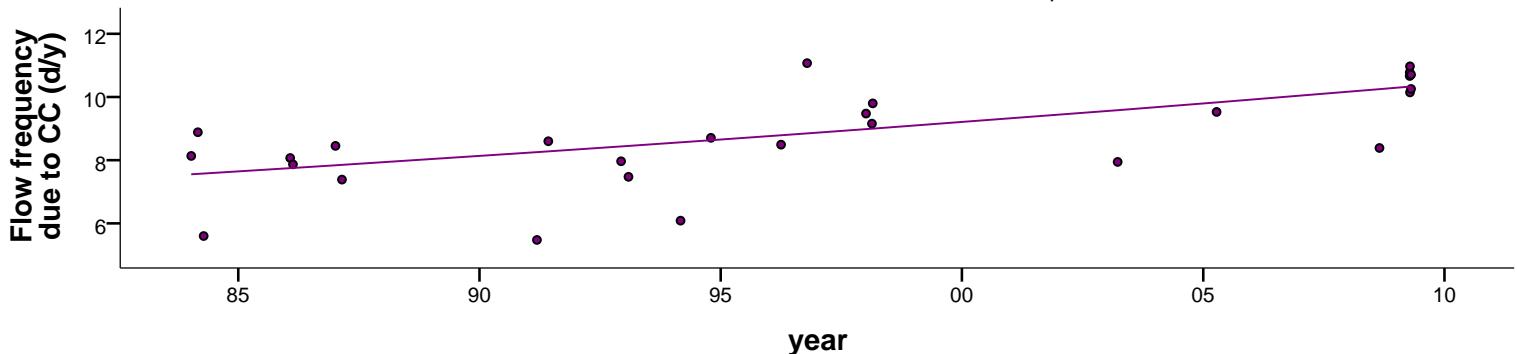
name: 02312500 - WITHLACOOCHEE RIVER AT CROOM, FL



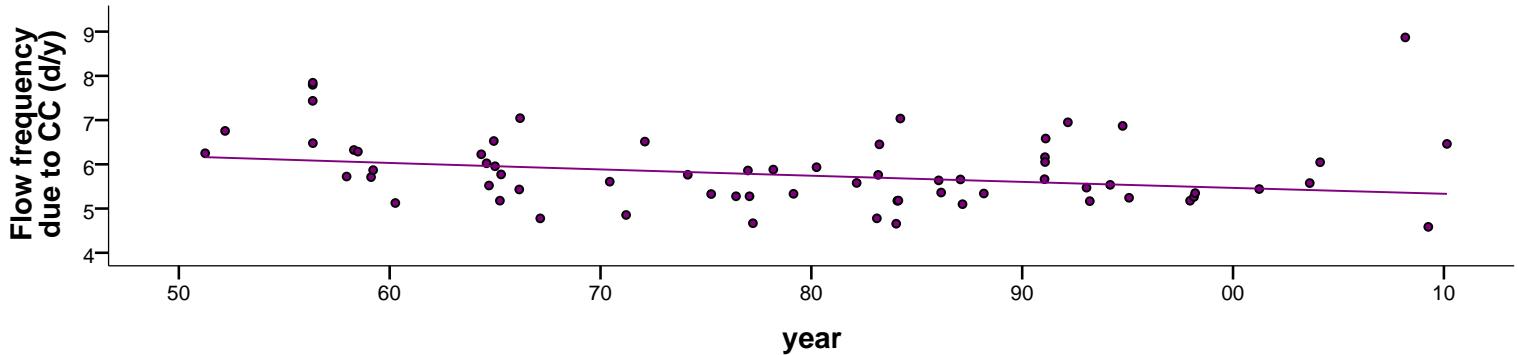
name: 02313000 - WITHLACOOCHEE RIVER NEAR HOLDER, FL



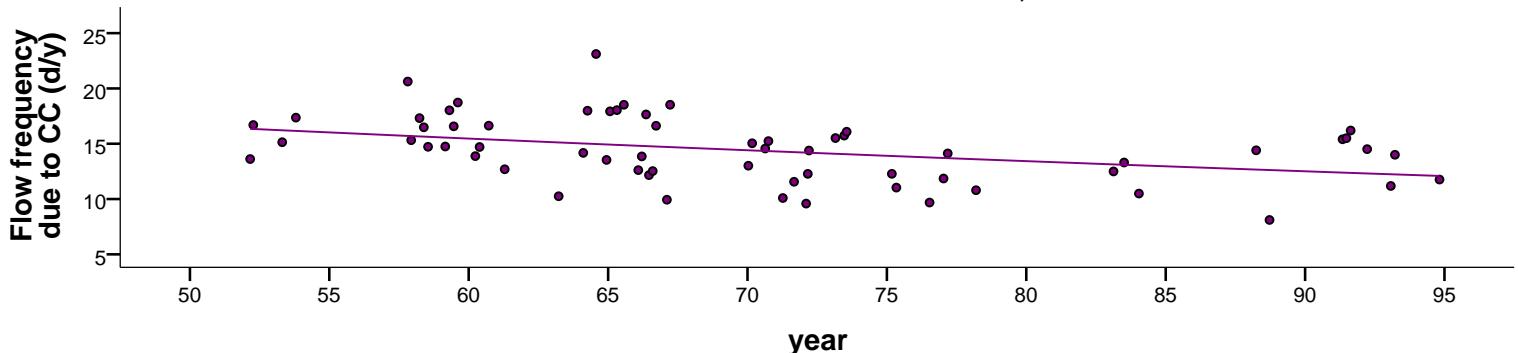
name: 02315500 - SUWANNEE RIVER AT WHITE SPRINGS, FLA.



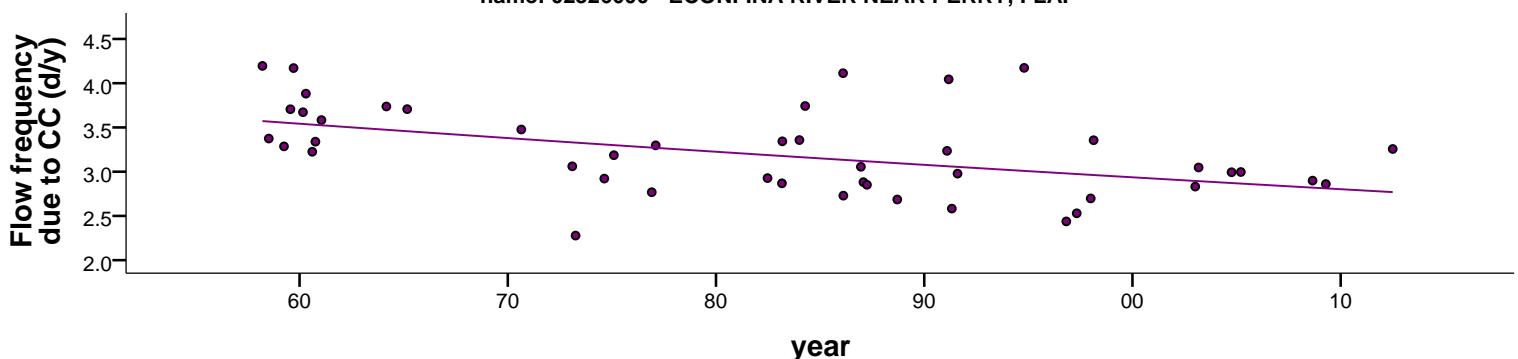
name: 02317500 - ALAPAHIA RIVER AT STATENVILLE, GA



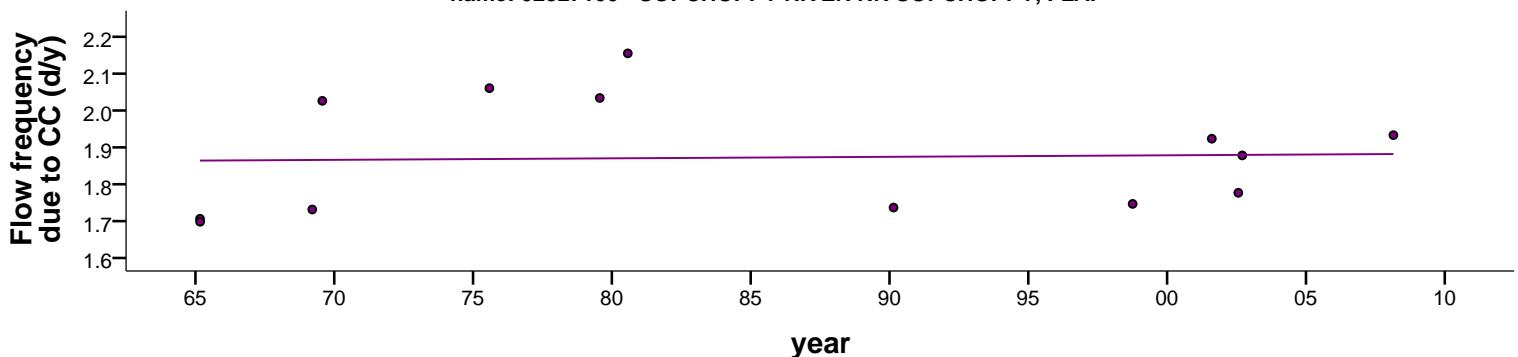
name: 02323500 - SUWANNEE RIVER NEAR WILCOX, FLA.



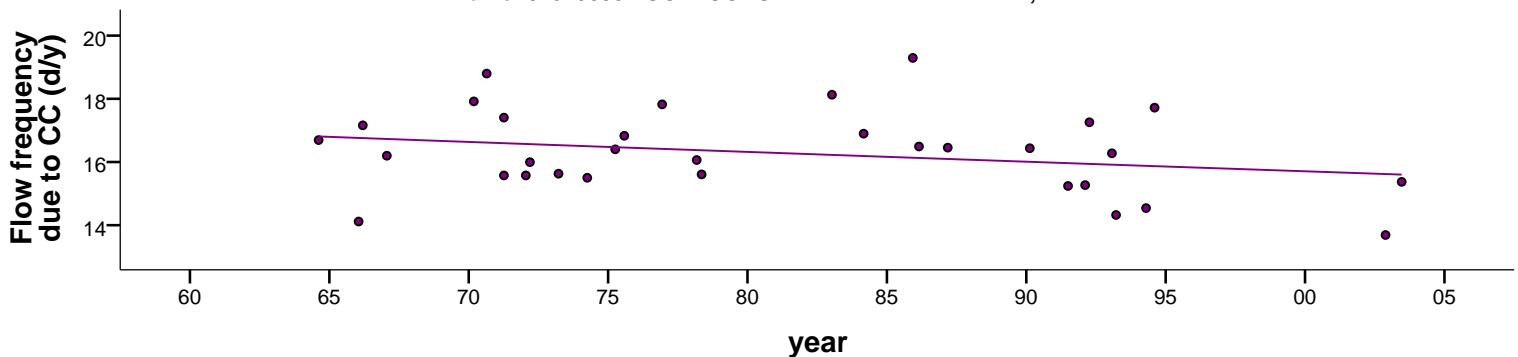
name: 02326000 - ECONFINA RIVER NEAR PERRY, FLA.



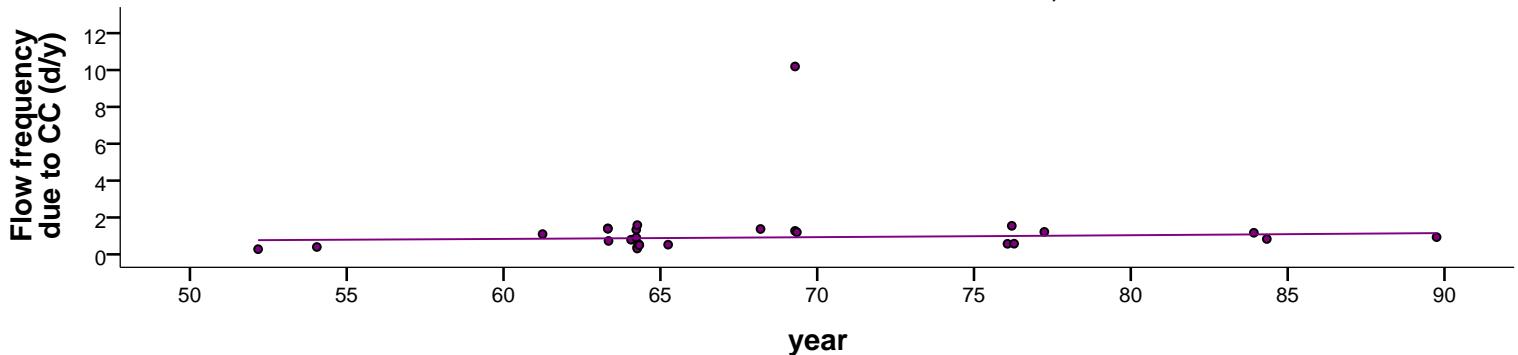
name: 02327100 - SOPCHOPPY RIVER NR SOPCHOPPY, FLA.



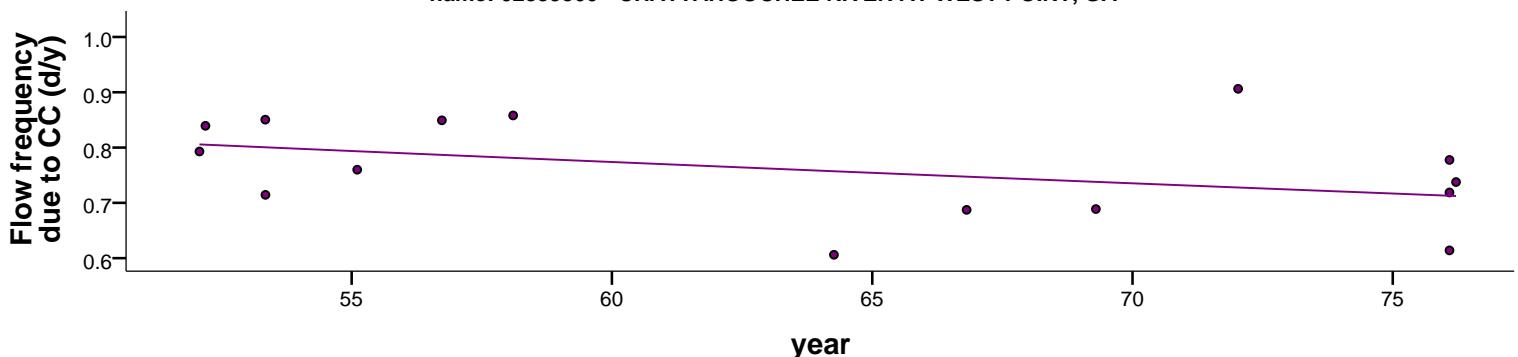
name: 02329000 - OCHLOCKONEE RIVER NR HAVANA, FLA.



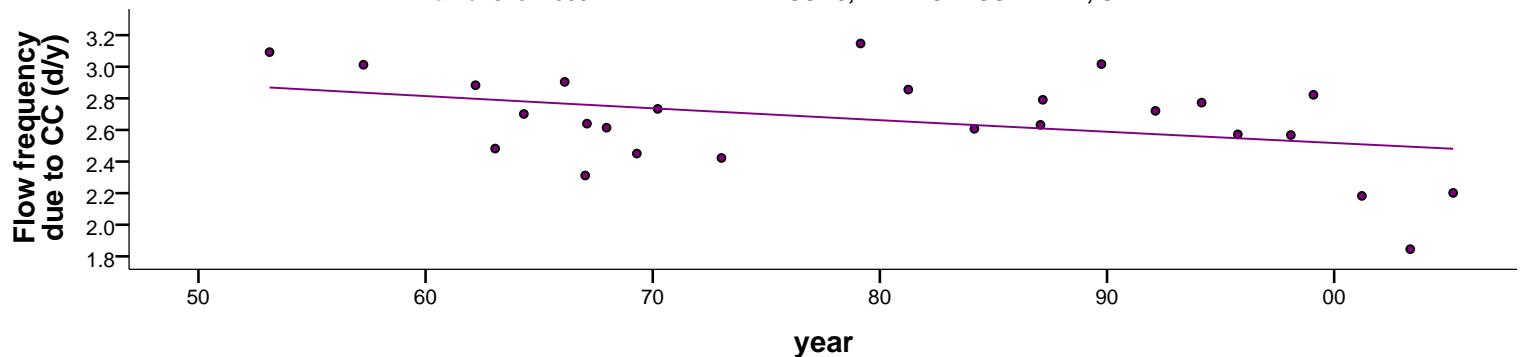
name: 02336000 - CHATTAHOOCHEE RIVER AT ATLANTA, GA



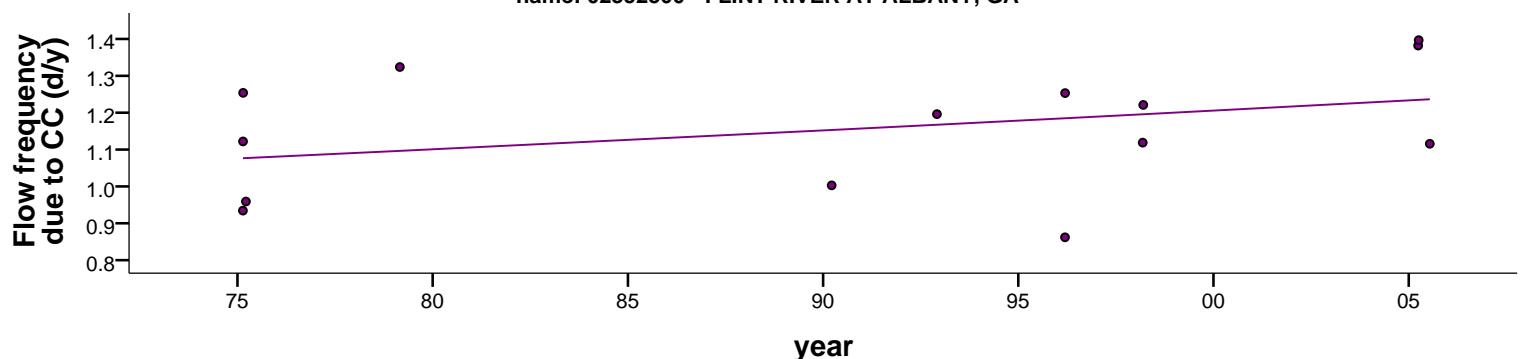
name: 02339500 - CHATTAHOOCHEE RIVER AT WEST POINT, GA



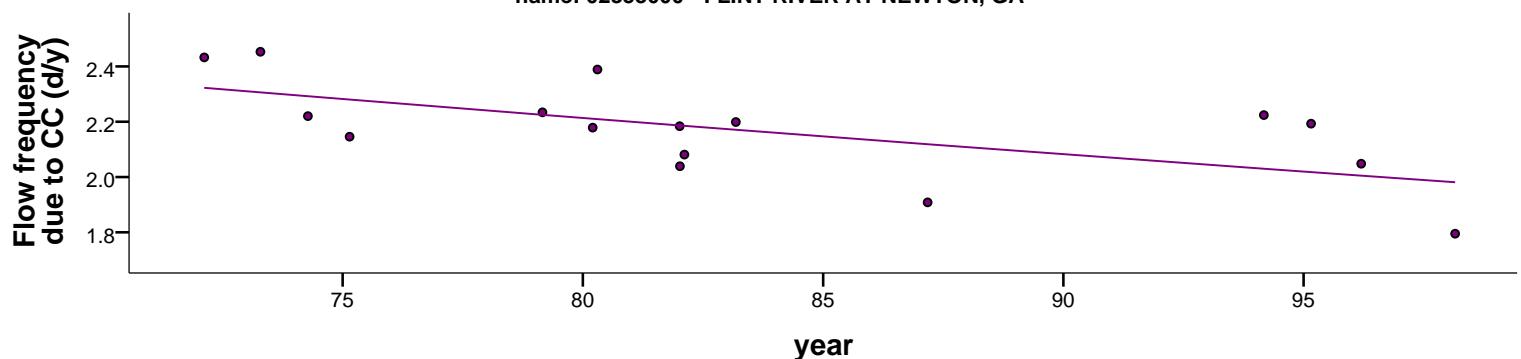
name: 02347500 - FLINT RIVER AT US 19, NEAR CARSONVILLE, GA



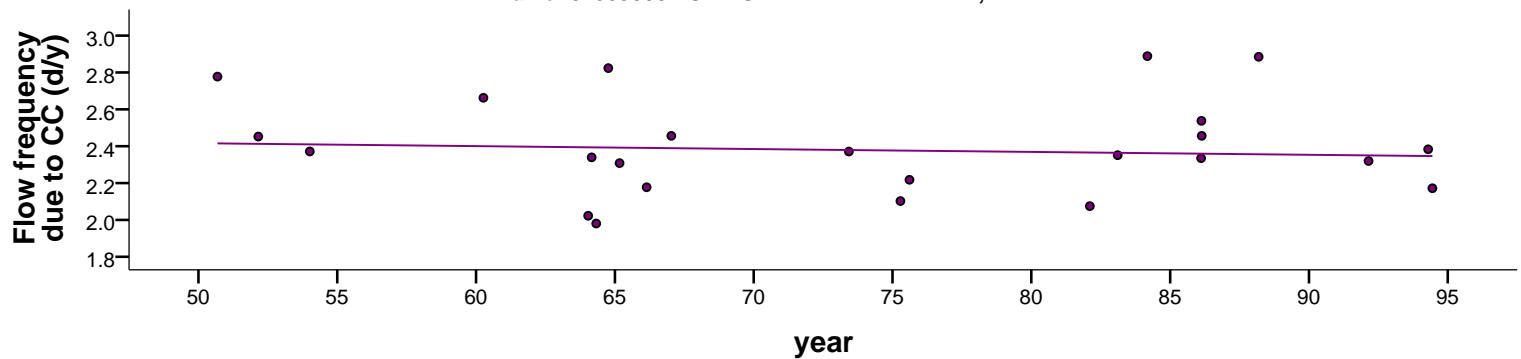
name: 02352500 - FLINT RIVER AT ALBANY, GA



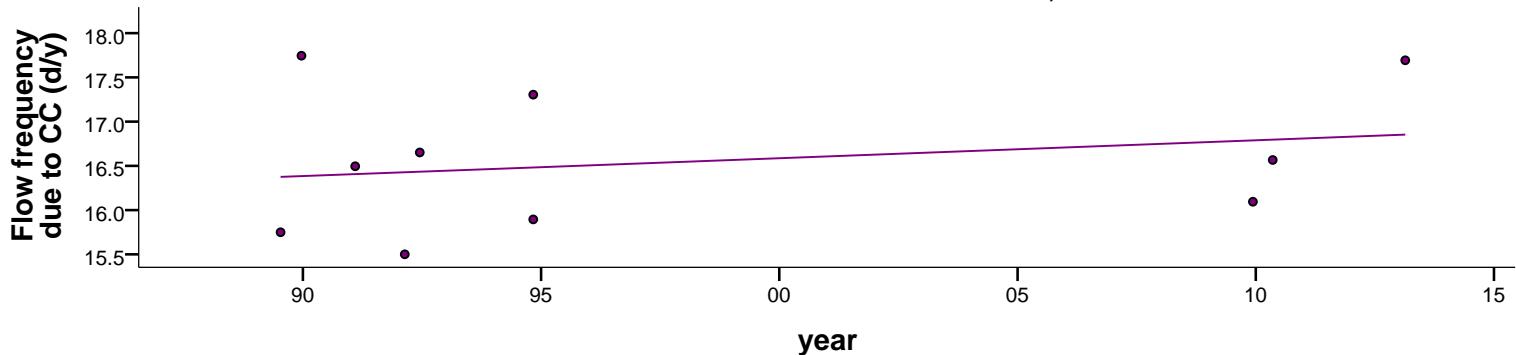
name: 02353000 - FLINT RIVER AT NEWTON, GA



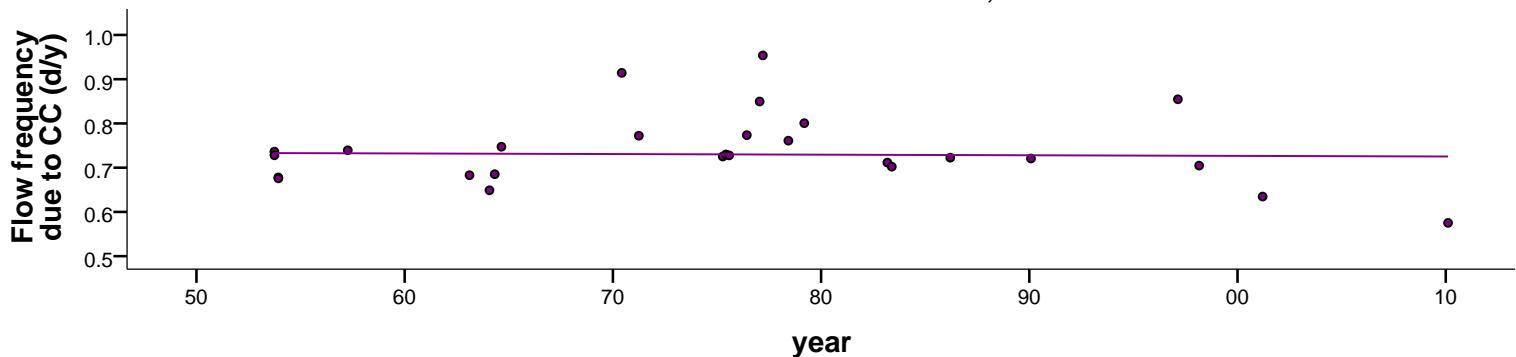
name: 02359000 - CHIPOLA RIVER NR ALTHA, FLA.



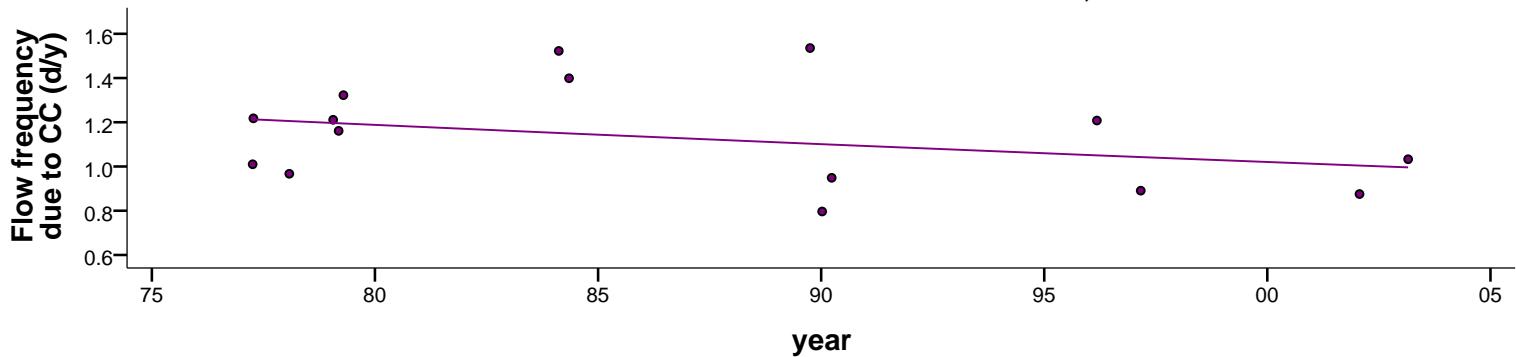
**name: 02366500 - CHOCTAWHATCHEE RIVER NR BRUCE, FLA.**



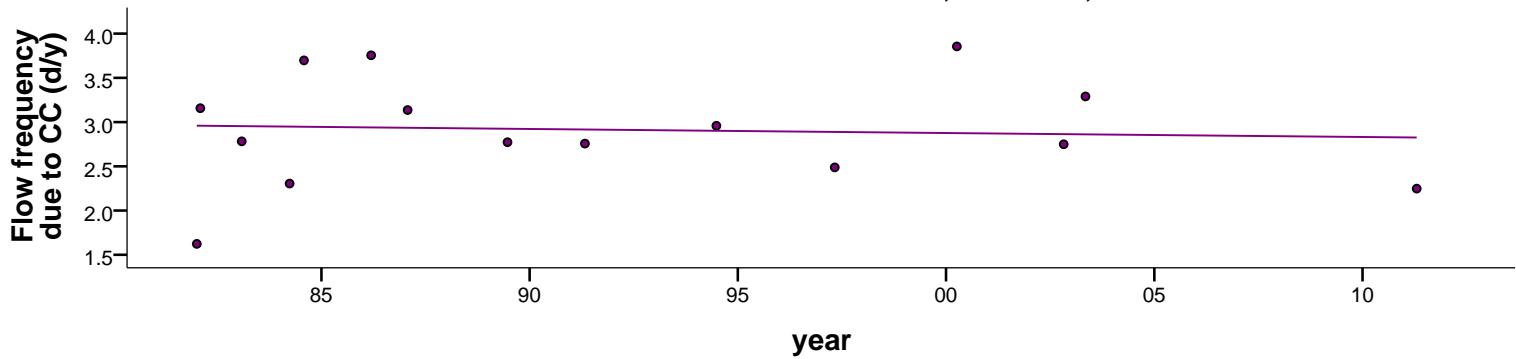
**name: 02368000 - YELLOW RIVER AT MILLIGAN, FLA.**



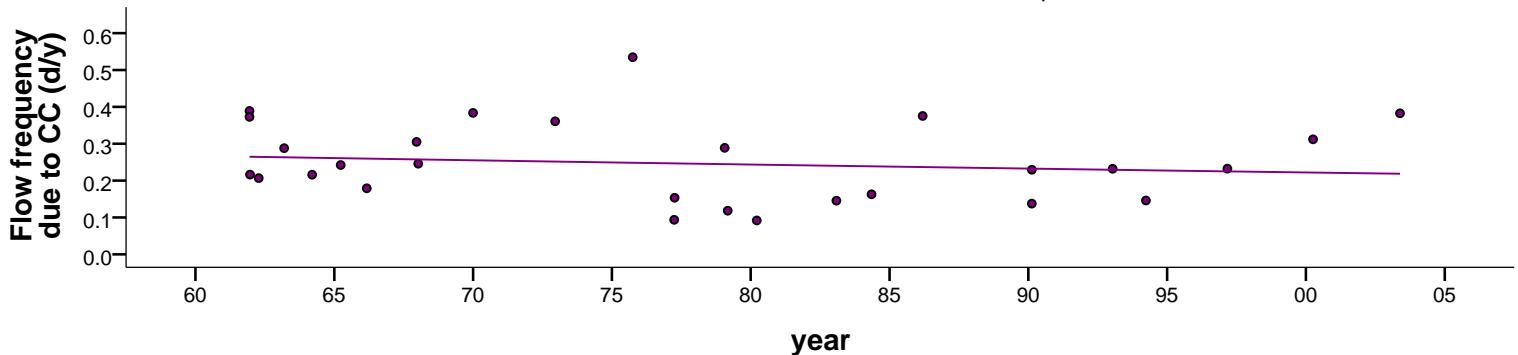
**name: 02383500 - COOSAWATTEE RIVER NEAR PINE CHAPEL, GA**



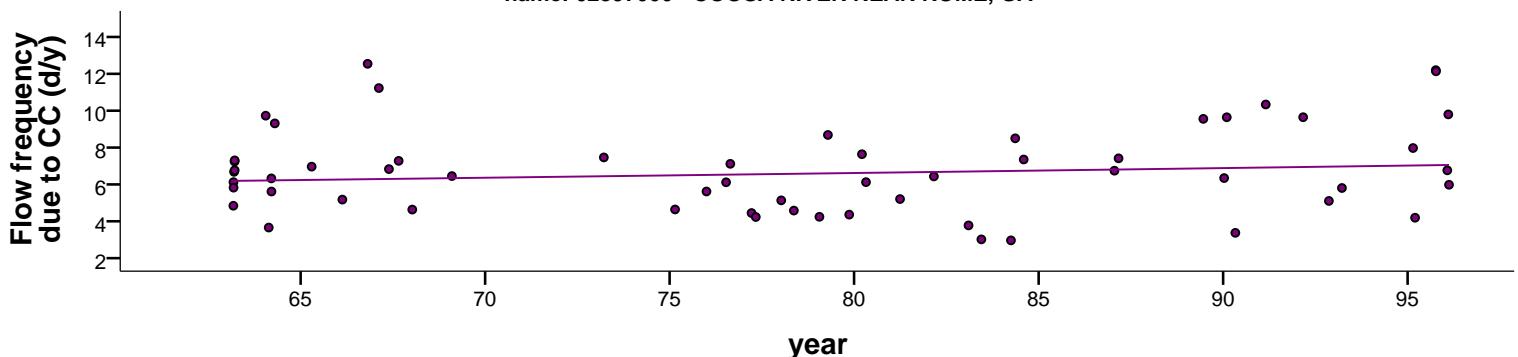
**name: 02384500 - CONASAUGA RIVER AT GA 286, NEAR ETON, GA**



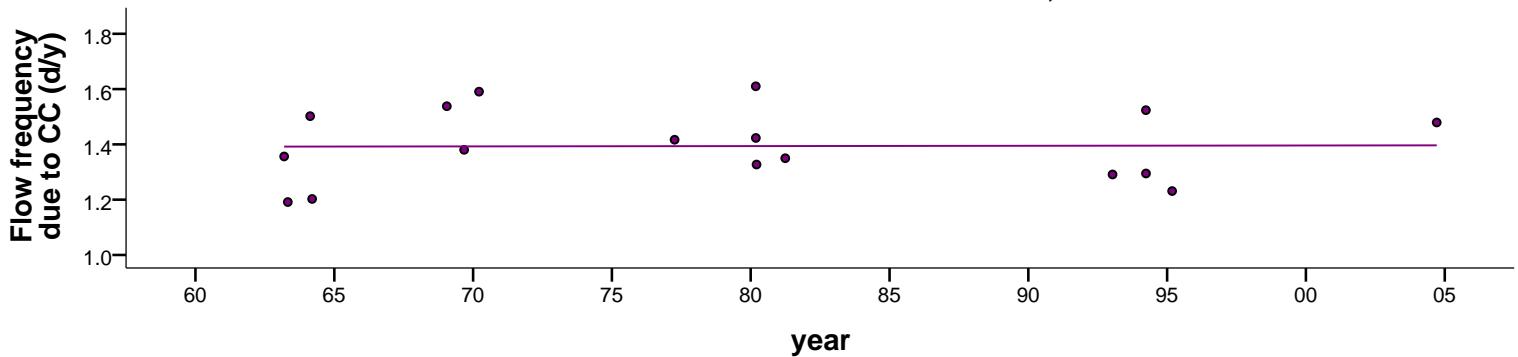
name: 02385800 - HOLLY CREEK NEAR CHATSWORTH, GA



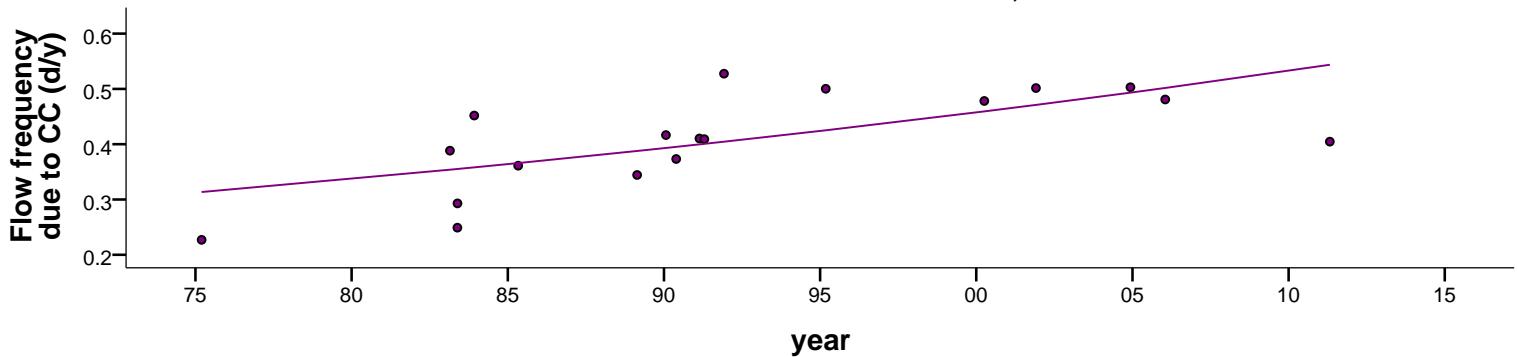
name: 02397000 - COOSA RIVER NEAR ROME, GA



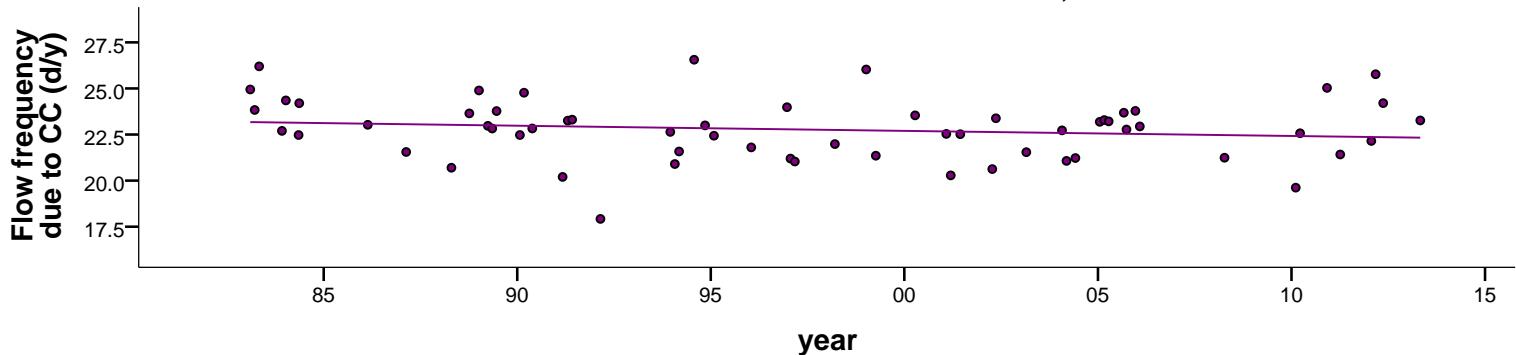
name: 02398000 - CHATTOOGA RIVER AT SUMMERTVILLE, GA



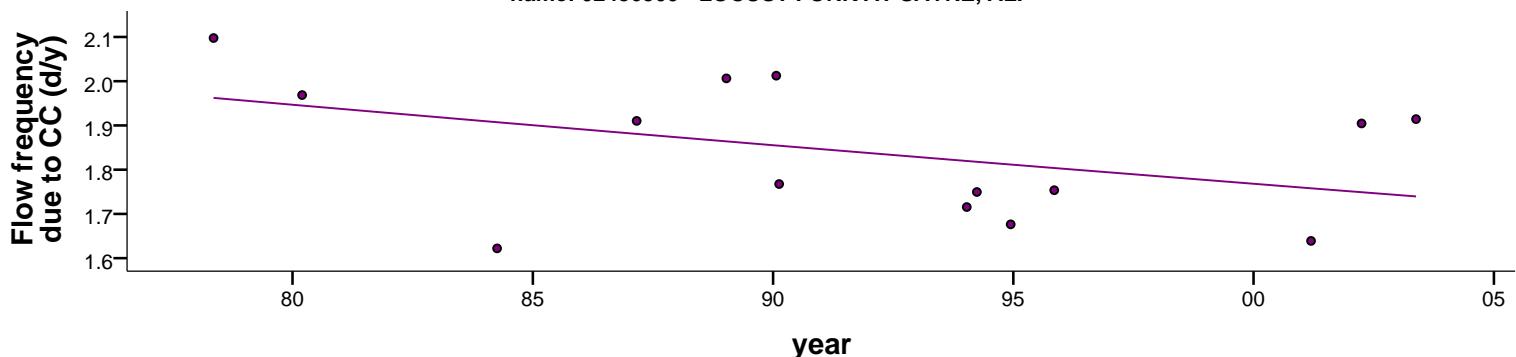
name: 02431000 - TOMBIGBEE RIVER NR FULTON, MS



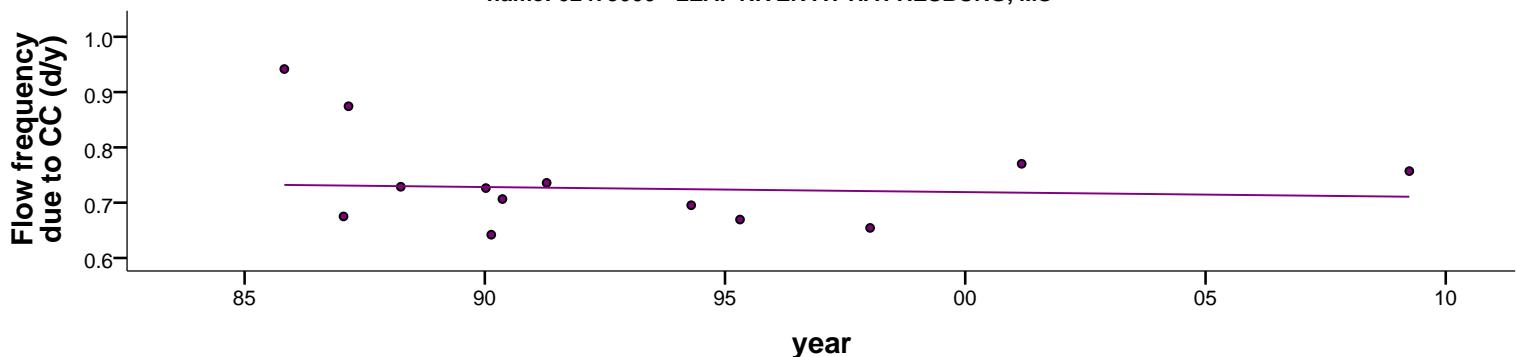
name: 02439400 - BUTTAHATCHEE RIVER NR ABERDEEN, MS



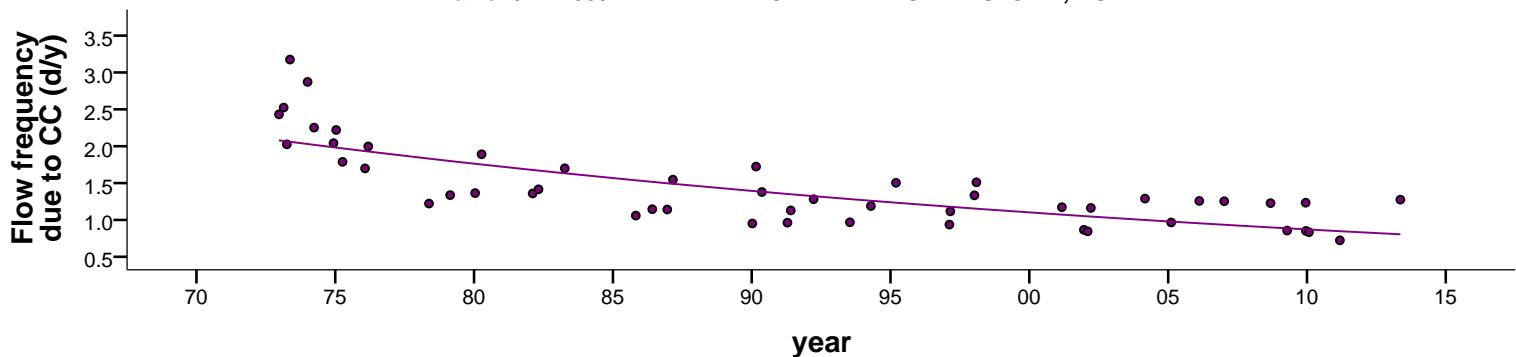
name: 02456500 - LOCUST FORK AT SAYRE, AL.

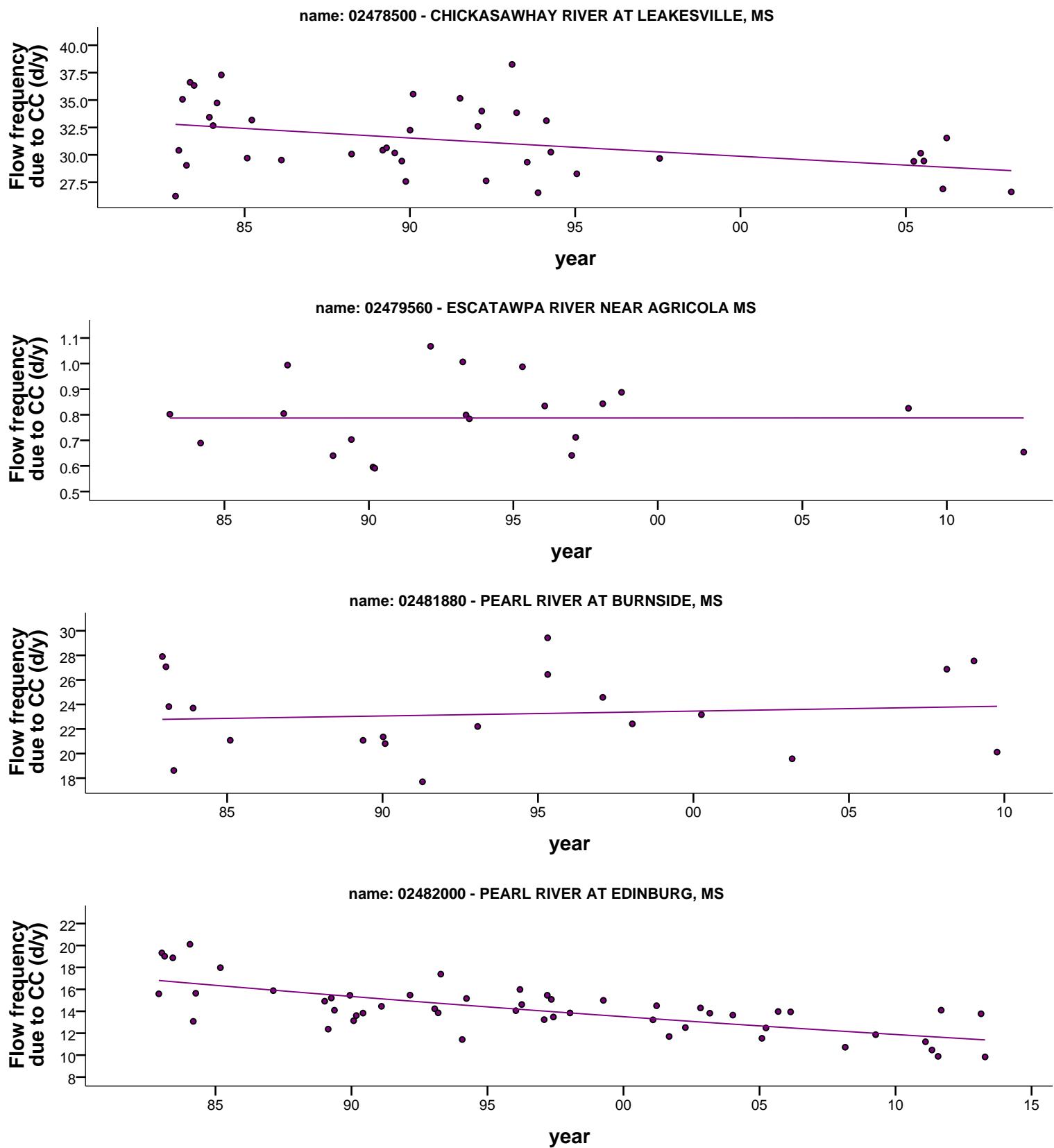


name: 02473000 - LEAF RIVER AT HATTIESBURG, MS

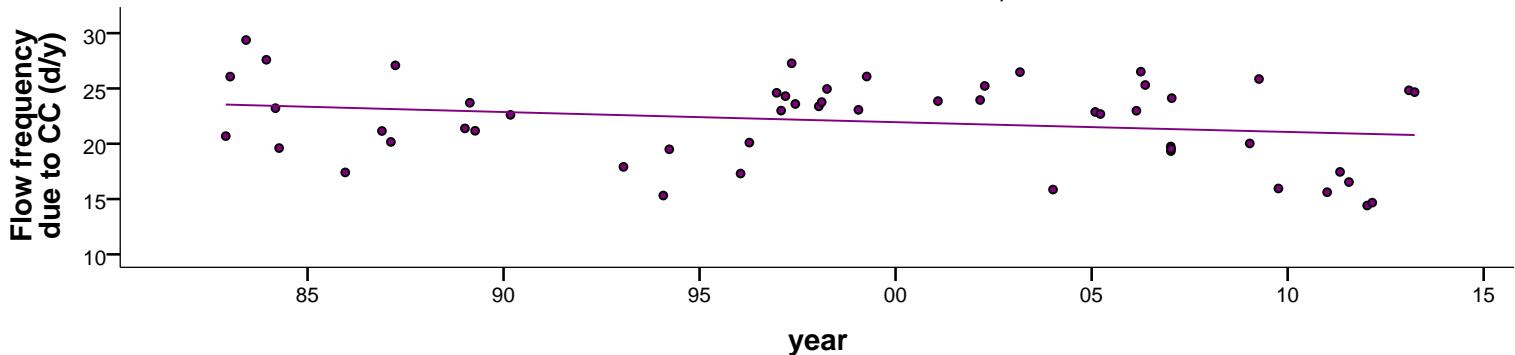


name: 02474500 - TALLAHALA CREEK NR RUNNELSTOWN, MS

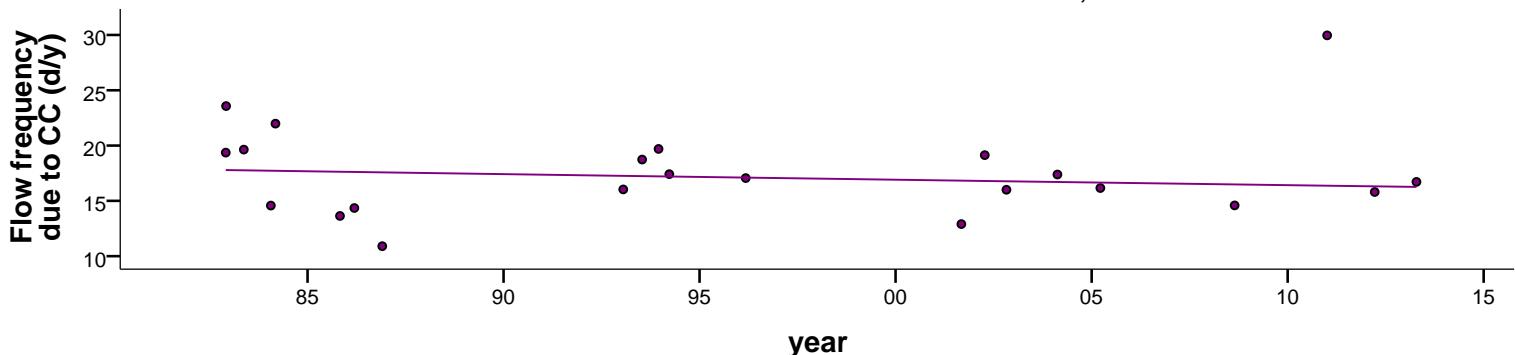




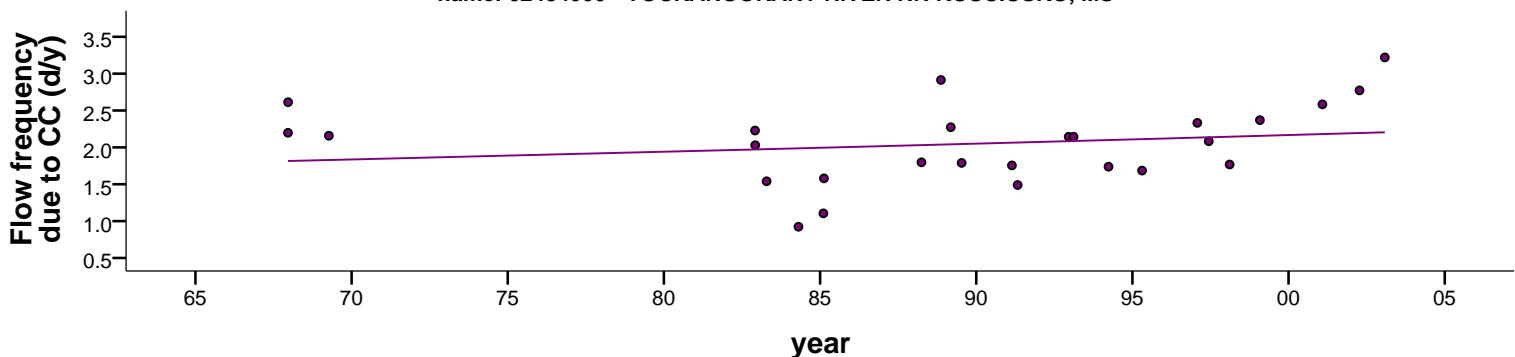
name: 02482550 - PEARL RIVER NR CARTHAGE, MS



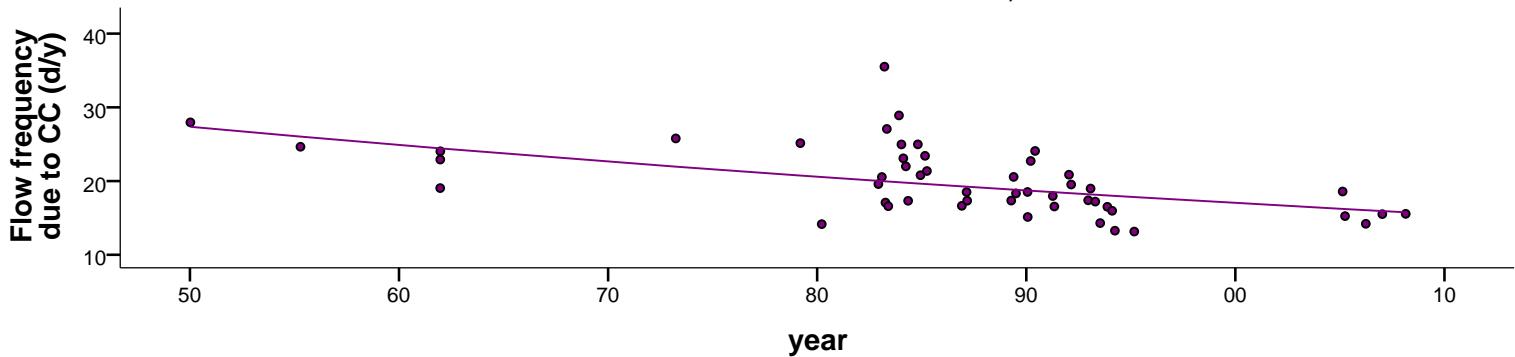
name: 02483000 - TUSCOLAMETA CREEK AT WALNUT GROVE, MS



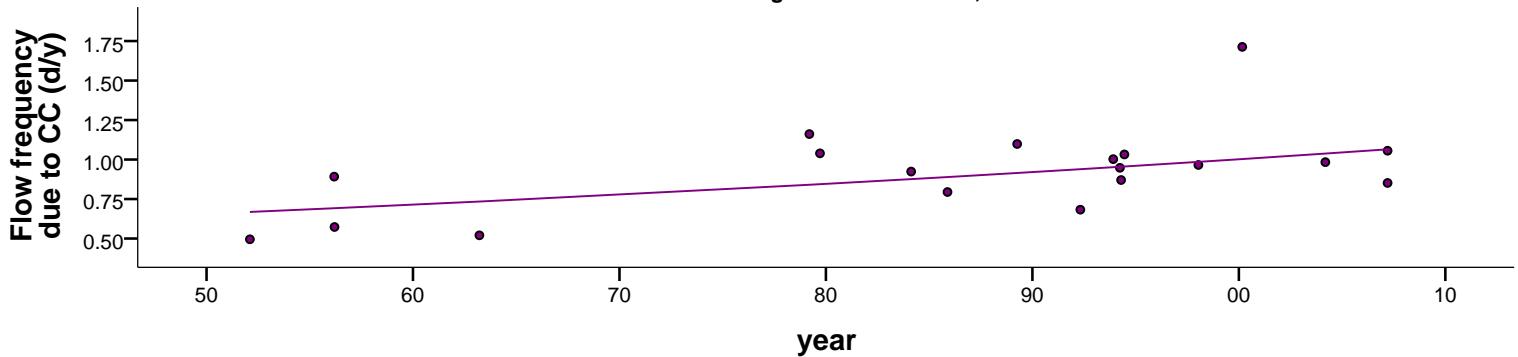
name: 02484000 - YOCKANOOKANY RIVER NR KOSCIUSKO, MS



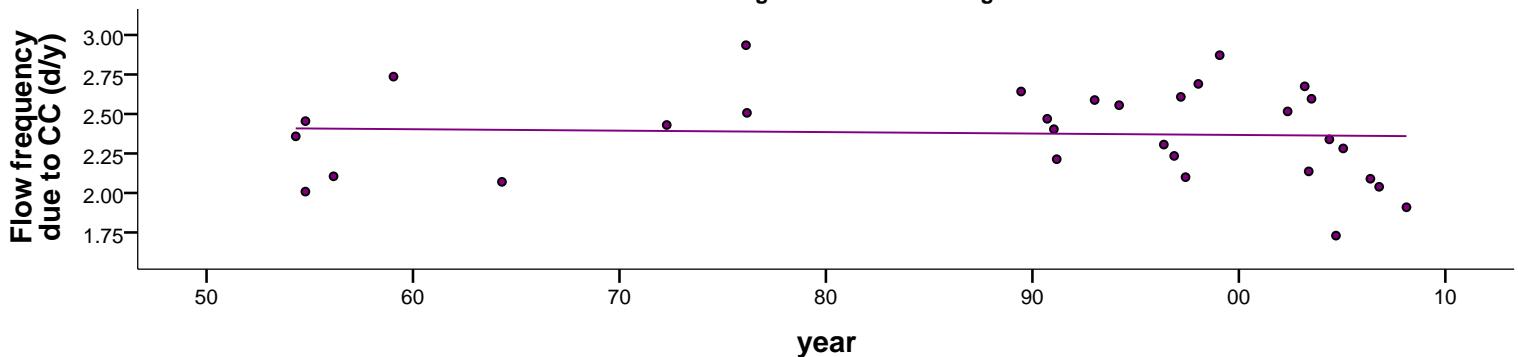
name: 02488500 - PEARL RIVER NR MONTICELLO, MS



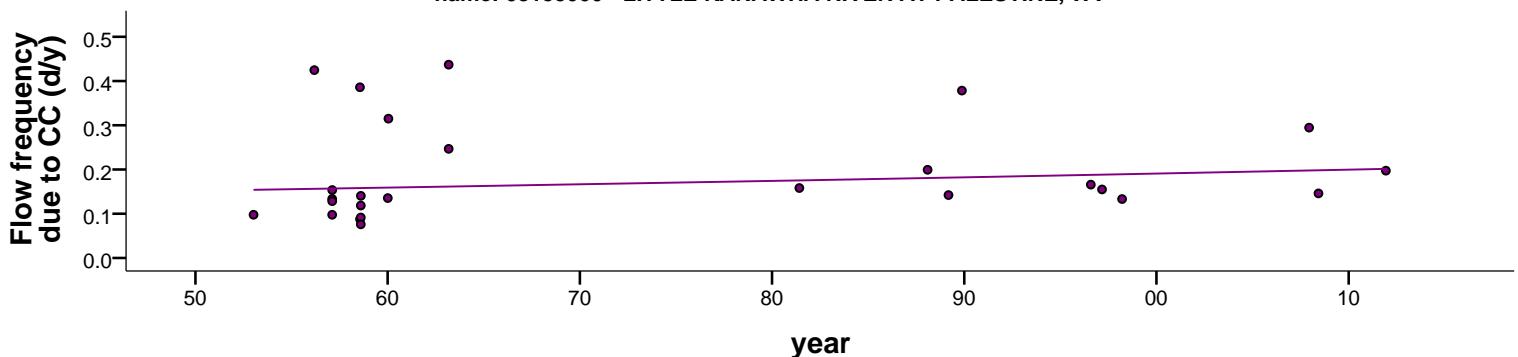
name: 03015000 - Conewango Creek at Russell, PA



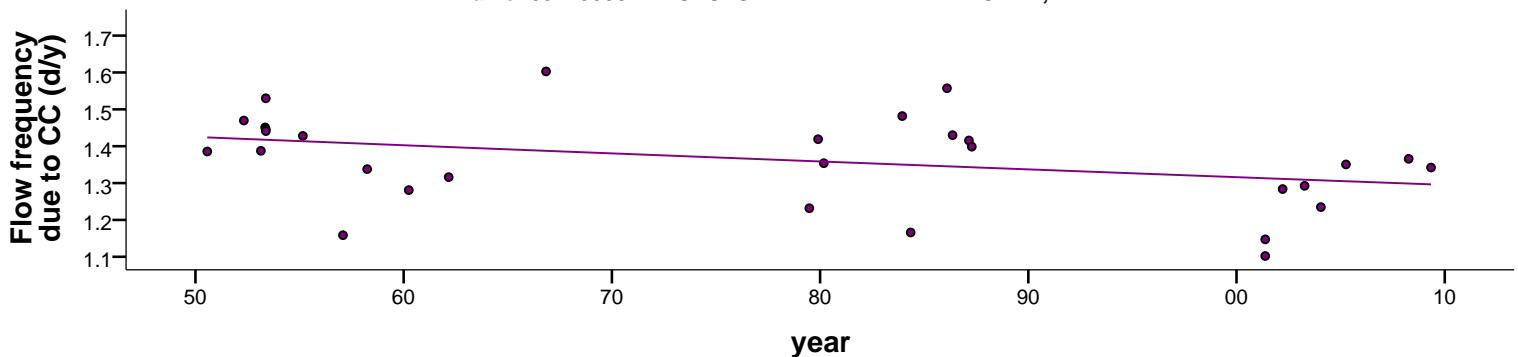
name: 03094000 - Mahoning River at Leavittsburg OH



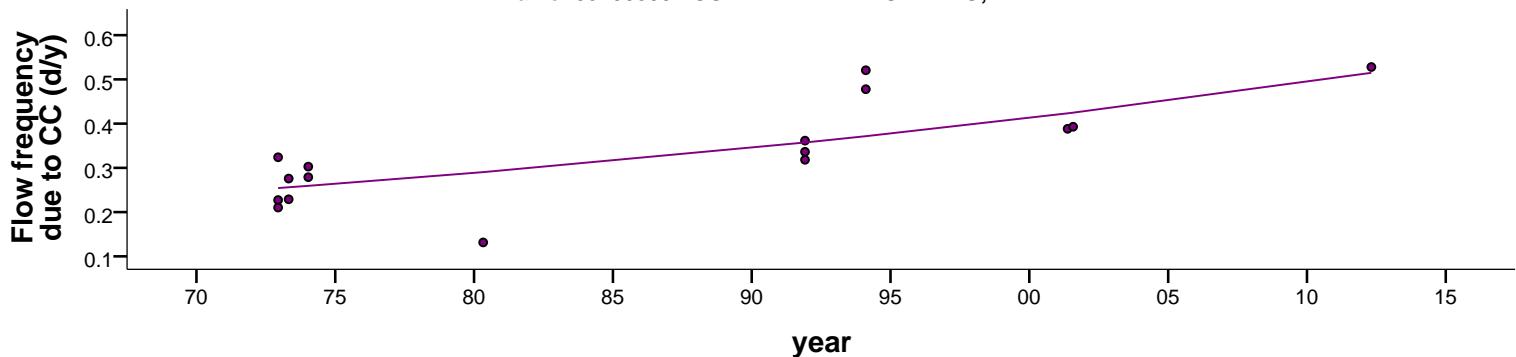
name: 03155000 - LITTLE KANAWHA RIVER AT PALESTINE, WV



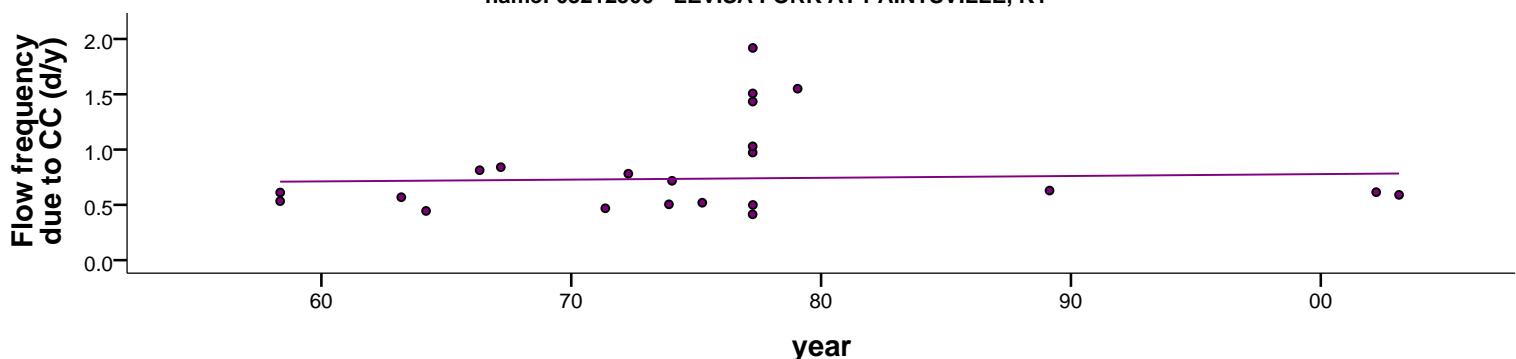
name: 03179000 - BLUESTONE RIVER NEAR PIPESTEM, WV



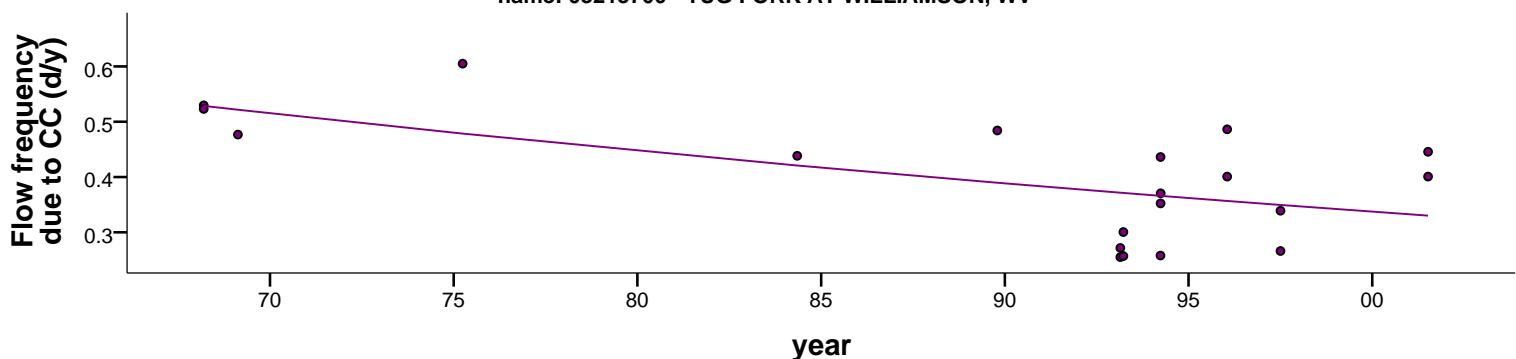
name: 03200500 - COAL RIVER AT TORNADO, WV



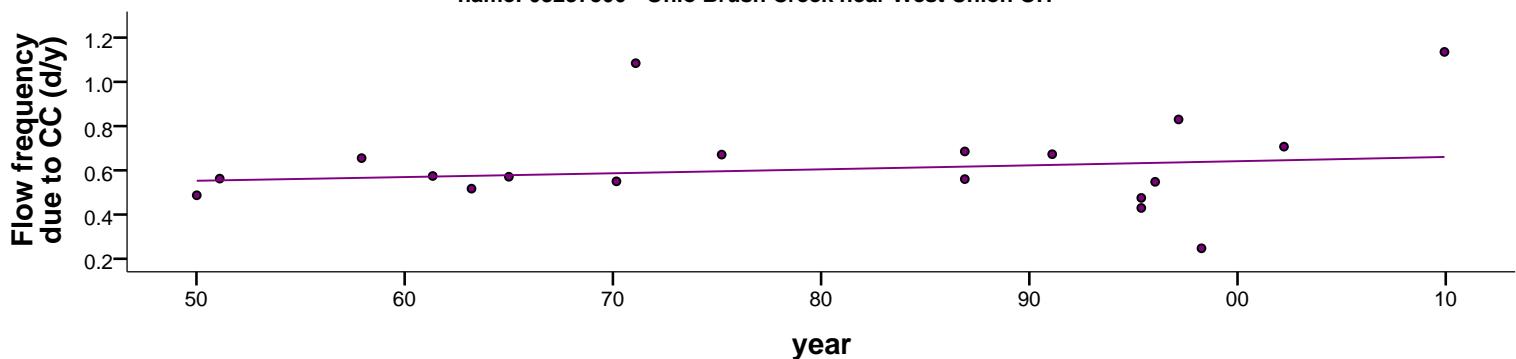
name: 03212500 - LEVISA FORK AT PAINTSVILLE, KY



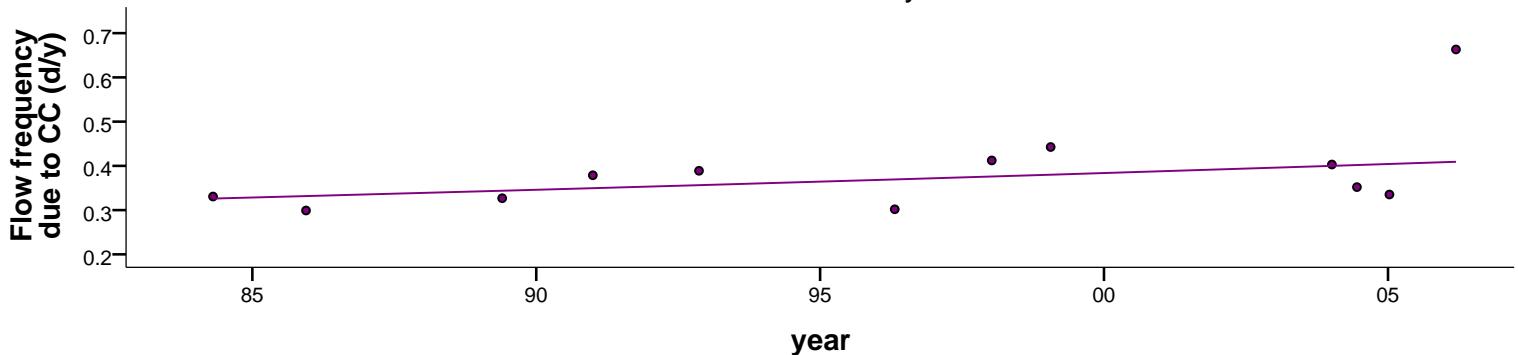
name: 03213700 - TUG FORK AT WILLIAMSON, WV



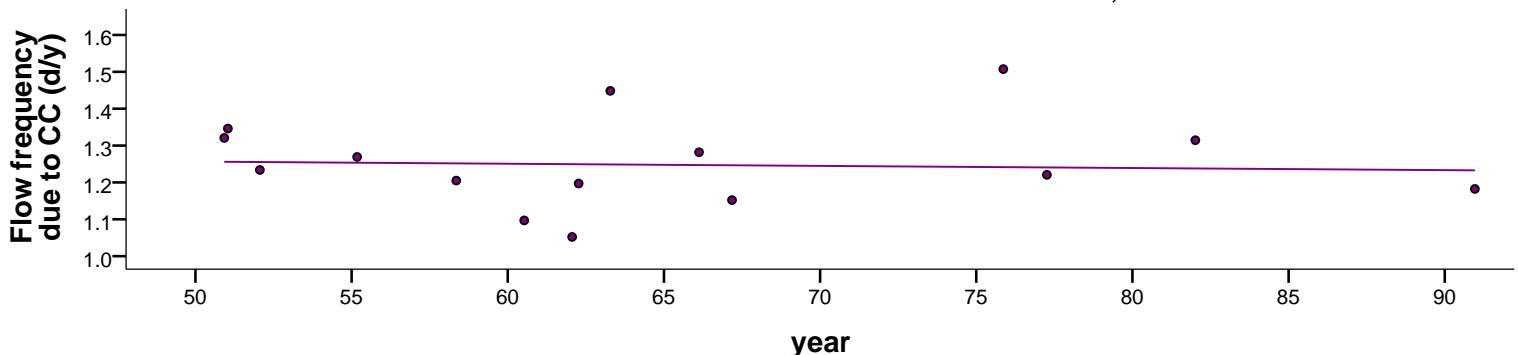
name: 03237500 - Ohio Brush Creek near West Union OH



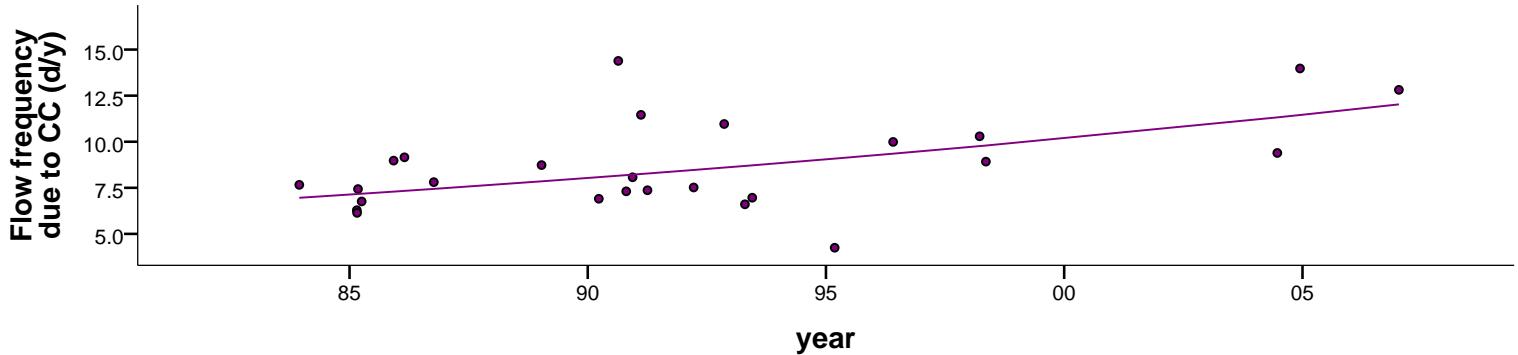
name: 03263000 - Great Miami River at Taylorsville OH



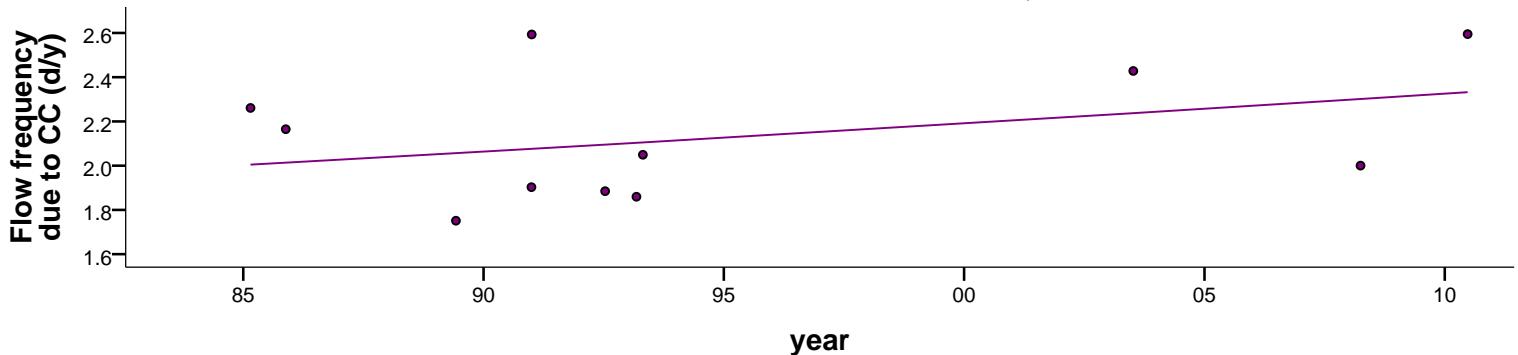
name: 03282000 - KENTUCKY RIVER AT LOCK 14 AT HEIDELBERG, KY



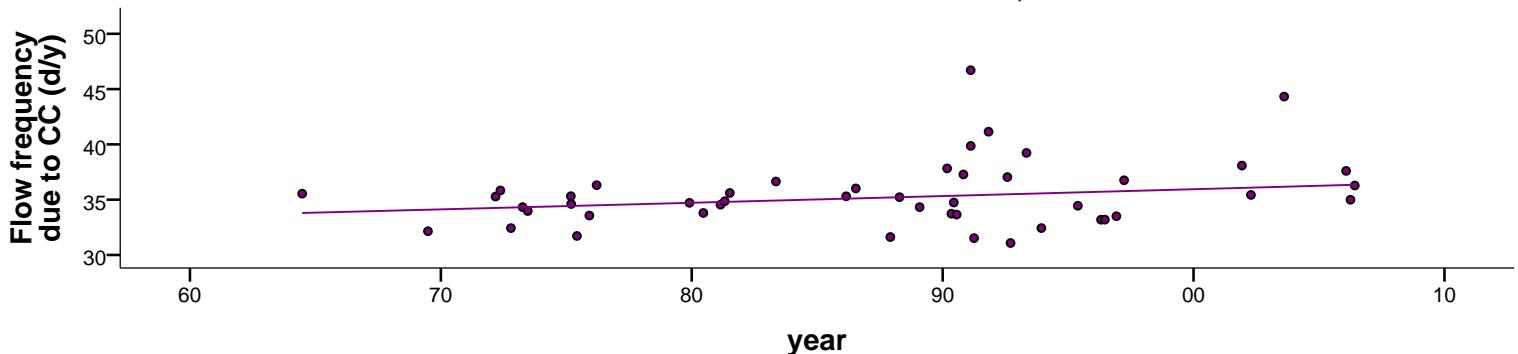
name: 03331500 - TIPPECANOE RIVER NEAR ORA, IN



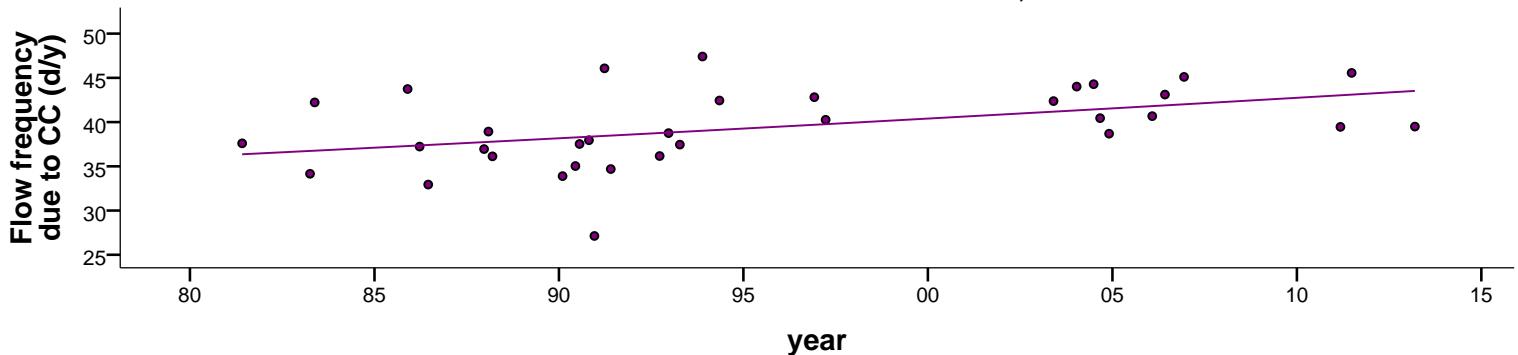
name: 03333450 - WILDCAT CREEK NEAR JEROME, IN



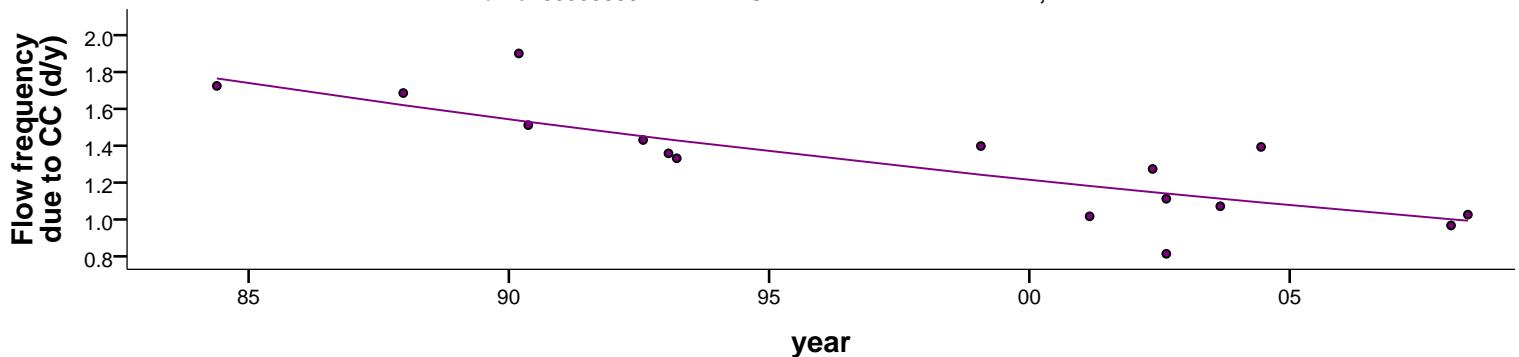
name: 03335500 - WABASH RIVER AT LAFAYETTE, IN



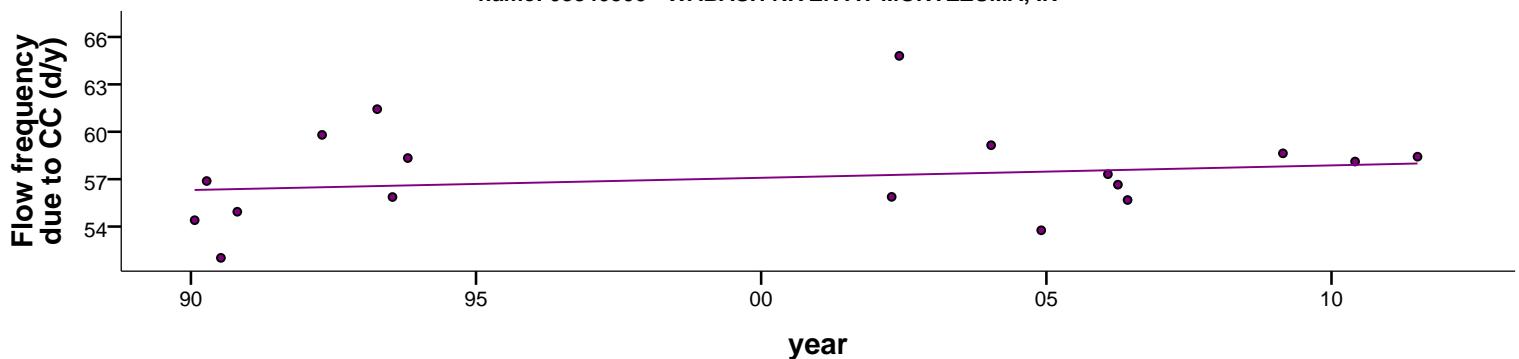
name: 03336000 - WABASH RIVER AT COVINGTON, IN



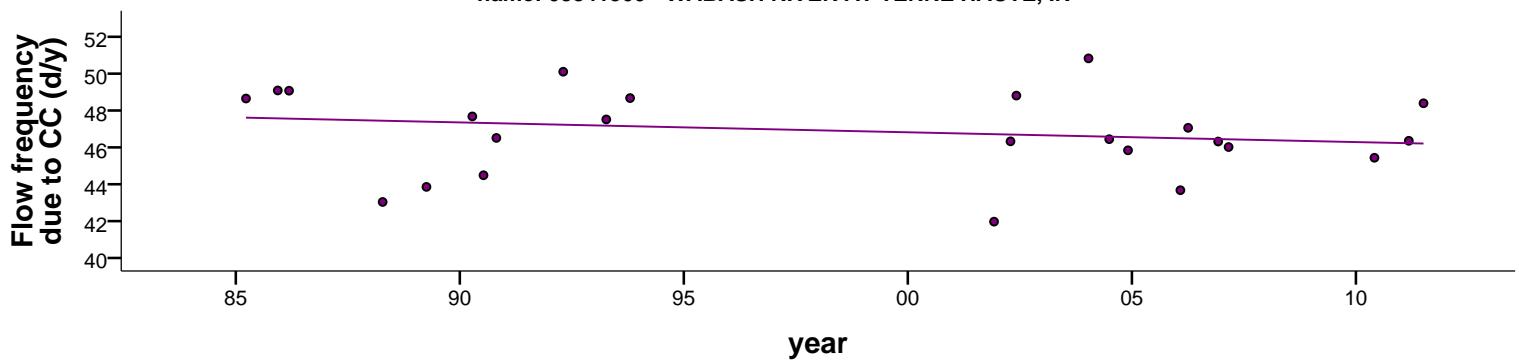
name: 03339000 - VERMILION RIVER NEAR DANVILLE, IL



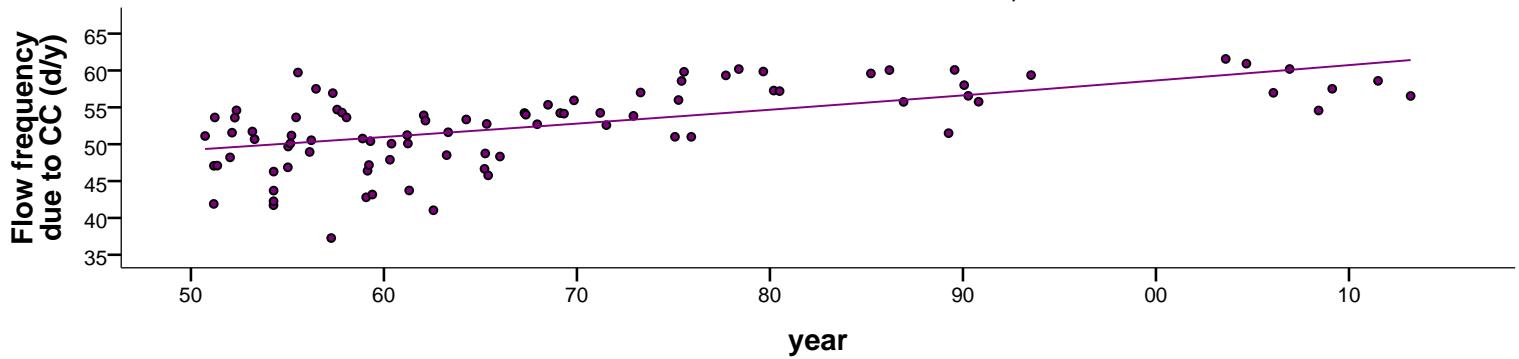
name: 03340500 - WABASH RIVER AT MONTEZUMA, IN



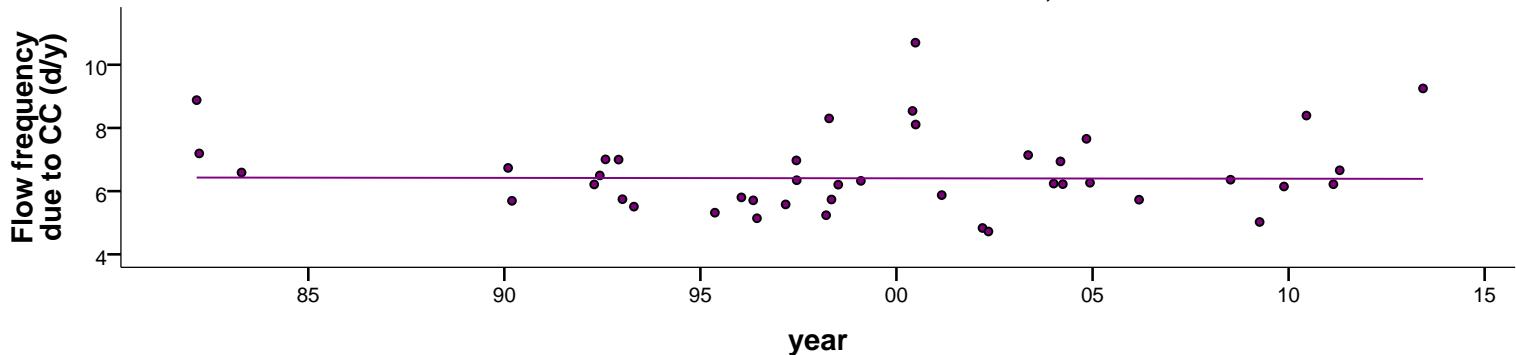
name: 03341500 - WABASH RIVER AT TERRE HAUTE, IN



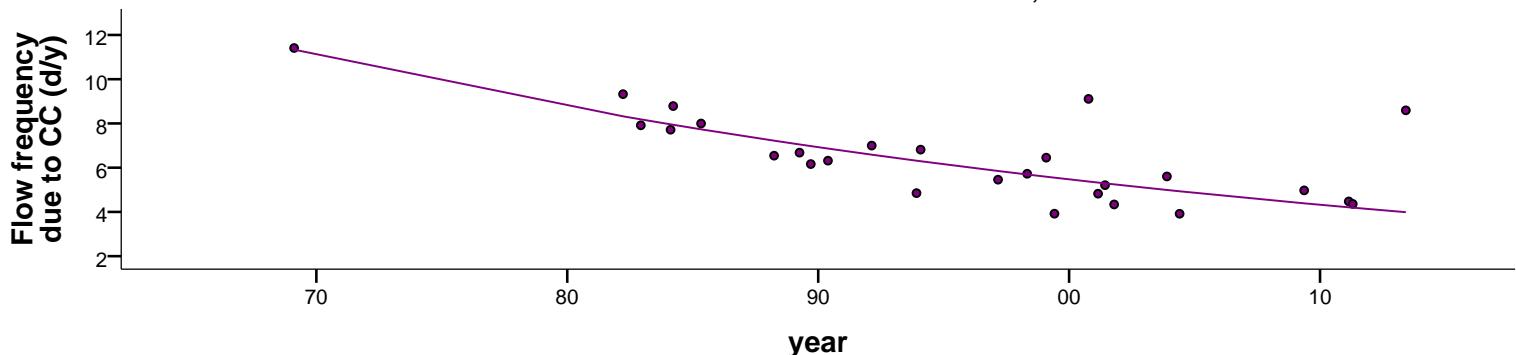
name: 03342000 - WABASH RIVER AT RIVERTON, IN



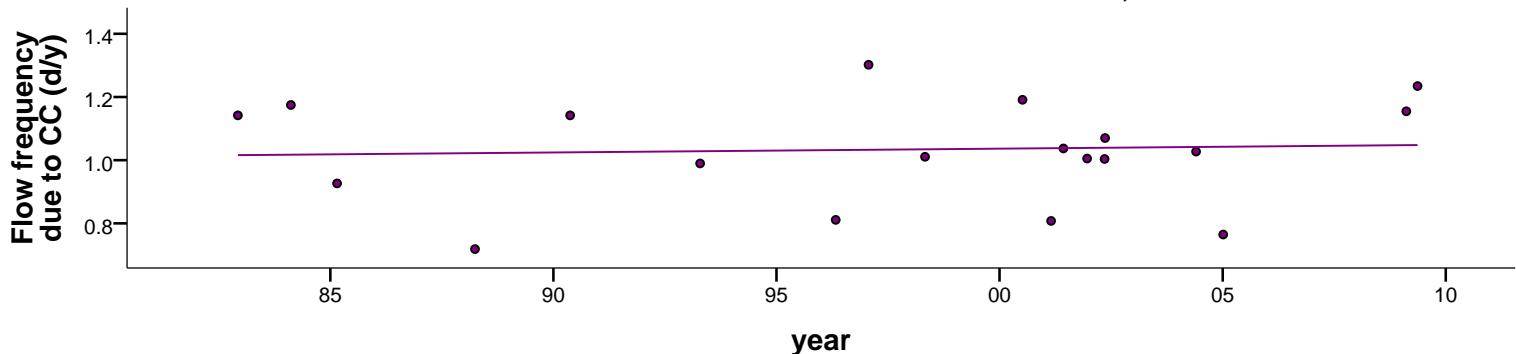
name: 03343400 - EMBARRAS RIVER NEAR CAMARGO, IL



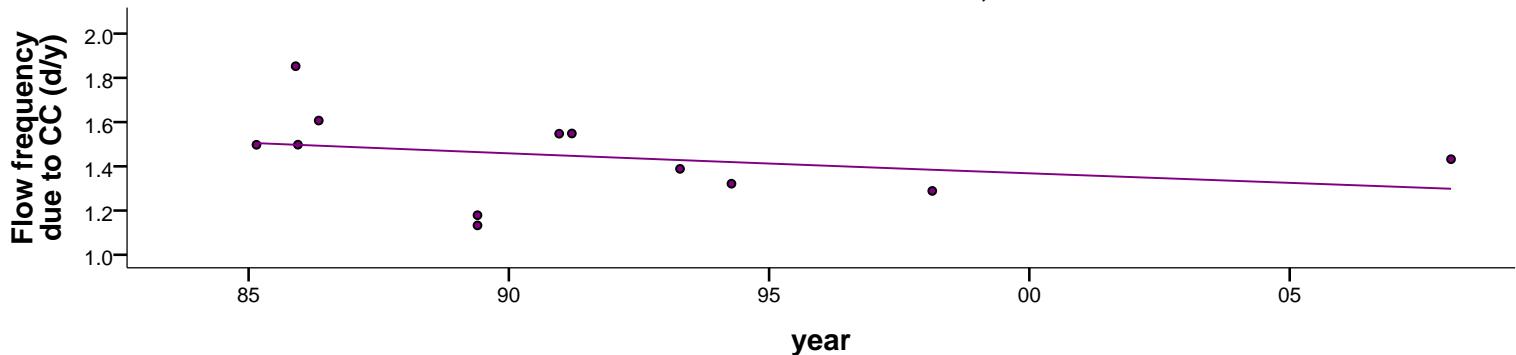
name: 03345500 - EMBARRAS RIVER AT STE. MARIE, IL



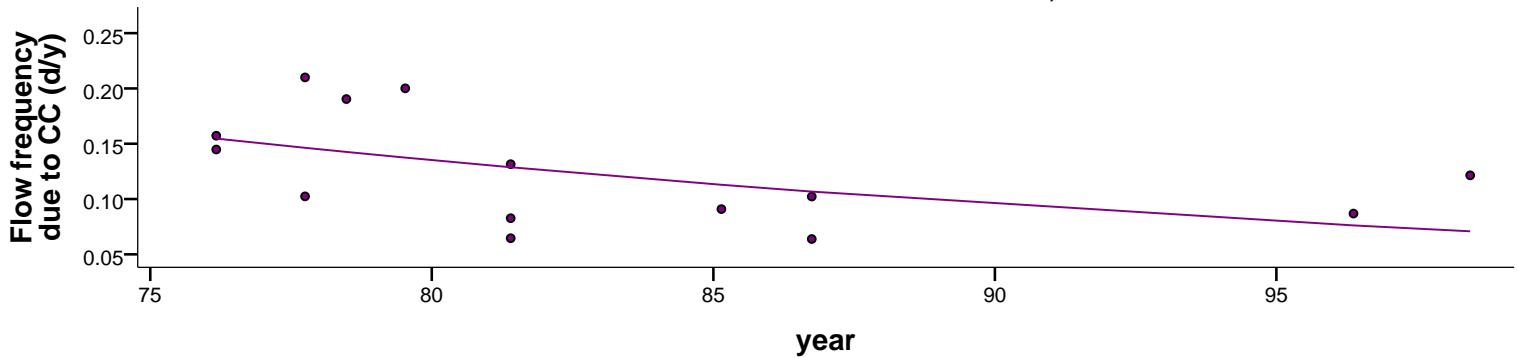
name: 03346000 - NORTH FORK EMBARRAS RIVER NEAR OBLONG, IL



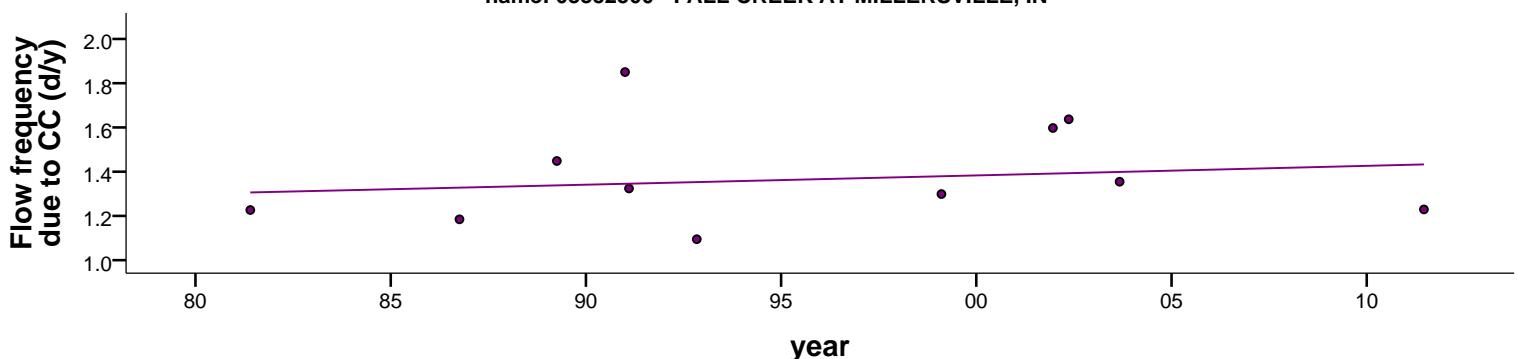
name: 03347000 - WHITE RIVER AT MUNCIE, IN



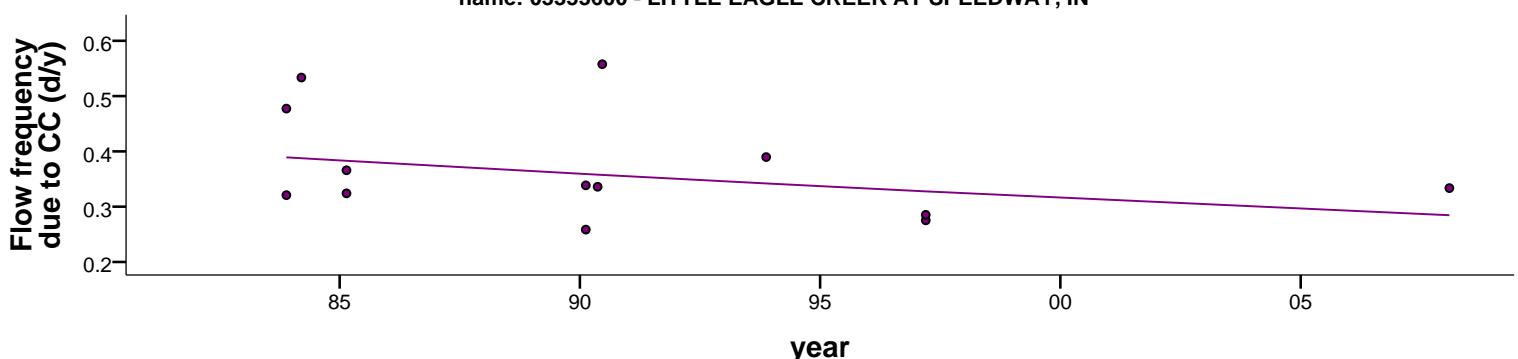
name: 03351310 - CROOKED CREEK AT INDIANAPOLIS, IN



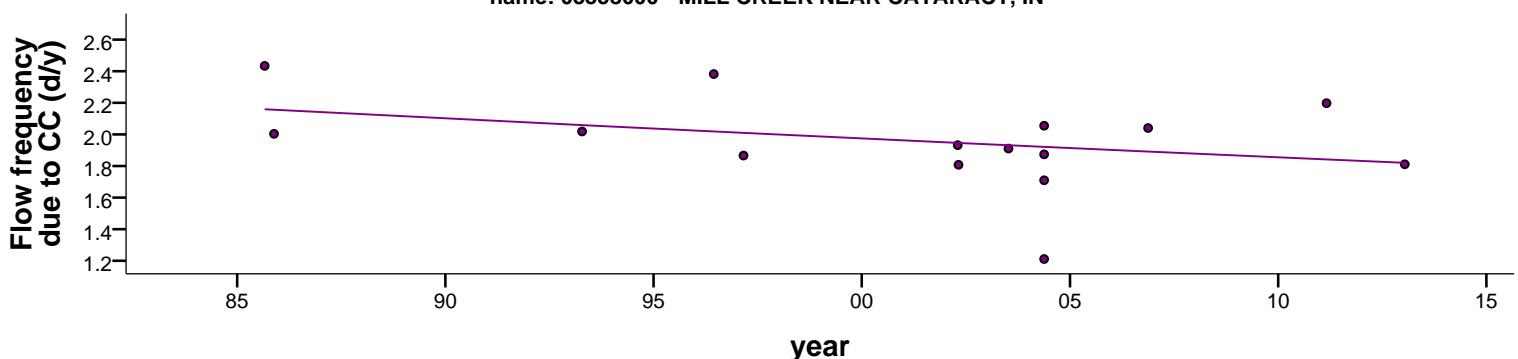
name: 03352500 - FALL CREEK AT MILLERSVILLE, IN



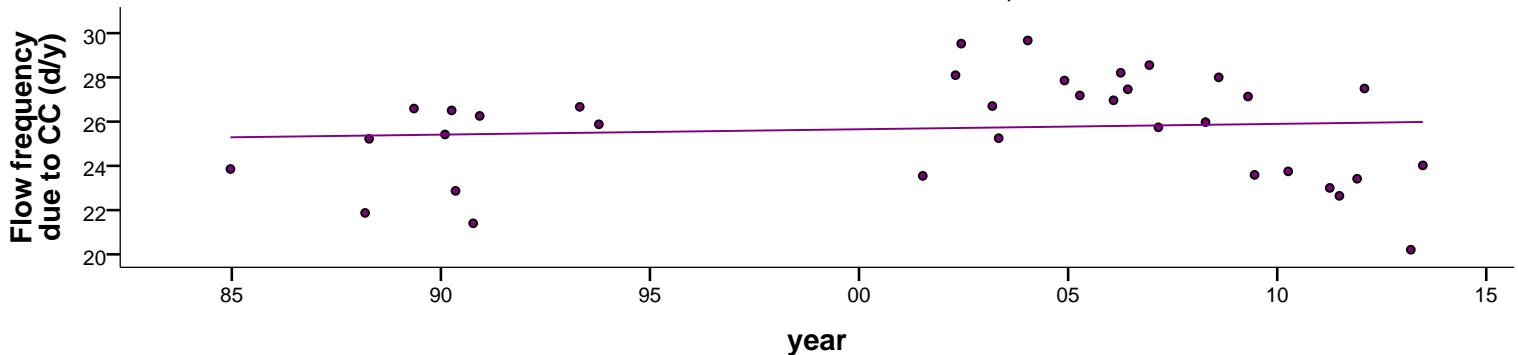
name: 03353600 - LITTLE EAGLE CREEK AT SPEEDWAY, IN



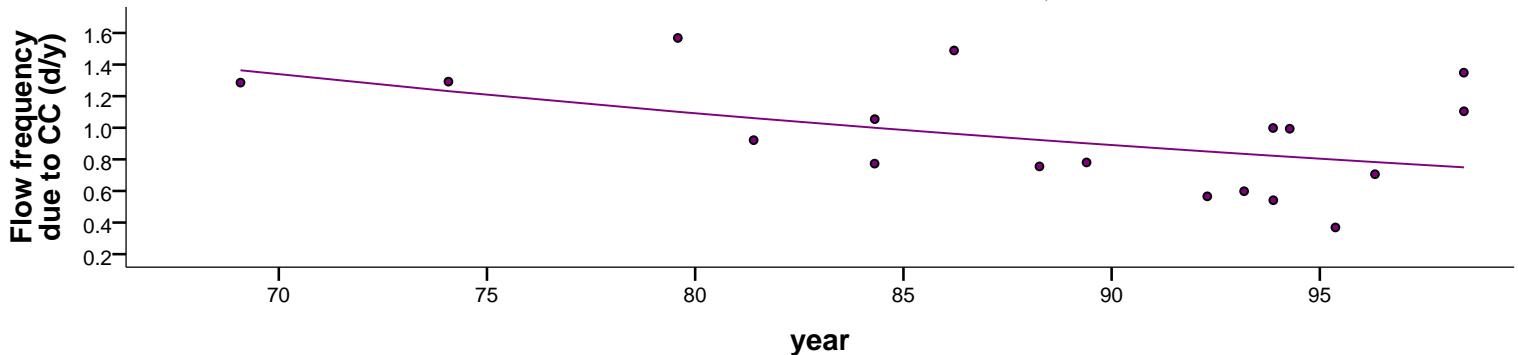
name: 03358000 - MILL CREEK NEAR CATARACT, IN



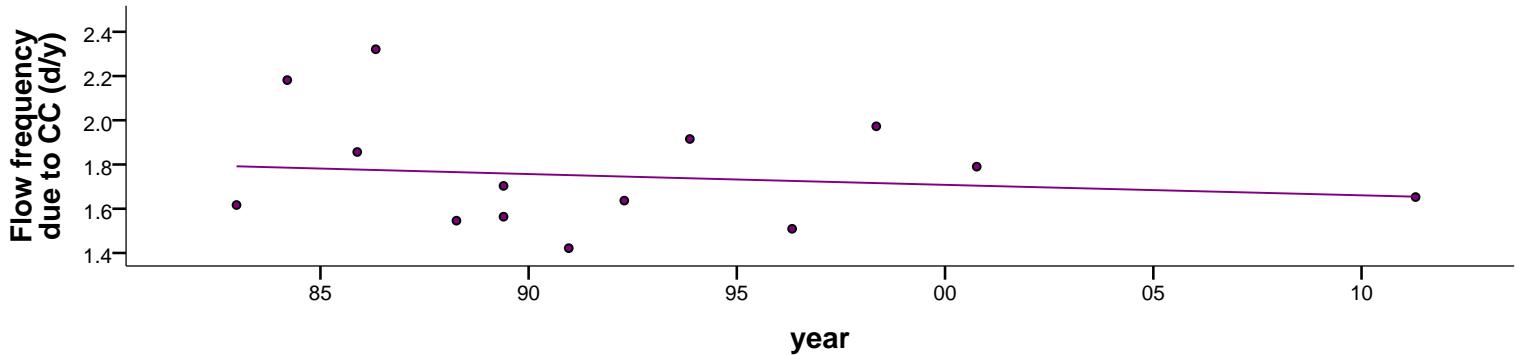
name: 03360500 - WHITE RIVER AT NEWBERRY, IN



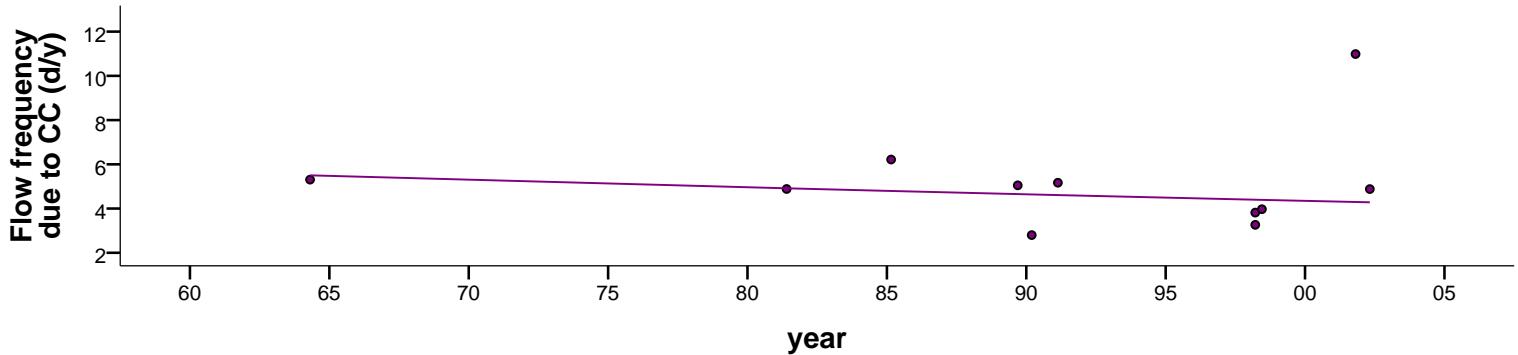
name: 03361650 - SUGAR CREEK AT NEW PALESTINE, IN



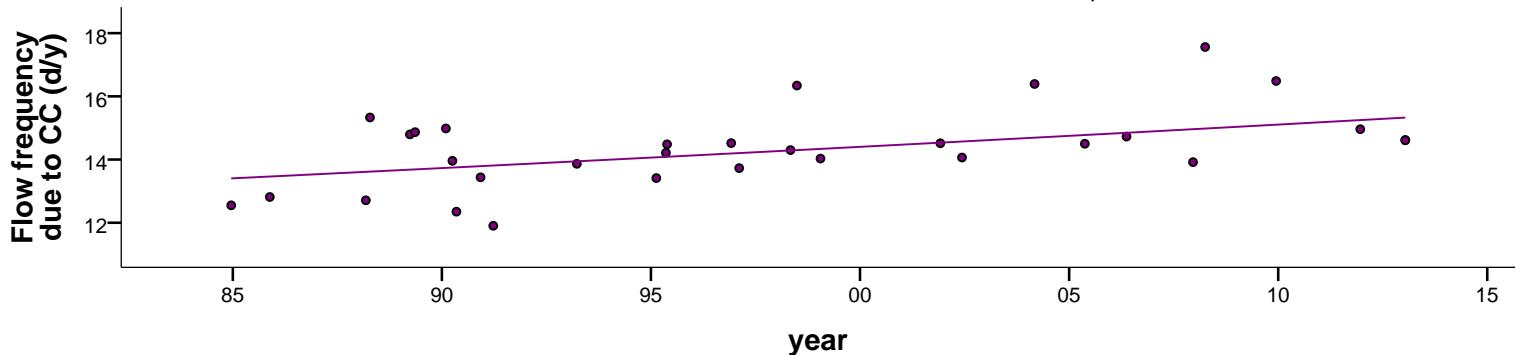
name: 03361850 - BUCK CREEK AT ACTON, IN



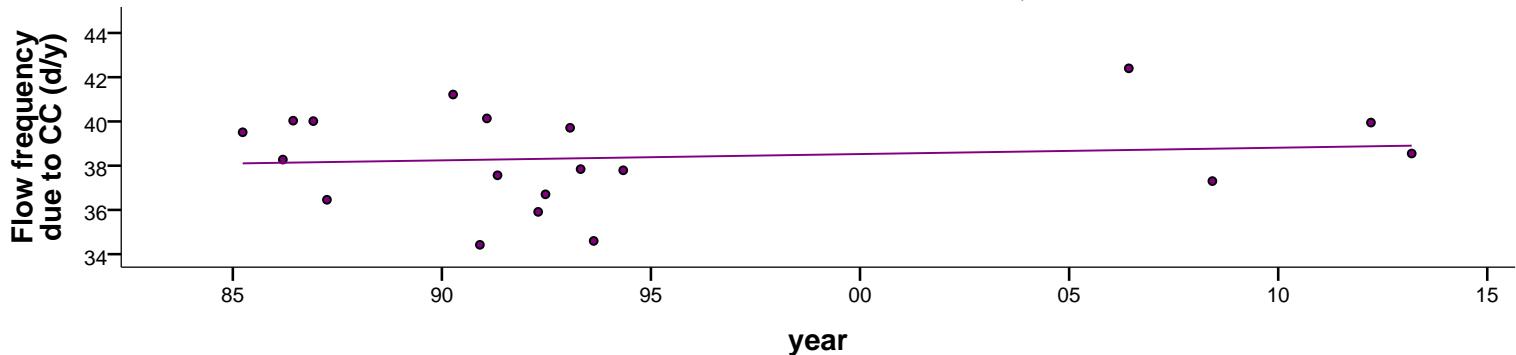
name: 03362500 - SUGAR CREEK NEAR EDINBURGH, IN



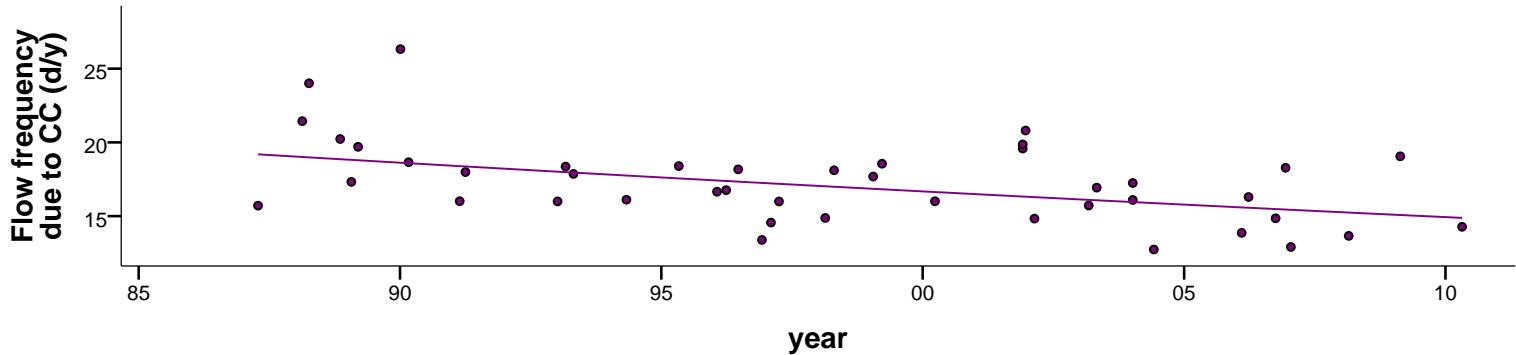
name: 03371500 - EAST FORK WHITE RIVER NEAR BEDFORD, IN



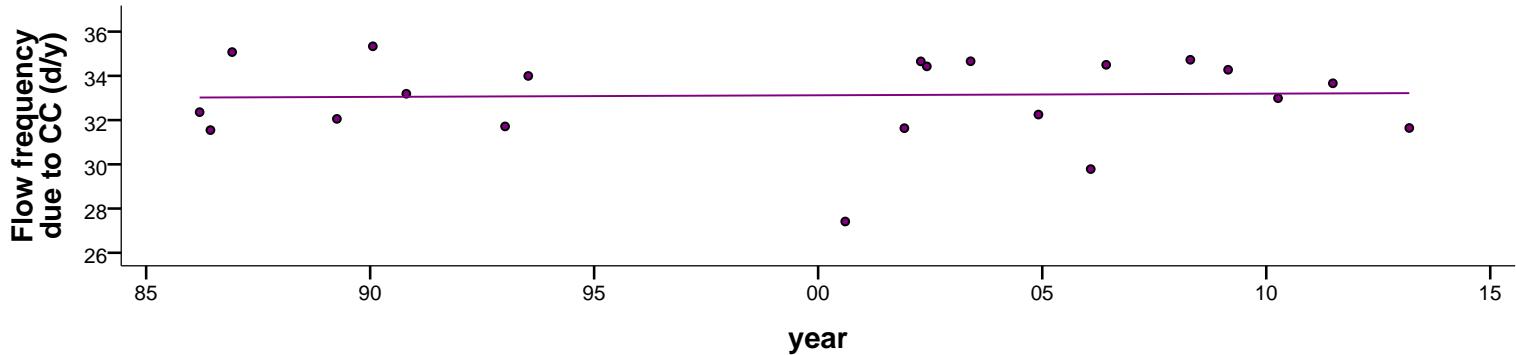
name: 03374000 - WHITE RIVER AT PETERSBURG, IN



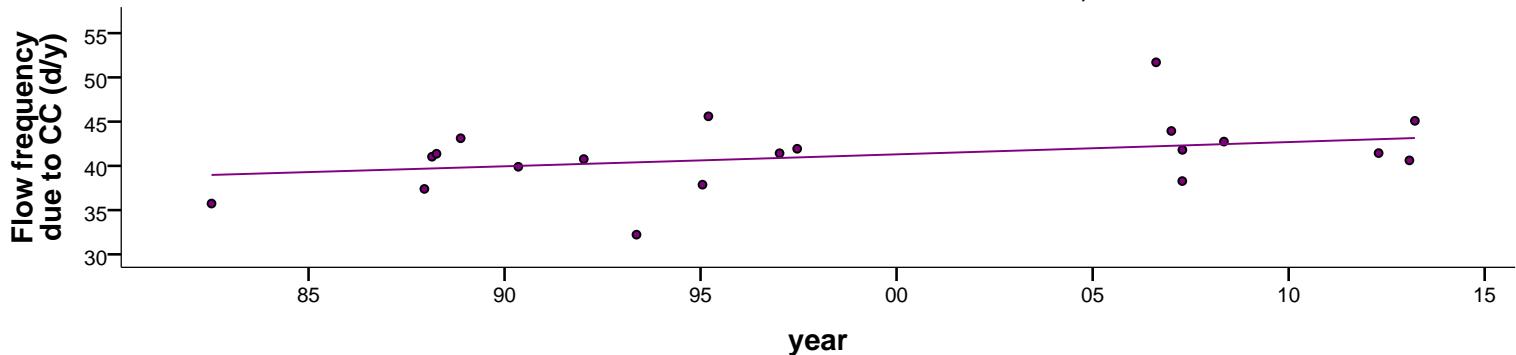
name: 03376500 - PATOKA RIVER NEAR PRINCETON, IN



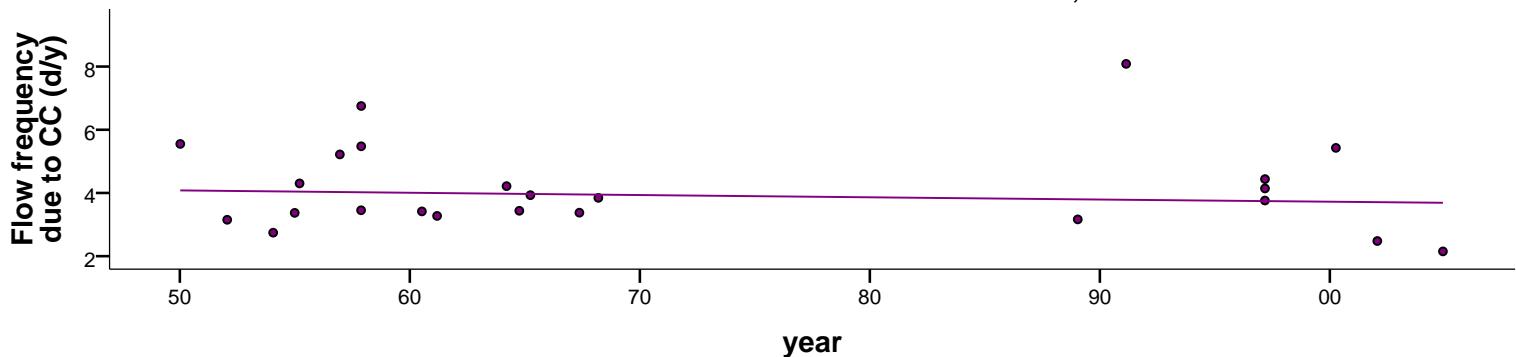
name: 03377500 - WABASH RIVER AT MT. CARMEL, IL



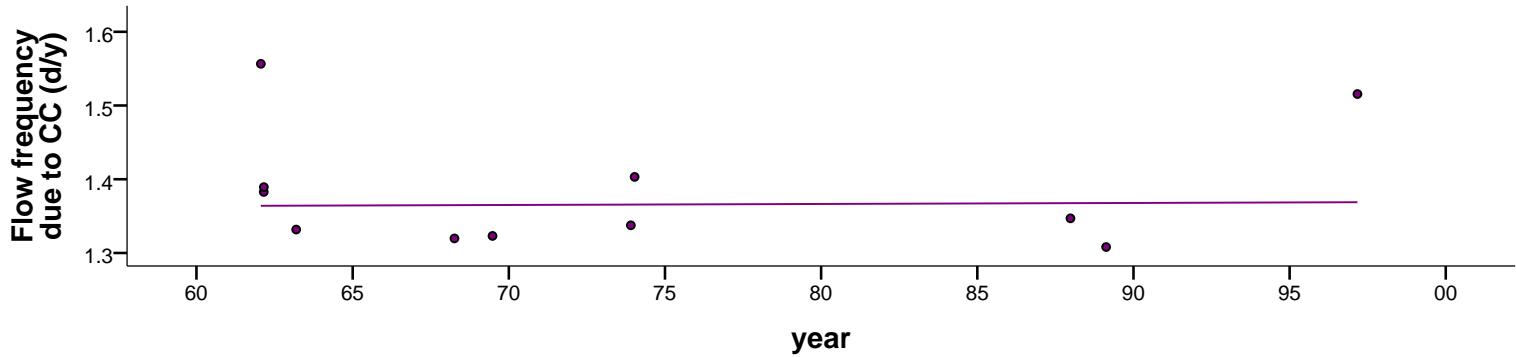
name: 03379500 - LITTLE WABASH RIVER BELOW CLAY CITY, IL



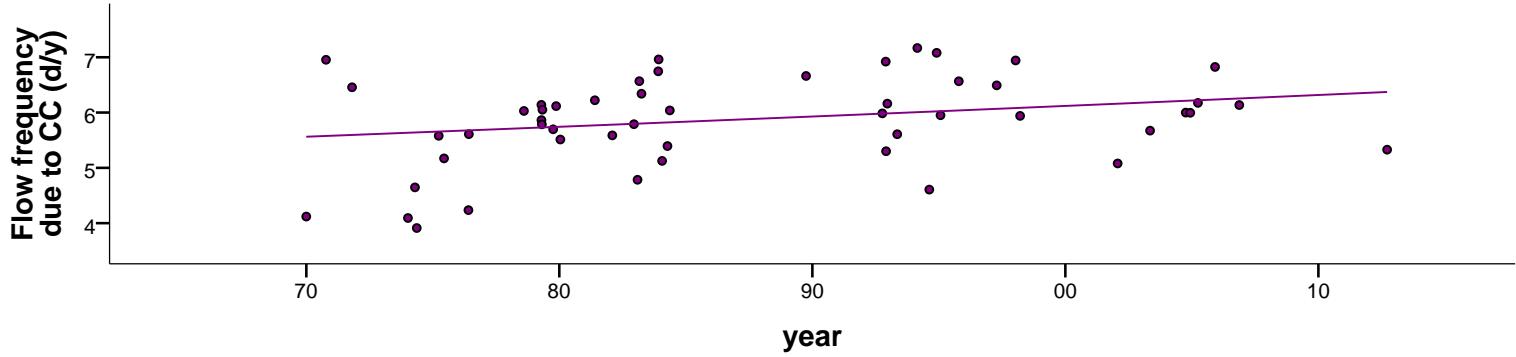
name: 03403500 - CUMBERLAND RIVER AT BARBOURVILLE, KY



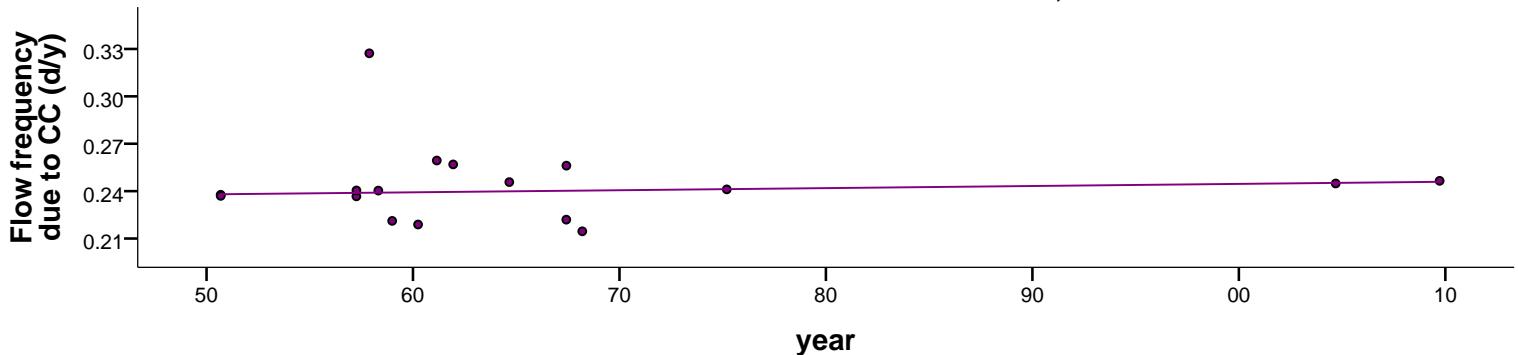
name: 03436100 - RED RIVER AT PORT ROYAL, TN



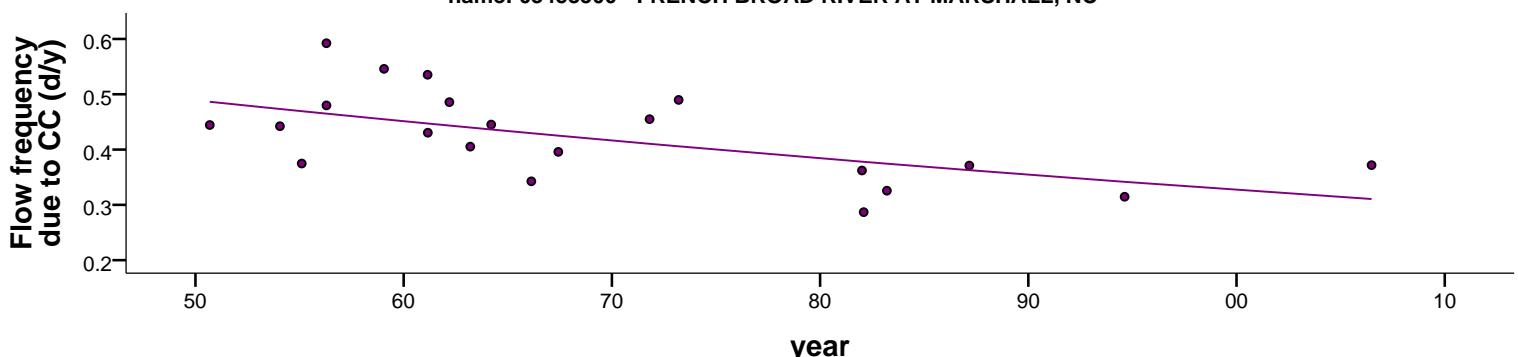
name: 03443000 - FRENCH BROAD RIVER AT BLANTYRE, NC



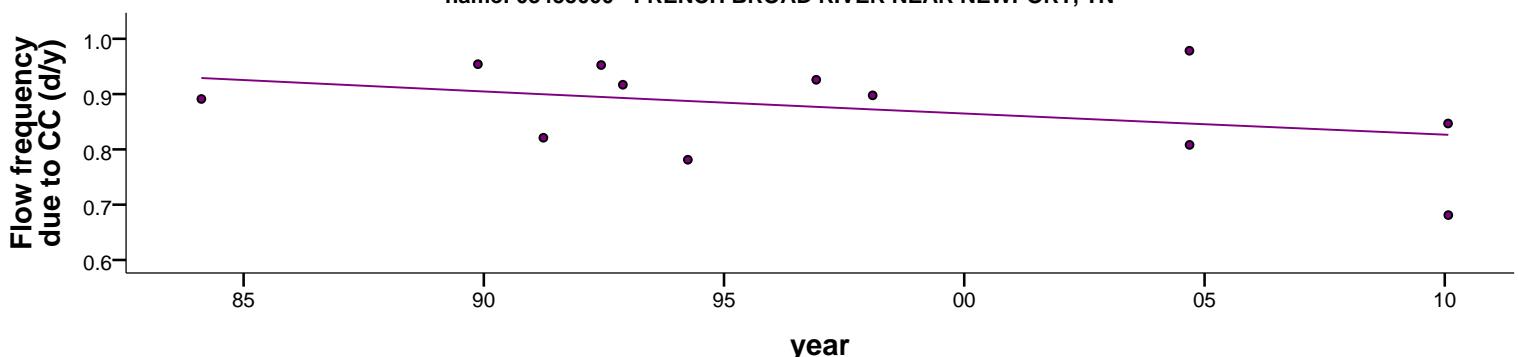
**name: 03451500 - FRENCH BROAD RIVER AT ASHEVILLE, NC**



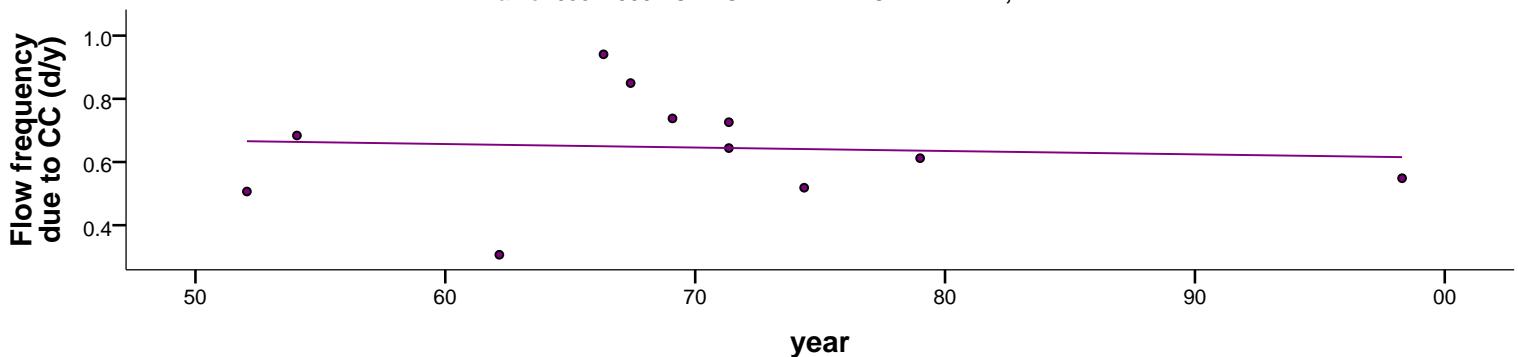
**name: 03453500 - FRENCH BROAD RIVER AT MARSHALL, NC**



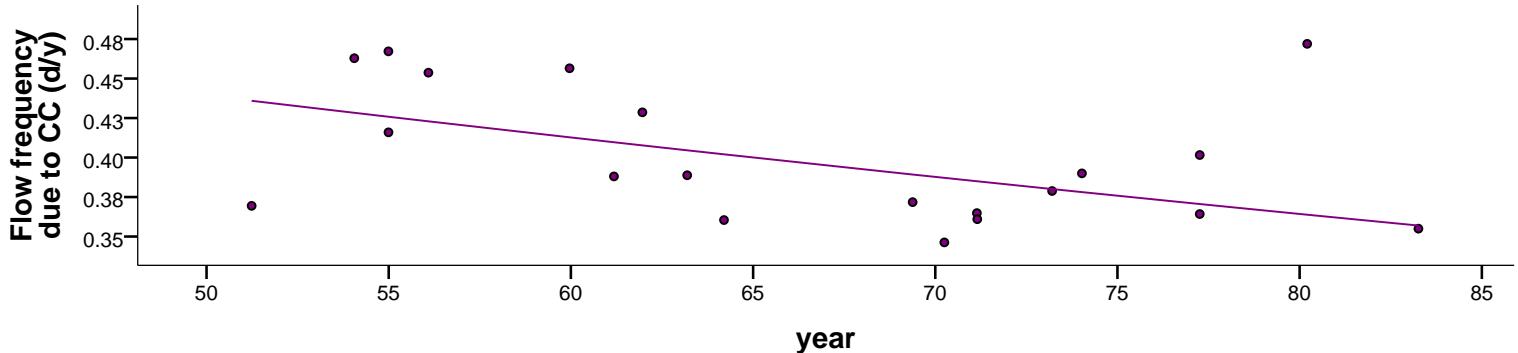
**name: 03455000 - FRENCH BROAD RIVER NEAR NEWPORT, TN**



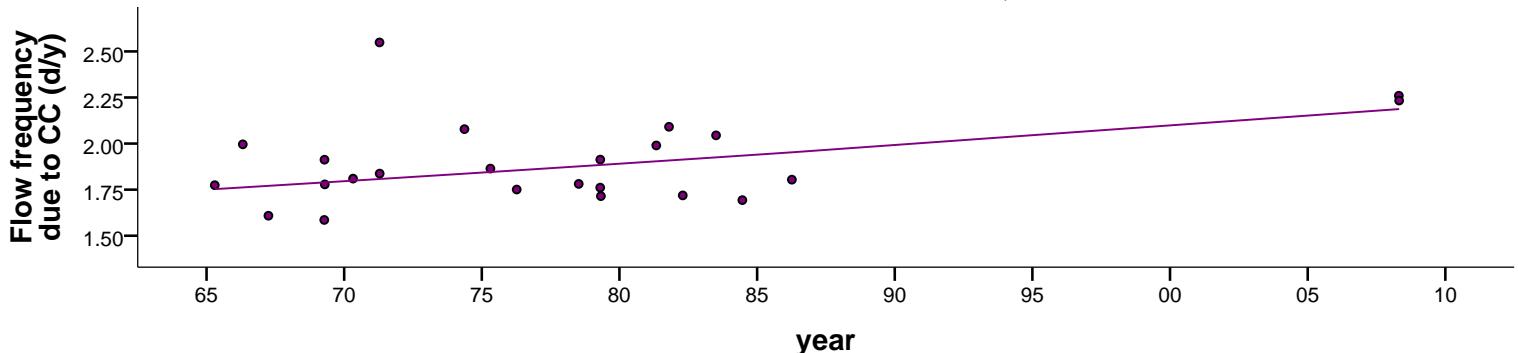
**name: 03524000 - CLINCH RIVER AT CLEVELAND, VA**



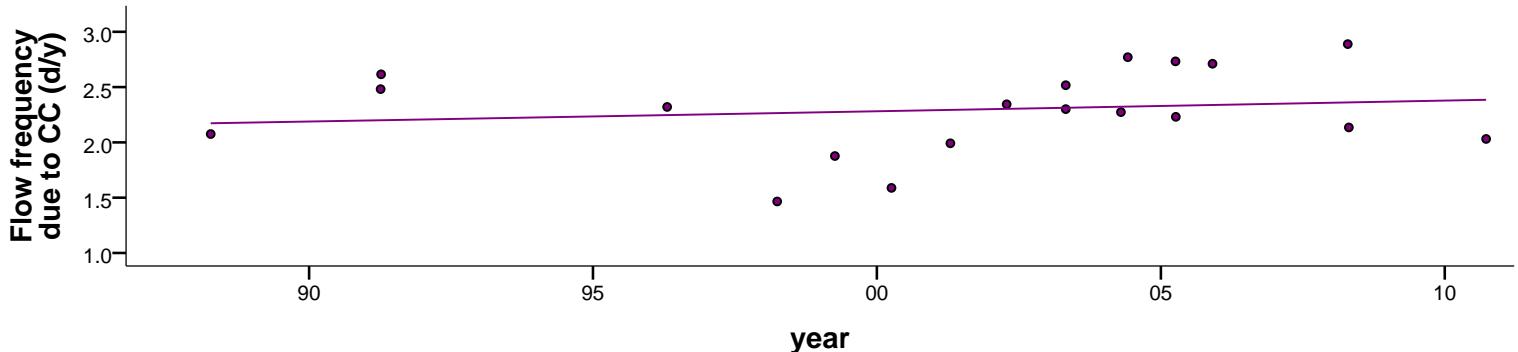
name: 03575000 - FLINT RIVER NEAR CHASE AL



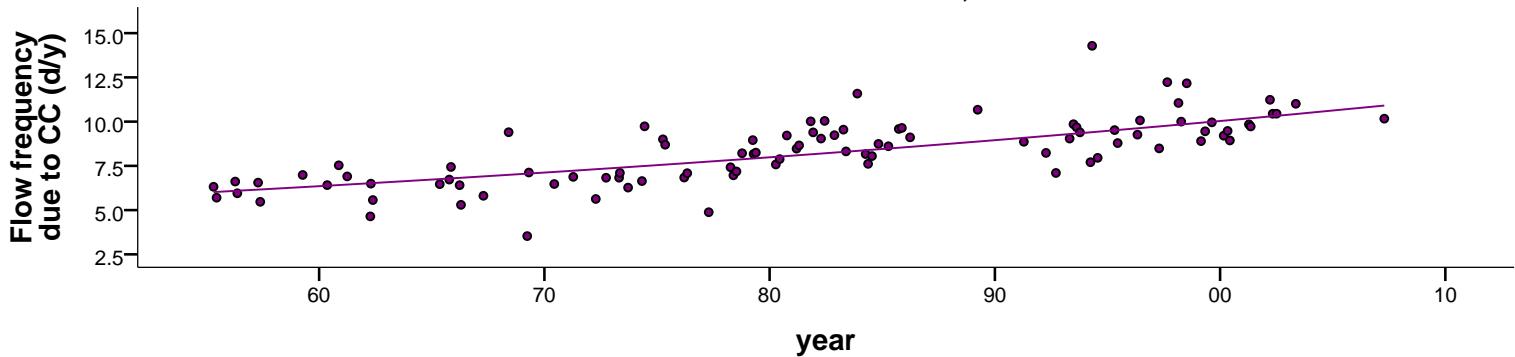
name: 04024000 - ST. LOUIS RIVER AT SCANLON, MN



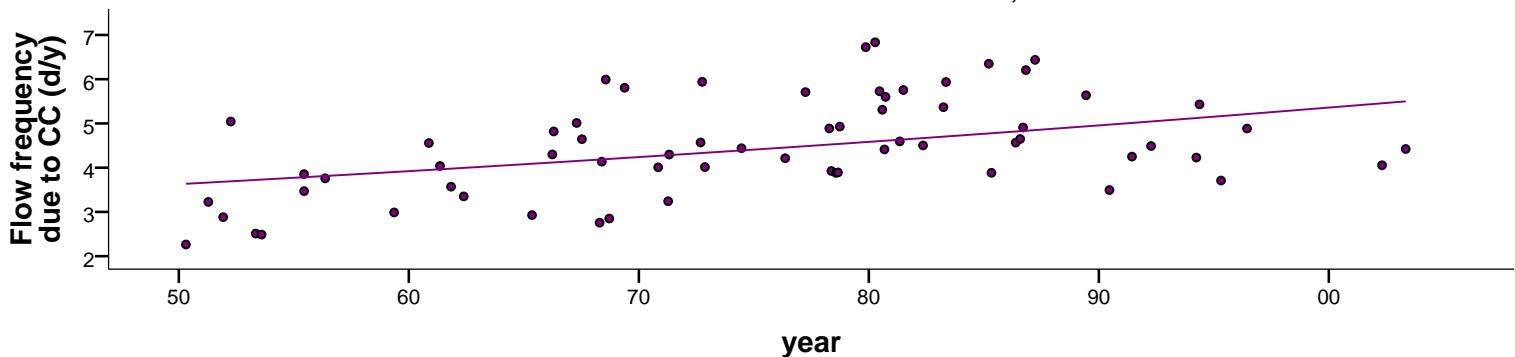
name: 04041500 - STURGEON RIVER NEAR ALSTON, MI



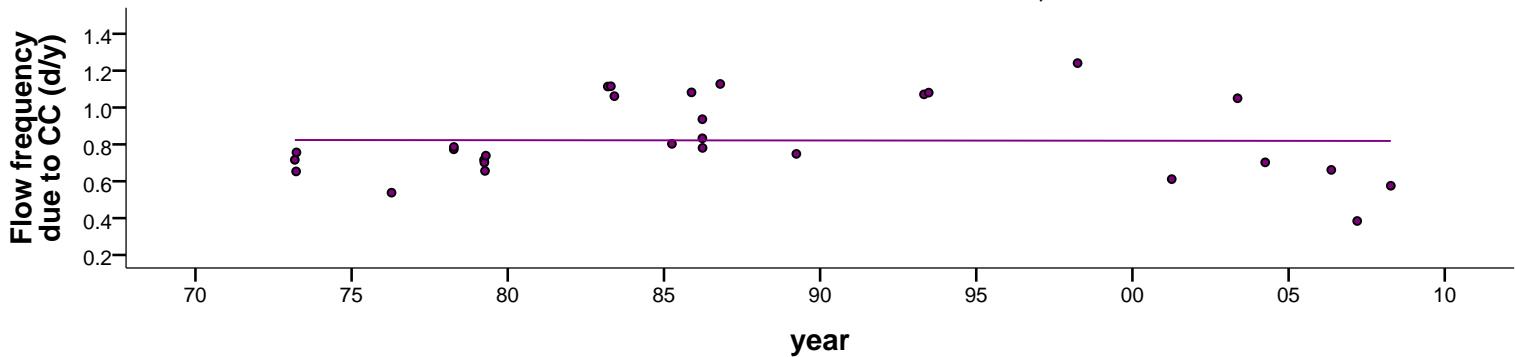
name: 04073500 - FOX RIVER AT BERLIN, WI



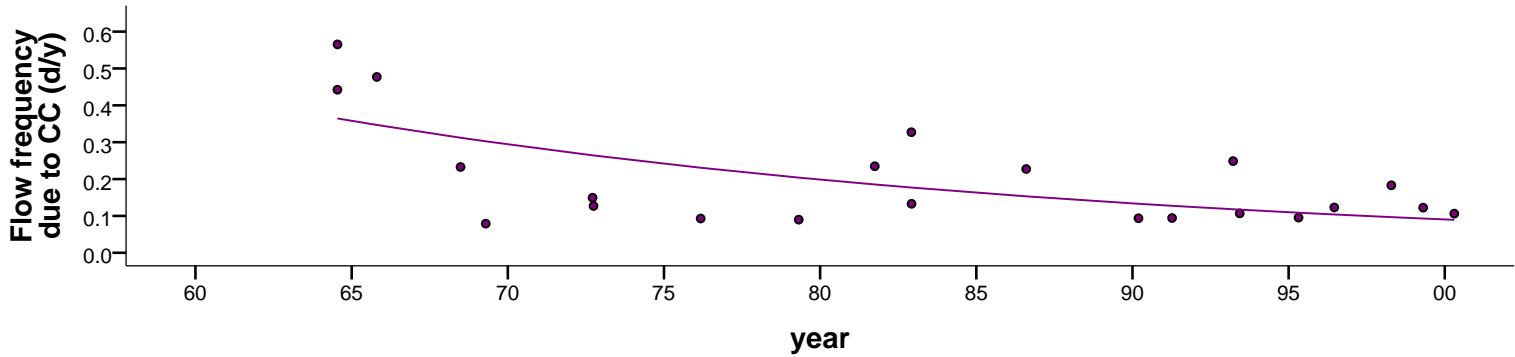
name: 04079000 - WOLF RIVER AT NEW LONDON, WI



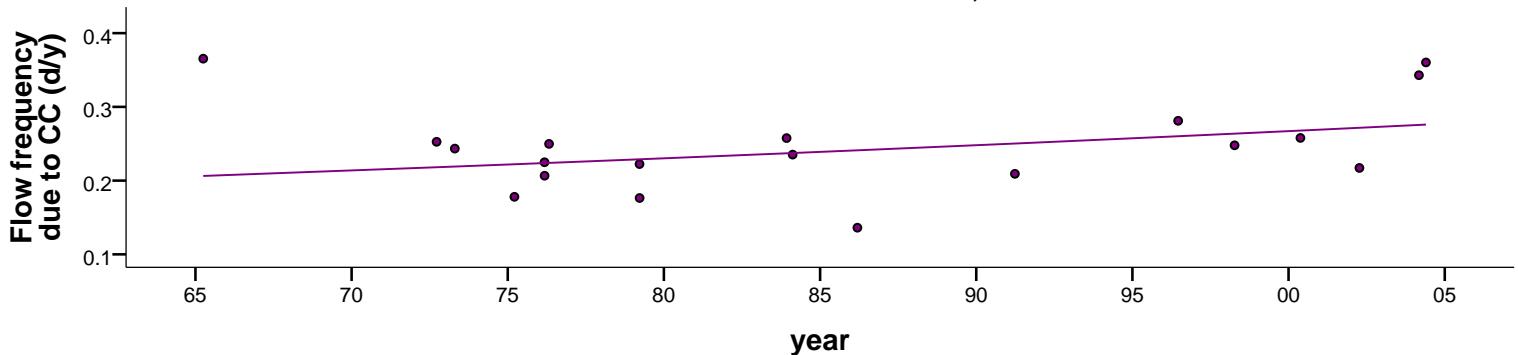
name: 04085427 - MANITOWOC RIVER AT MANITOWOC, WI



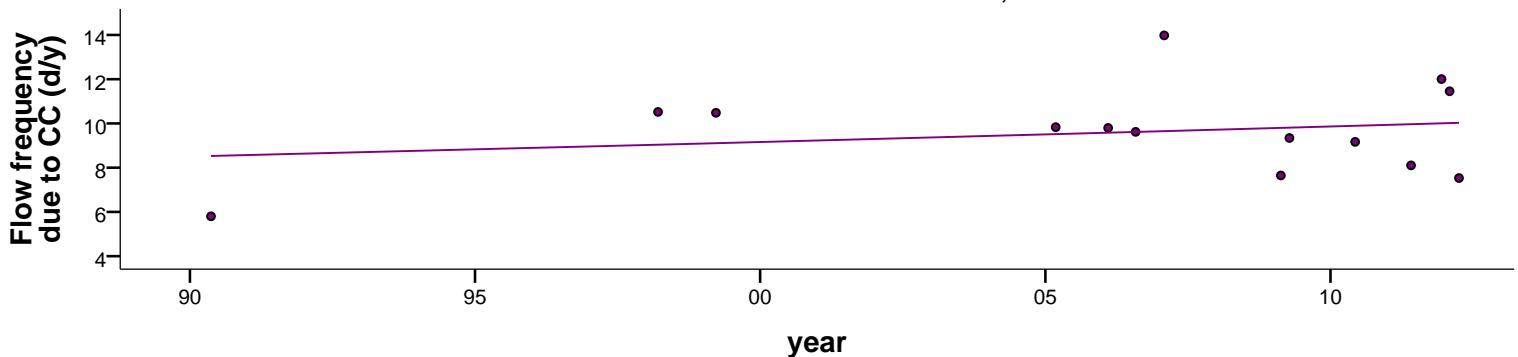
name: 04087204 - OAK CREEK AT SOUTH MILWAUKEE, WI



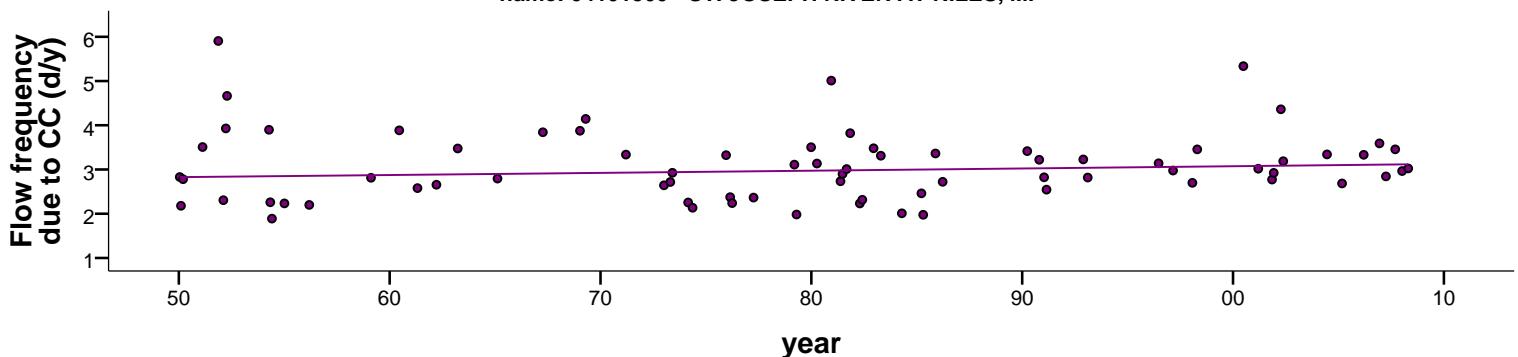
name: 04087240 - ROOT RIVER AT RACINE, WI



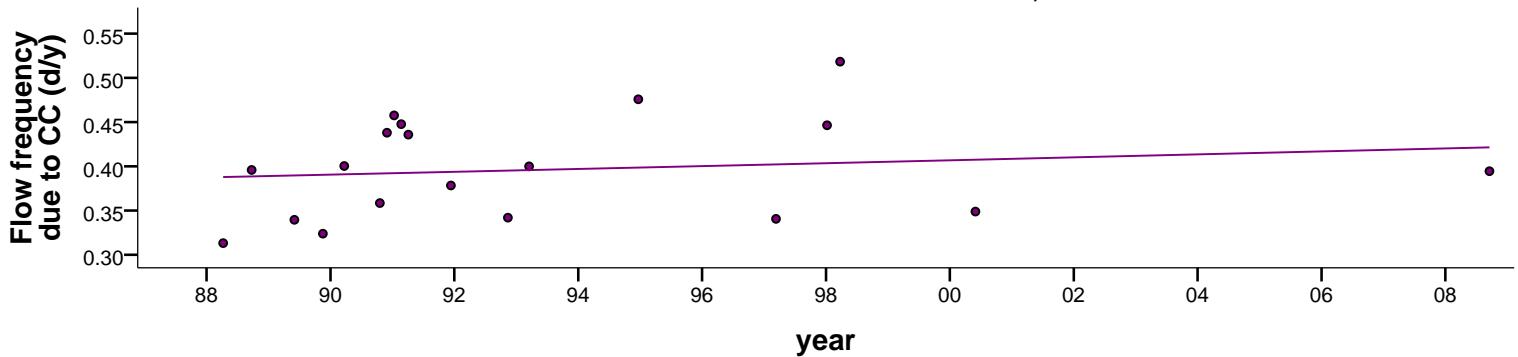
name: 04099750 - PIGEON RIVER NEAR SCOTT, IN



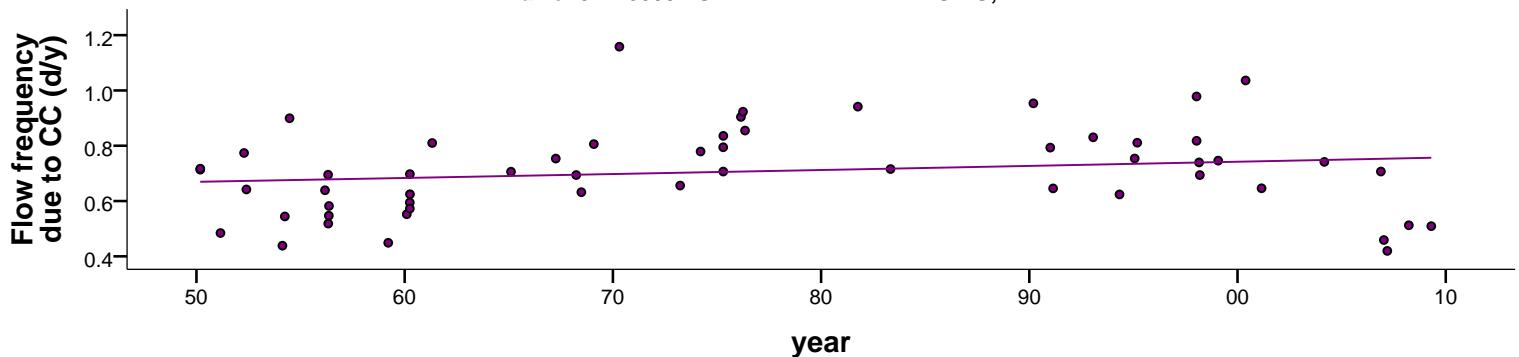
name: 04101500 - ST. JOSEPH RIVER AT NILES, MI



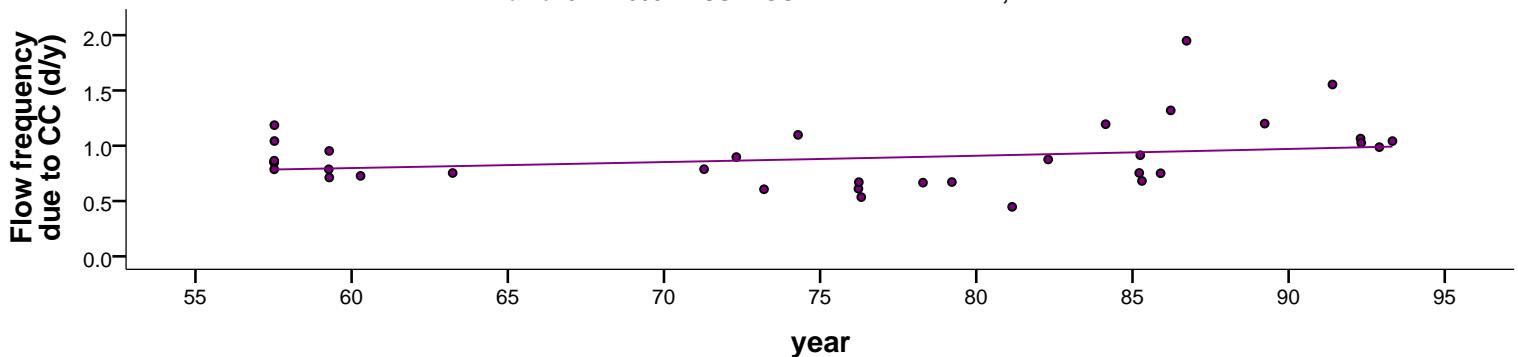
name: 04106000 - KALAMAZOO RIVER AT COMSTOCK, MI



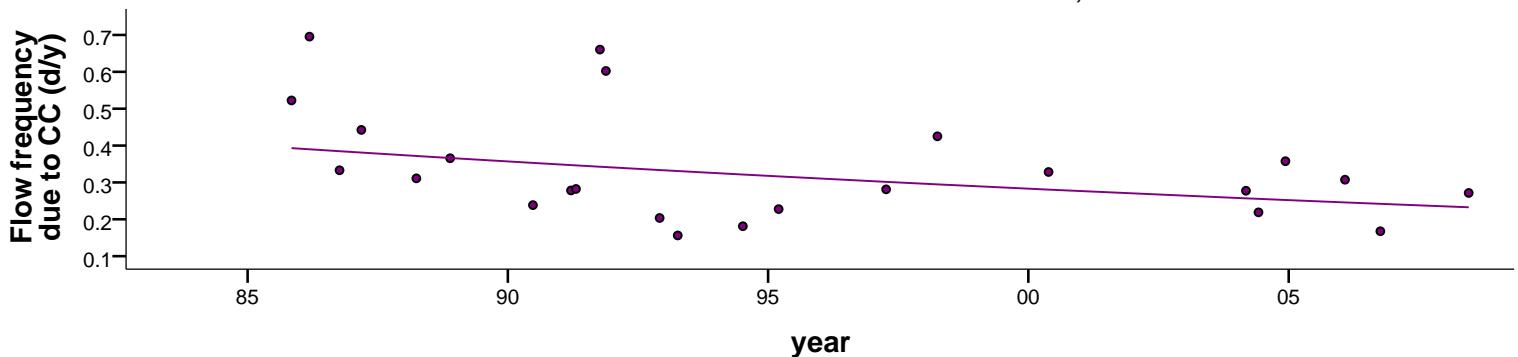
name: 04113000 - GRAND RIVER AT LANSING, MI



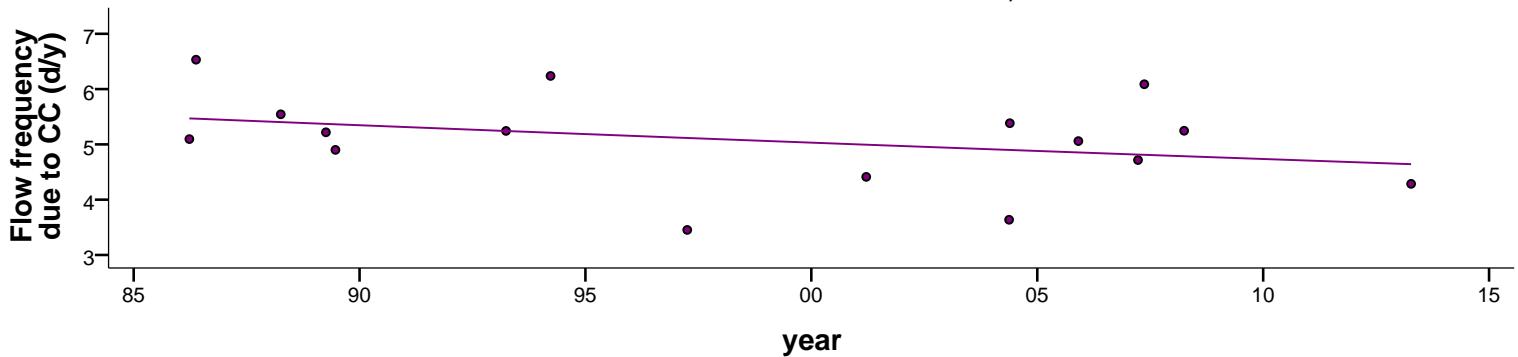
name: 04121500 - MUSKEGON RIVER AT EVART, MI



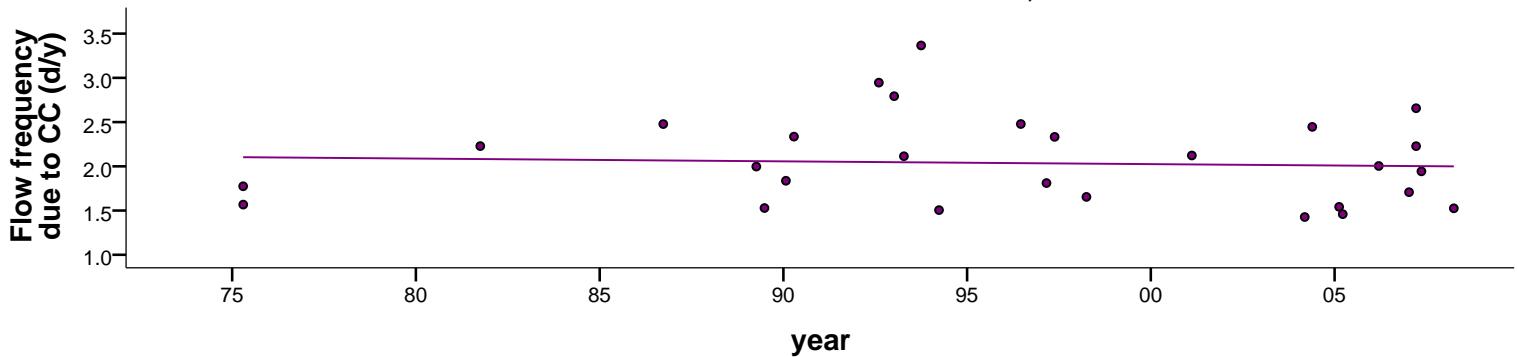
name: 04122500 - PERE MARQUETTE RIVER AT SCOTTVILLE, MI



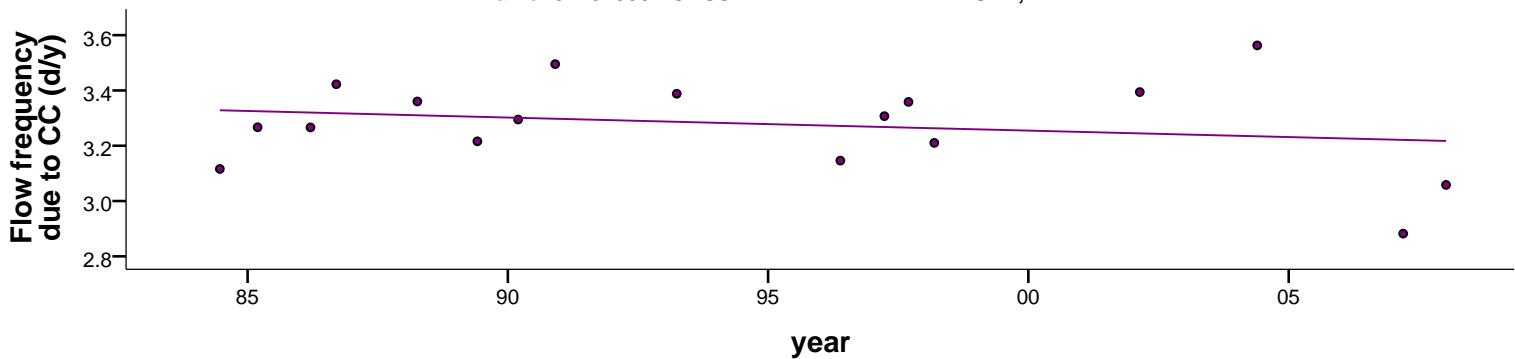
name: 04142000 - RIFLE RIVER NEAR STERLING, MI



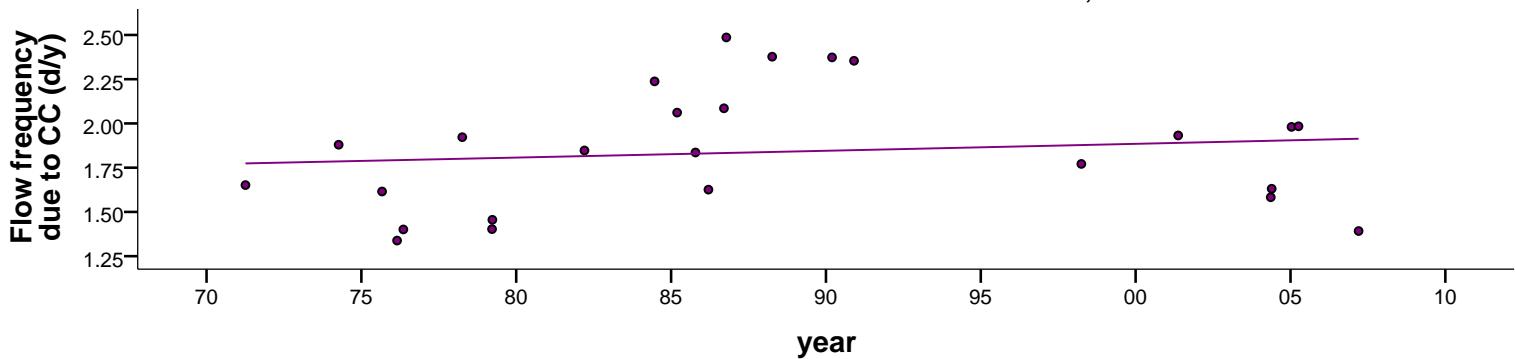
name: 04144500 - SHIAWASSEE RIVER AT OWOSSO, MI



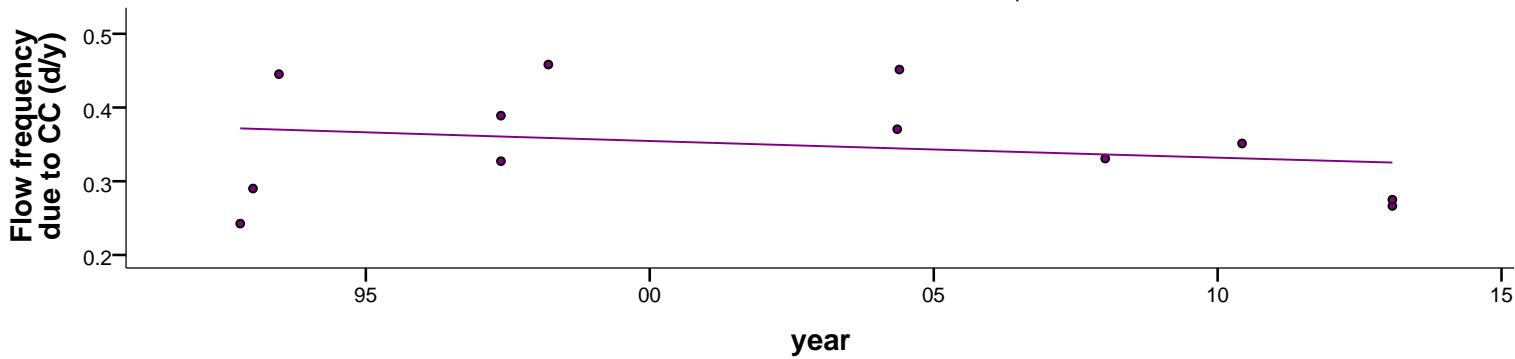
name: 04151500 - CASS RIVER AT FRANKENMUTH, MI



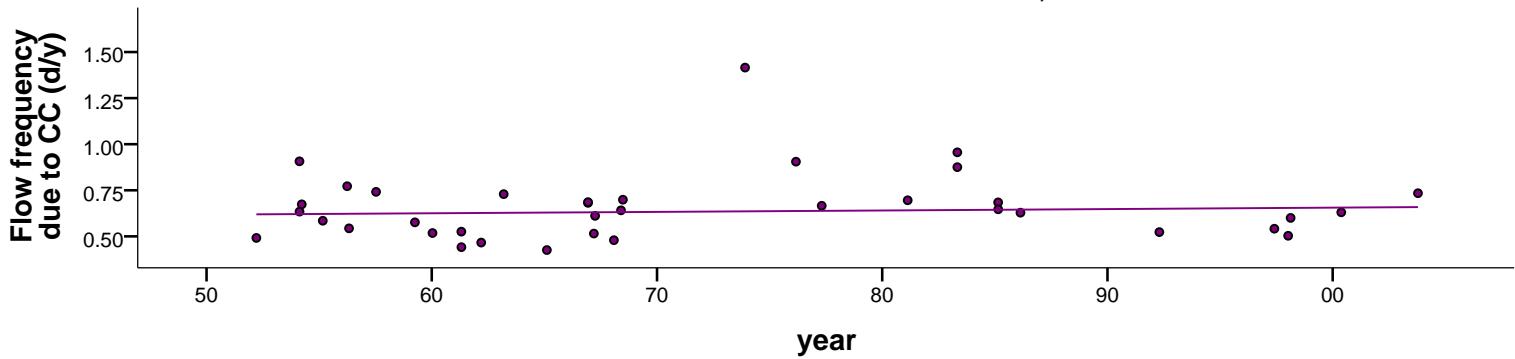
name: 04154000 - CHIPPEWA RIVER NEAR MOUNT PLEASANT, MI



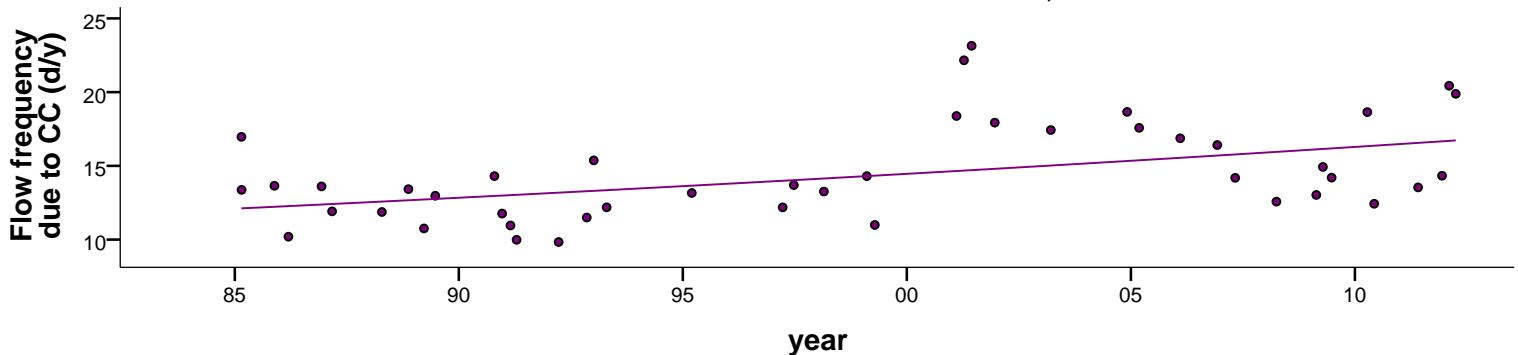
name: 04164000 - CLINTON RIVER NEAR FRAZER, MI



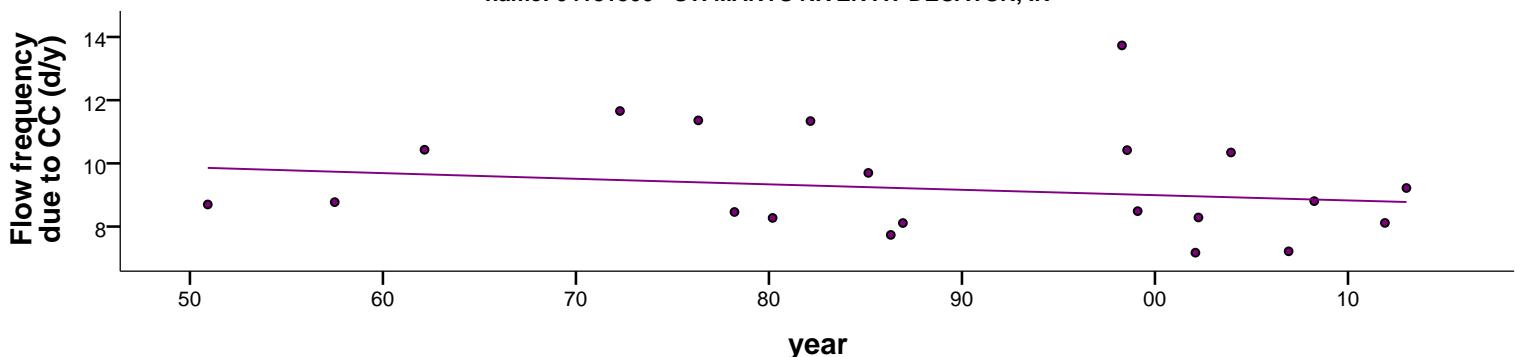
name: 04168000 - LOWER RIVER ROUGE AT INKSTER, MI



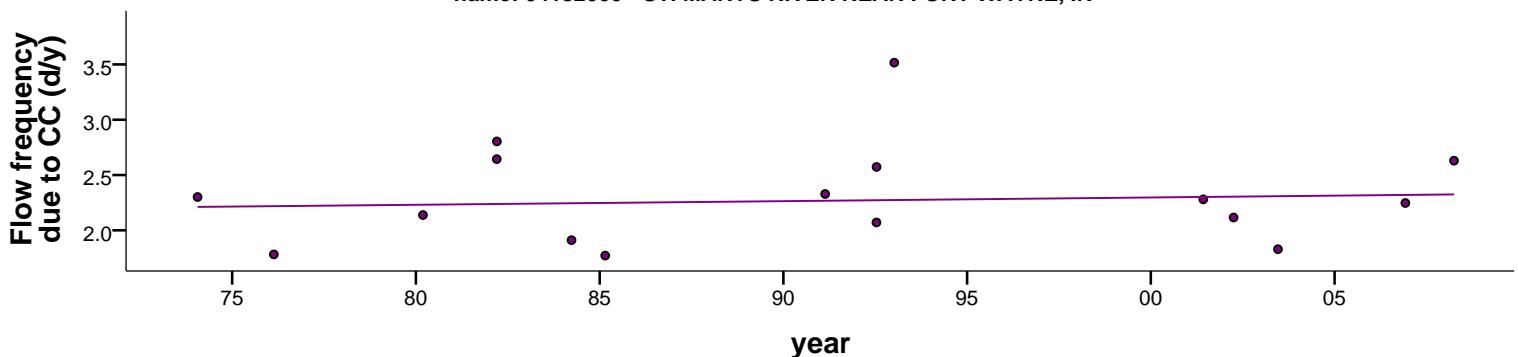
name: 04178000 - ST. JOSEPH RIVER NEAR NEWVILLE, IN



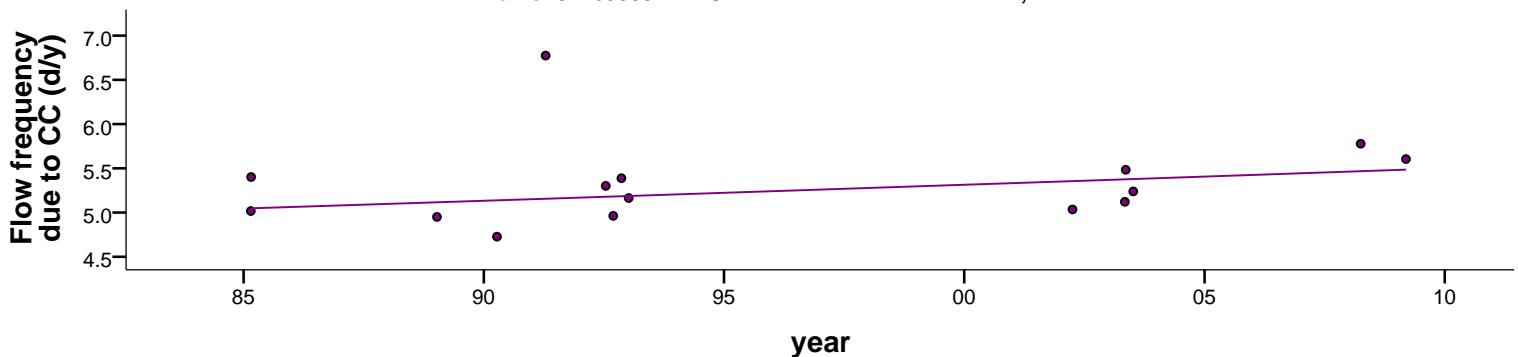
name: 04181500 - ST. MARYS RIVER AT DECATUR, IN



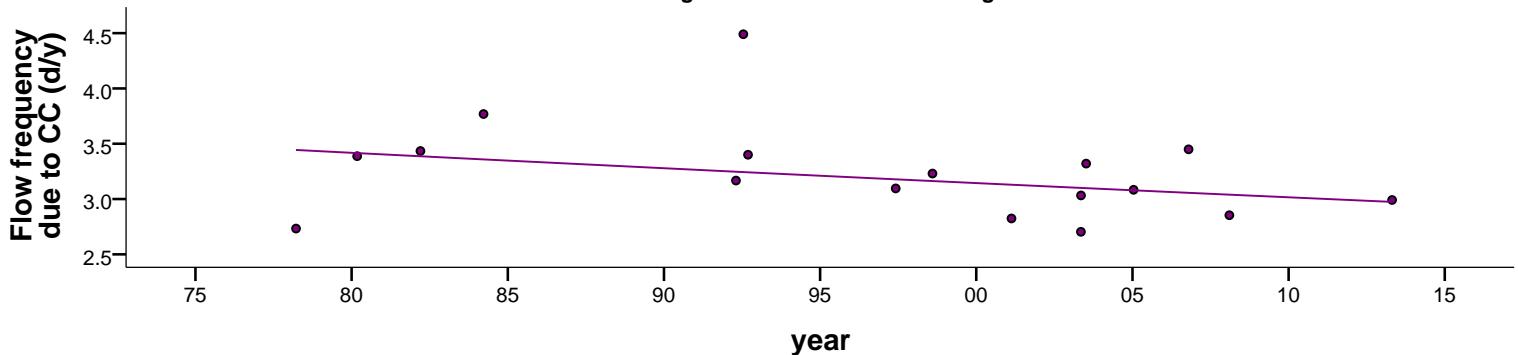
name: 04182000 - ST. MARYS RIVER NEAR FORT WAYNE, IN



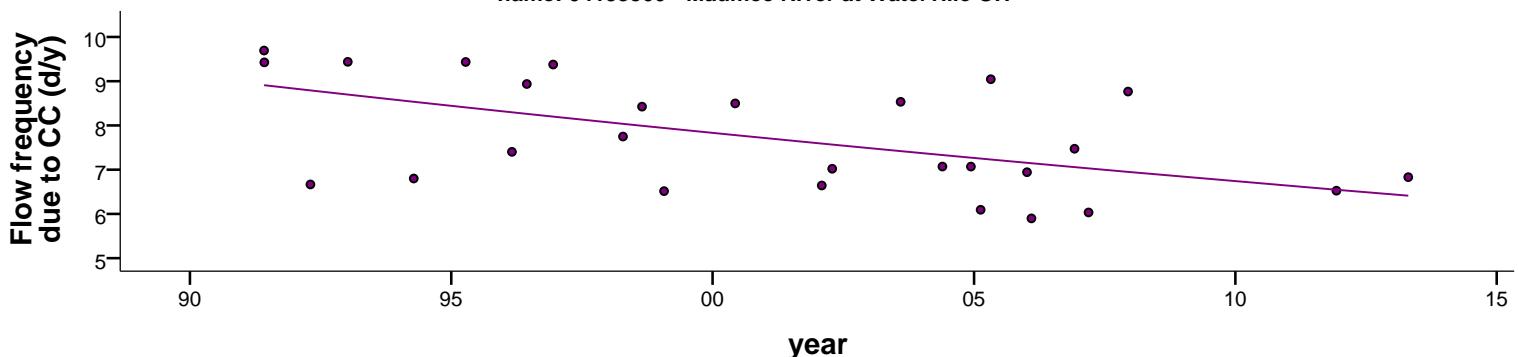
name: 04183000 - MAUMEE RIVER AT NEW HAVEN, IN



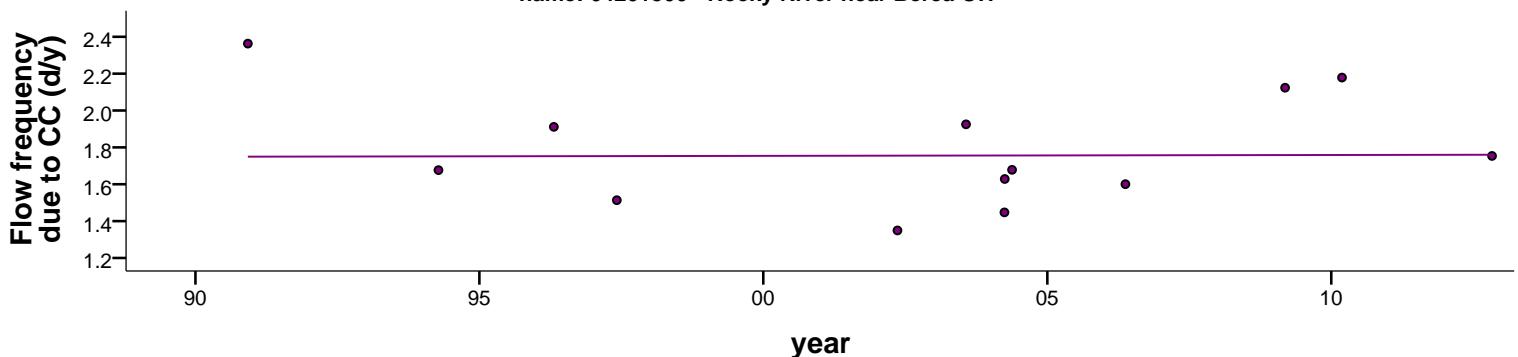
name: 04186500 - Auglaize River near Fort Jennings OH



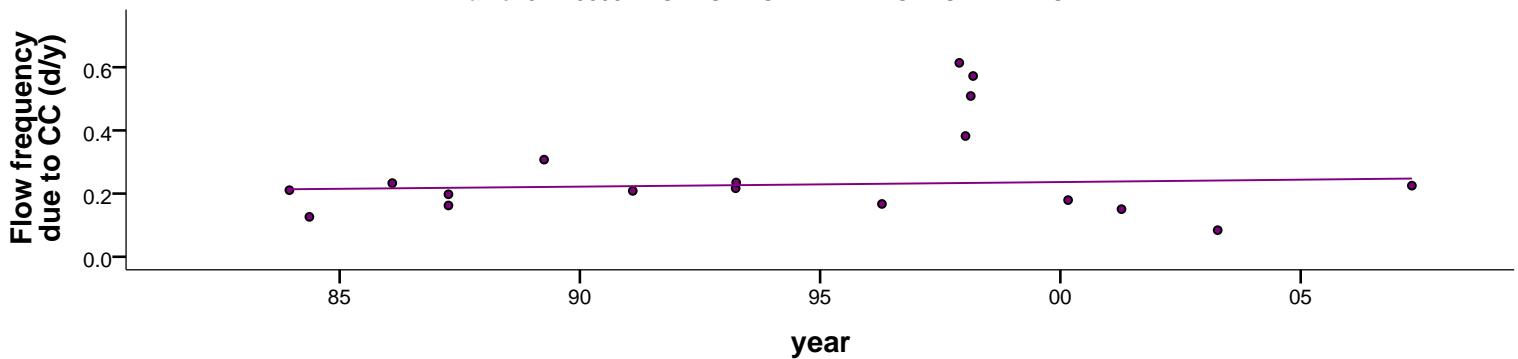
name: 04193500 - Maumee River at Waterville OH



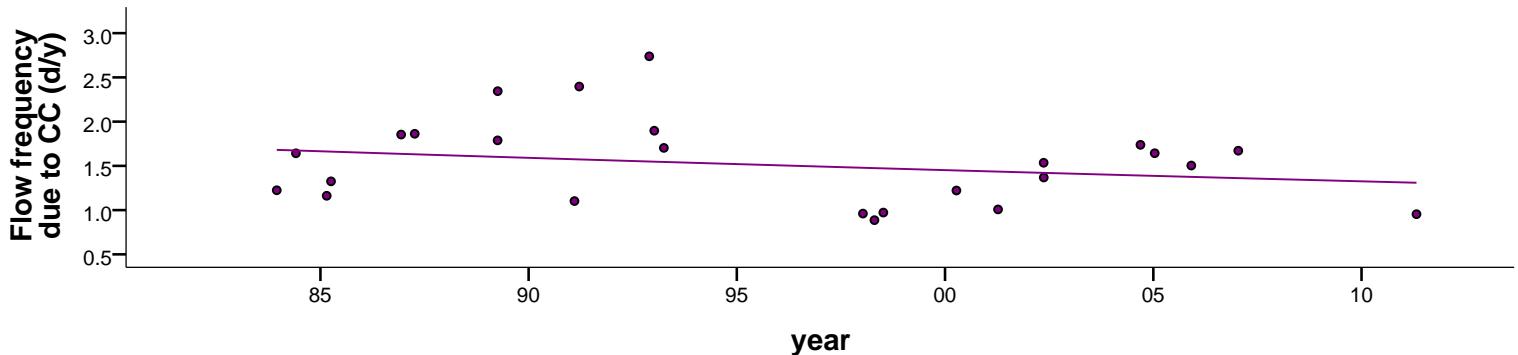
name: 04201500 - Rocky River near Berea OH



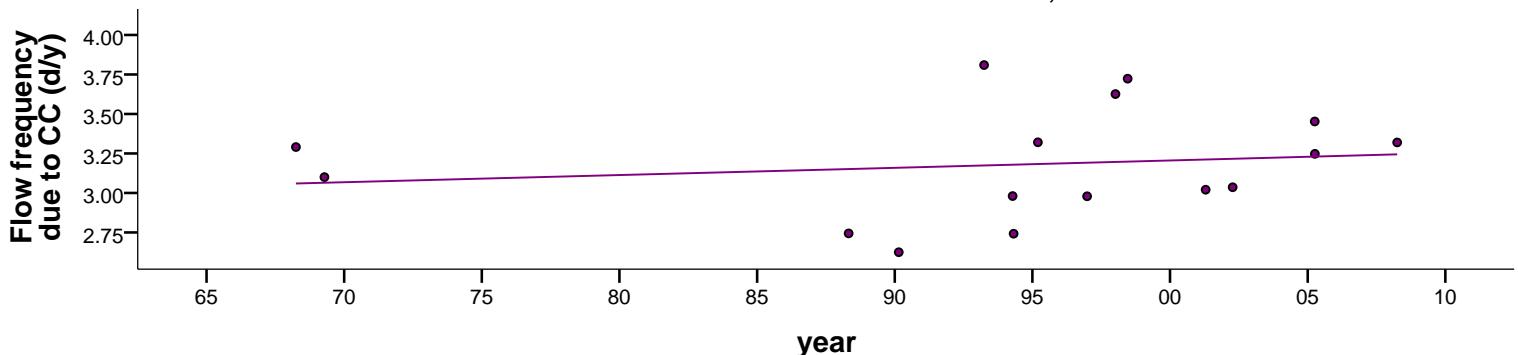
name: 04229500 - HONEOYE CREEK AT HONEOYE FALLS NY



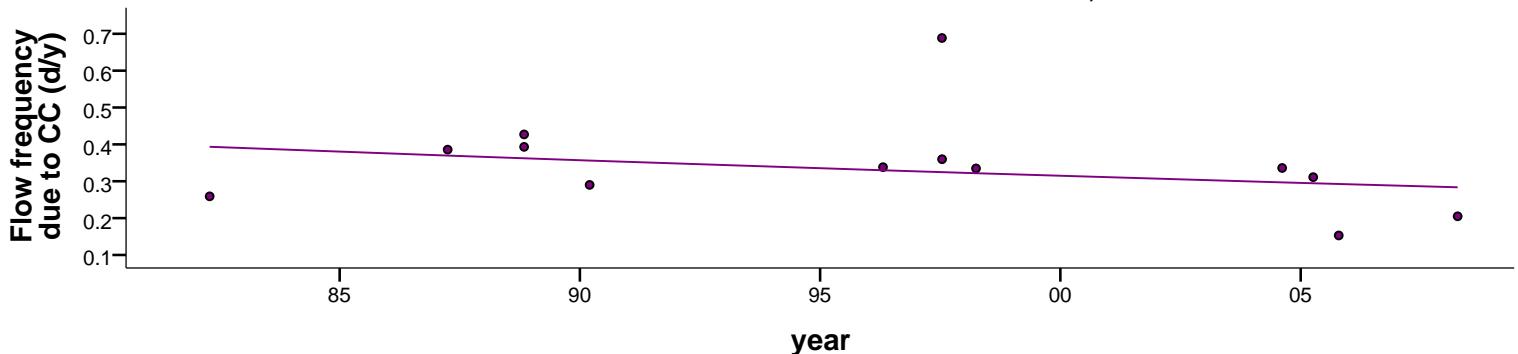
name: 04230500 - OATKA CREEK AT GARBUZZ NY



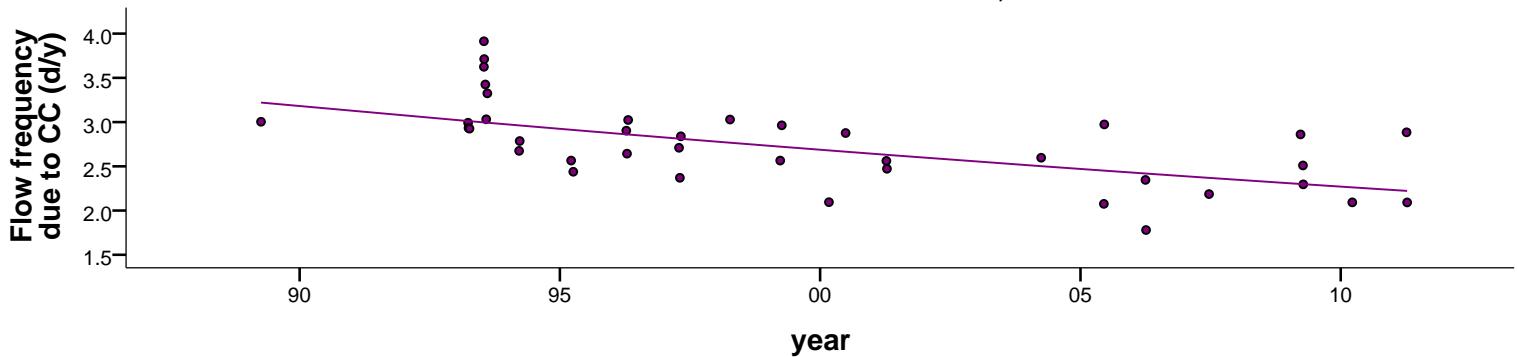
name: 04282000 - OTTER CREEK AT CENTER RUTLAND, VT



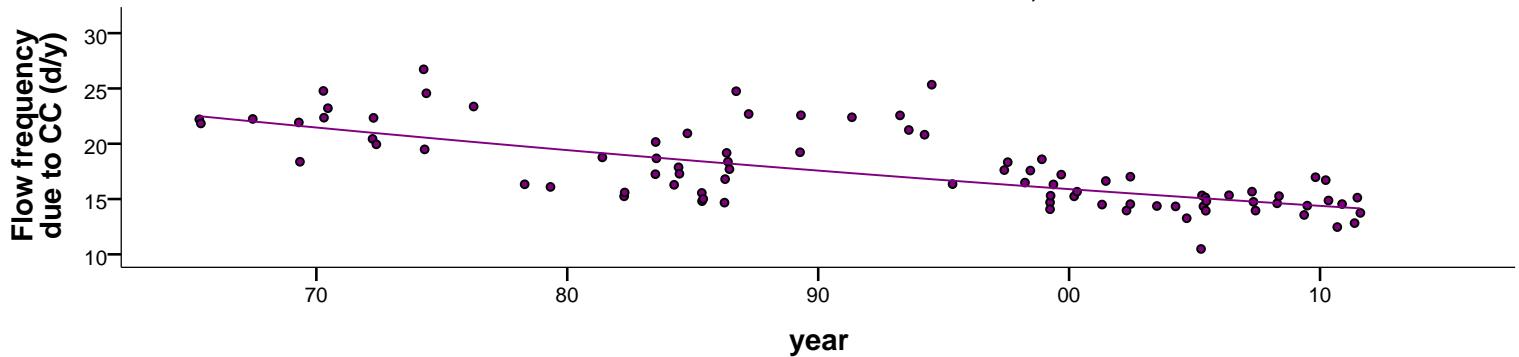
name: 04293500 - MISSISQUOI RIVER NEAR EAST BERKSHIRE, VT



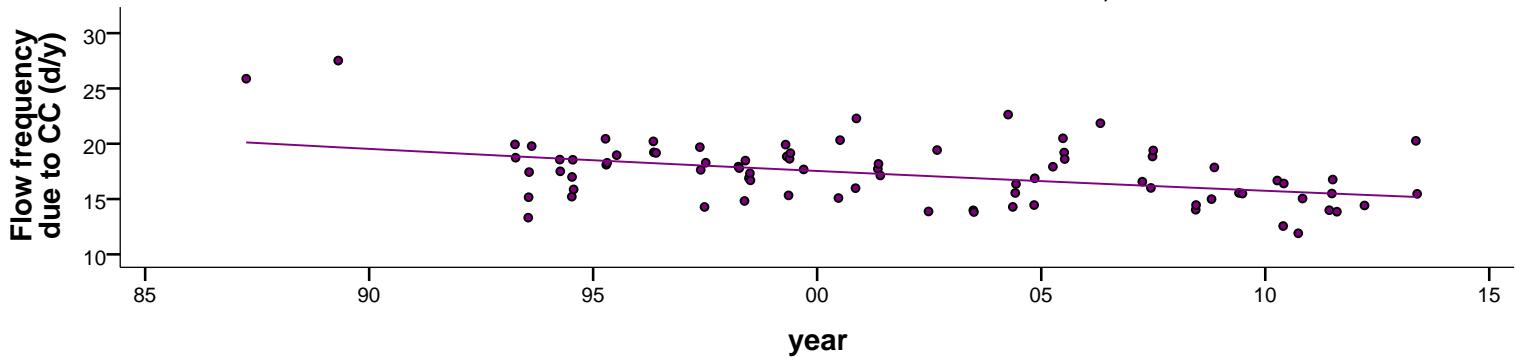
name: 05059700 - MAPLE RIVER NR ENDERLIN, ND



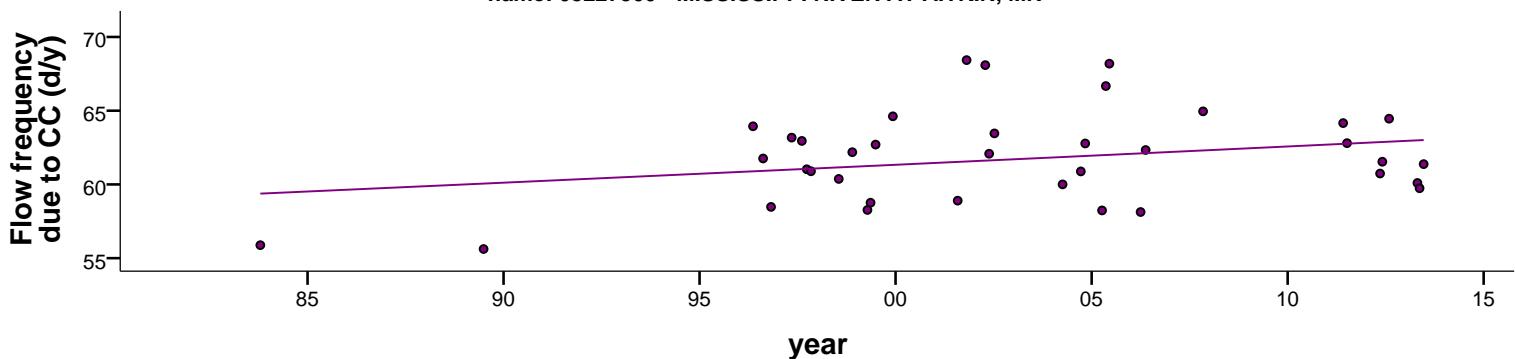
name: 05062000 - BUFFALO RIVER NEAR DILWORTH, MN



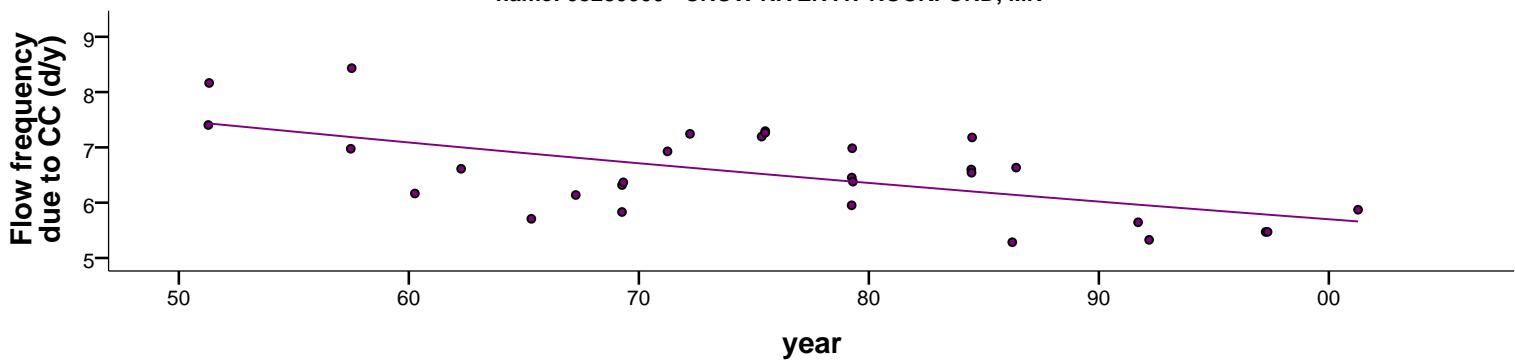
name: 05082500 - RED RIVER OF THE NORTH AT GRAND FORKS, ND



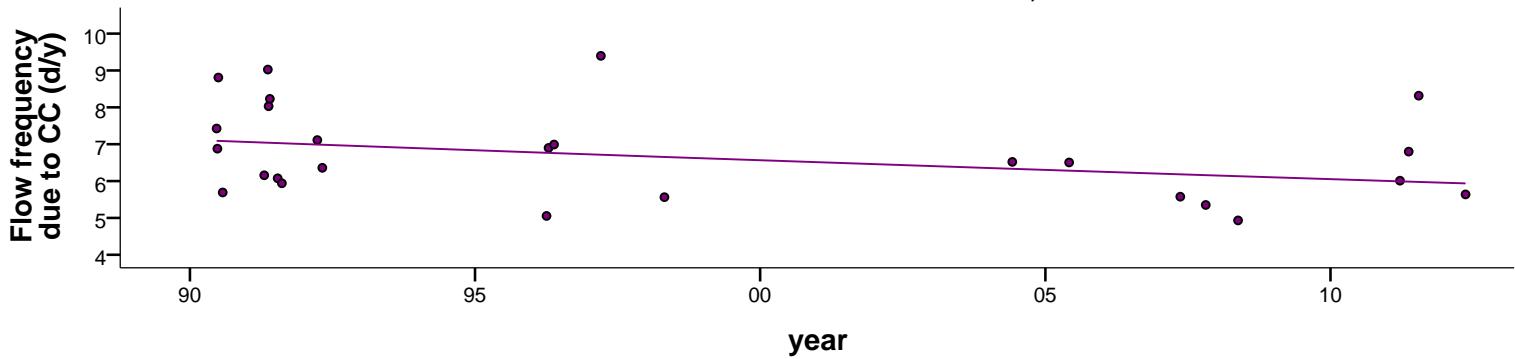
name: 05227500 - MISSISSIPPI RIVER AT AITKIN, MN



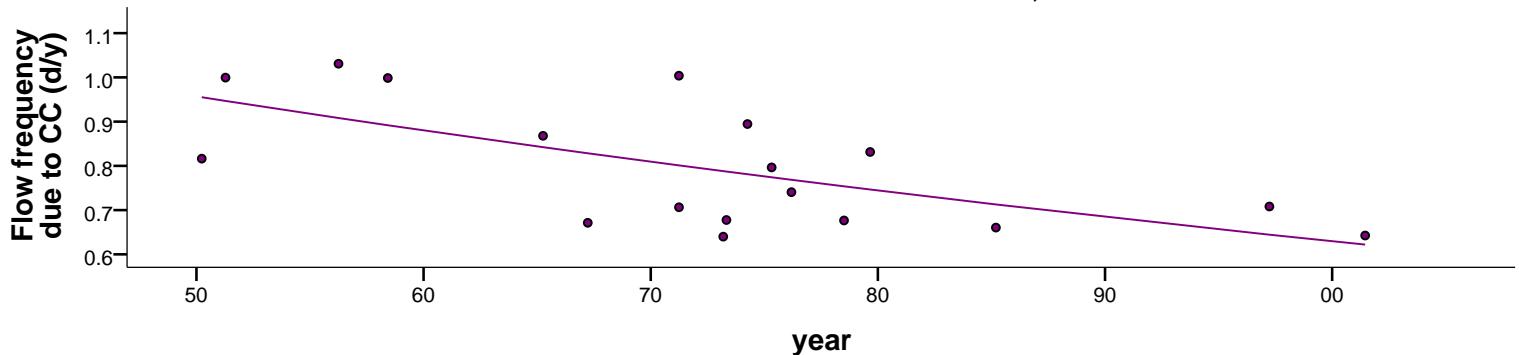
name: 05280000 - CROW RIVER AT ROCKFORD, MN



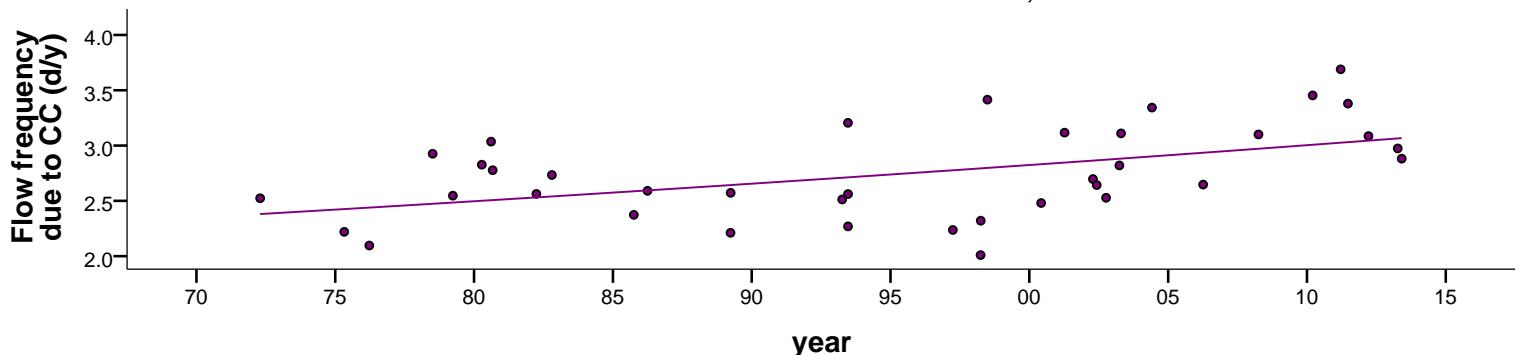
name: 05330000 - MINNESOTA RIVER NEAR JORDAN, MN



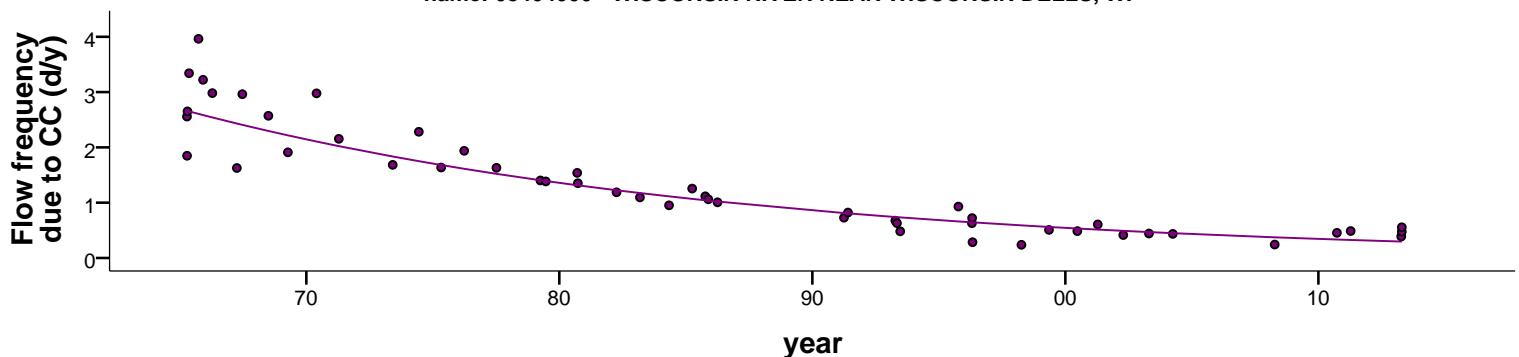
name: 05374000 - ZUMBRO RIVER AT ZUMBRO FALLS, MN



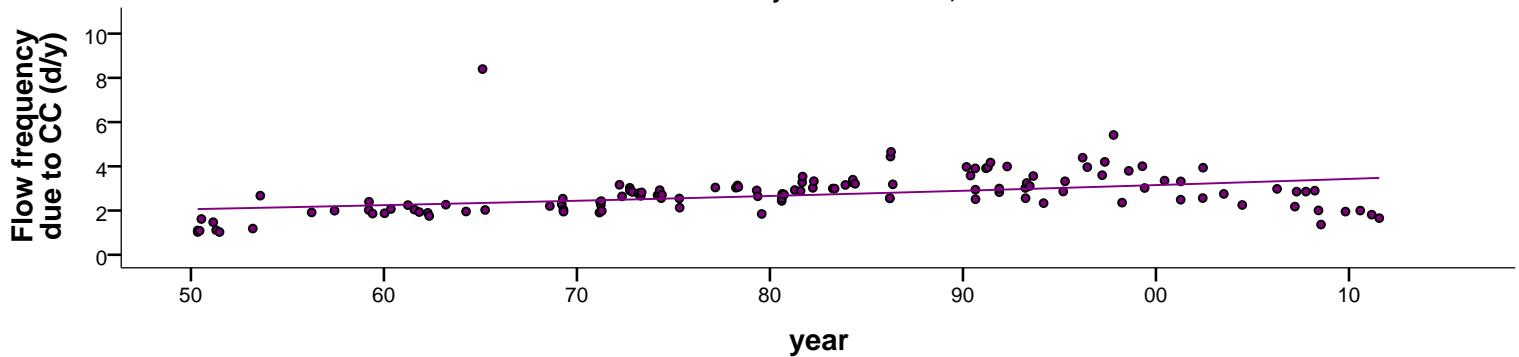
name: 05382000 - BLACK RIVER NEAR GALESVILLE, WI



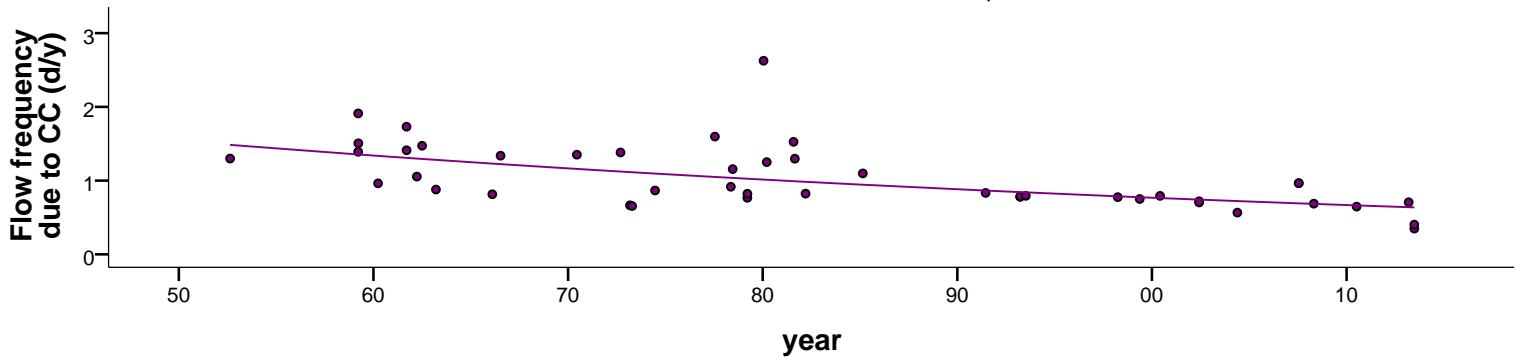
name: 05404000 - WISCONSIN RIVER NEAR WISCONSIN DELLS, WI



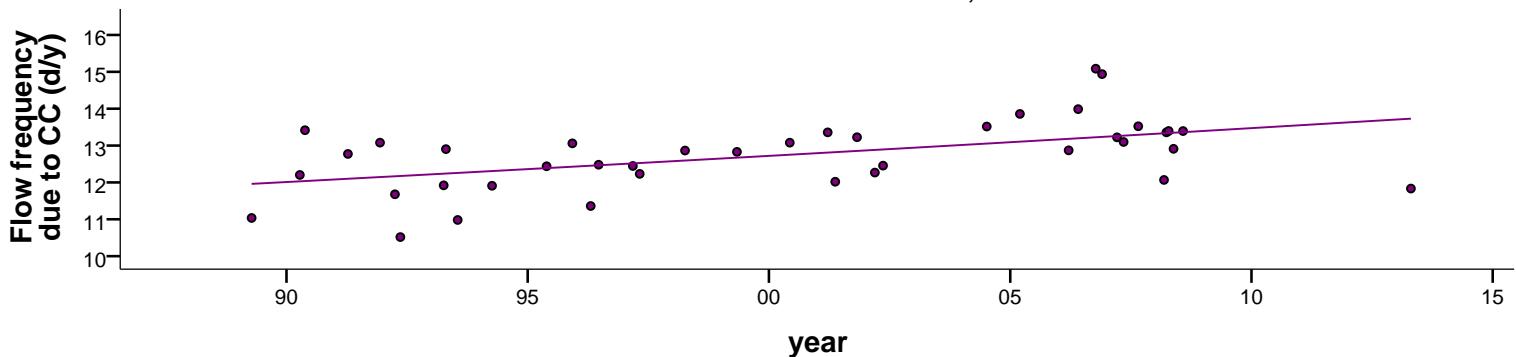
name: 05412500 - Turkey River at Garber, IA



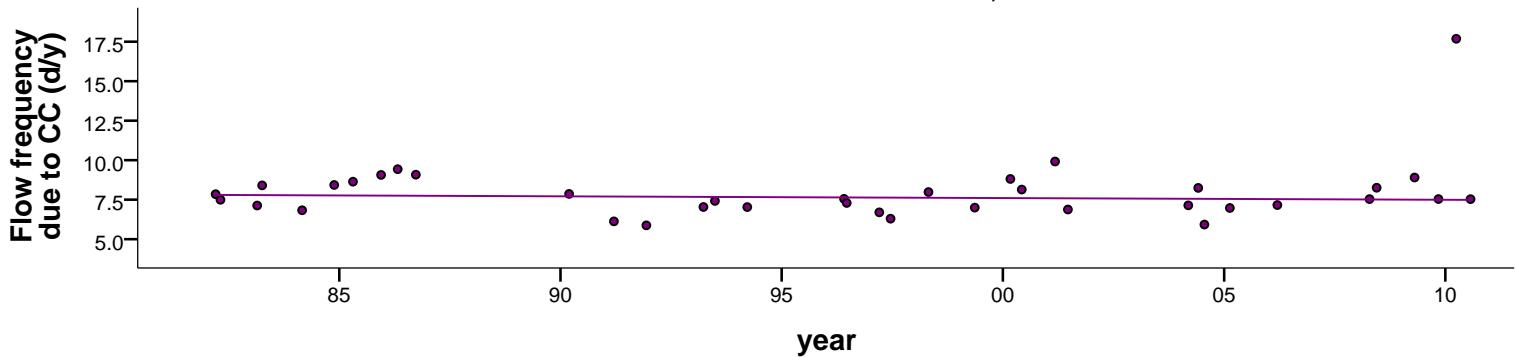
name: 05413500 - GRANT RIVER AT BURTON, WI



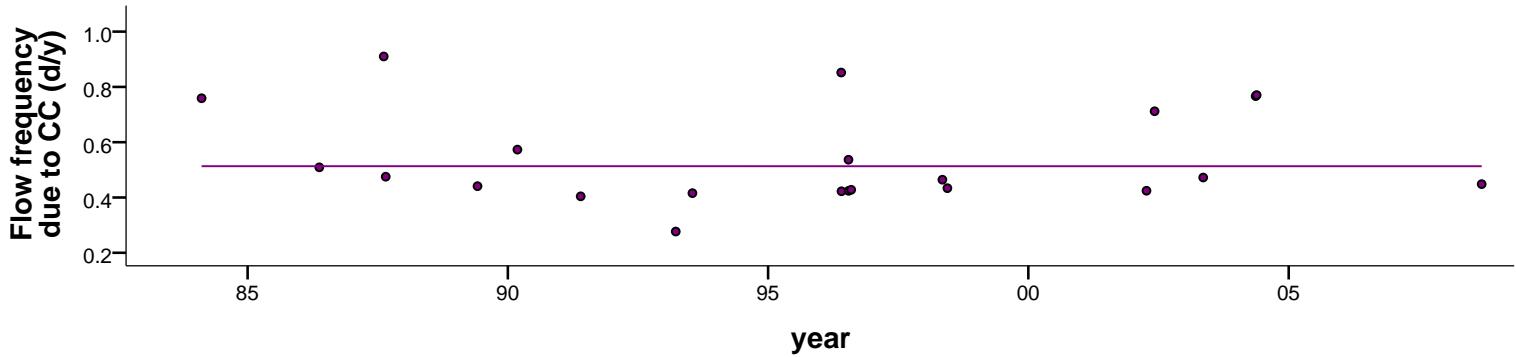
name: 05430500 - ROCK RIVER AT AFTON, WI



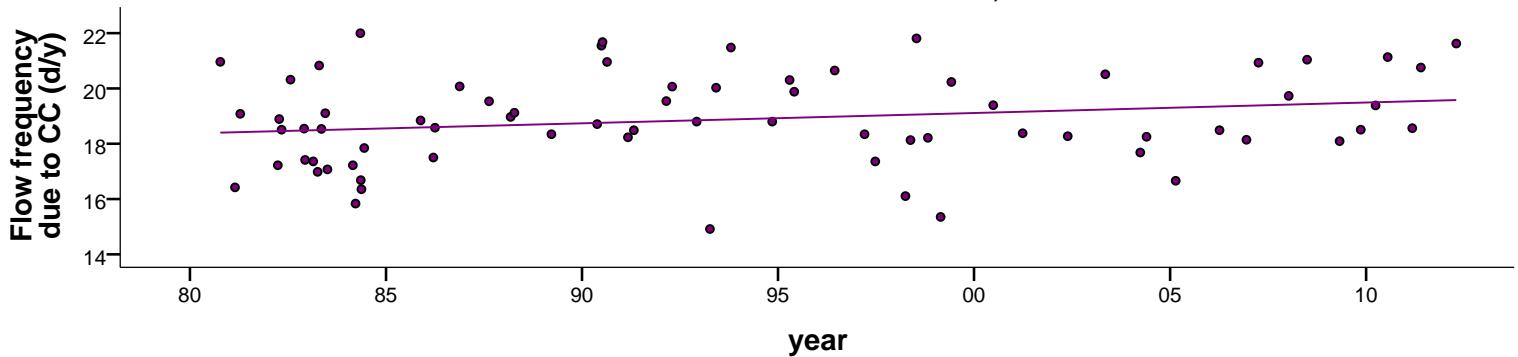
name: 05437500 - ROCK RIVER AT ROCKTON, IL



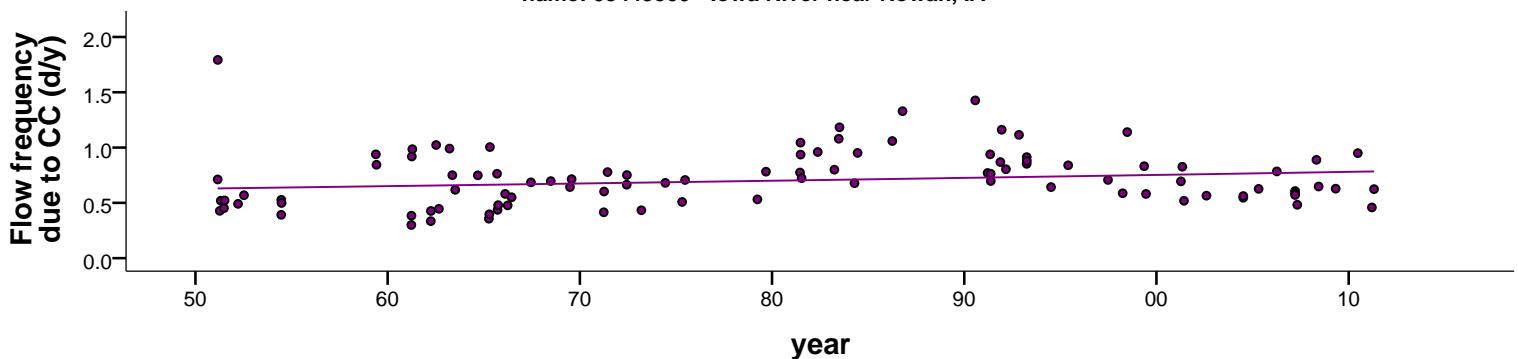
name: 05439000 - SOUTH BRANCH KISHWAUKEE RIVER AT DEKALB, IL



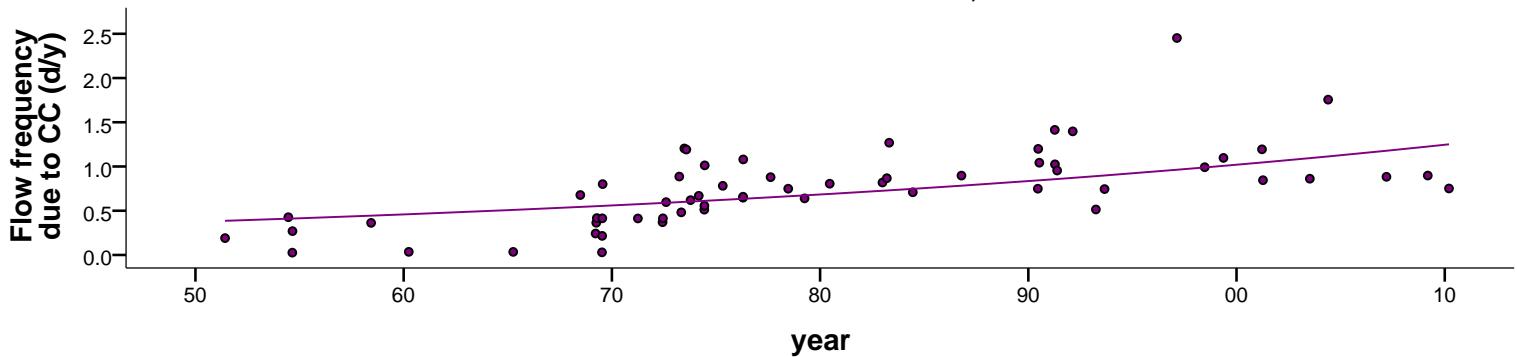
name: 05446500 - ROCK RIVER NEAR JOSLIN, IL



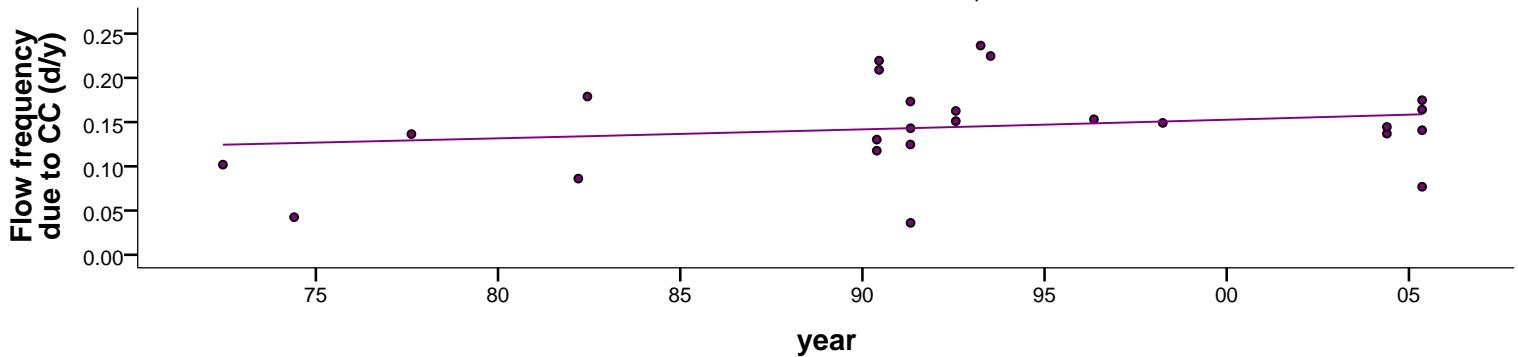
name: 05449500 - Iowa River near Rowan, IA



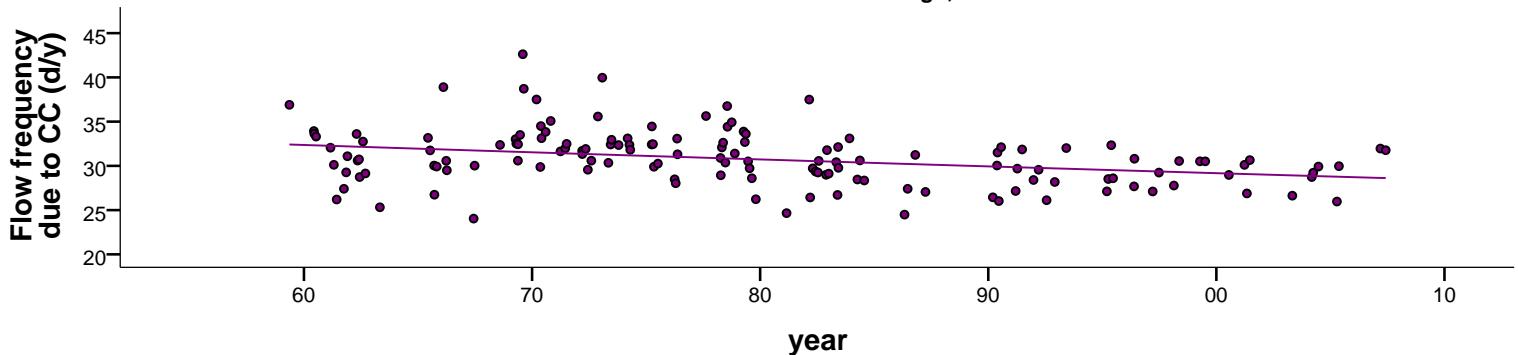
name: 05451500 - Iowa River at Marshalltown, IA



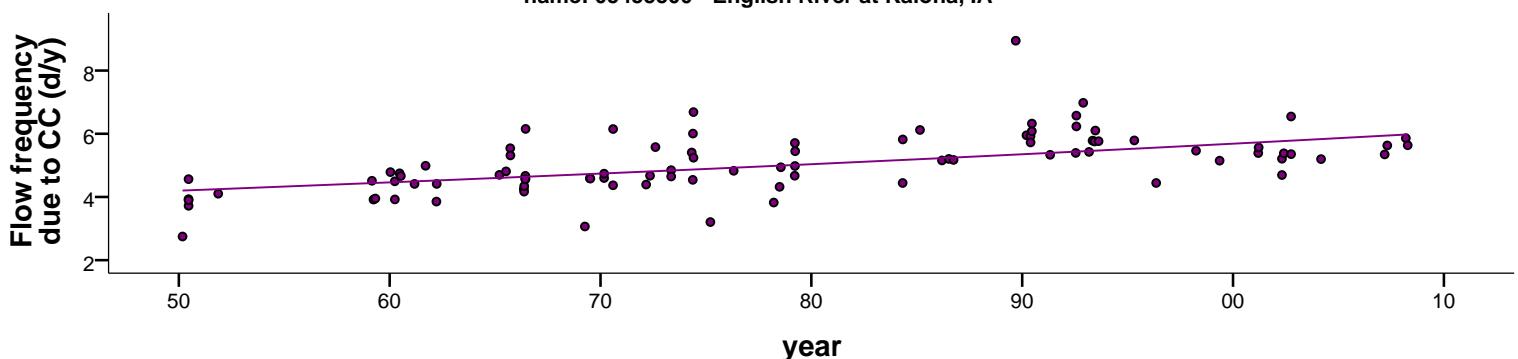
name: 05451900 - Richland Creek near Haven, IA



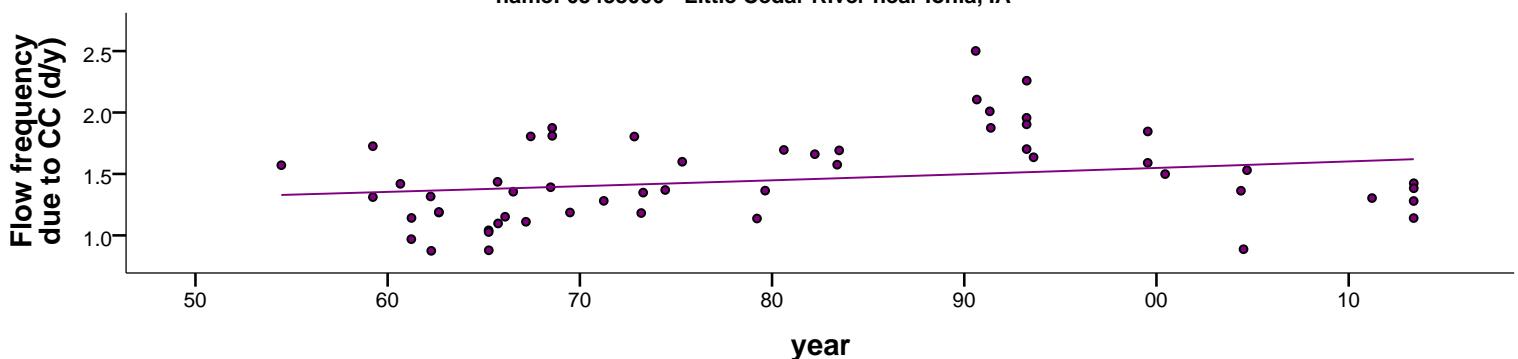
name: 05453100 - Iowa River at Marengo, IA



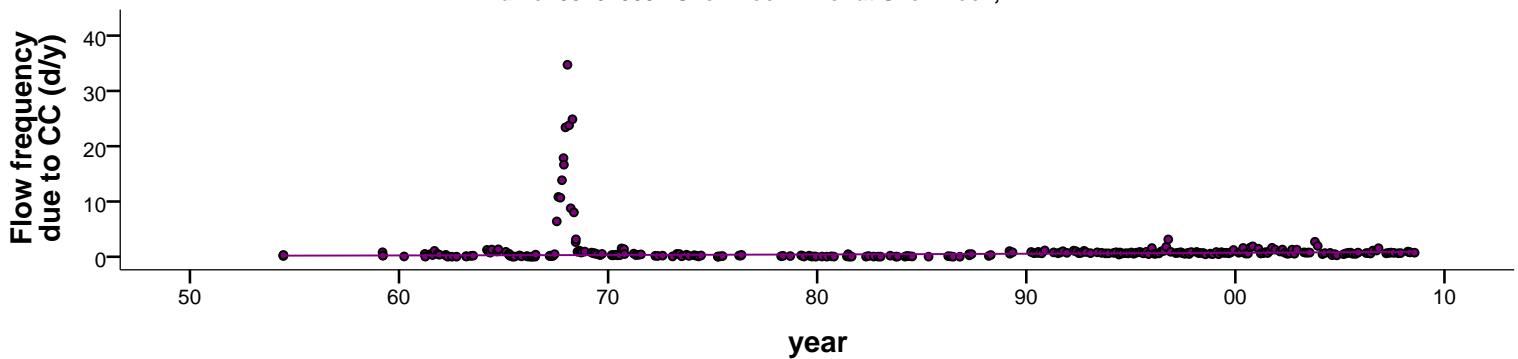
name: 05455500 - English River at Kalona, IA



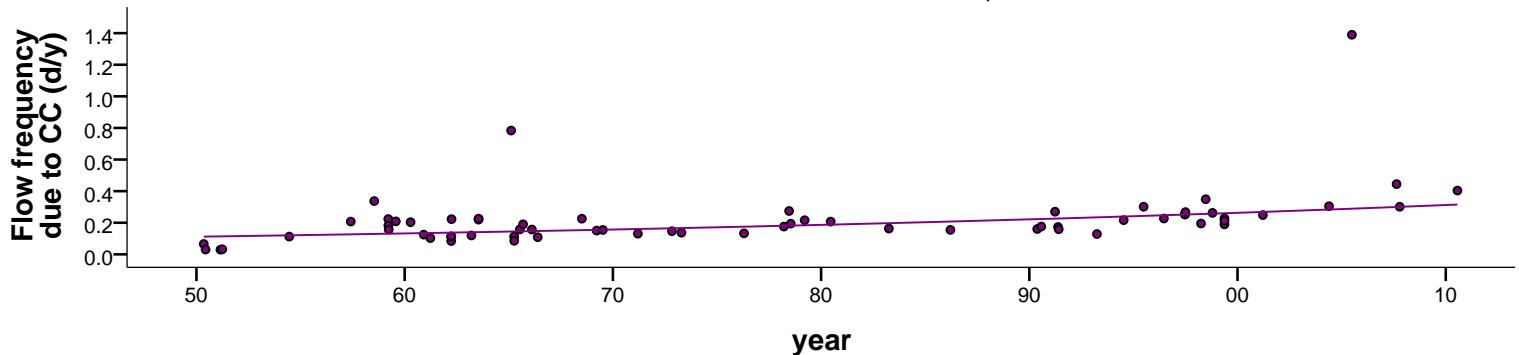
name: 05458000 - Little Cedar River near Ionia, IA



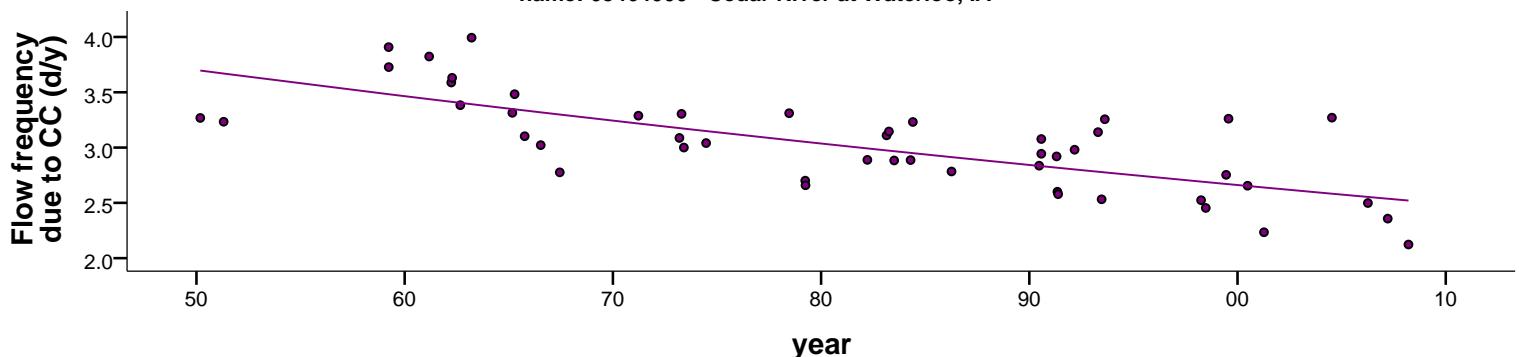
name: 05462000 - Shell Rock River at Shell Rock, IA



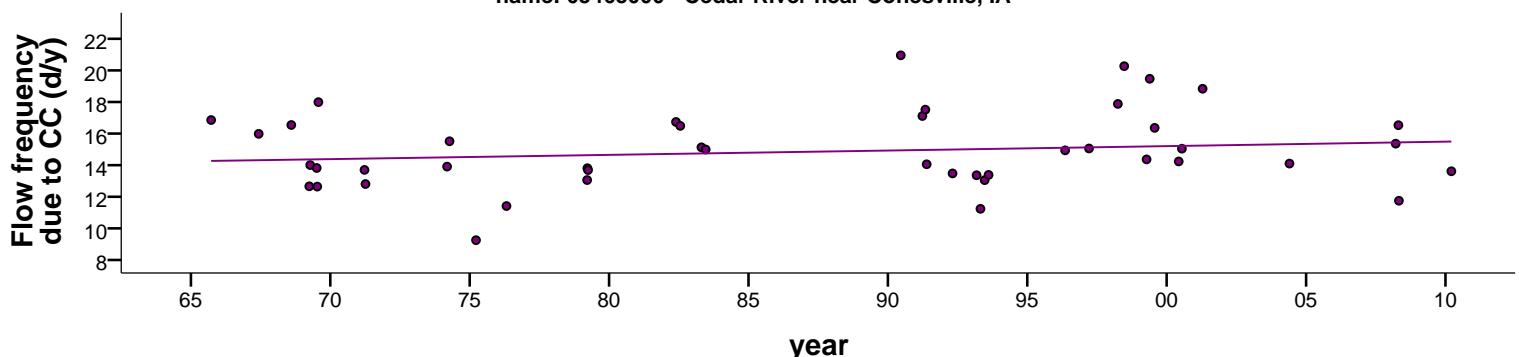
name: 05463000 - Beaver Creek at New Hartford, IA



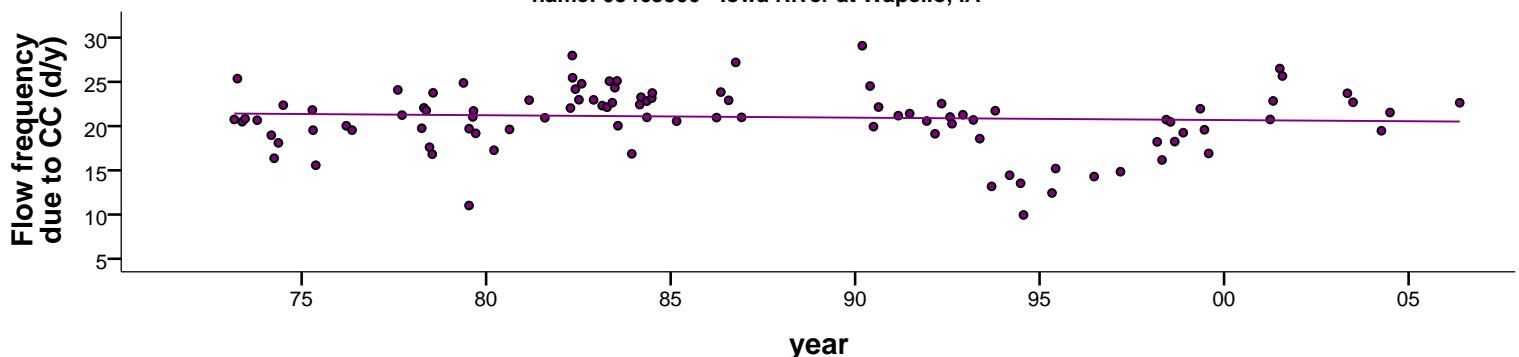
name: 05464000 - Cedar River at Waterloo, IA



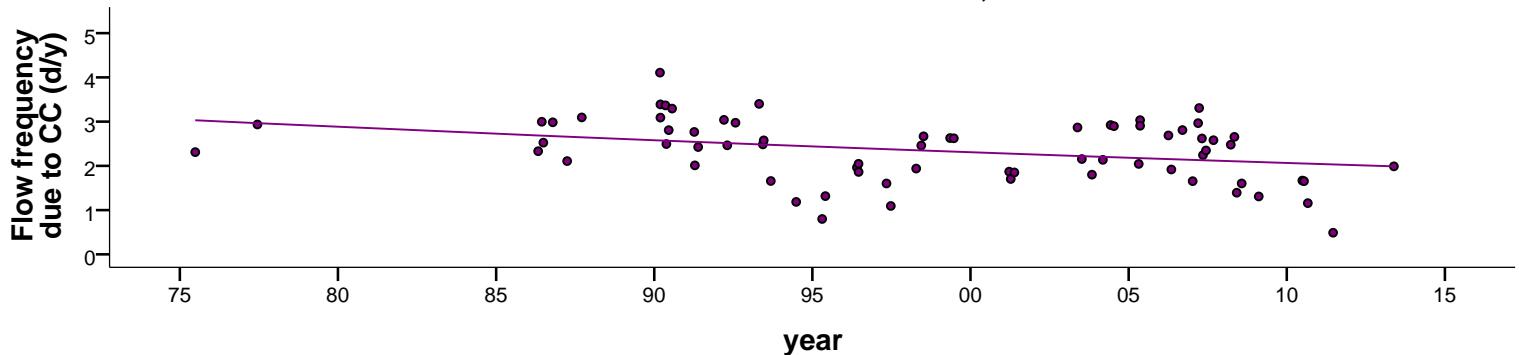
name: 05465000 - Cedar River near Conesville, IA



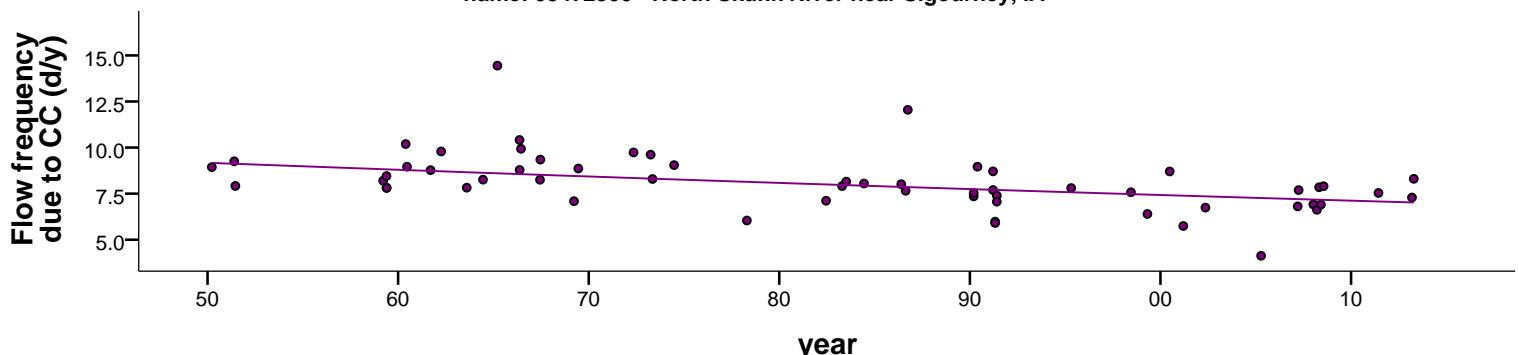
name: 05465500 - Iowa River at Wapello, IA



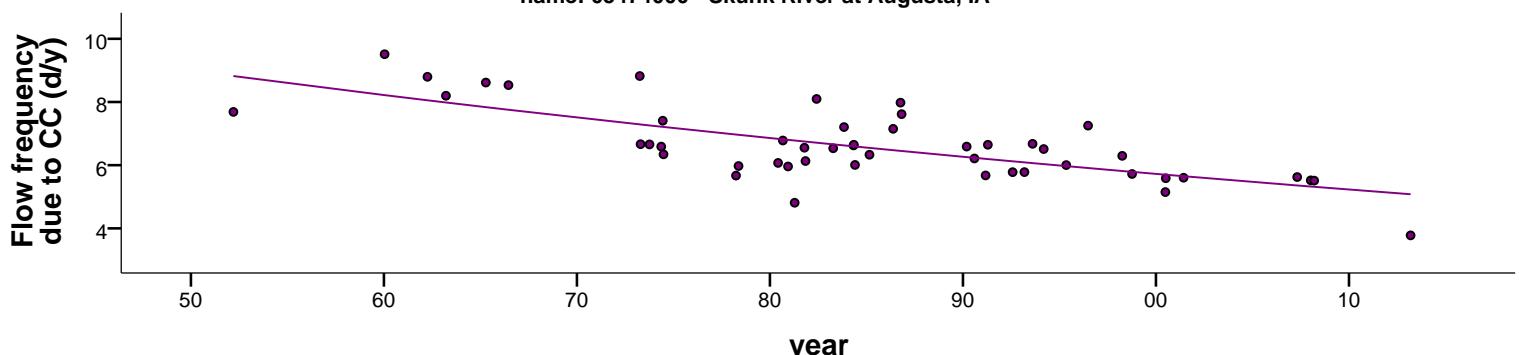
name: 05471050 - South Skunk River at Colfax, IA



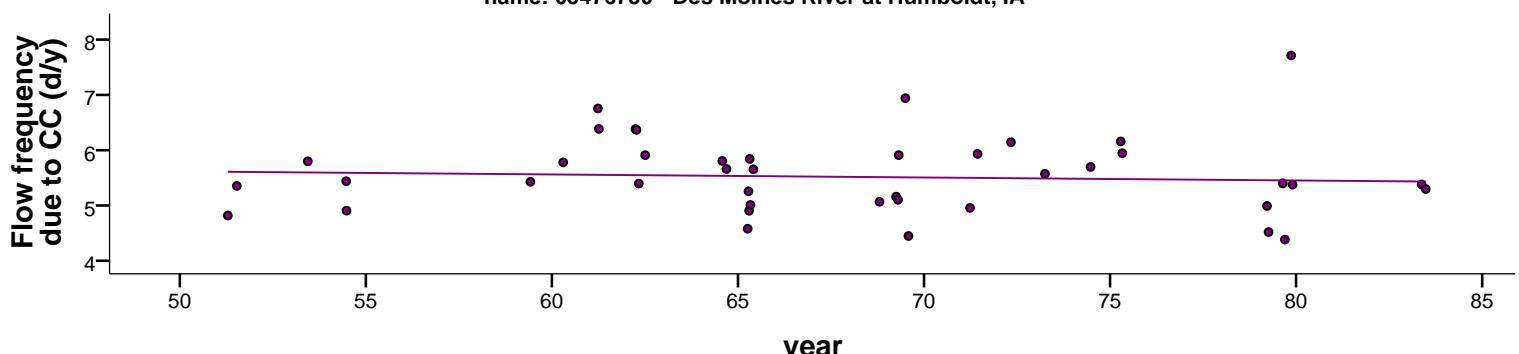
name: 05472500 - North Skunk River near Sigourney, IA

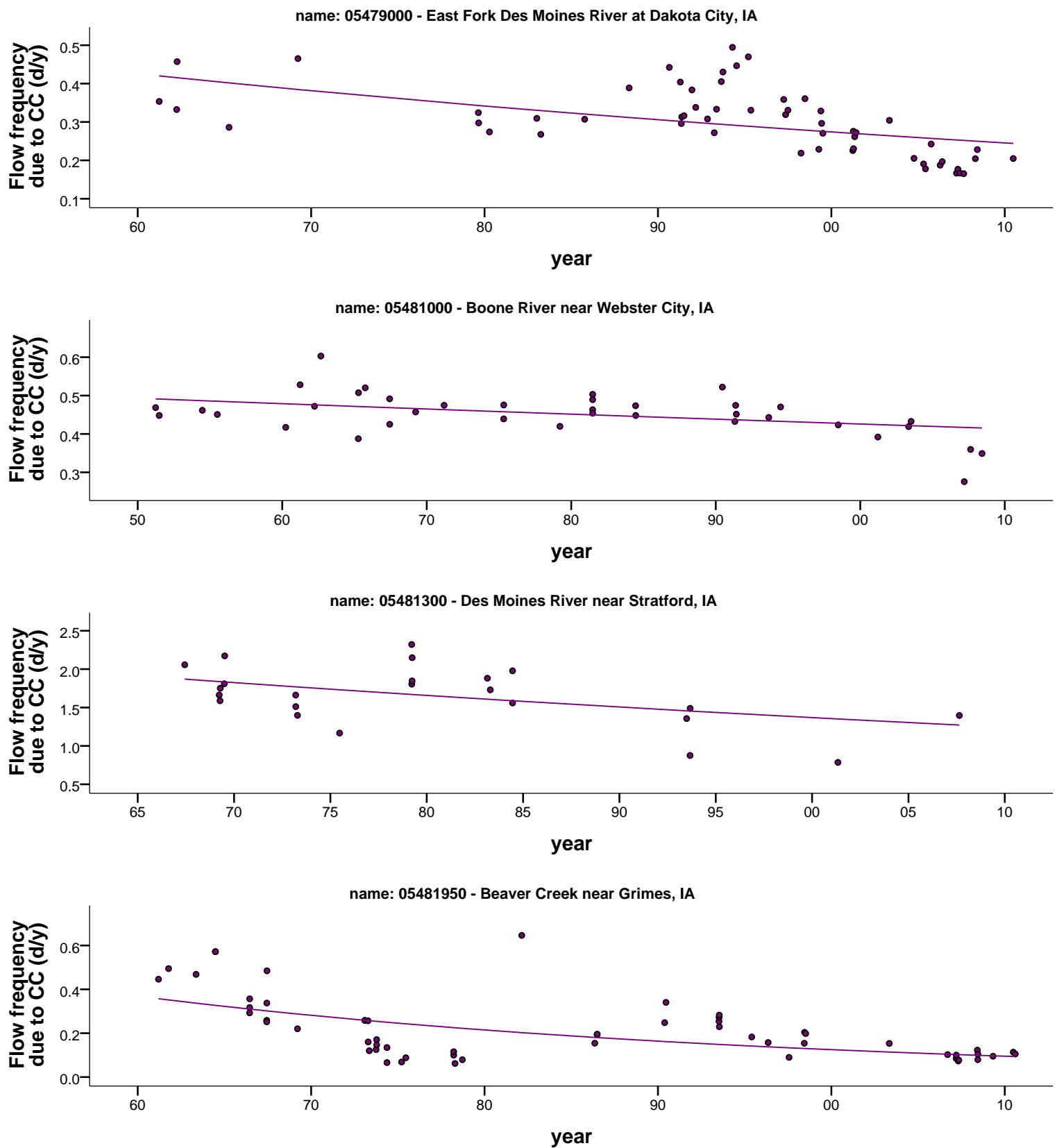


name: 05474000 - Skunk River at Augusta, IA

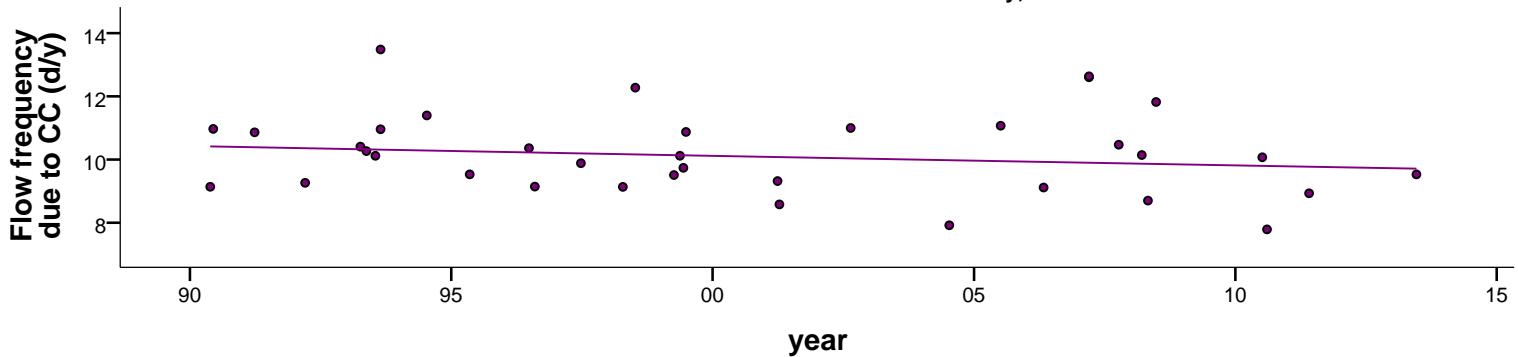


name: 05476750 - Des Moines River at Humboldt, IA

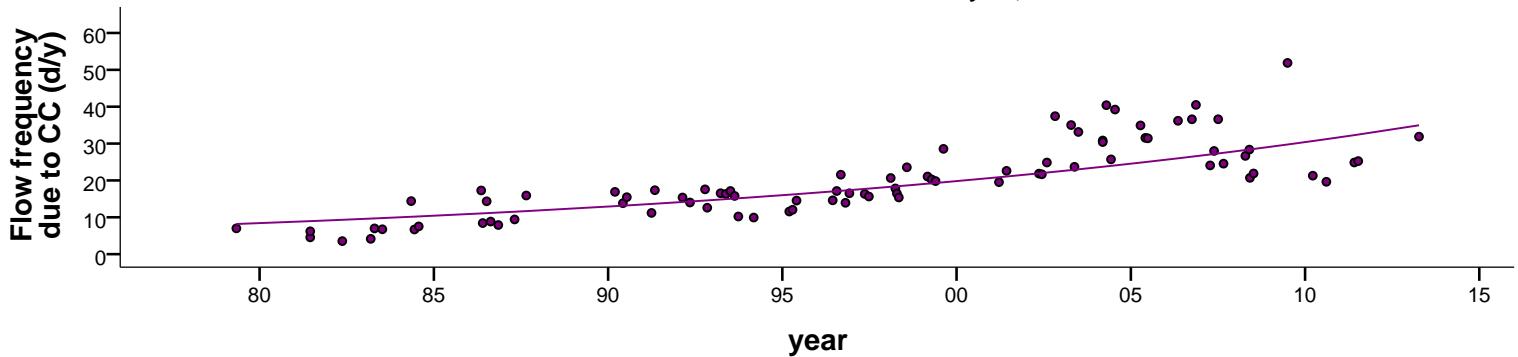




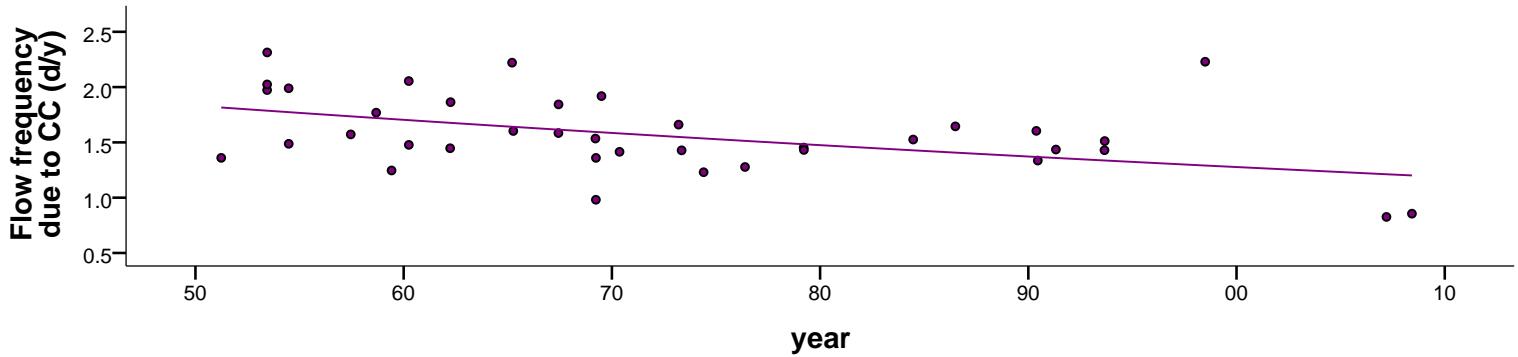
name: 05482300 - North Raccoon River near Sac City, IA



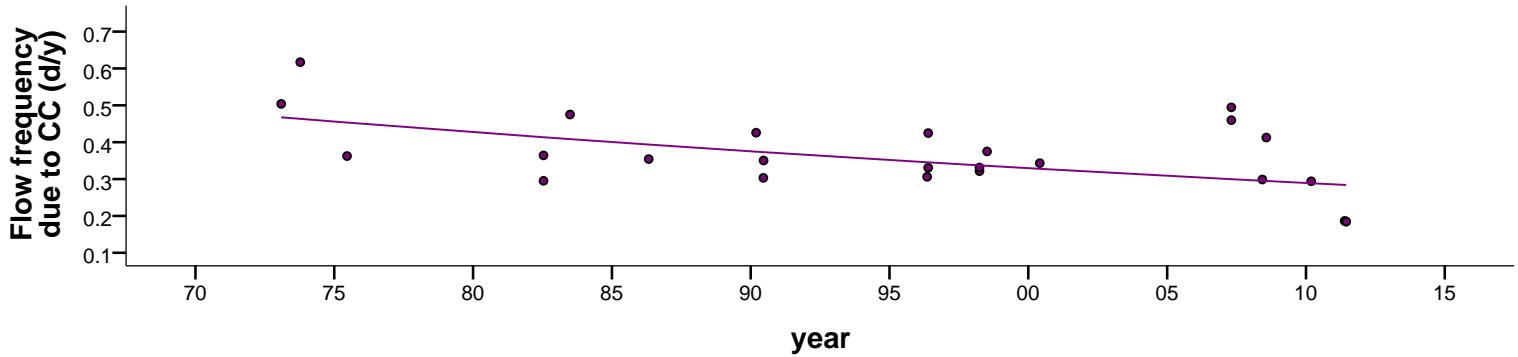
name: 05483450 - Middle Raccoon River near Bayard, IA



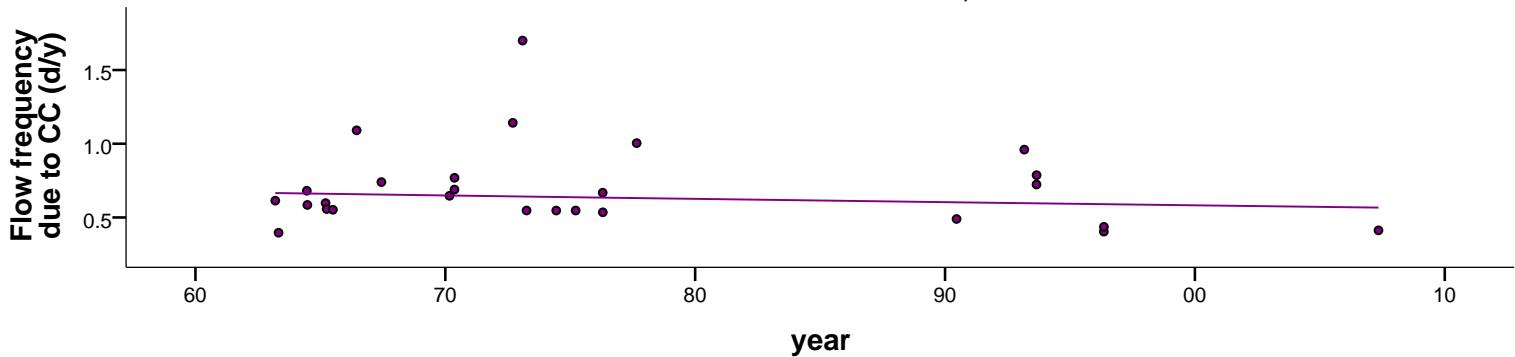
name: 05484500 - Raccoon River at Van Meter, IA



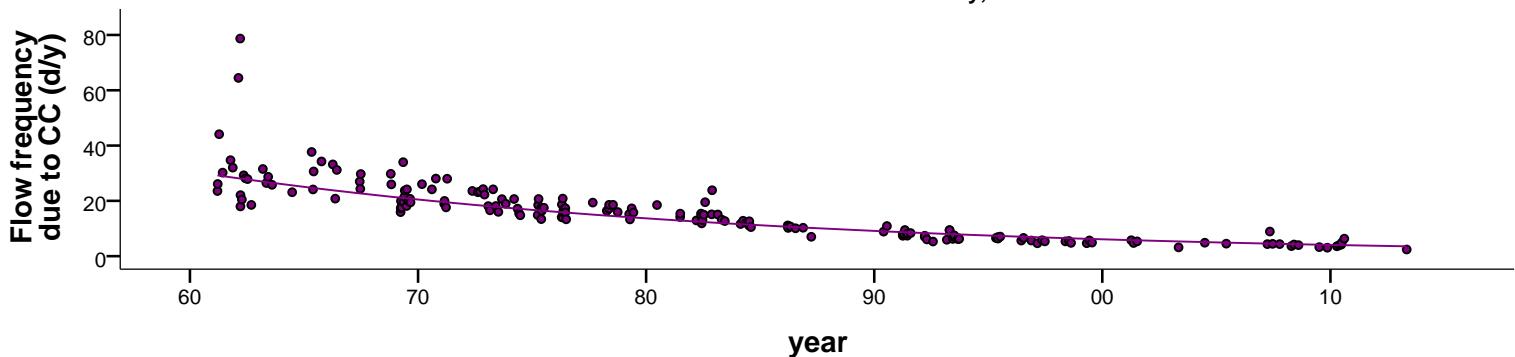
name: 05485640 - Fourmile Creek at Des Moines, IA



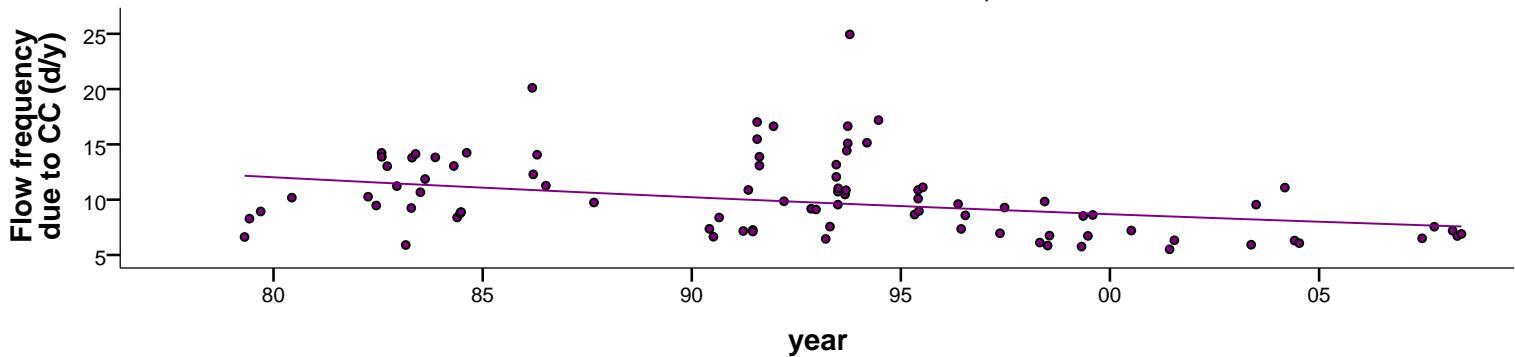
name: 05486000 - North River near Norwalk, IA



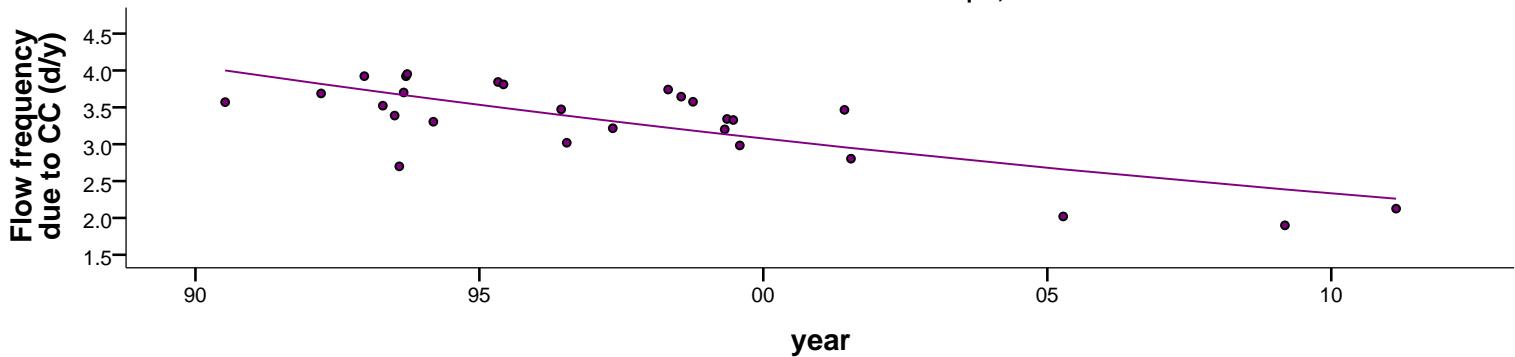
name: 05488500 - Des Moines River near Tracy, IA



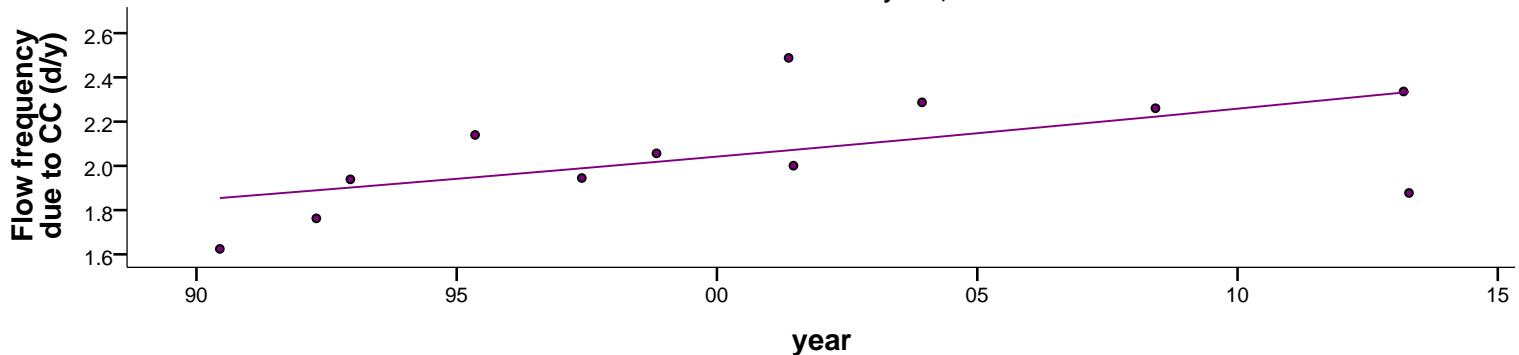
name: 05489500 - Des Moines River at Ottumwa, IA



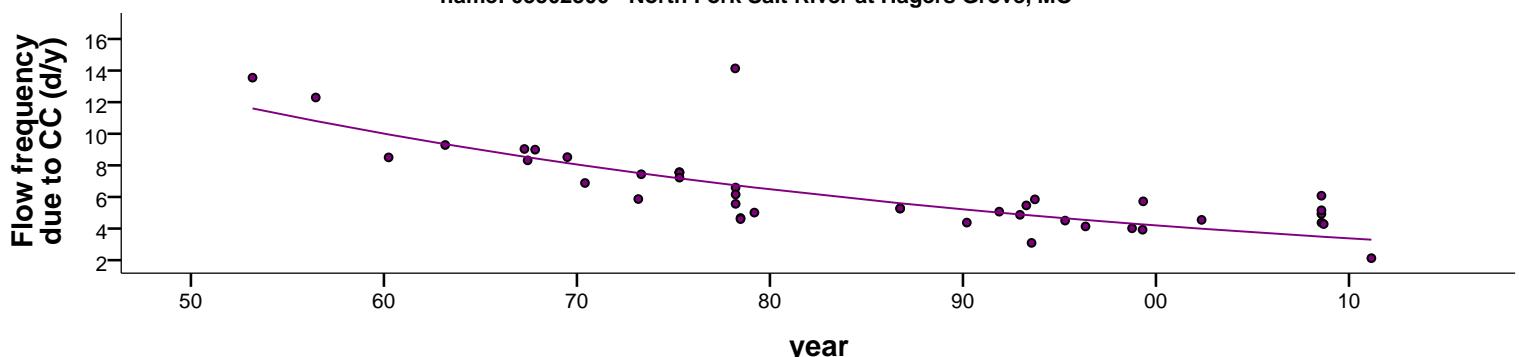
name: 05490500 - Des Moines River at Keosauqua, IA



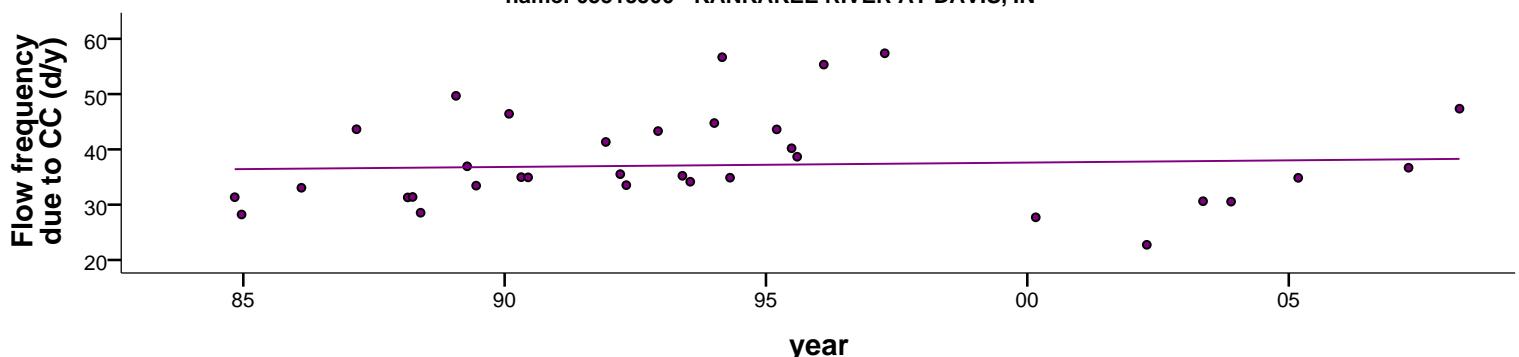
name: 05495000 - Fox River at Wayland, MO



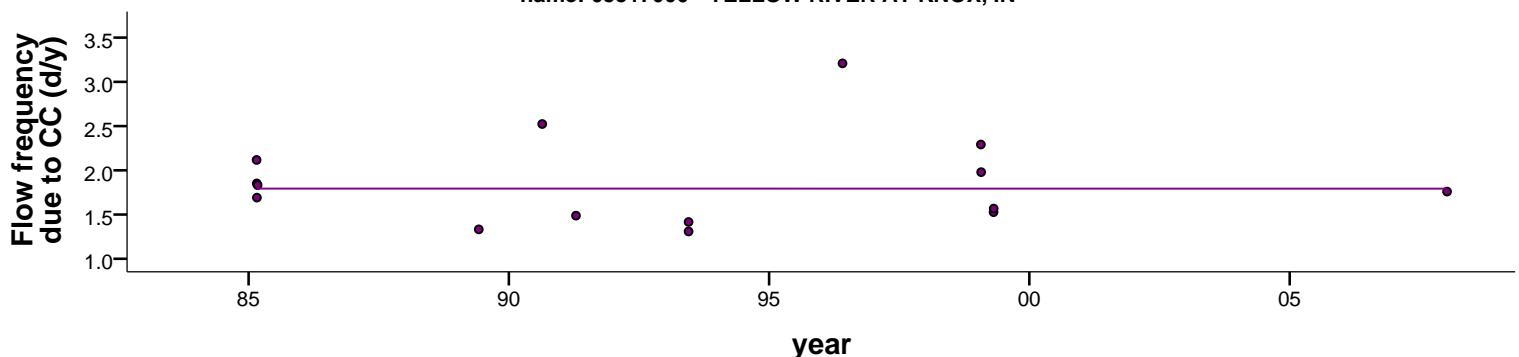
name: 05502300 - North Fork Salt River at Hagers Grove, MO



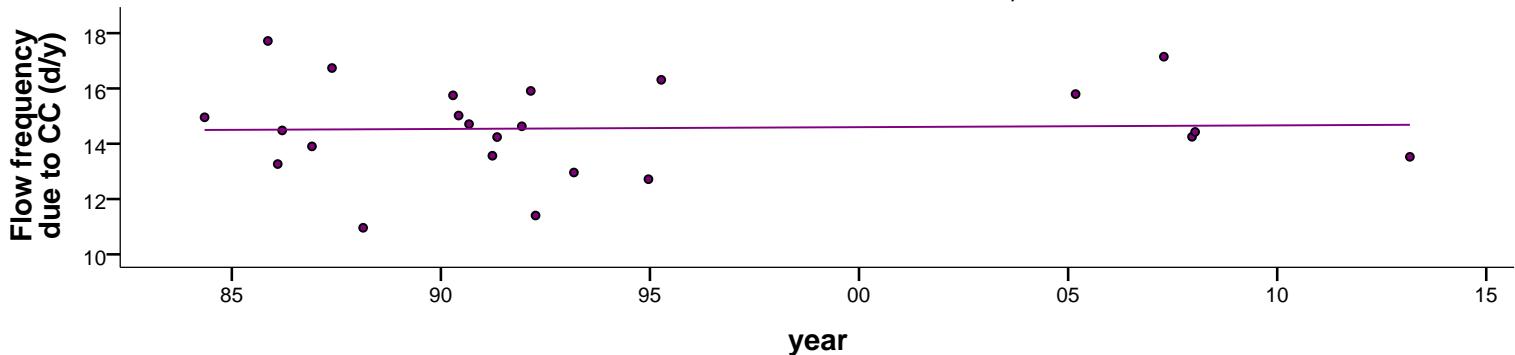
name: 05515500 - KANKAKEE RIVER AT DAVIS, IN



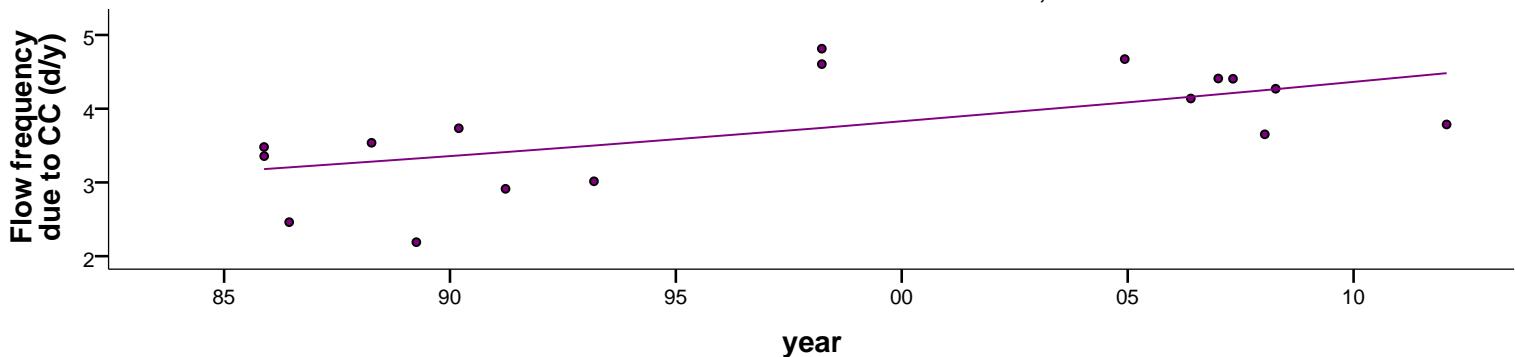
name: 05517000 - YELLOW RIVER AT KNOX, IN



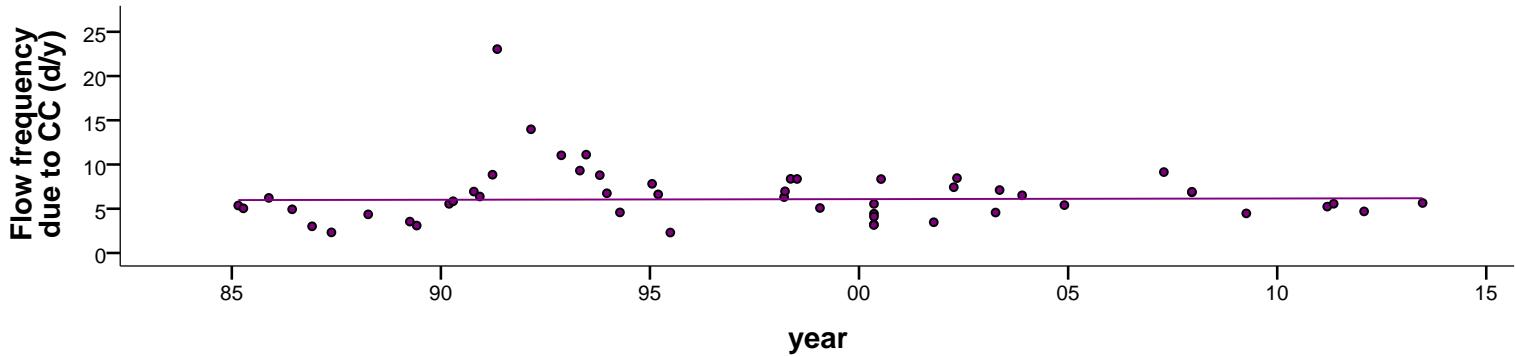
name: 05517530 - KANKAKEE RIVER NR KOUTS, IN



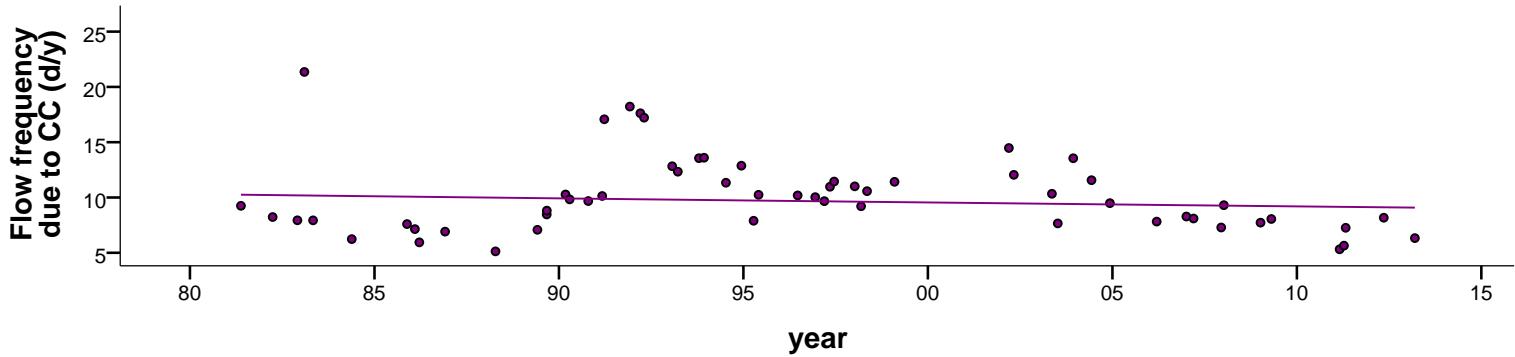
name: 05522500 - IROQUOIS RIVER AT RENNSLAER, IN



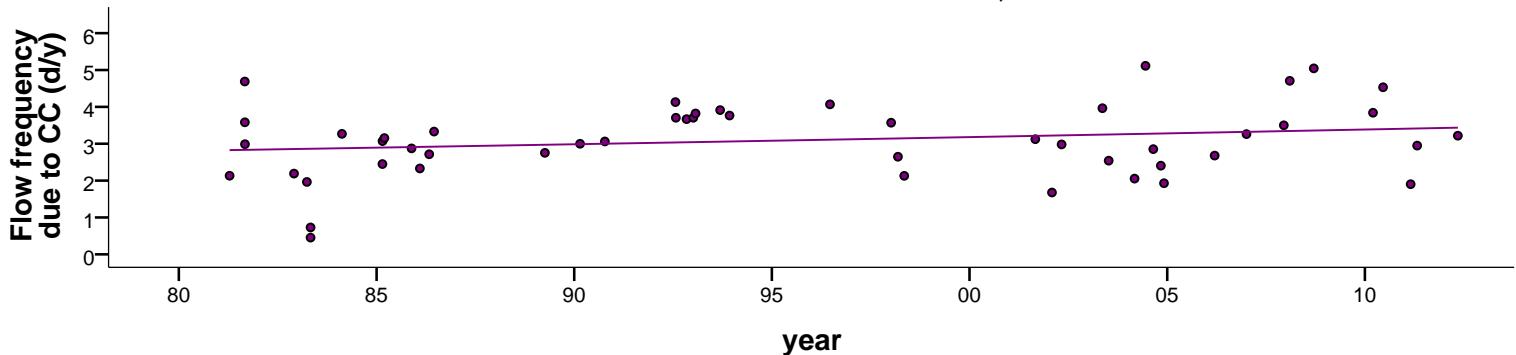
name: 05524500 - IROQUOIS RIVER NEAR FORESMAN, IN



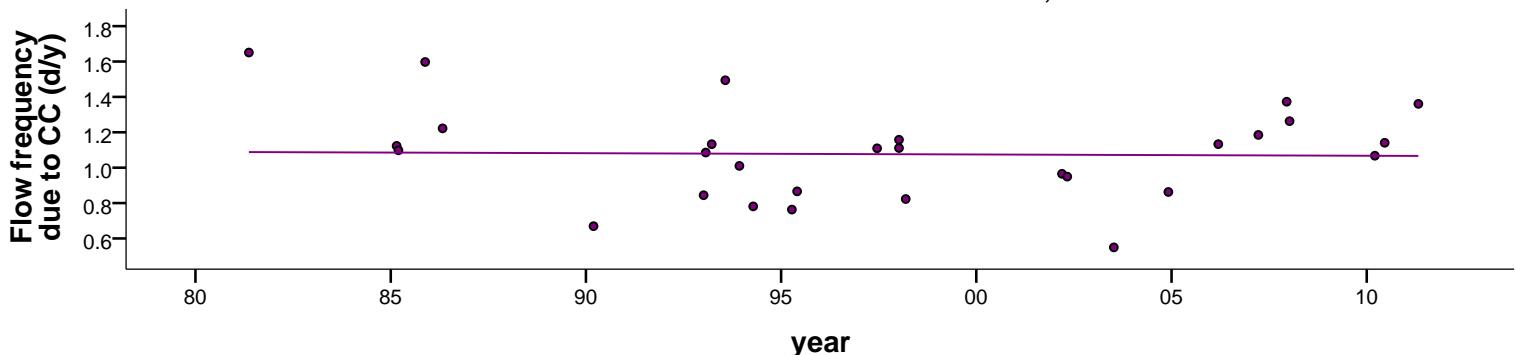
name: 05525000 - IROQUOIS RIVER AT IROQUOIS, IL



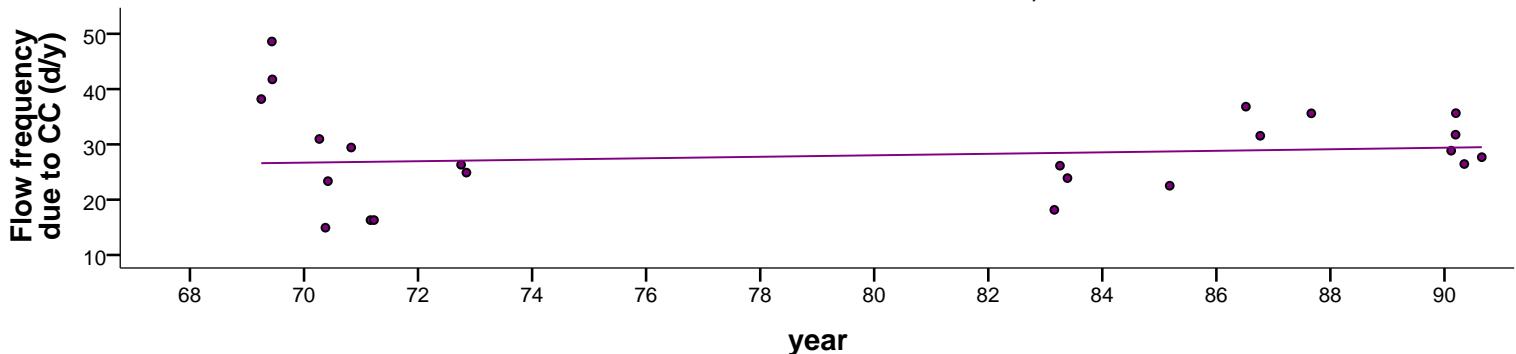
name: 05525500 - SUGAR CREEK AT MILFORD, IL



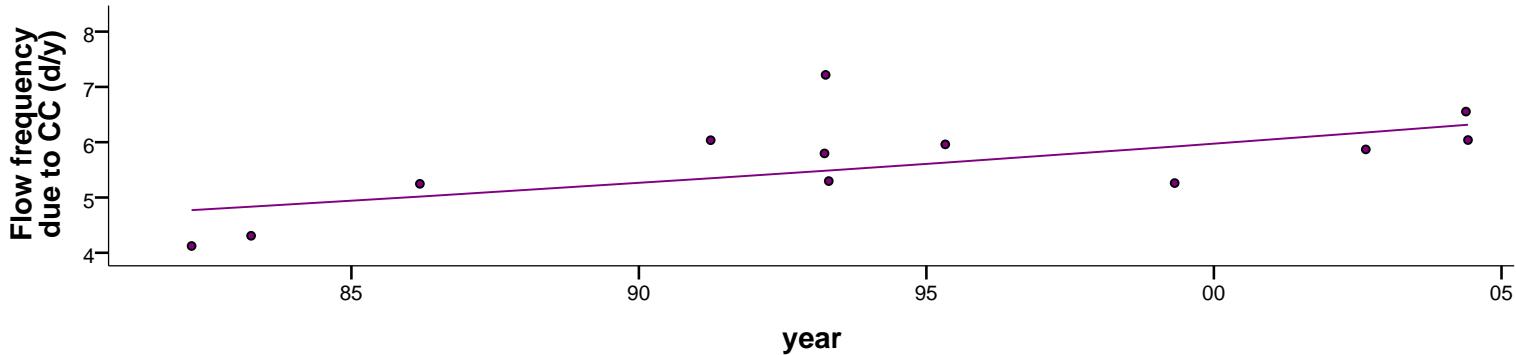
name: 05526000 - IROQUOIS RIVER NEAR CHEBANSE, IL



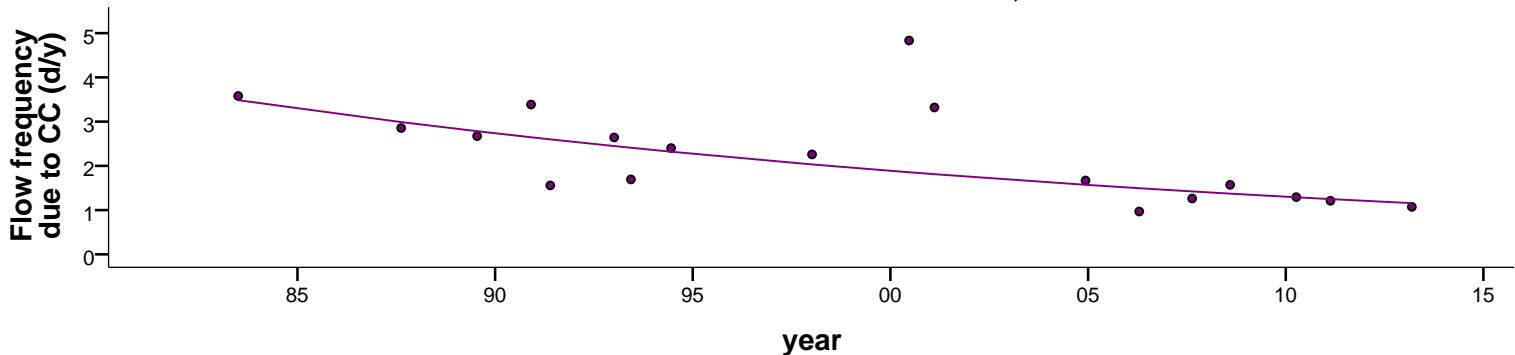
name: 05527800 - DES PLAINES RIVER AT RUSSELL, IL



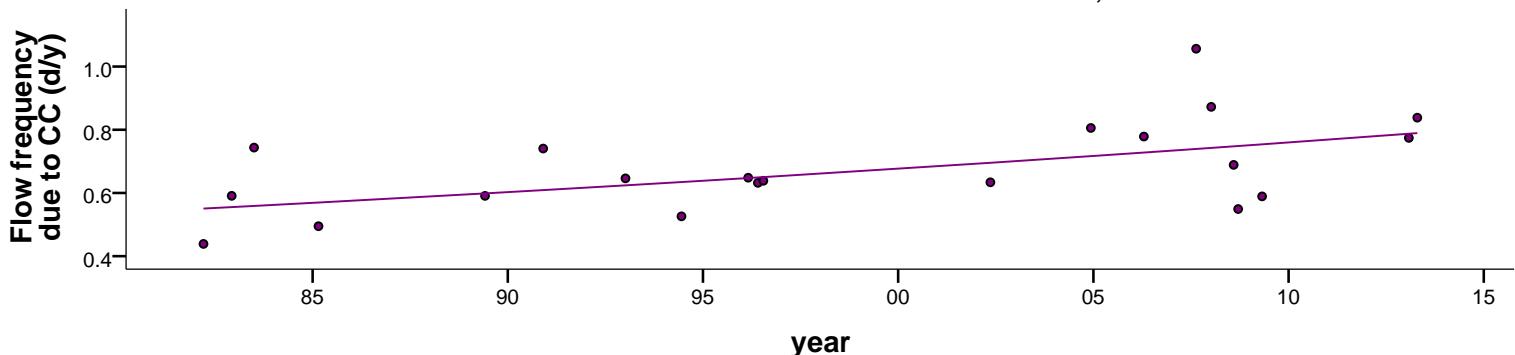
name: 05529000 - DES PLAINES RIVER NEAR DES PLAINES, IL



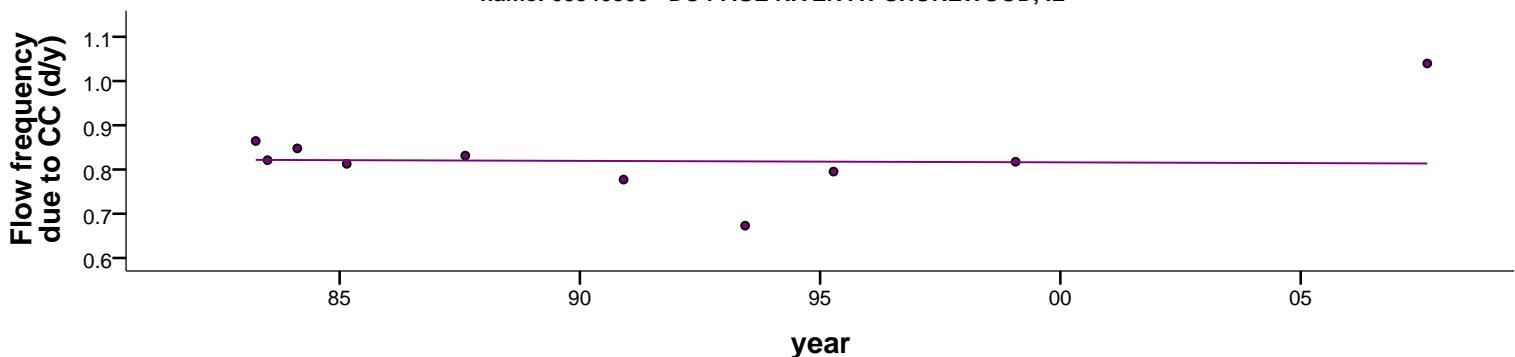
name: 05536275 - THORN CREEK AT THORNTON, IL



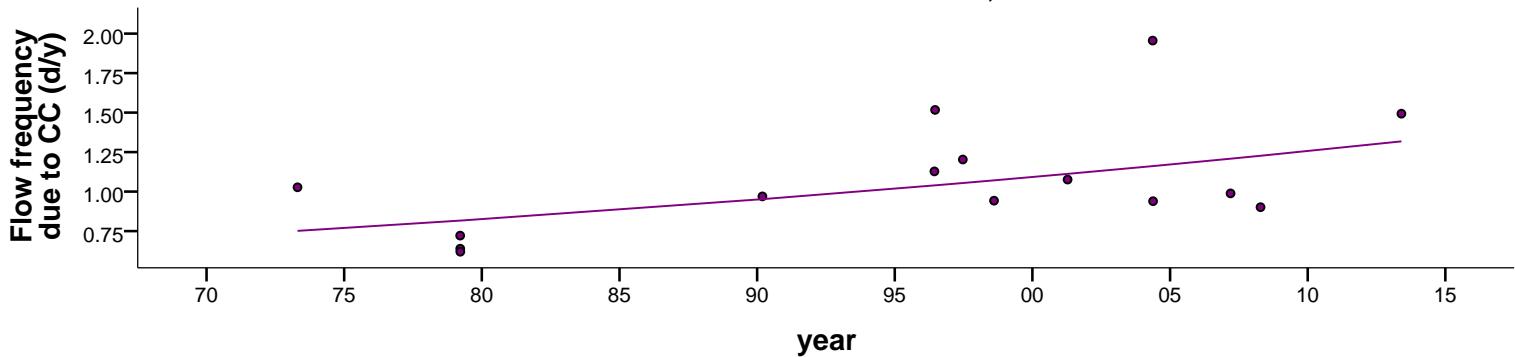
name: 05536290 - LITTLE CALUMET RIVER AT SOUTH HOLLAND, IL



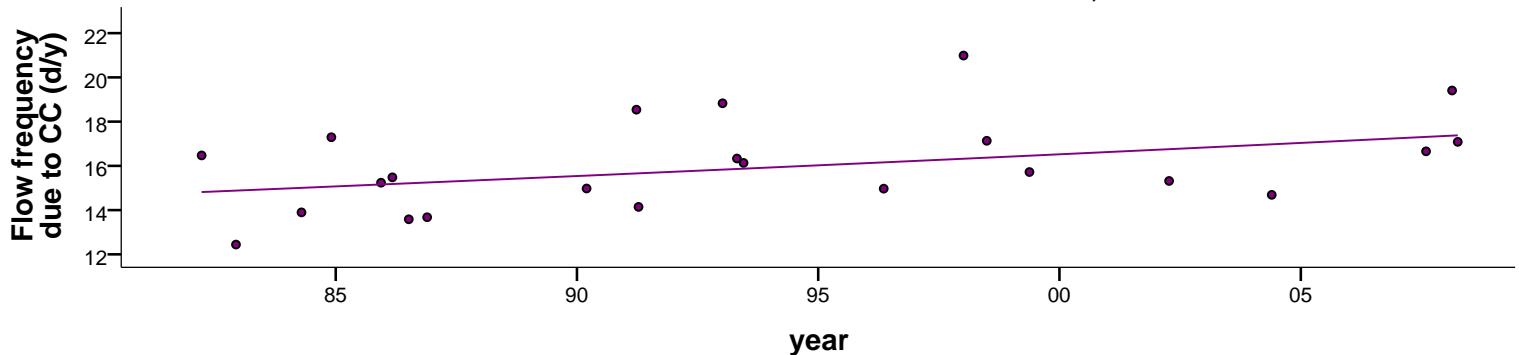
name: 05540500 - DU PAGE RIVER AT SHOREWOOD, IL



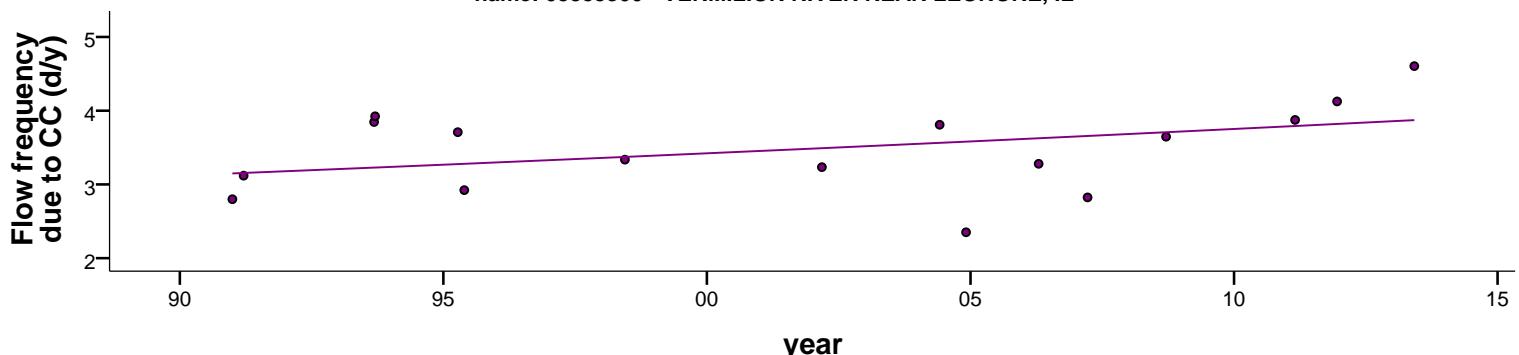
name: 05543830 - FOX RIVER AT WAUKESHA, WI



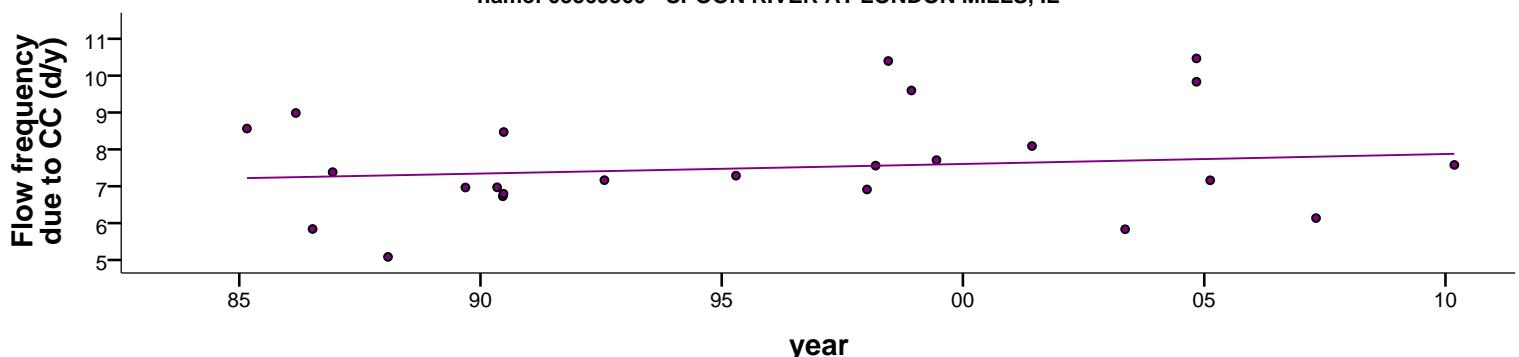
name: 05548280 - NIPPERSINK CREEK NEAR SPRING GROVE, IL



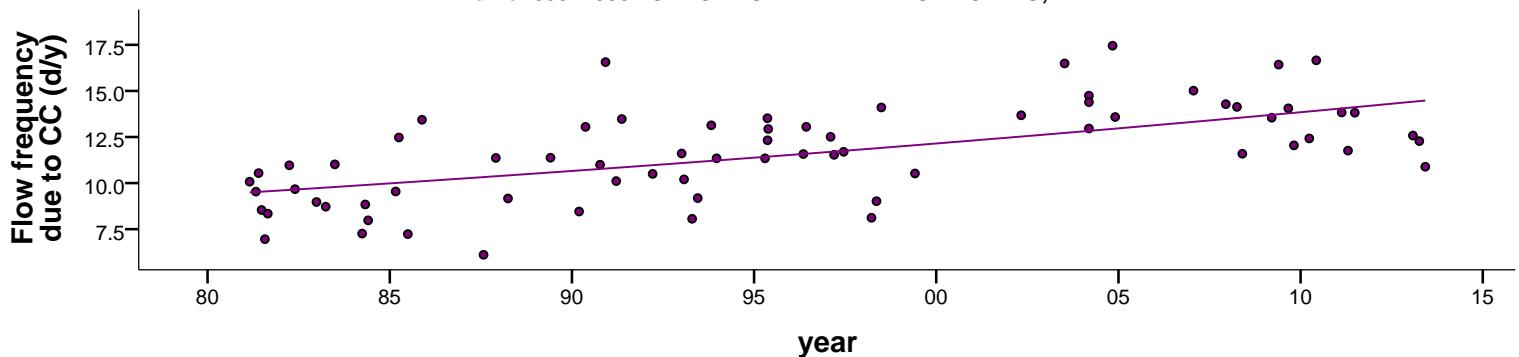
name: 05555300 - VERMILION RIVER NEAR LEONORE, IL



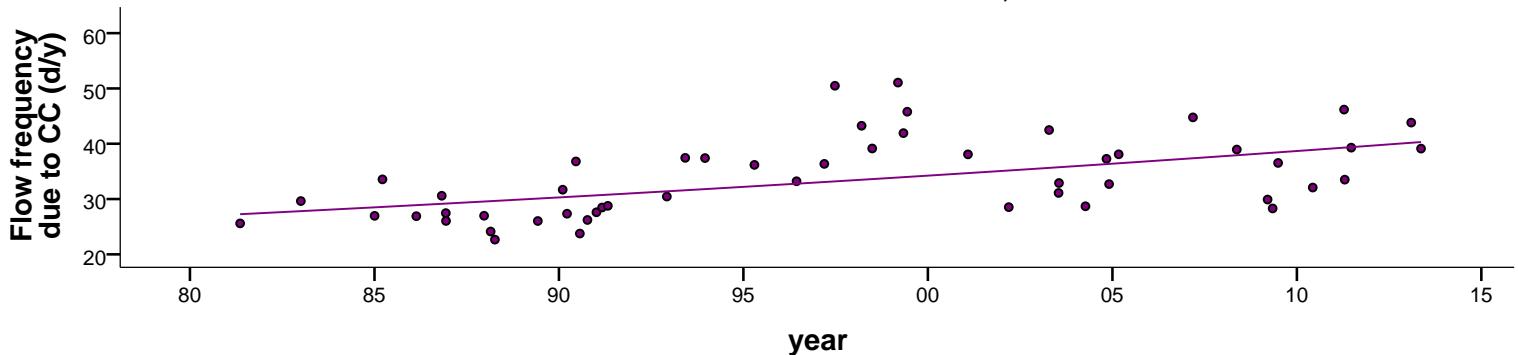
name: 05569500 - SPOON RIVER AT LONDON MILLS, IL



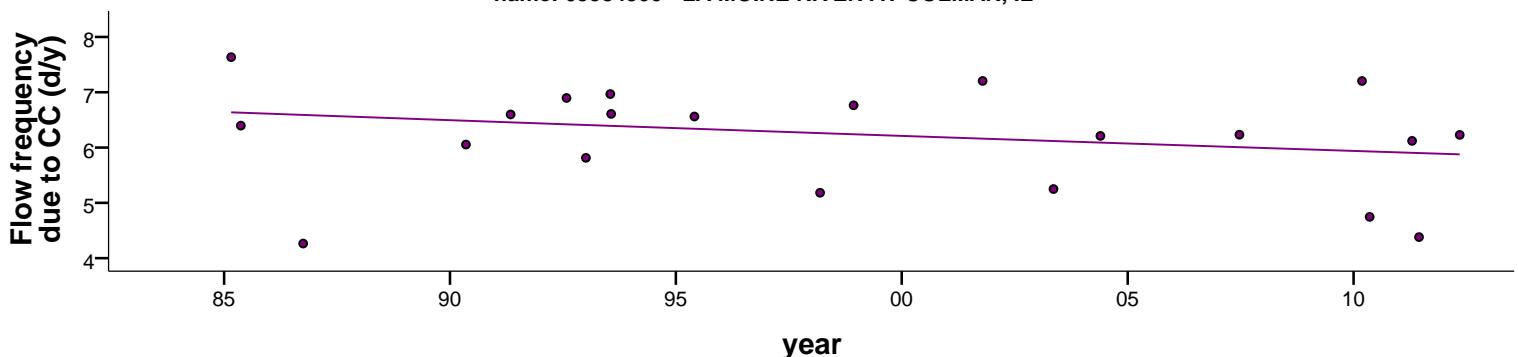
name: 05572000 - SANGAMON RIVER AT MONTICELLO, IL



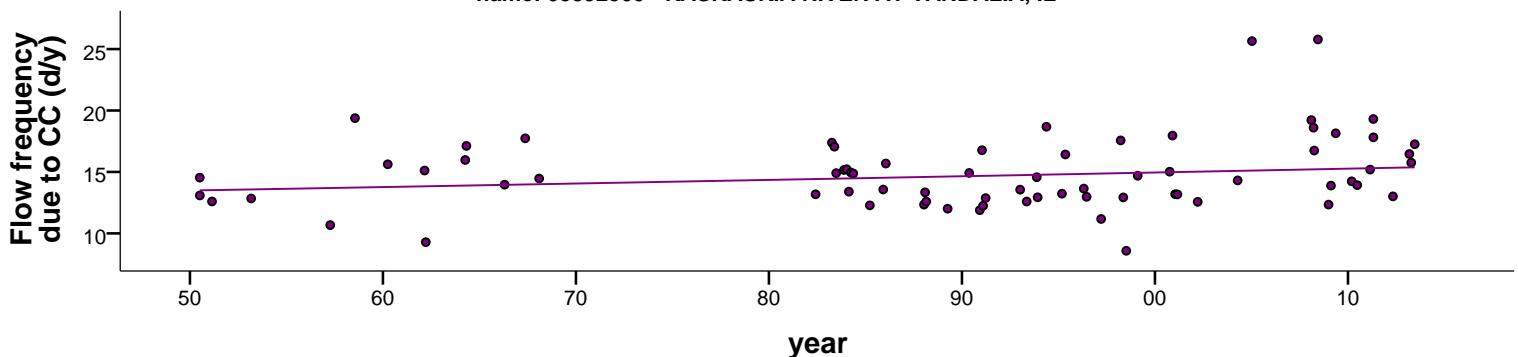
name: 05578500 - SALT CREEK NEAR ROWELL, IL



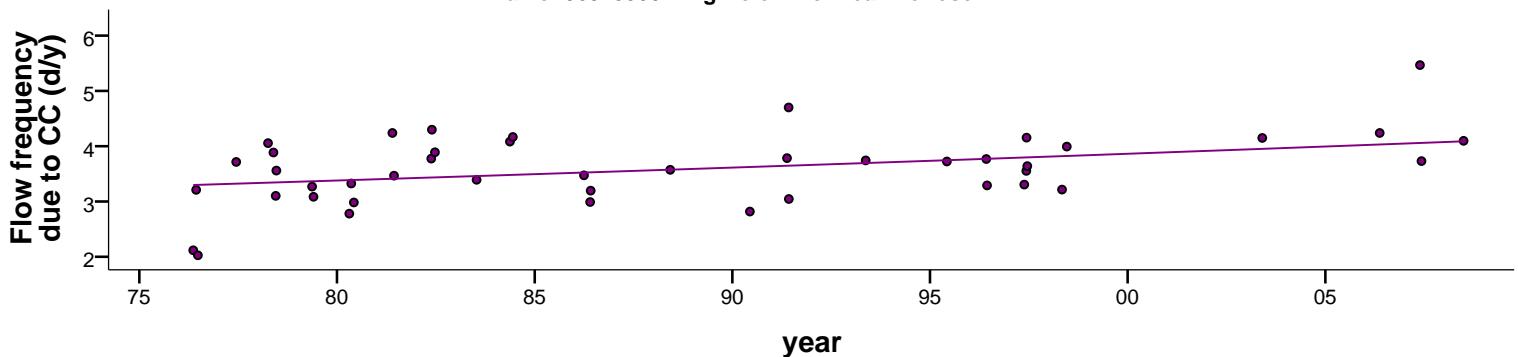
name: 05584500 - LA MOINE RIVER AT COLMAR, IL



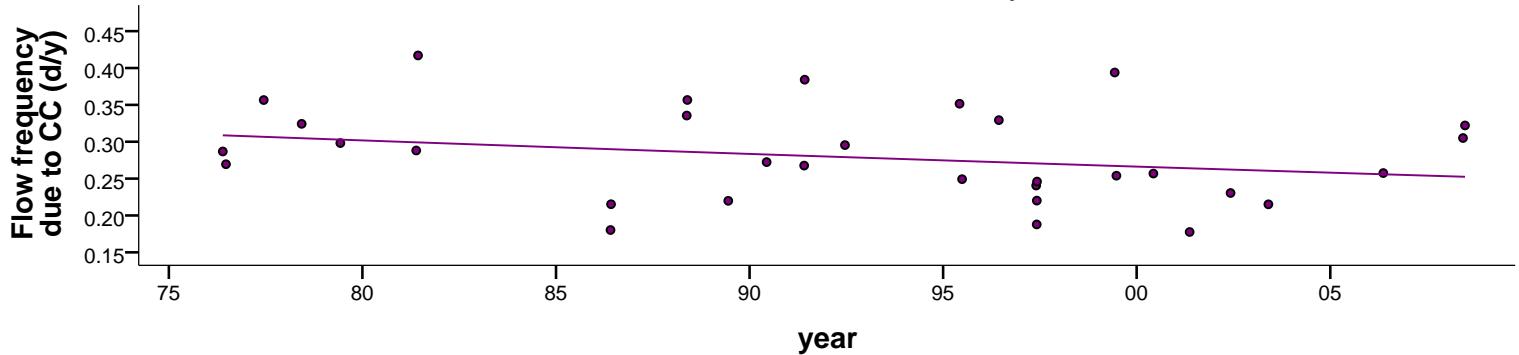
name: 05592500 - KASKASKIA RIVER AT VANDALIA, IL



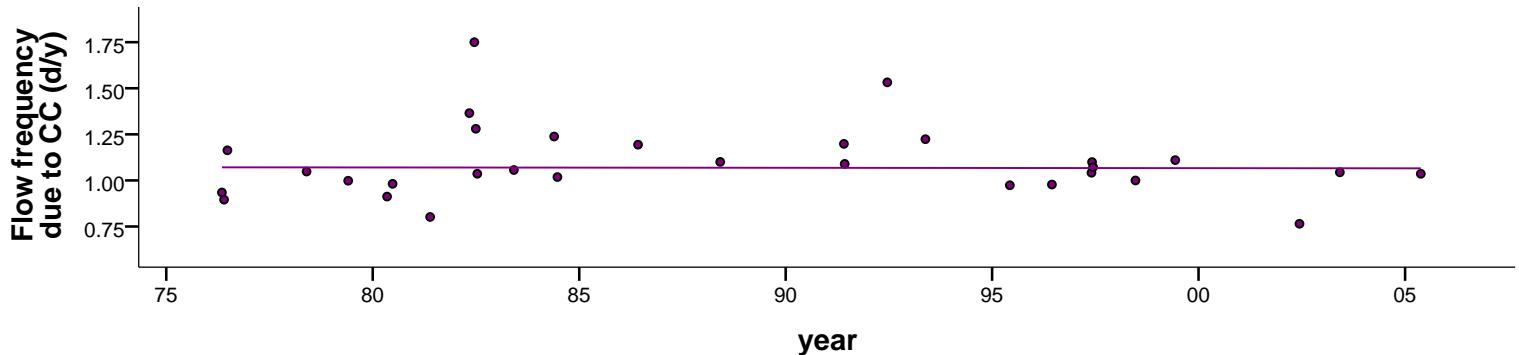
name: 06025500 - Big Hole River near Melrose MT



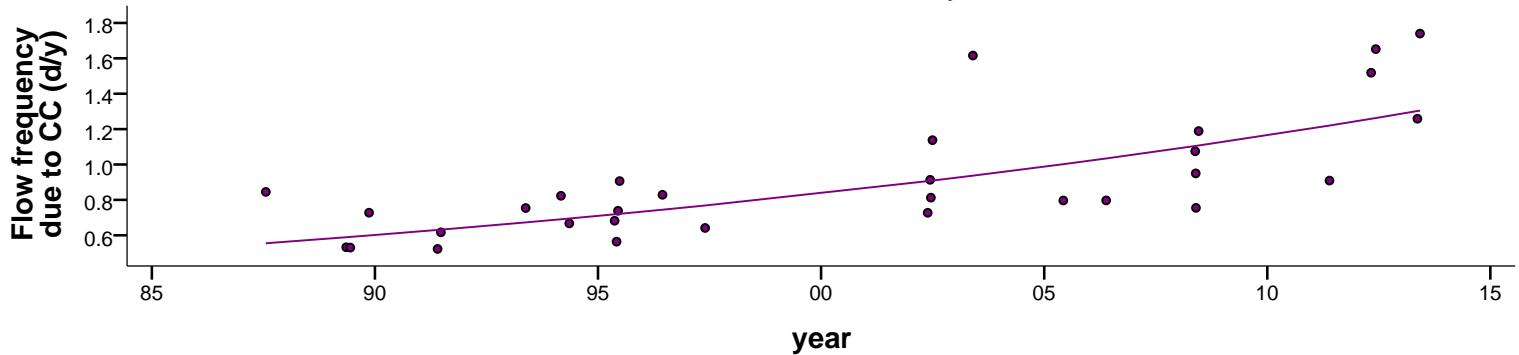
name: 06043500 - Gallatin River near Gallatin Gateway MT



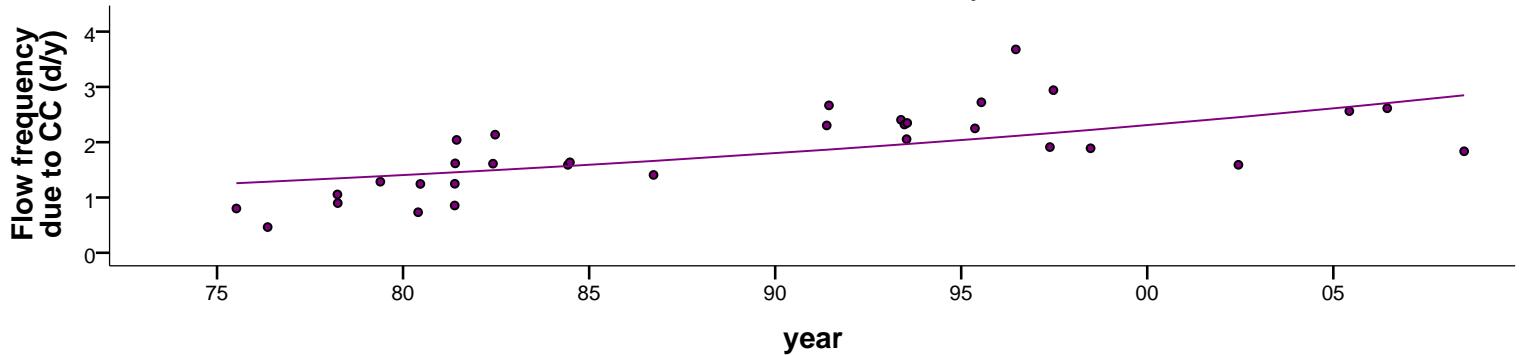
name: 06054500 - Missouri River at Toston MT



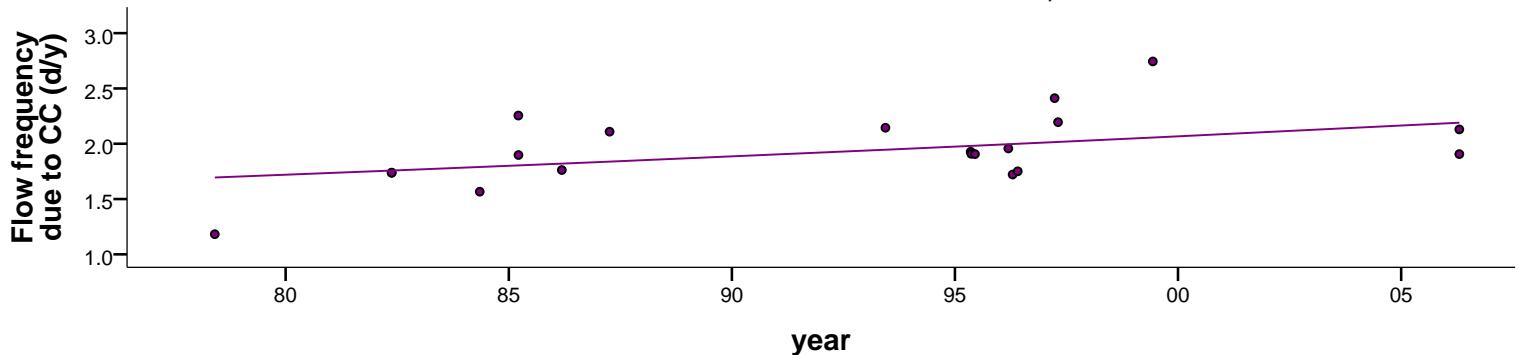
name: 06099500 - Marias River near Shelby MT



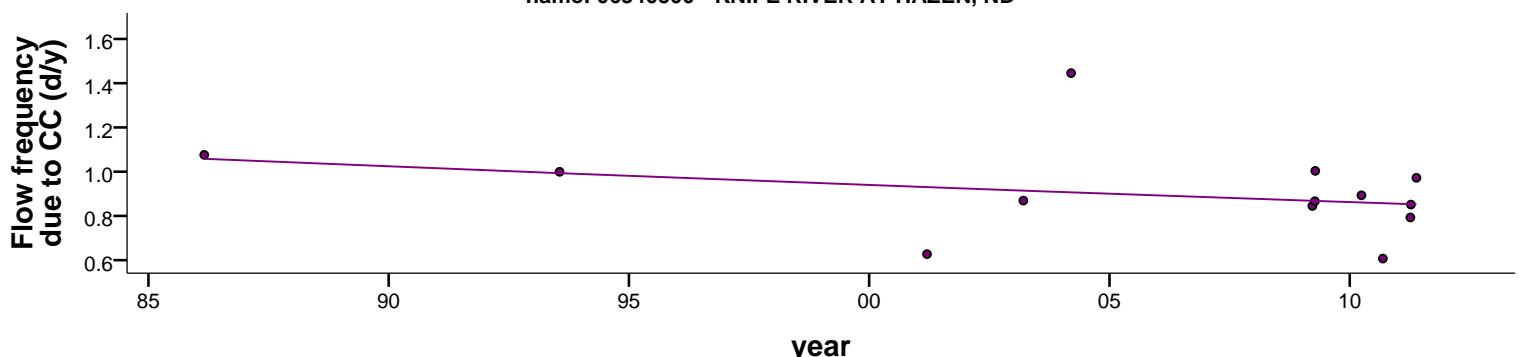
name: 06115200 - Missouri River near Landusky MT



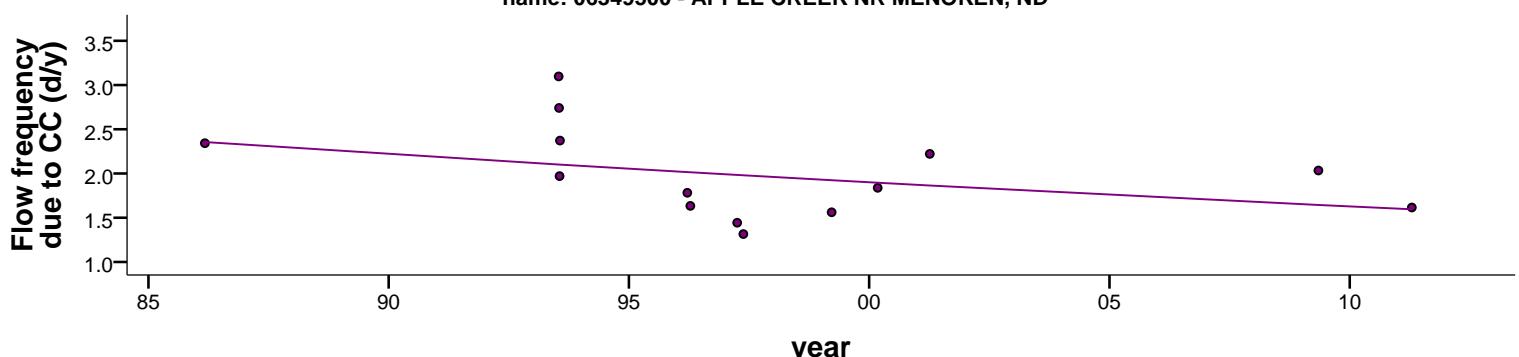
name: 06334500 - LITTLE MISSOURI R AT CAMP CROOK,SD



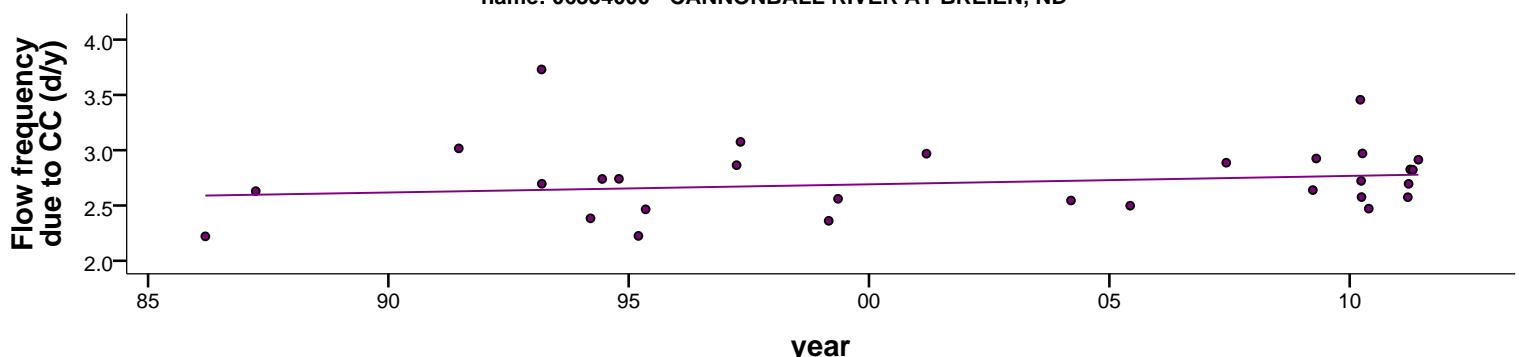
name: 06340500 - KNIFE RIVER AT HAZEN, ND



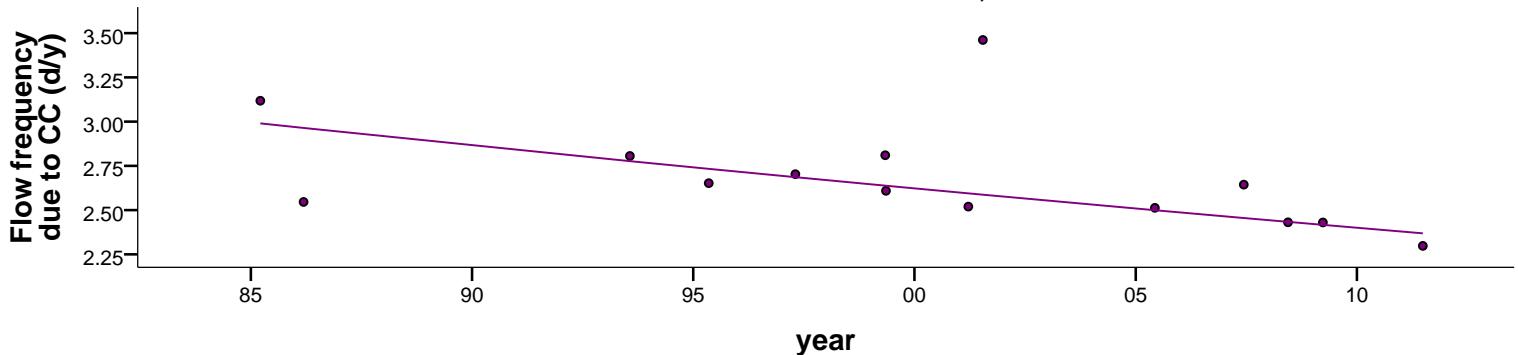
name: 06349500 - APPLE CREEK NR MENOKEN, ND



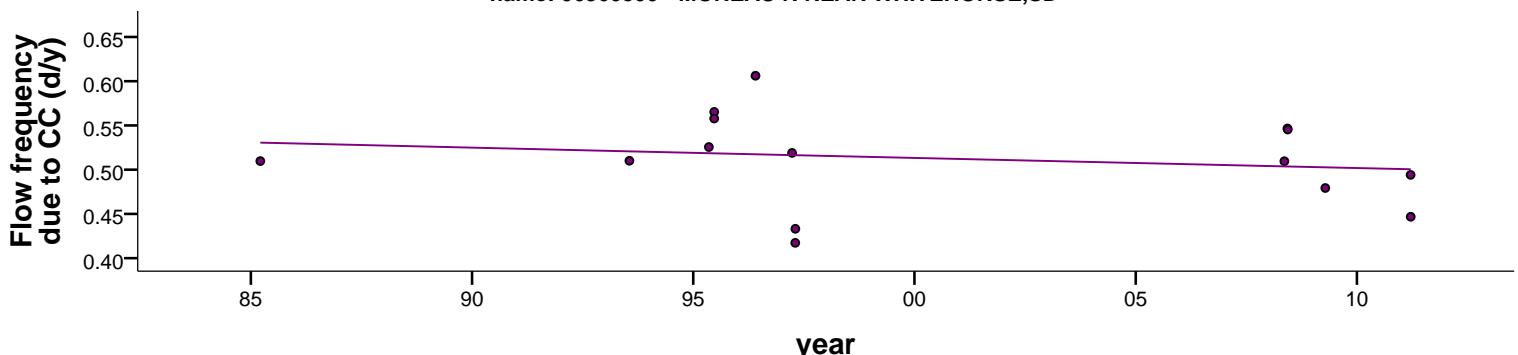
name: 06354000 - CANNONBALL RIVER AT BREIEN, ND



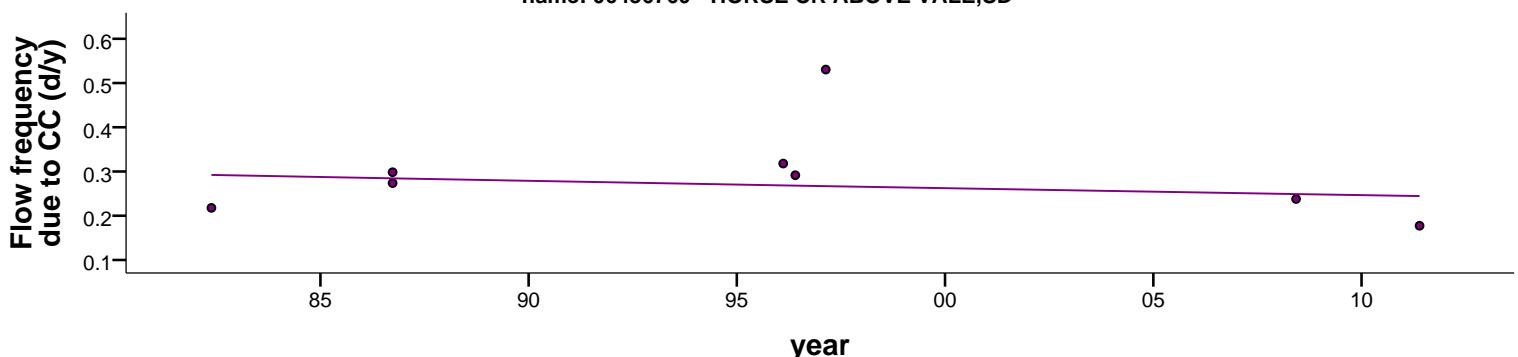
name: 06354882 - OAK CR NEAR WAKPALA,SD



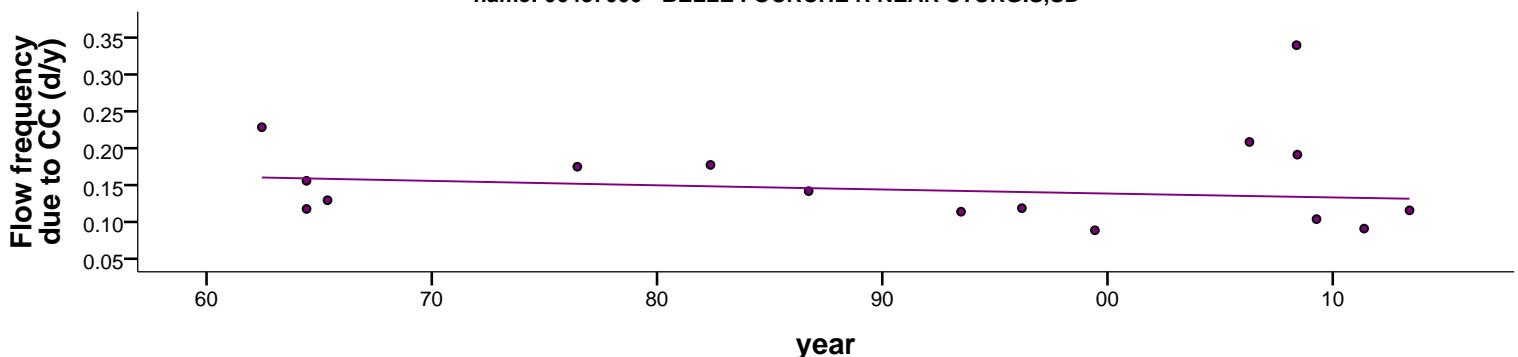
name: 06360500 - MOREAU R NEAR WHITEHORSE,SD



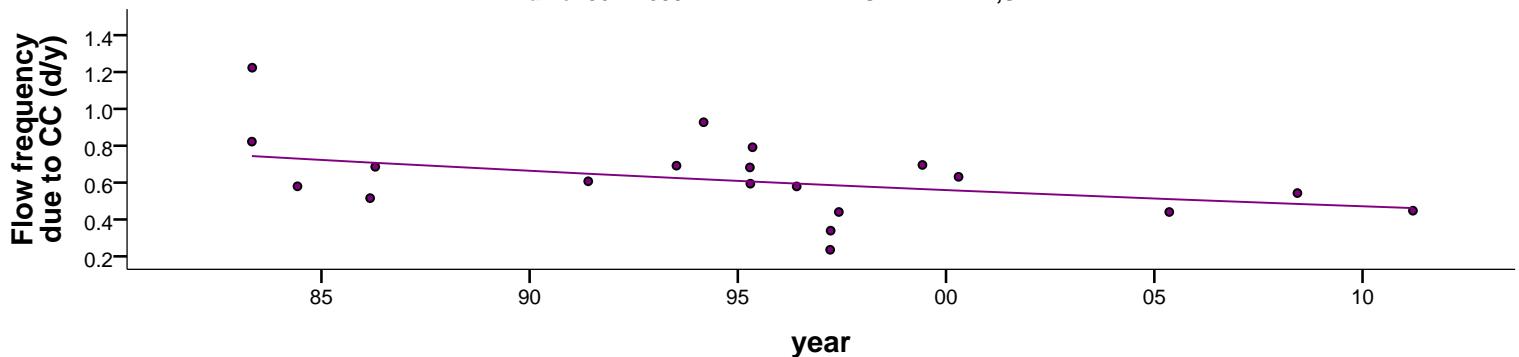
name: 06436760 - HORSE CR ABOVE VALE,SD



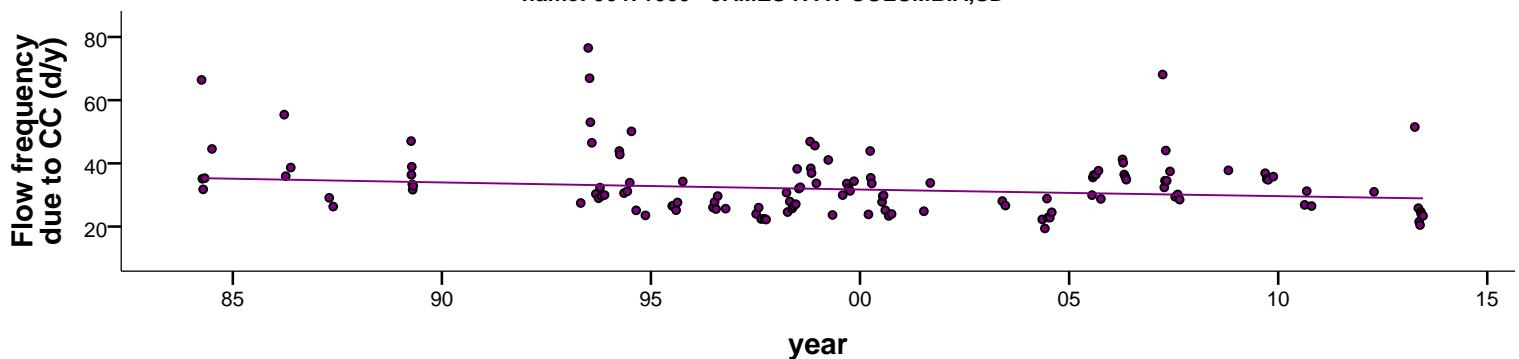
name: 06437000 - BELLE FOURCHE R NEAR STURGIS,SD



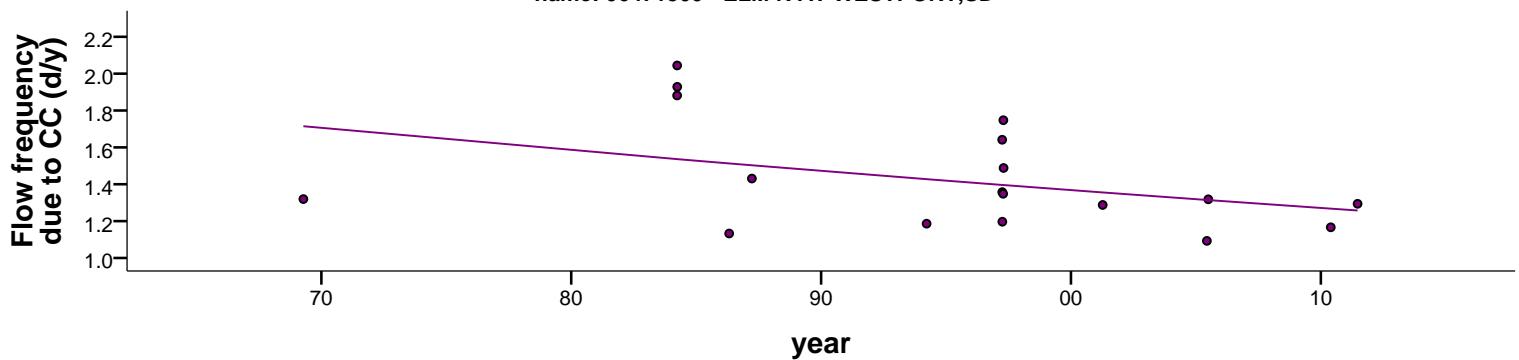
name: 06441500 - BAD R NEAR FORT PIERRE,SD



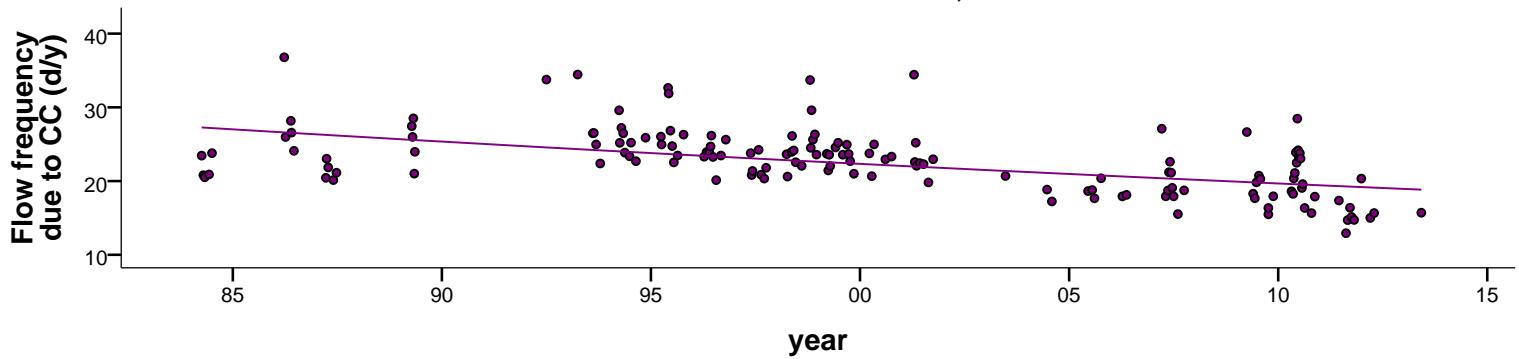
name: 06471000 - JAMES R AT COLUMBIA,SD



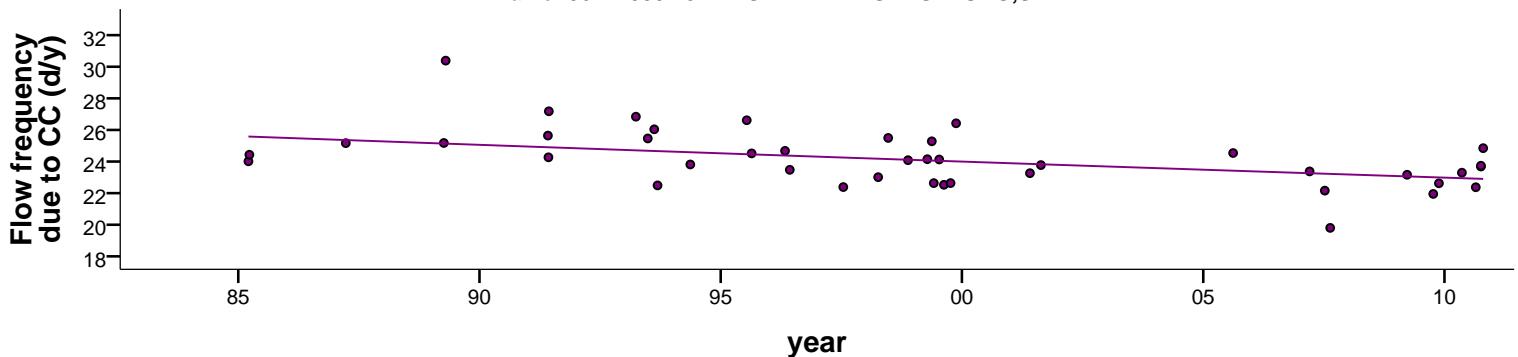
name: 06471500 - ELM R AT WESTPORT,SD



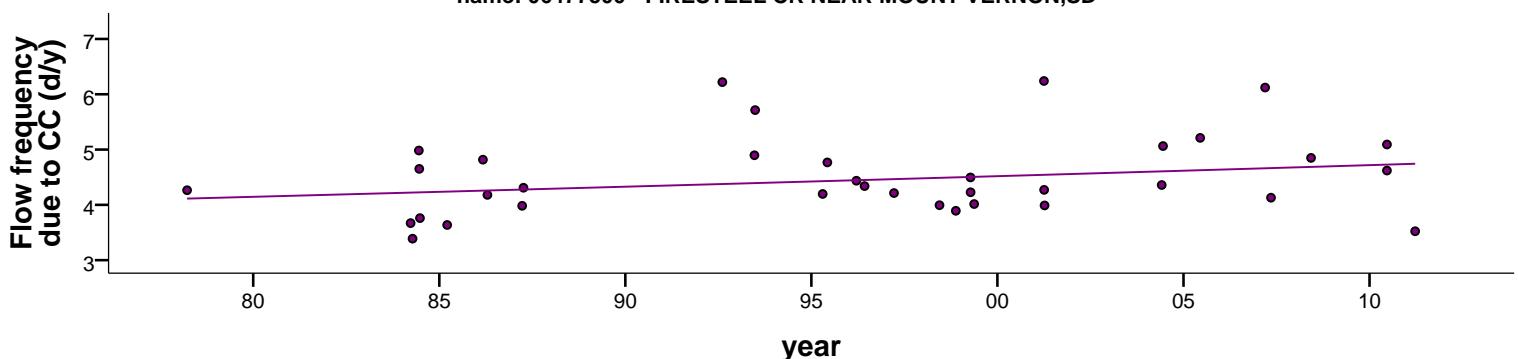
name: 06473000 - JAMES R AT ASHTON,SD



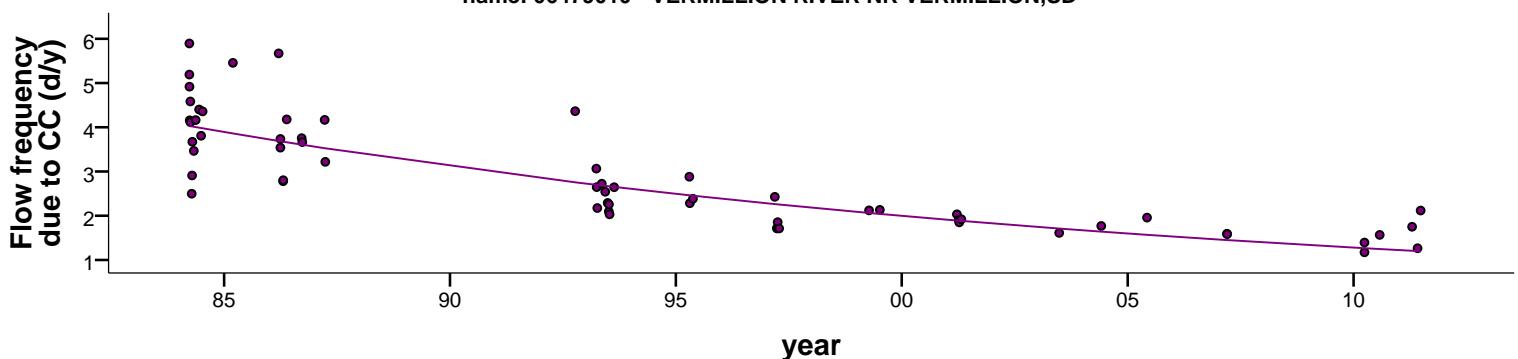
name: 06477000 - JAMES R NEAR FORESTBURG,SD



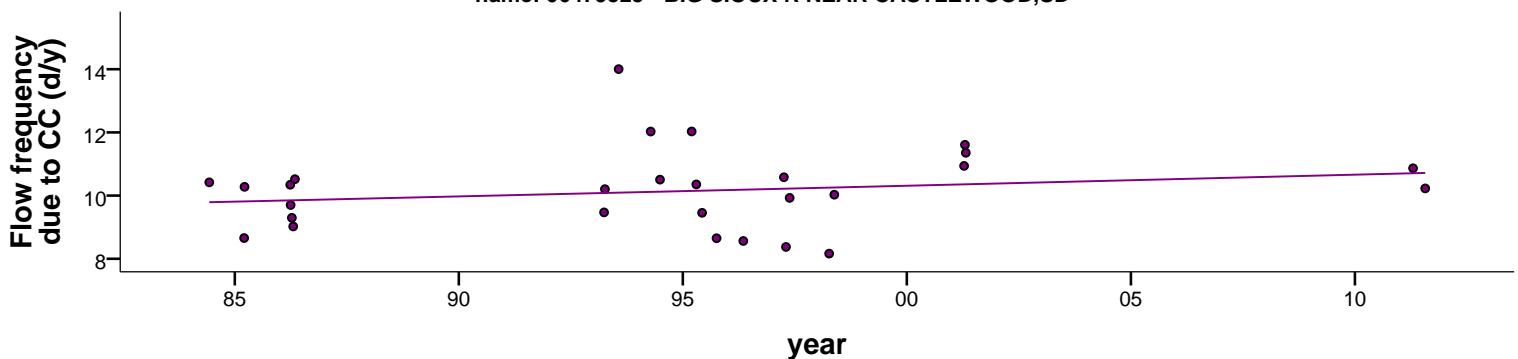
name: 06477500 - FIRESTEEL CR NEAR MOUNT VERNON,SD



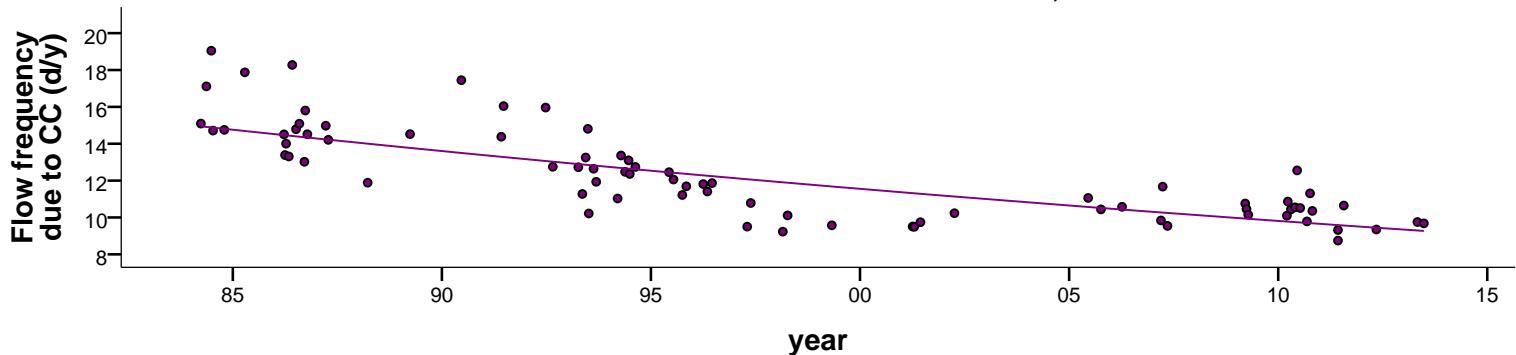
name: 06479010 - VERMILLION RIVER NR VERMILLION,SD



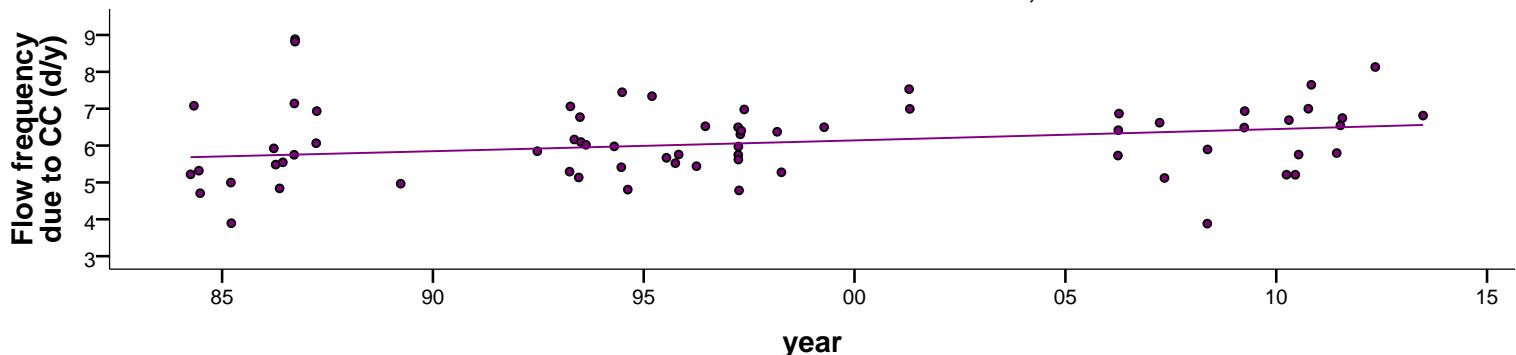
name: 06479525 - BIG SIOUX R NEAR CASTLEWOOD,SD



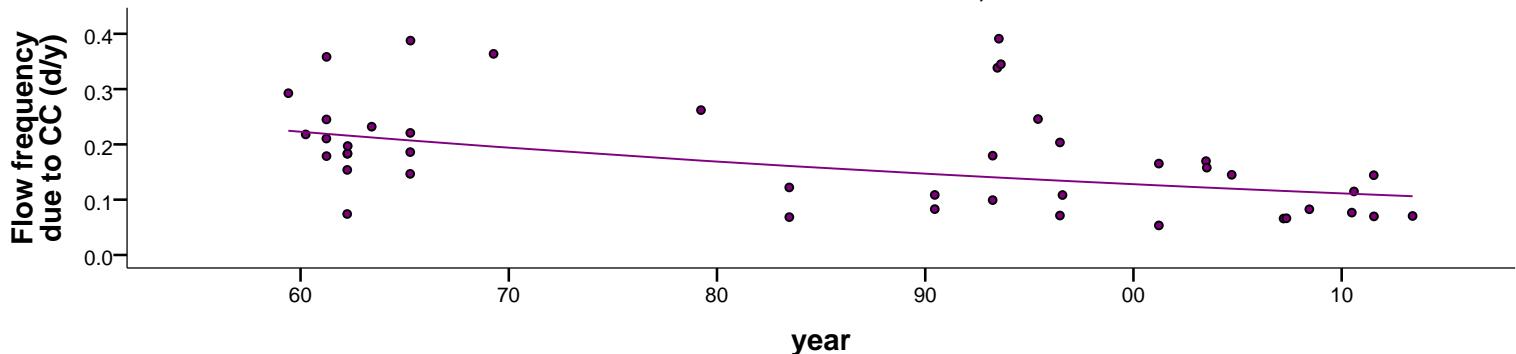
name: 06480000 - BIG SIOUX RIVER NEAR BROOKINGS,SD



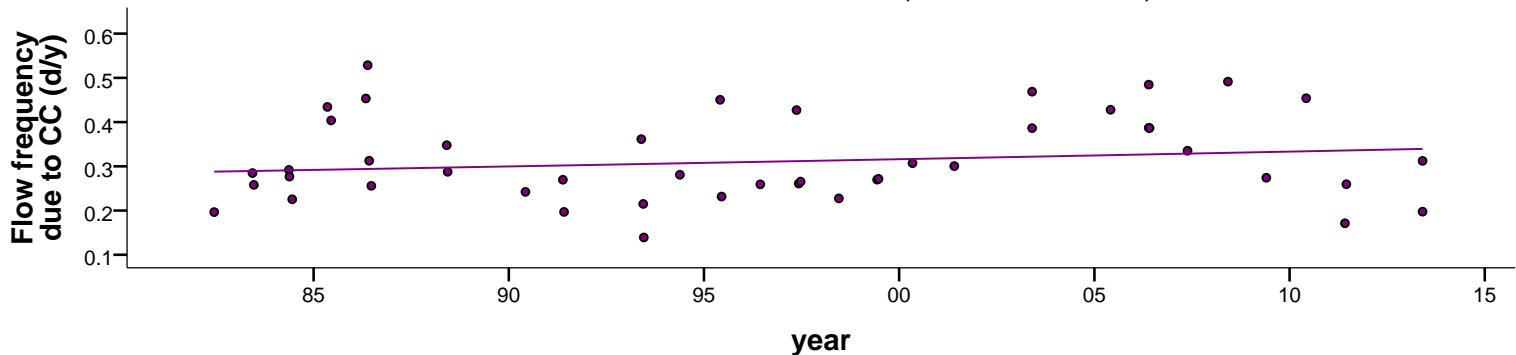
name: 06481000 - BIG SIOUX R NEAR DELL RAPIDS,SD

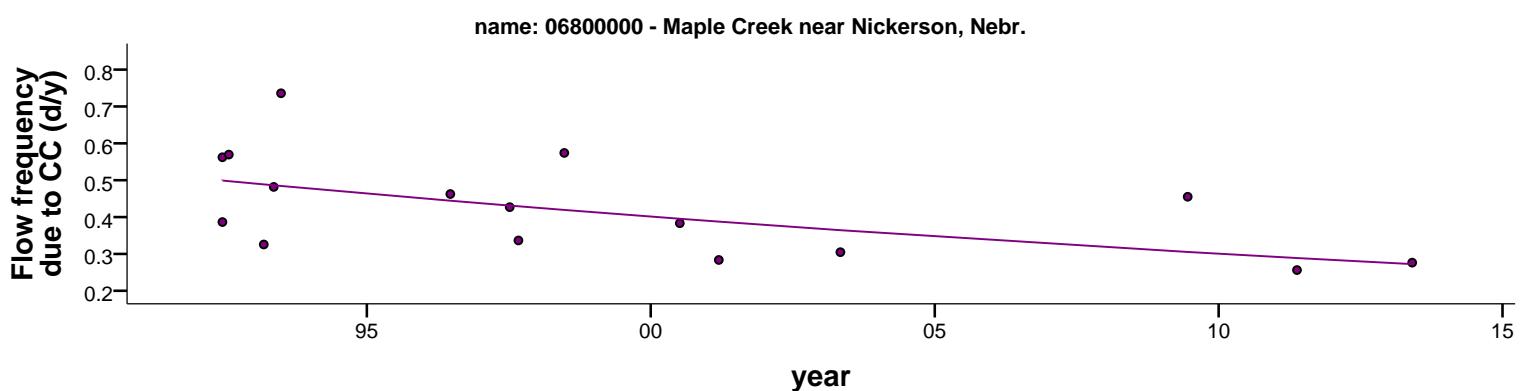
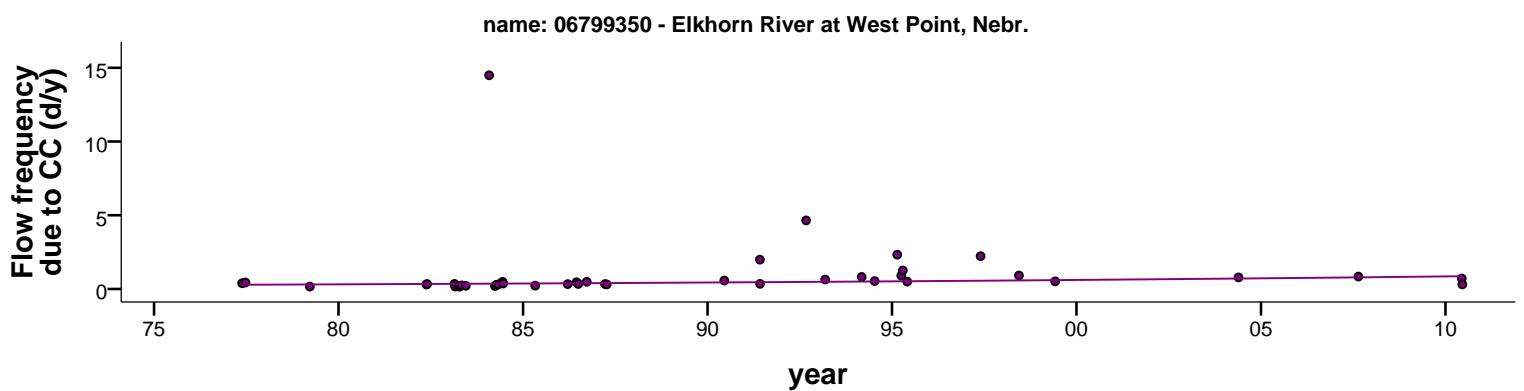
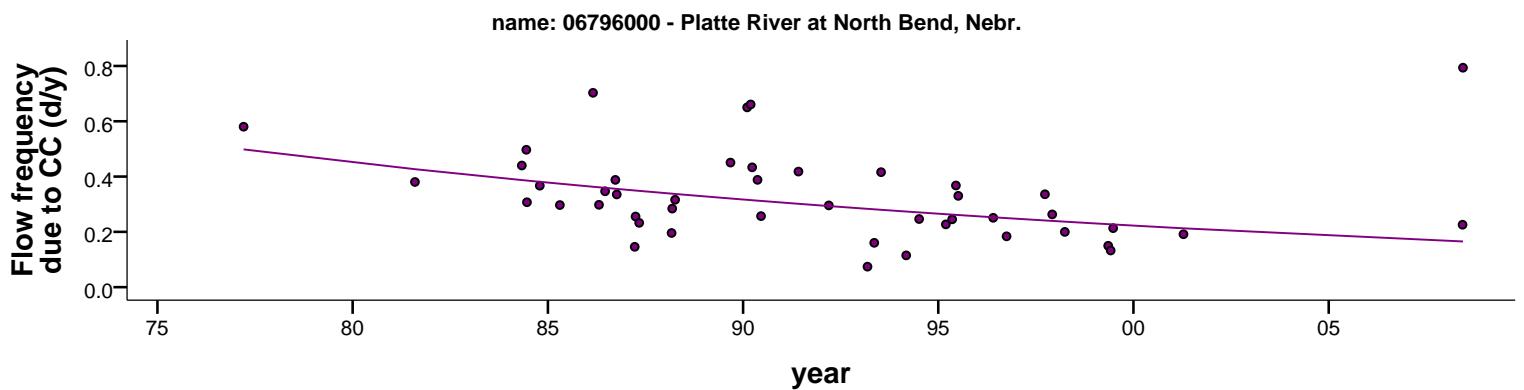
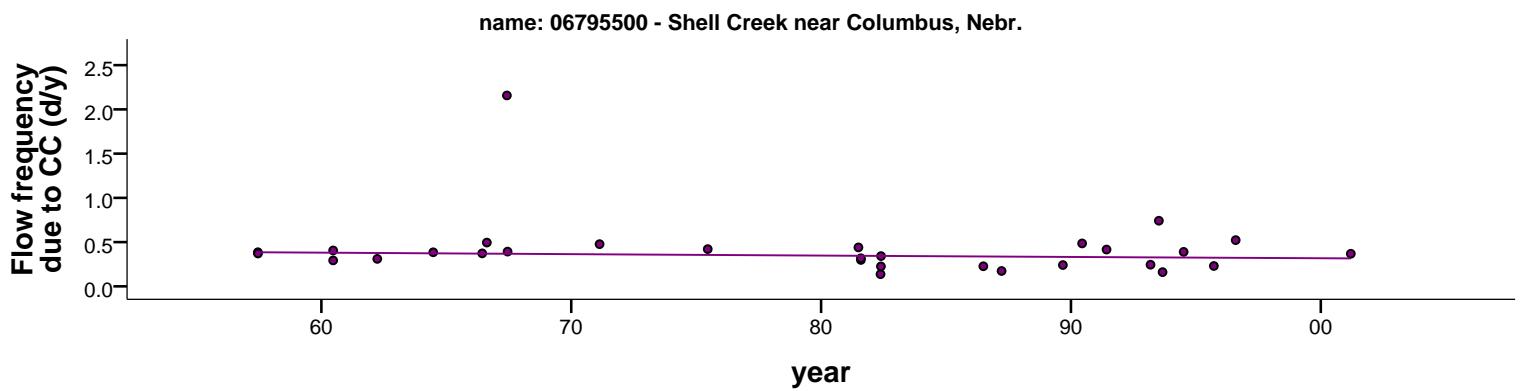


name: 06607500 - Little Sioux River near Turin, IA

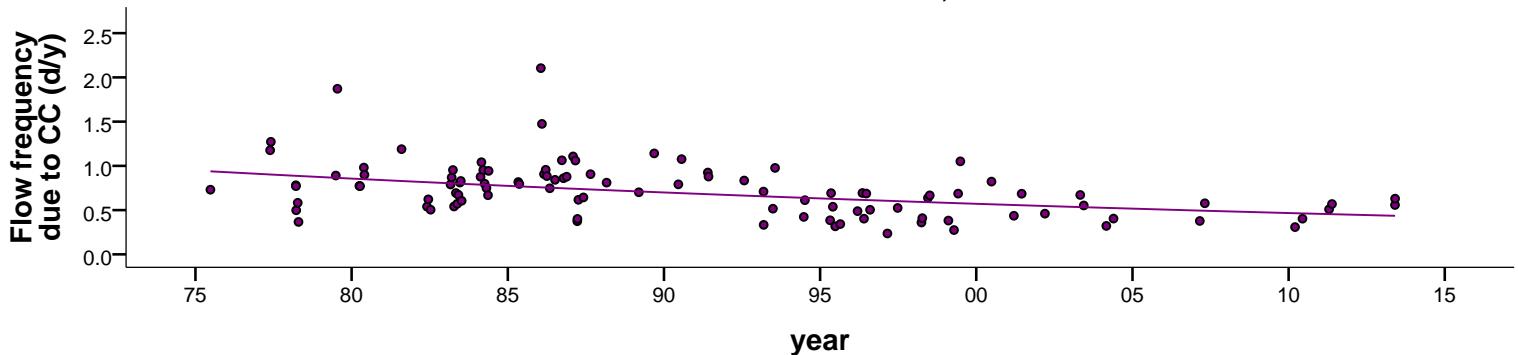


name: 06625000 - ENCAMPMENT RIVER AT MOUTH, NEAR ENCAMPMENT, WY

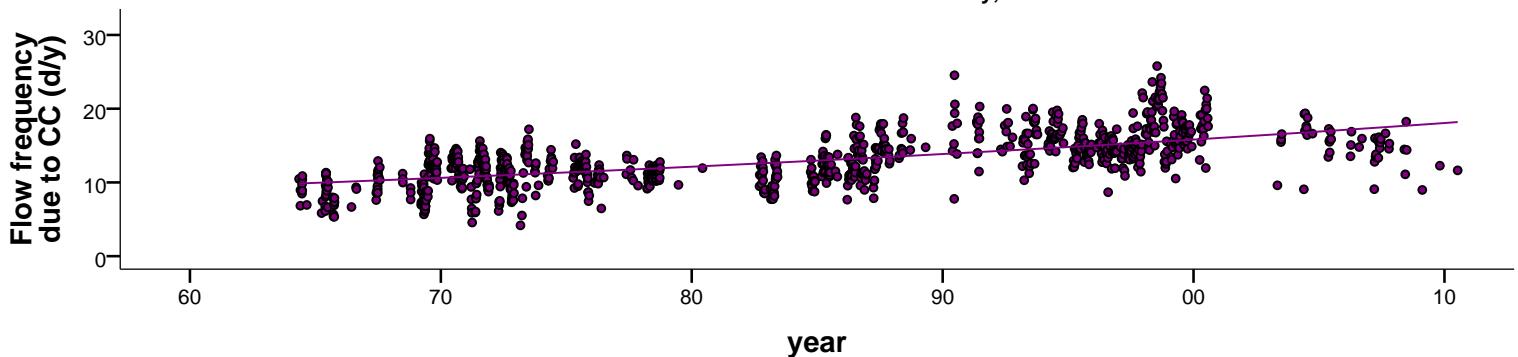




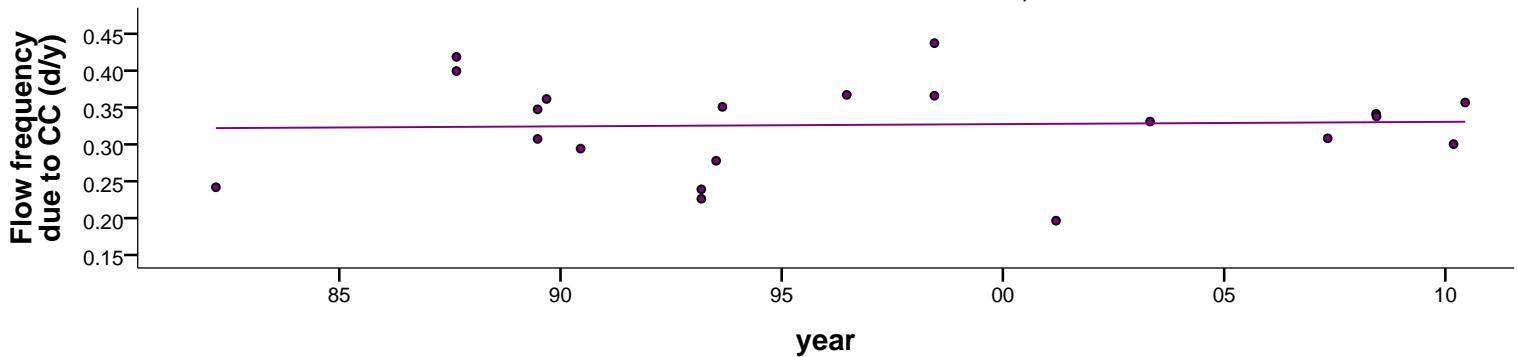
name: 06805500 - Platte River at Louisville, Nebr.



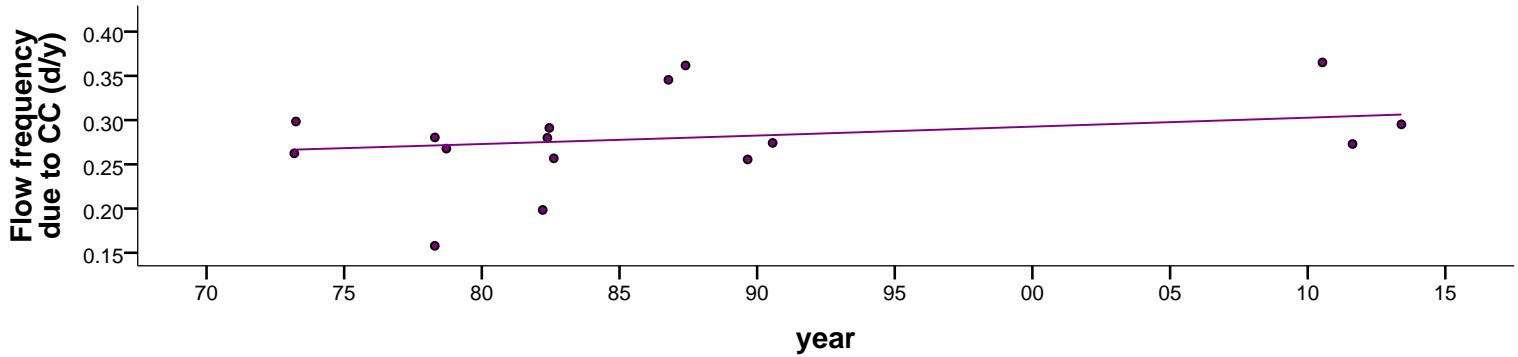
name: 06807000 - Missouri River at Nebraska City, NE



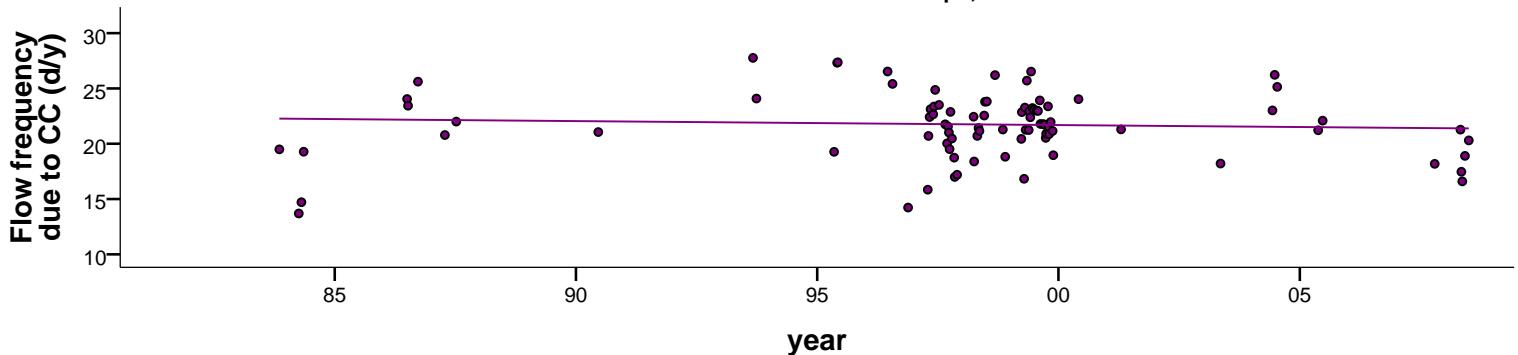
name: 06807410 - West Nishnabotna River at Hancock, IA



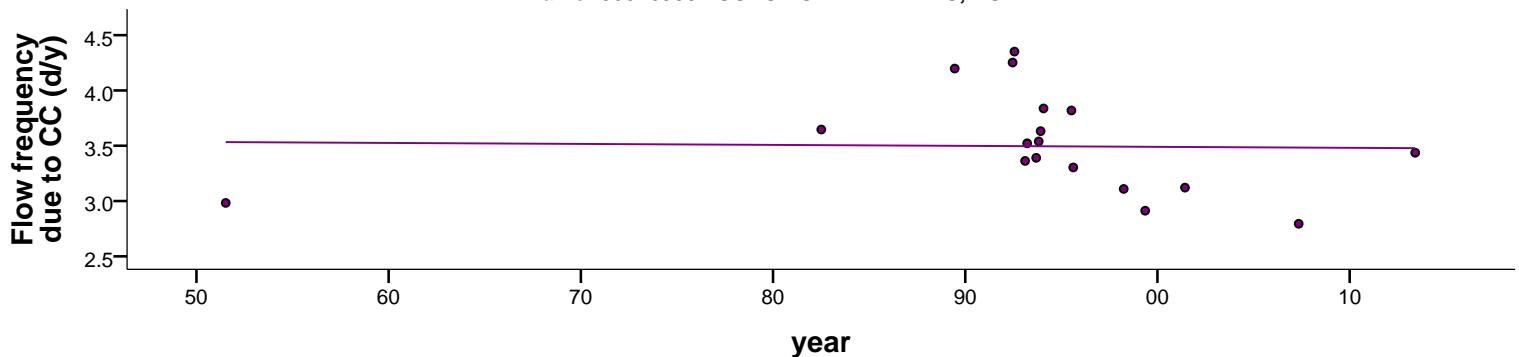
name: 06811500 - Little Nemaha River at Auburn, Nebr.



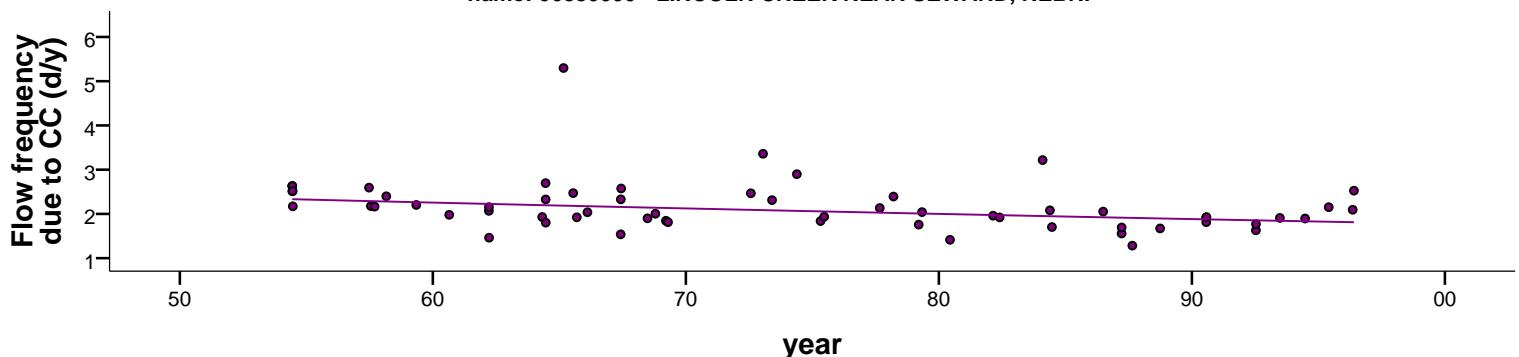
name: 06818000 - Missouri River at St. Joseph, MO



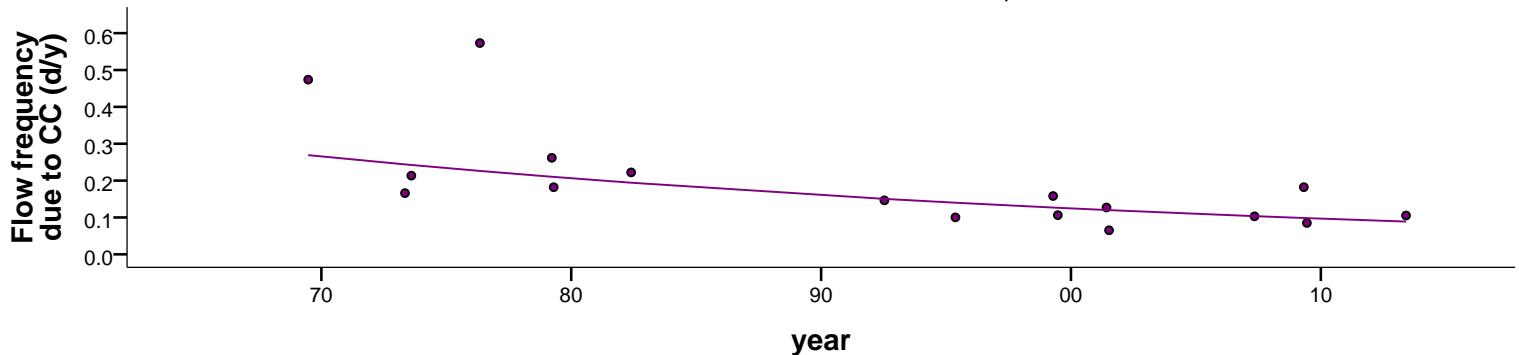
name: 06876900 - SOLOMON R AT NILES, KS



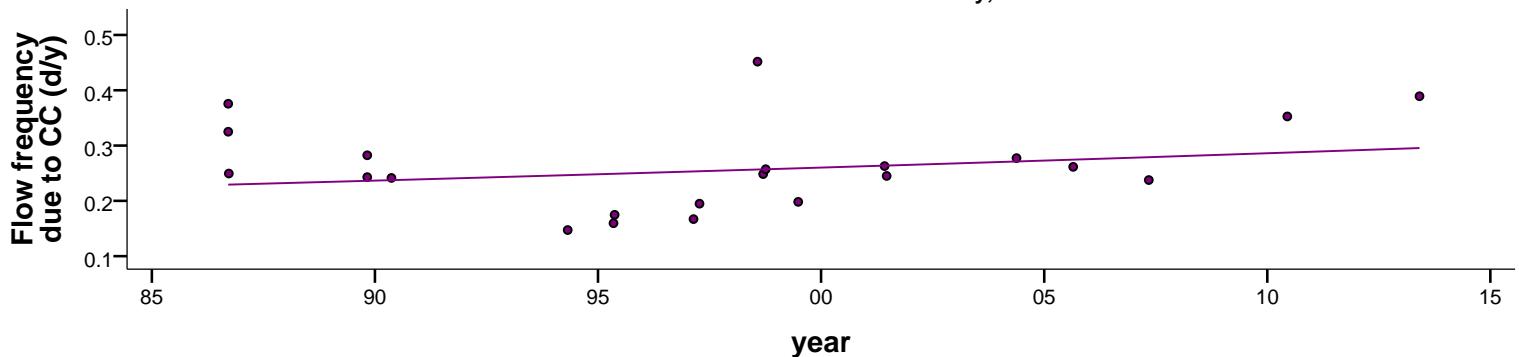
name: 06880000 - LINCOLN CREEK NEAR SEWARD, NEBR.



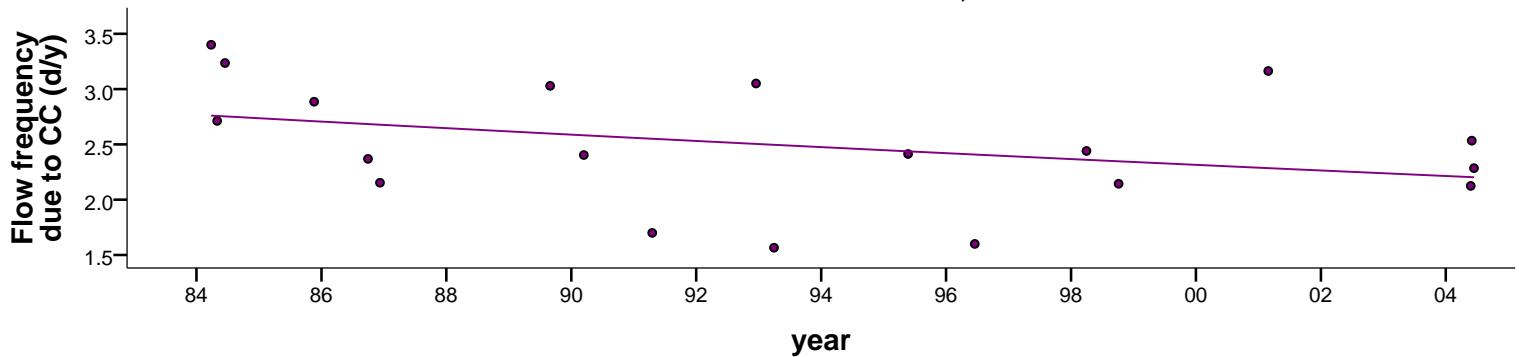
name: 06890100 - DELAWARE R NR MUSCOTAH, KS



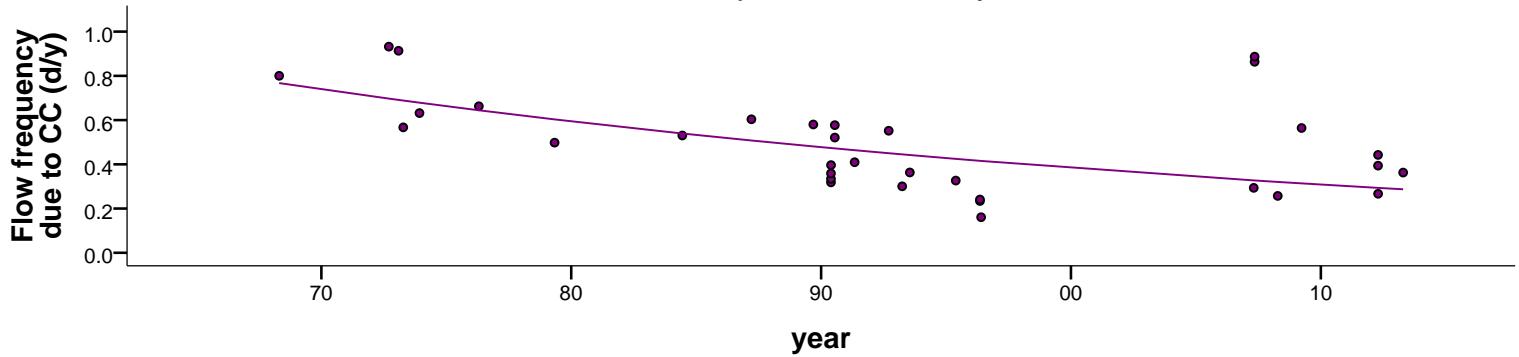
name: 06894000 - Little Blue River near Lake City, MO



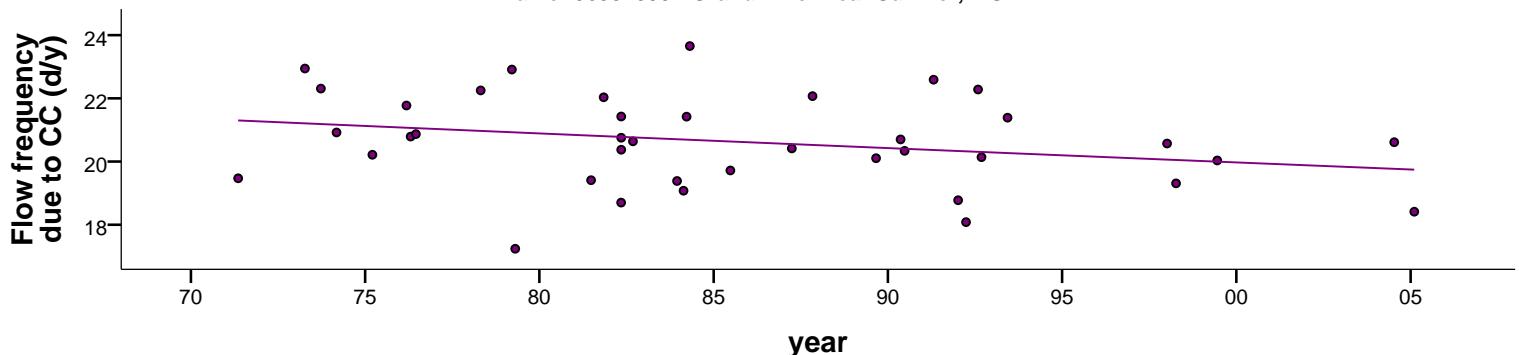
name: 06897500 - Grand River near Gallatin, MO



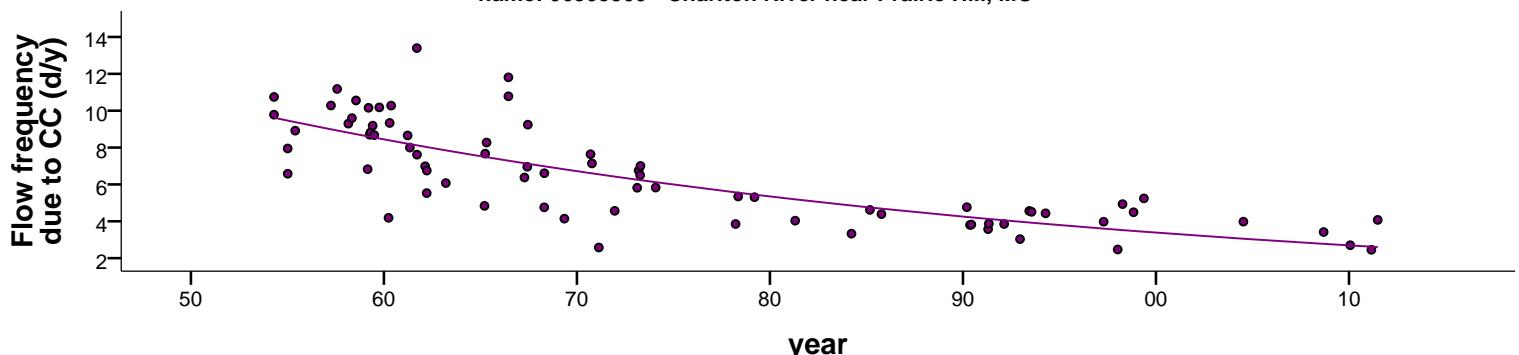
name: 06898000 - Thompson River at Davis City, IA



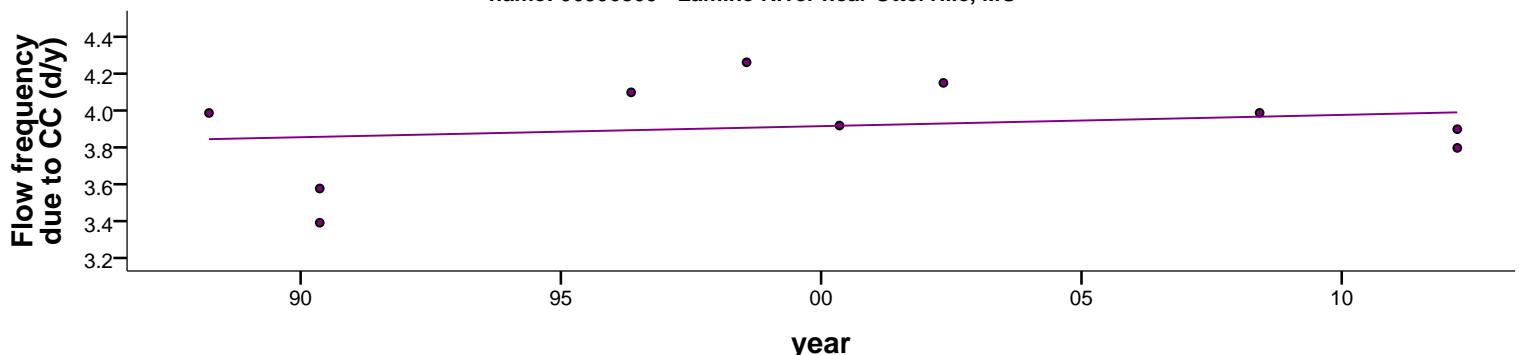
name: 06902000 - Grand River near Sumner, MO



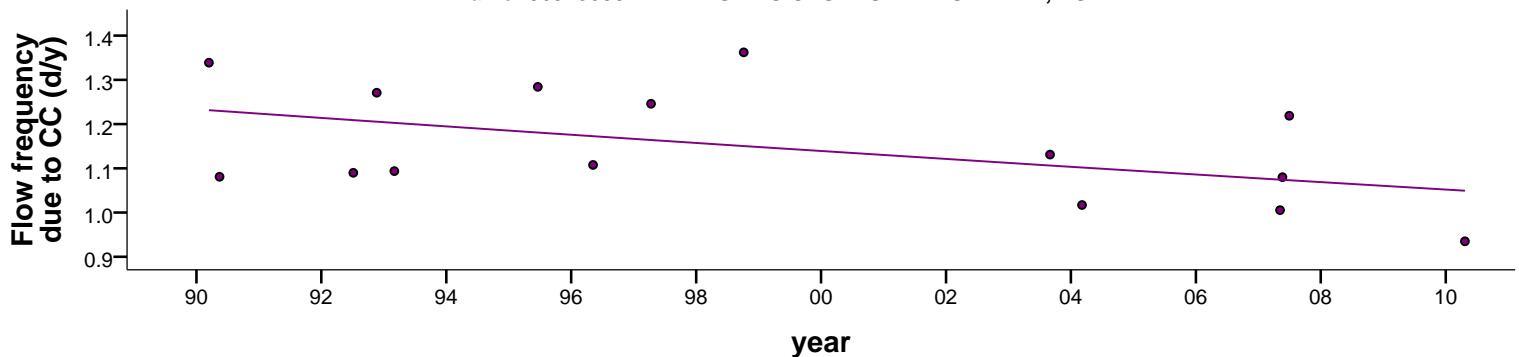
name: 06905500 - Chariton River near Prairie Hill, MO



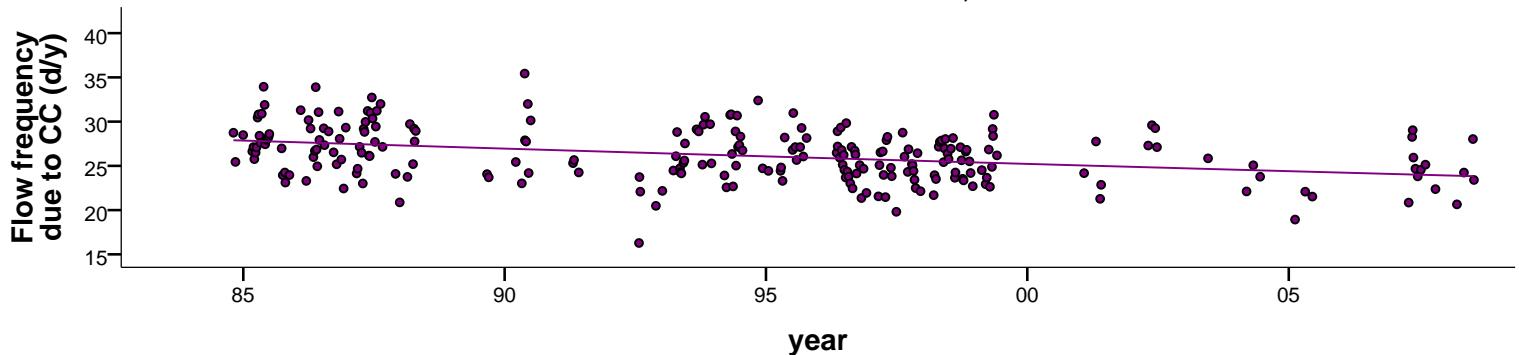
name: 06906800 - Lamine River near Otterville, MO



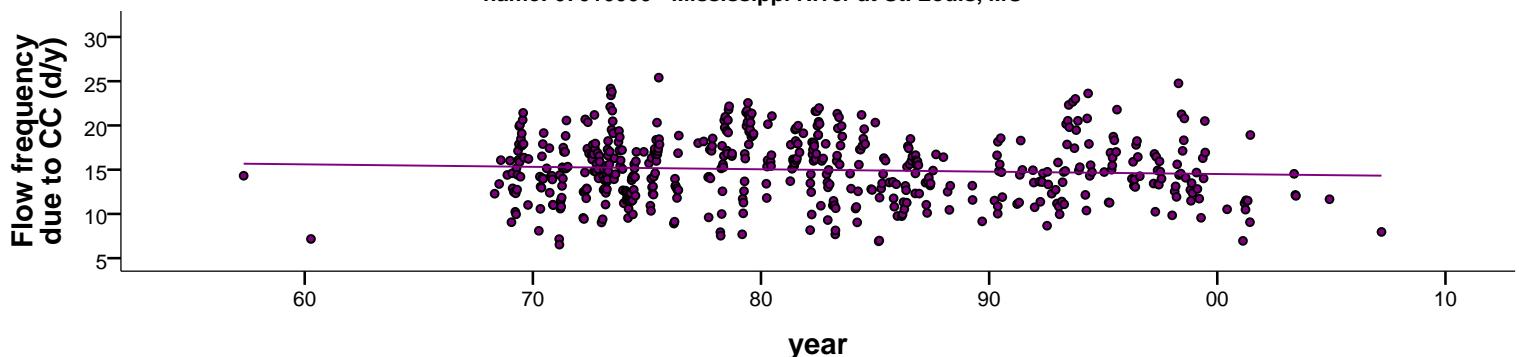
name: 06913500 - MARAIS DES CYGNES R NR OTTAWA, KS



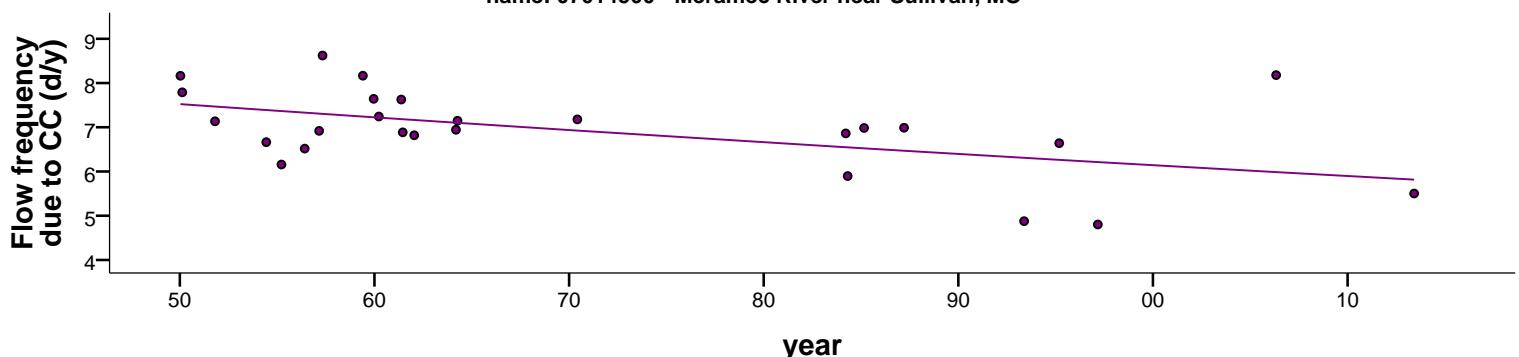
name: 06934500 - Missouri River at Hermann, MO



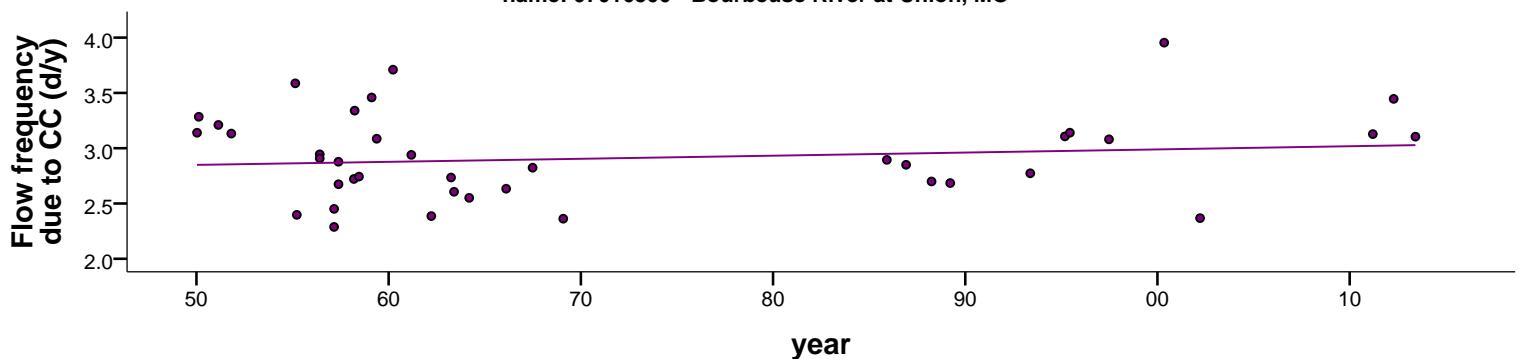
name: 07010000 - Mississippi River at St. Louis, MO



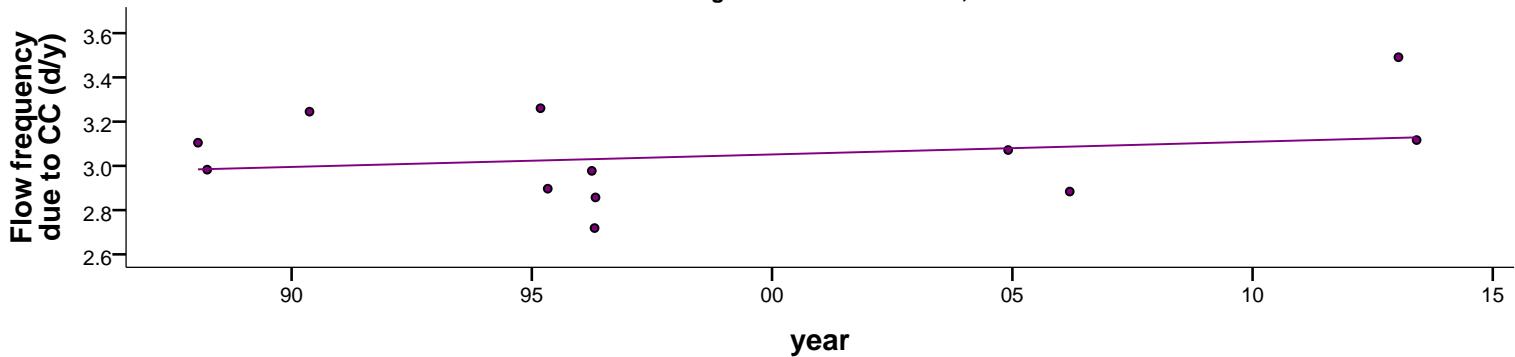
name: 07014500 - Meramec River near Sullivan, MO



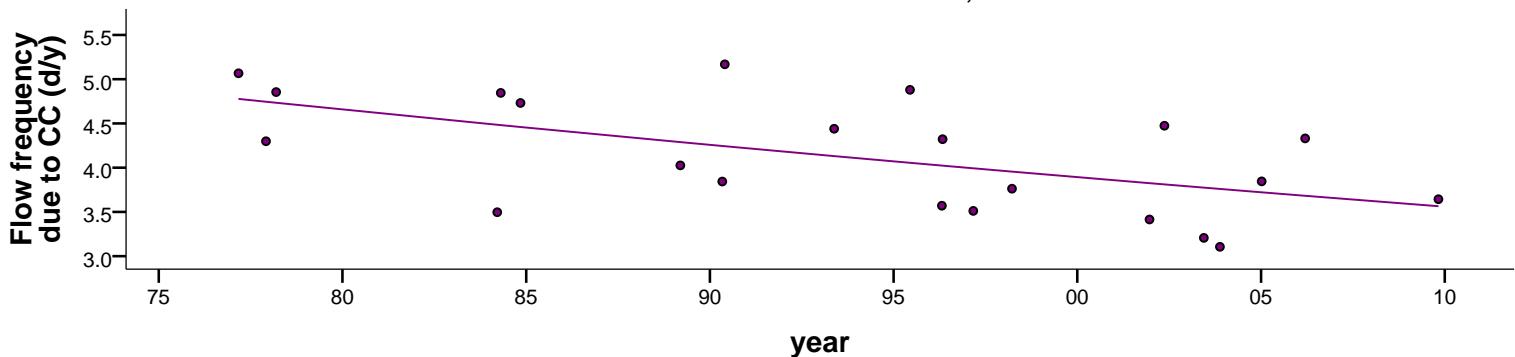
name: 07016500 - Bourbeuse River at Union, MO



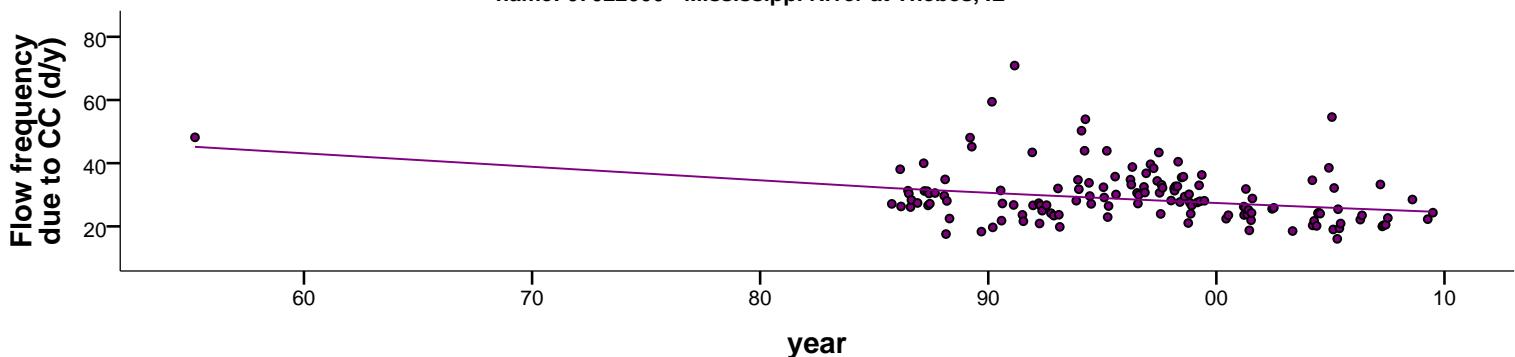
name: 07018100 - Big River near Richwoods, MO



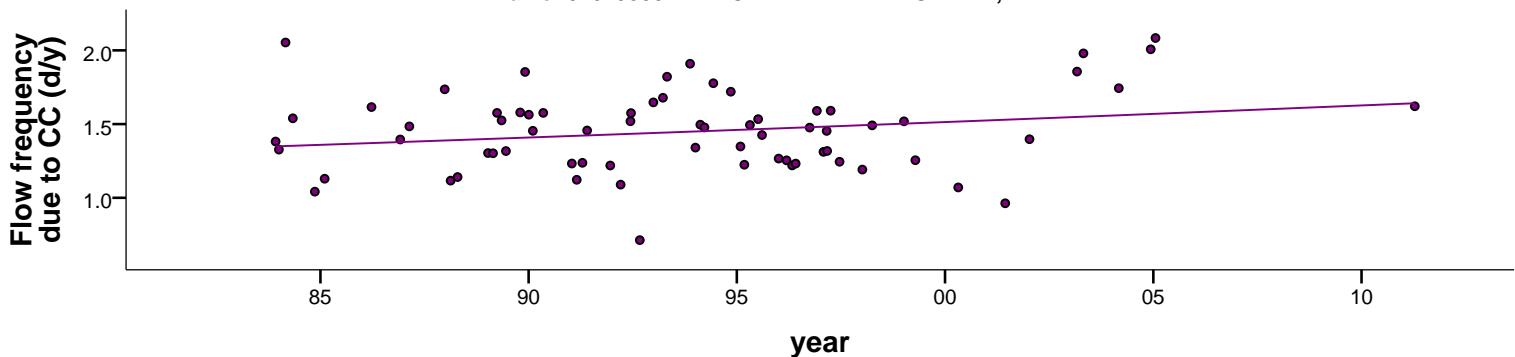
name: 07019000 - Meramec River near Eureka, MO



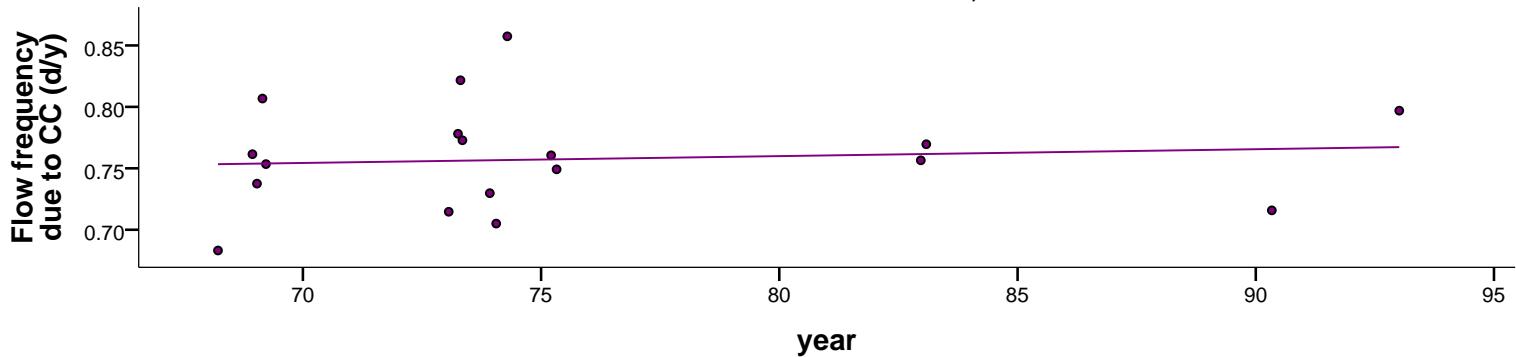
name: 07022000 - Mississippi River at Thebes, IL



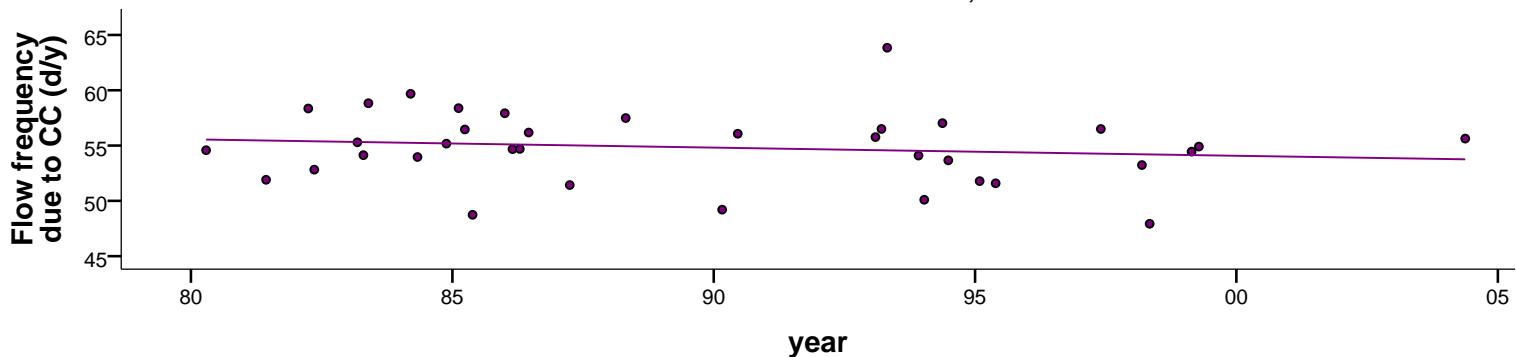
name: 07029500 - HATCHIE RIVER AT BOLIVAR, TN



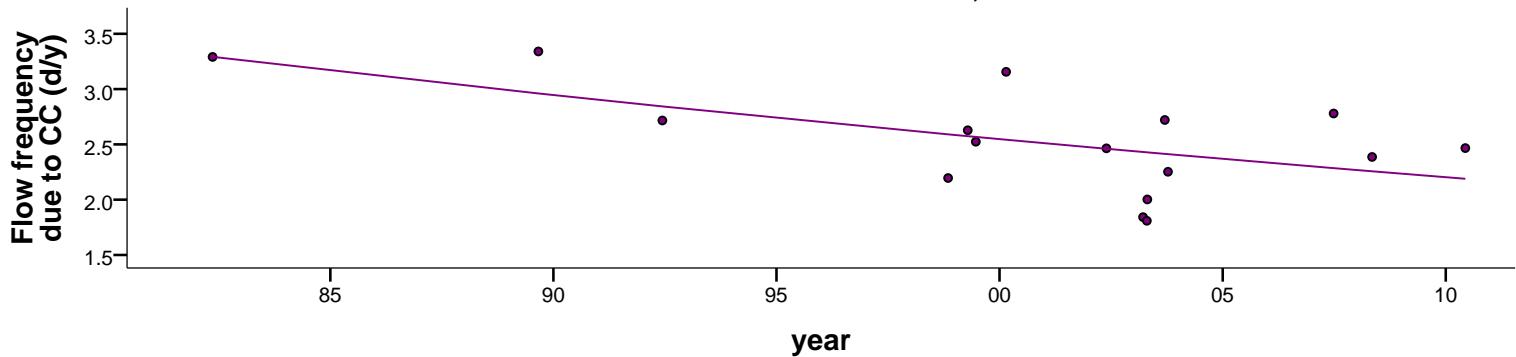
name: 07060500 - White River at Calico Rock, AR



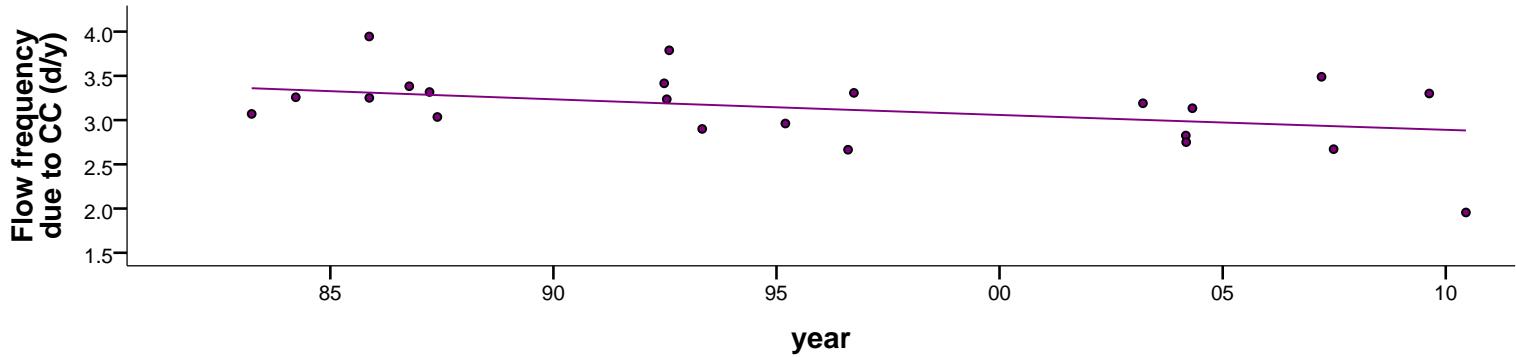
name: 07072500 - Black River at Black Rock, AR



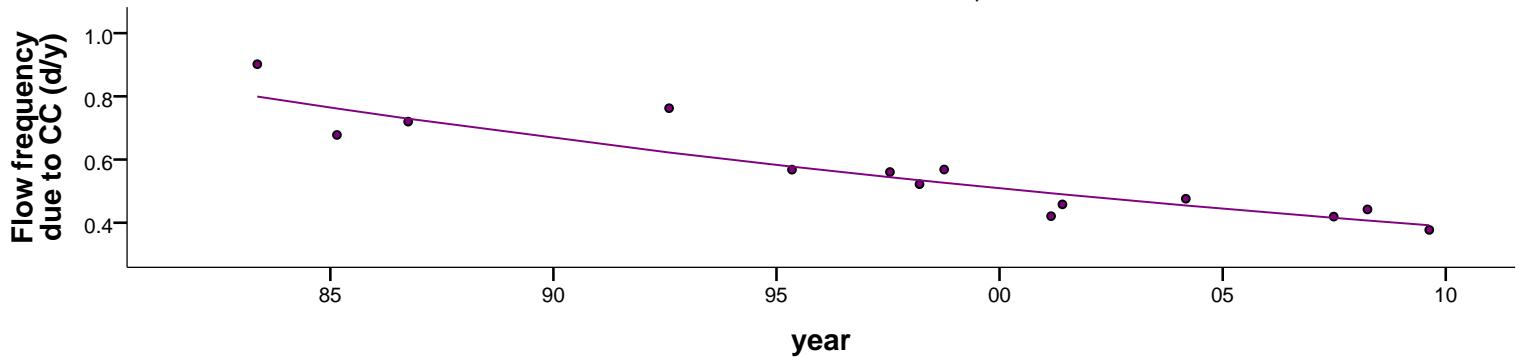
name: 07147800 - WALNUT R AT WINFIELD, KS



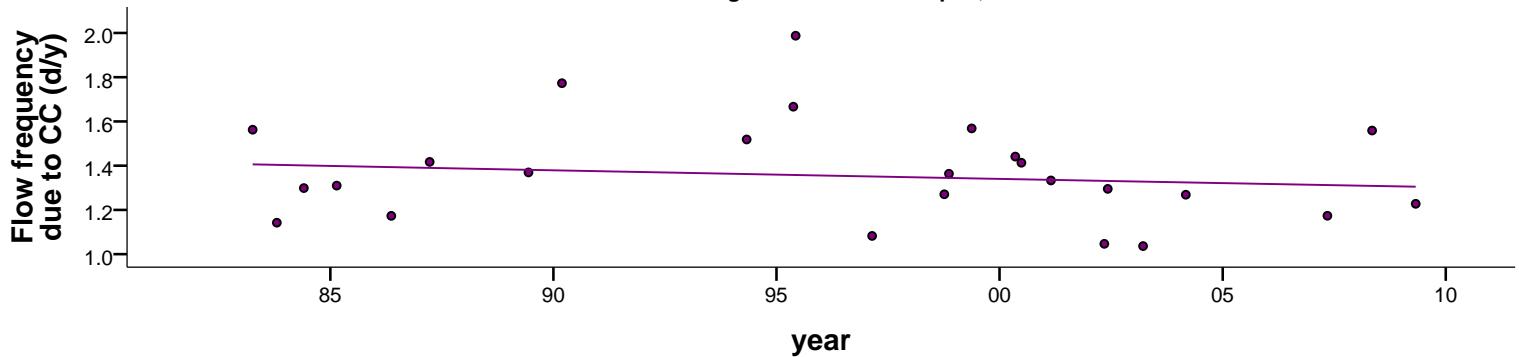
name: 07151000 - Salt Fork Arkansas River at Tonkawa, OK



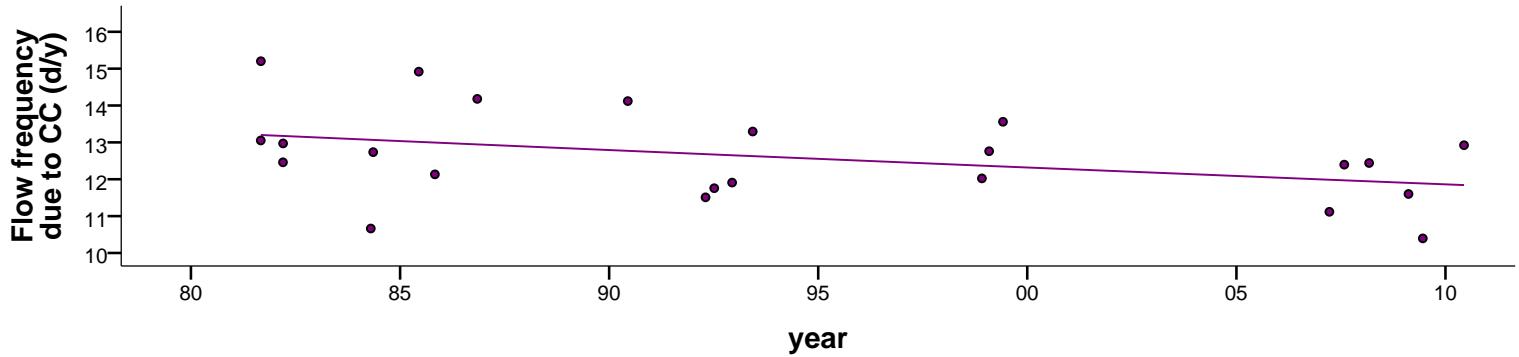
name: 07153000 - Black Bear Creek at Pawnee, OK



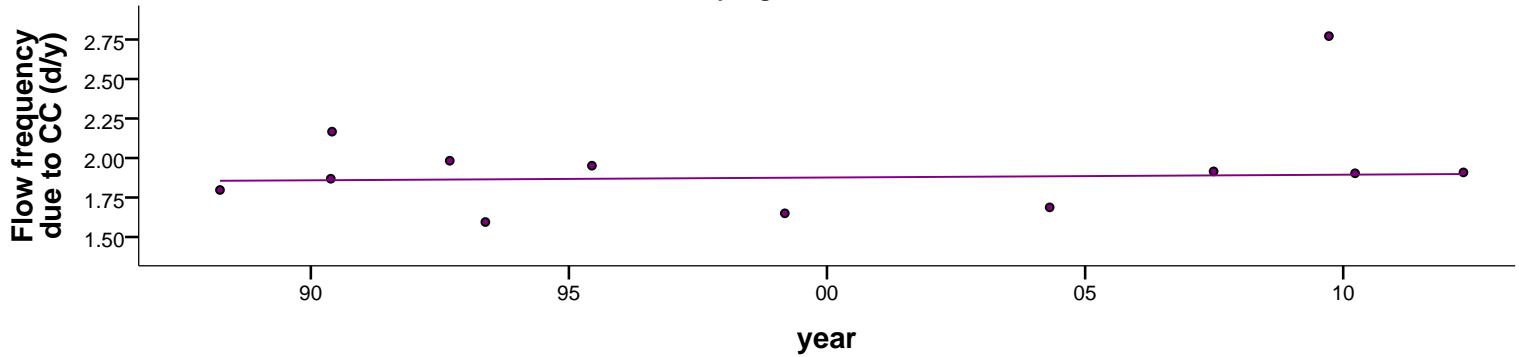
name: 07171000 - Verdigris River near Lenapah, OK



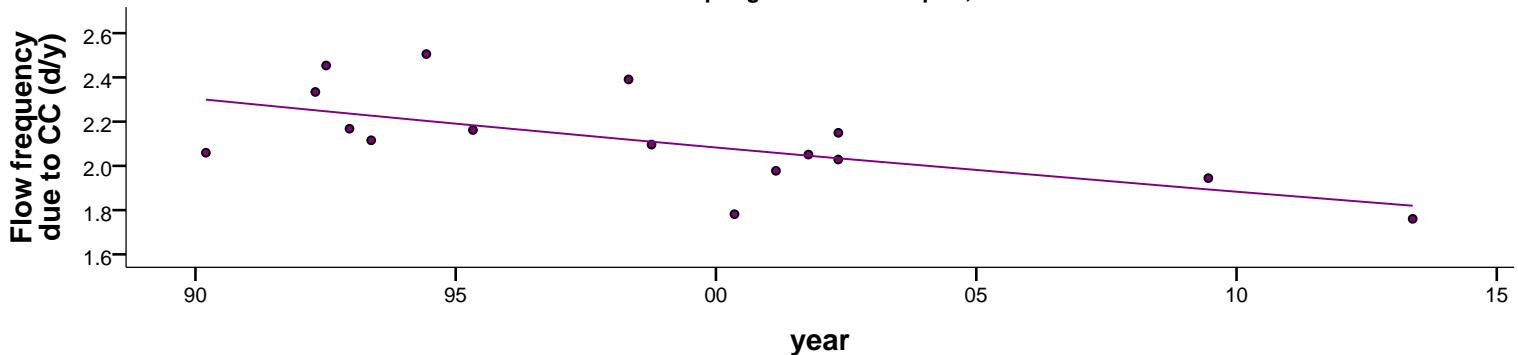
name: 07185000 - Neosho River near Commerce, OK



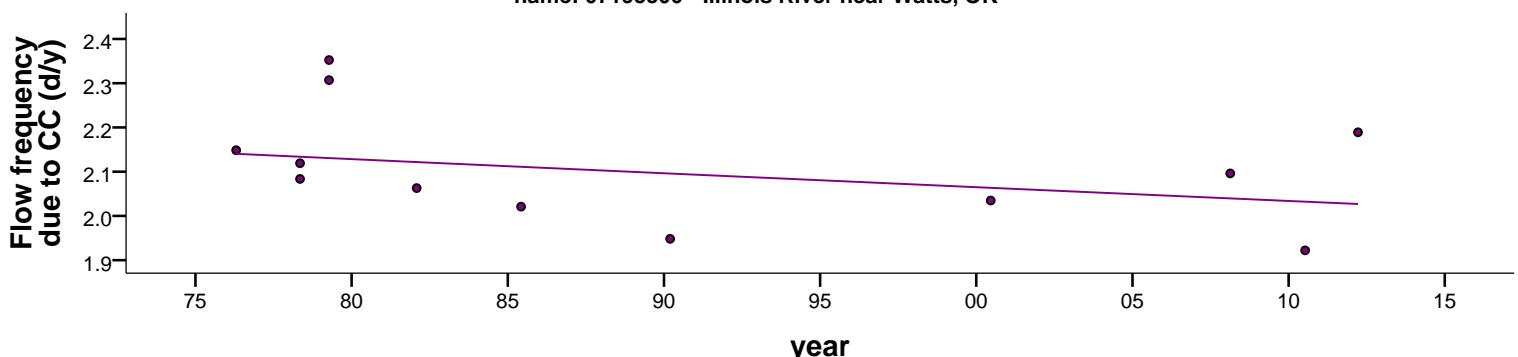
name: 07186000 - Spring River near Waco, MO



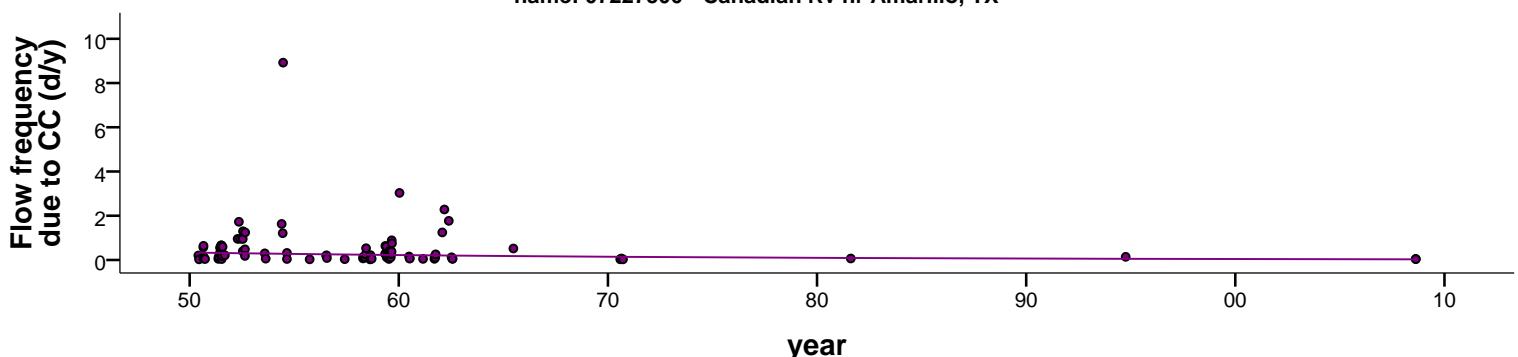
name: 07188000 - Spring River near Quapaw, OK



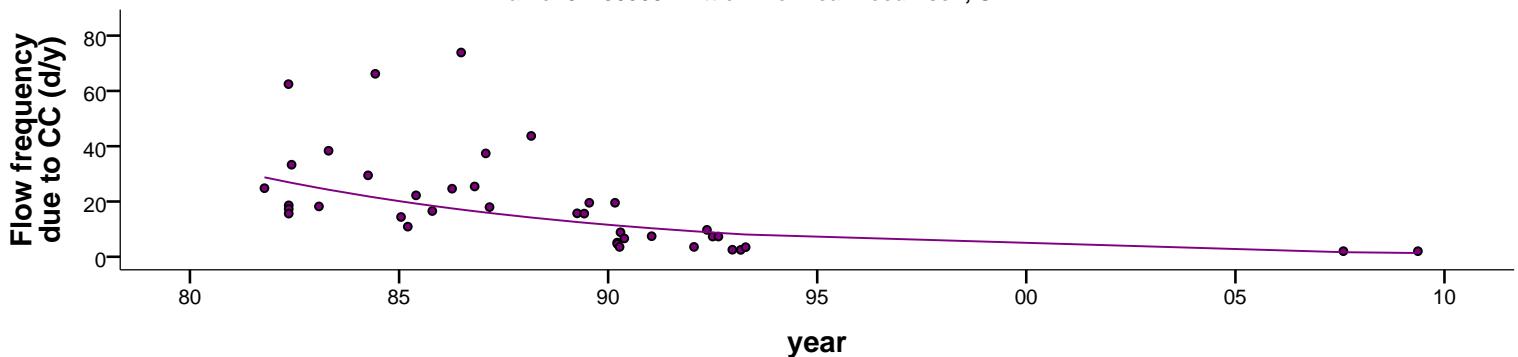
name: 07195500 - Illinois River near Watts, OK



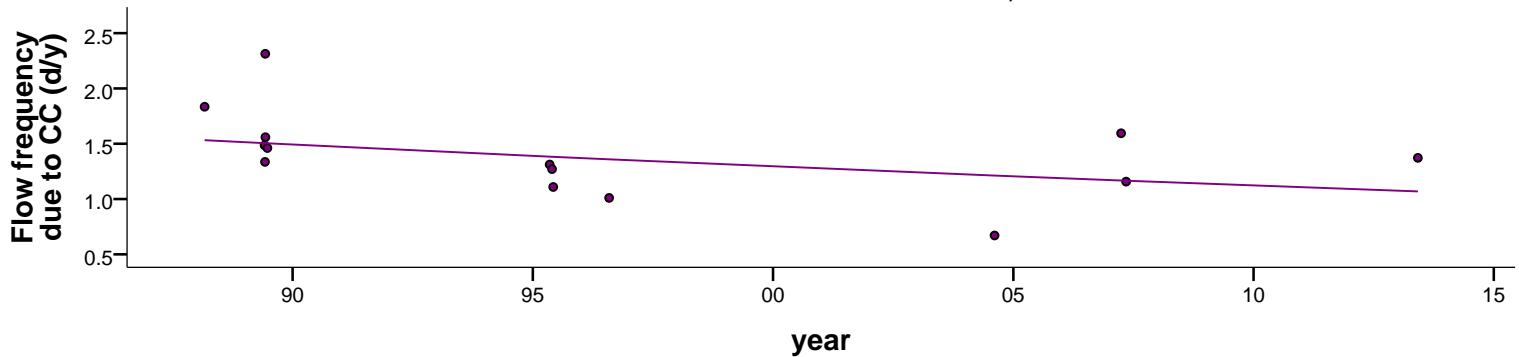
name: 07227500 - Canadian Rv nr Amarillo, TX



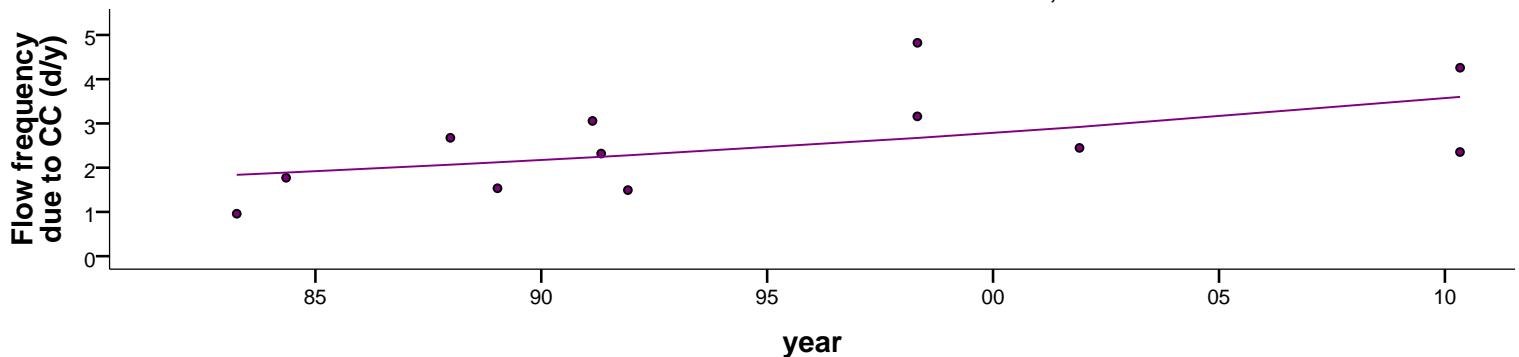
name: 07230500 - Little River near Tecumseh, OK



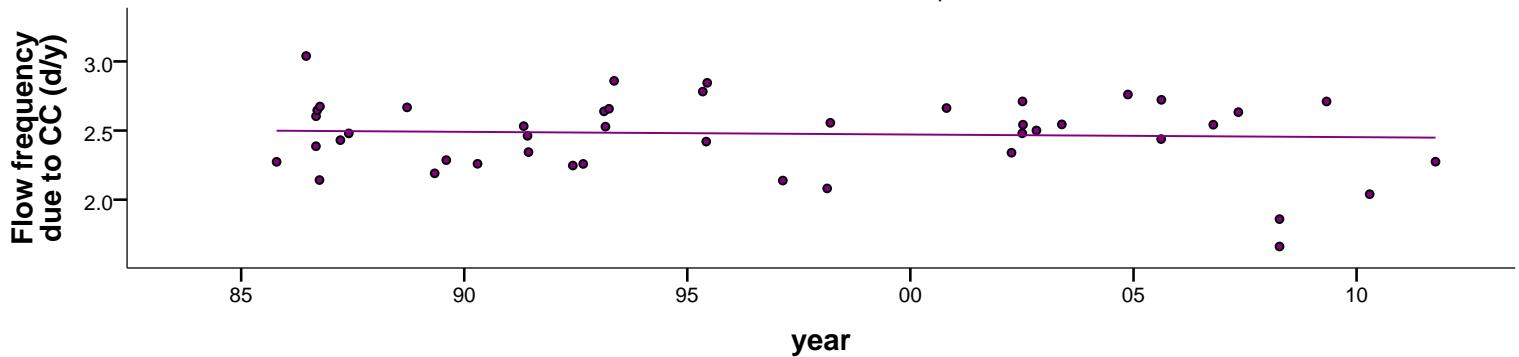
name: 07241550 - North Canadian River near Harrah, OK



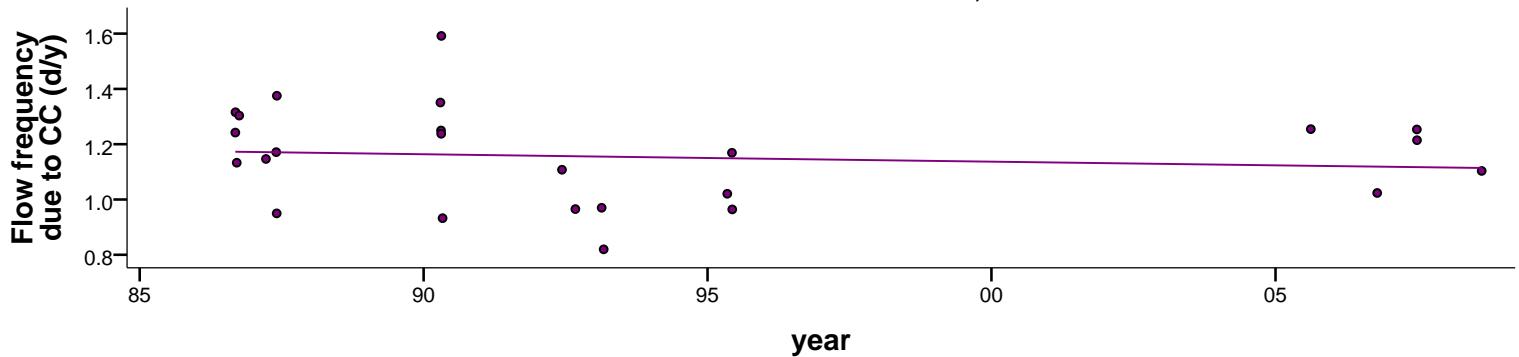
name: 07268000 - LITTLE TALLAHATCHIE RIVER AT ETTA, MS



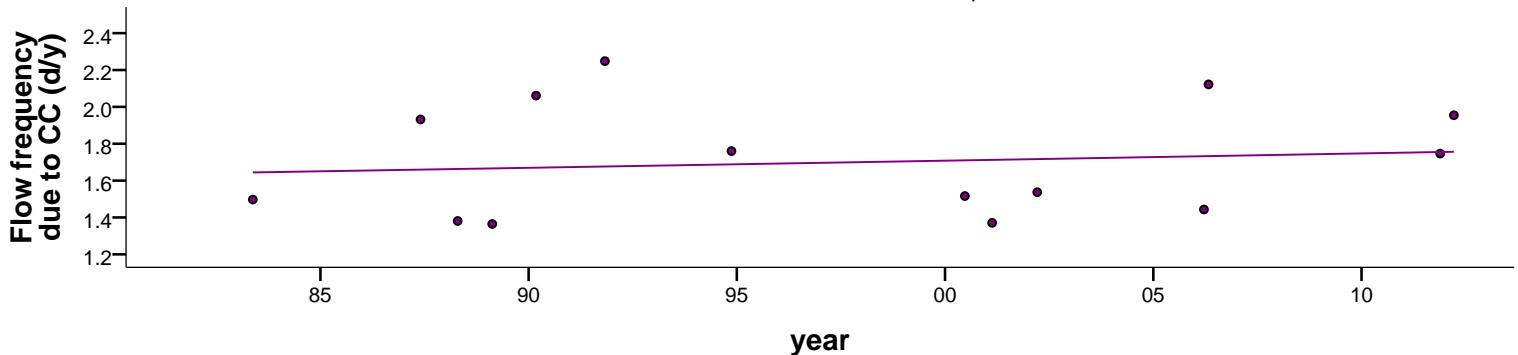
name: 07312200 - Beaver Ck nr Electra, TX



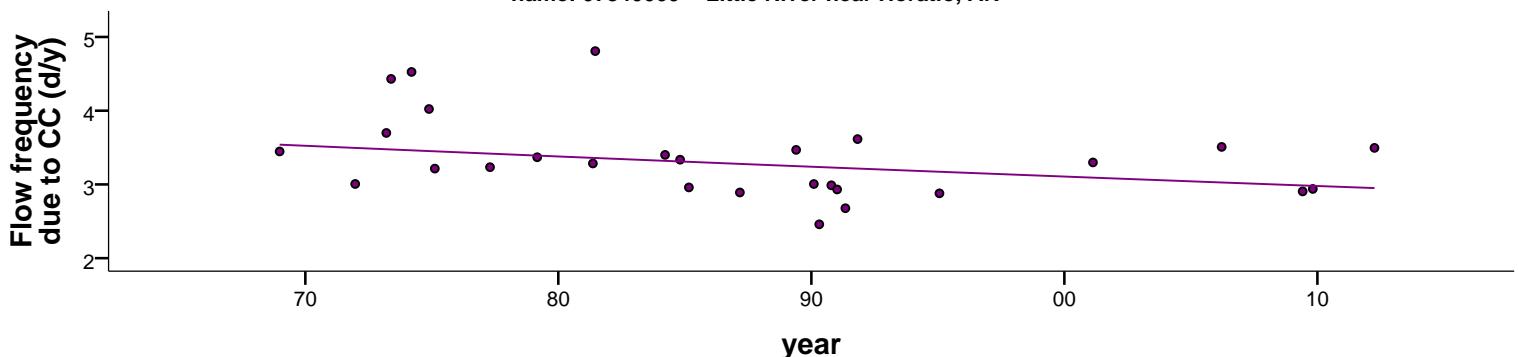
name: 07312500 - Wichita Rv at Wichita Falls, TX



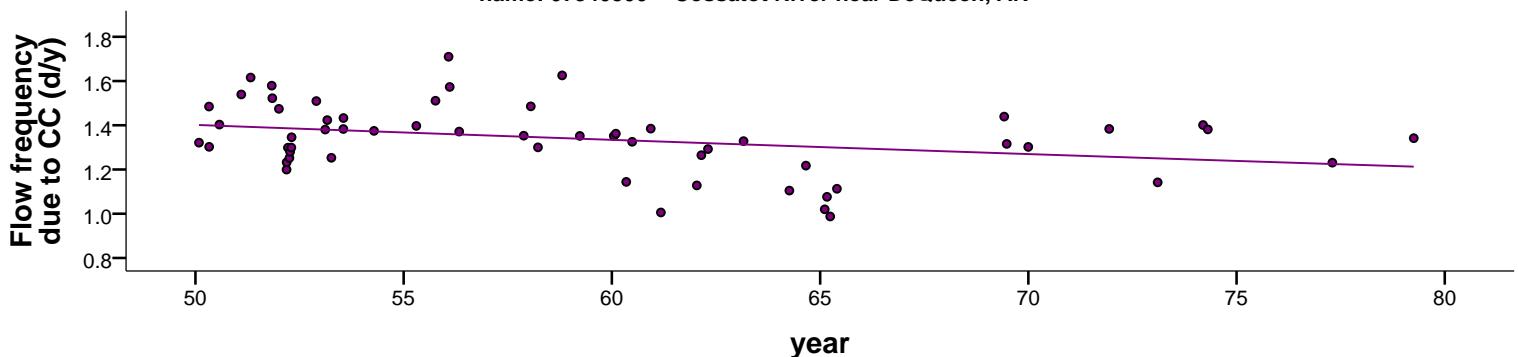
name: 07336200 - Kiamichi River near Antlers, OK



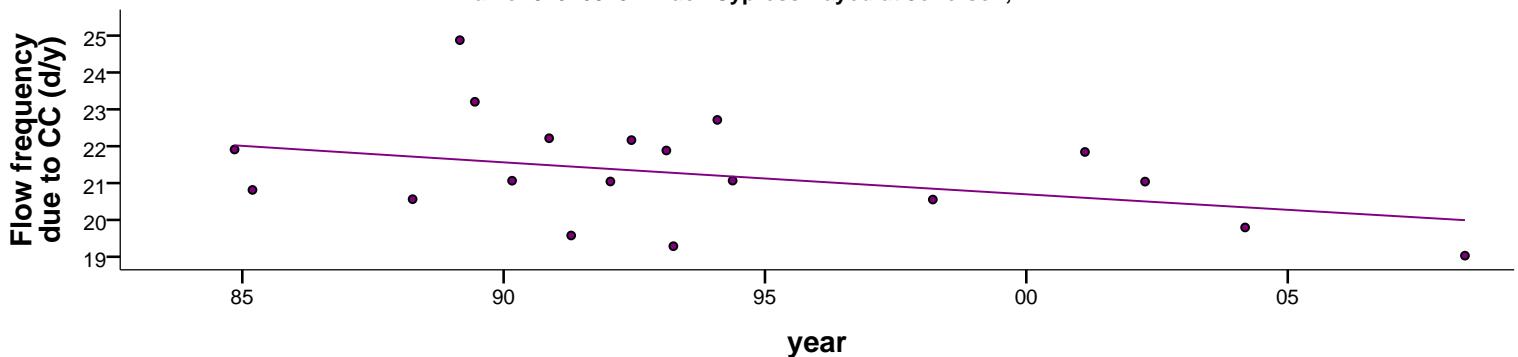
name: 07340000 - Little River near Horatio, AR



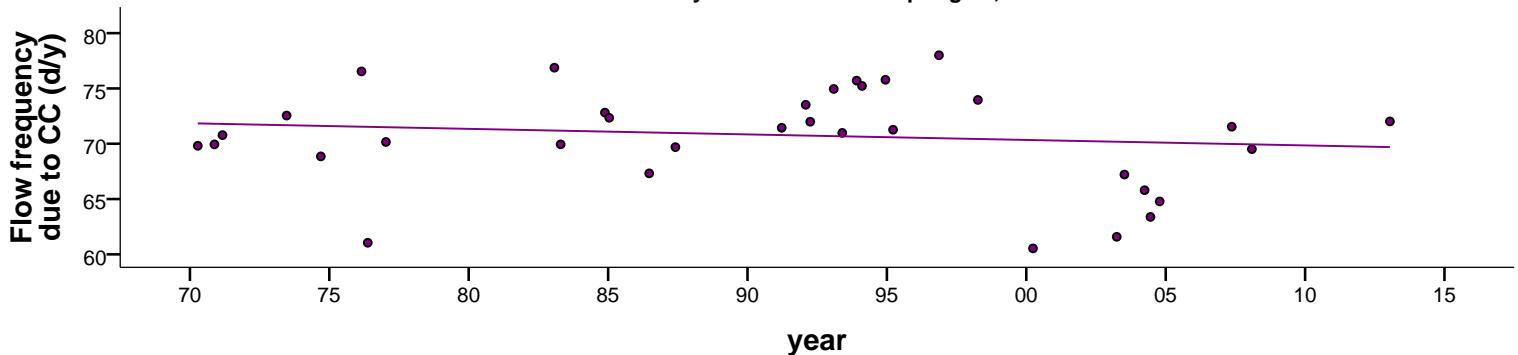
name: 07340500 - Cossatot River near DeQueen, AR



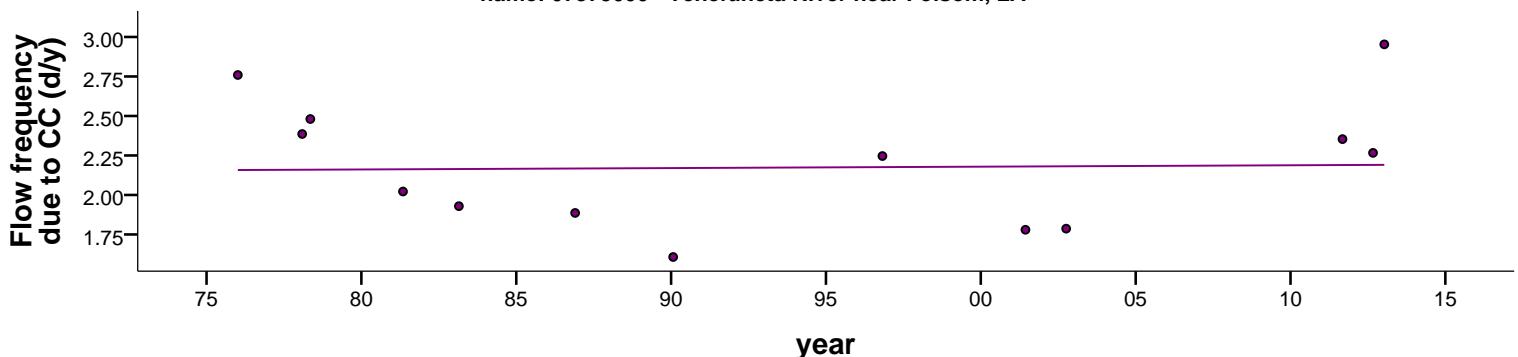
name: 07346045 - Black Cypress Bayou at Jefferson, TX



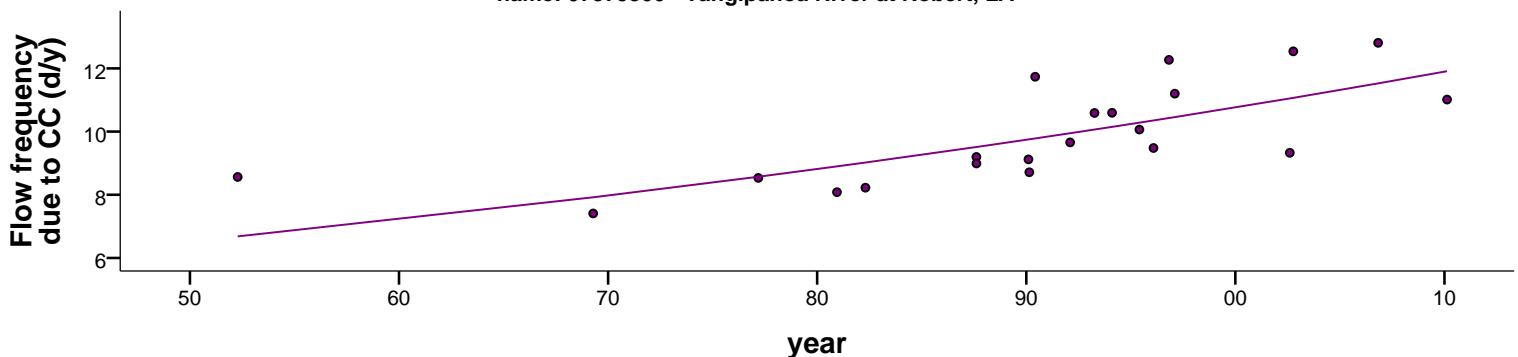
name: 07348700 - Bayou Dorcheat near Springhill, LA



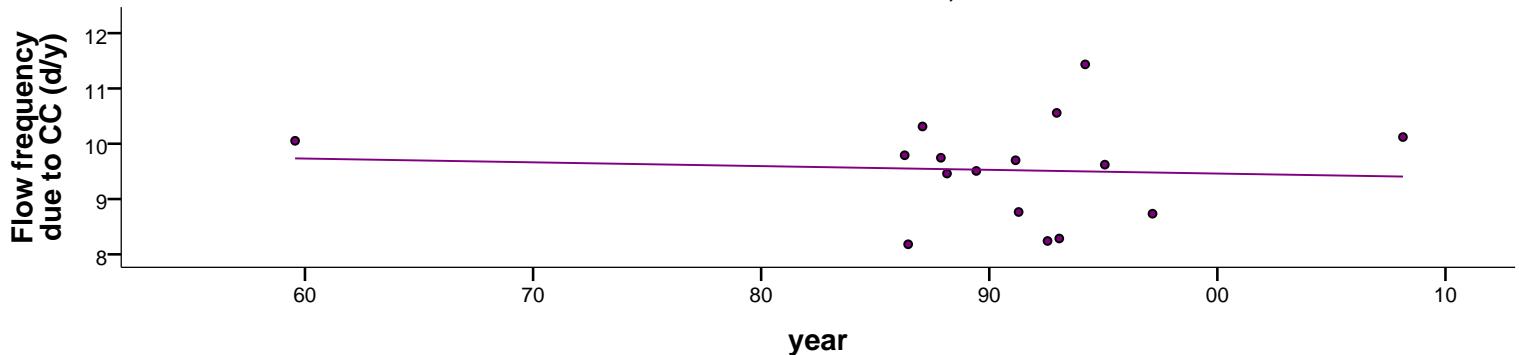
name: 07375000 - Tchefuncte River near Folsom, LA



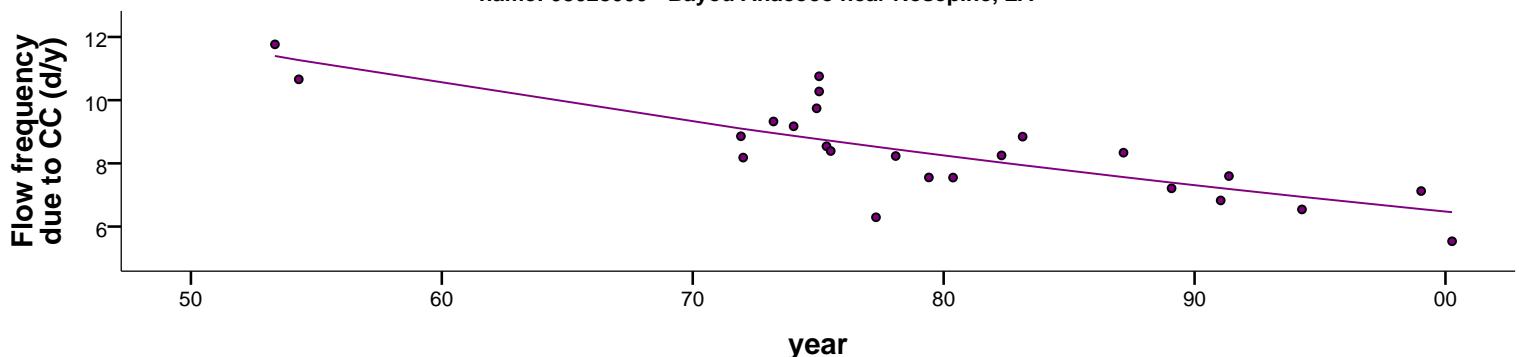
name: 07375500 - Tangipahoa River at Robert, LA



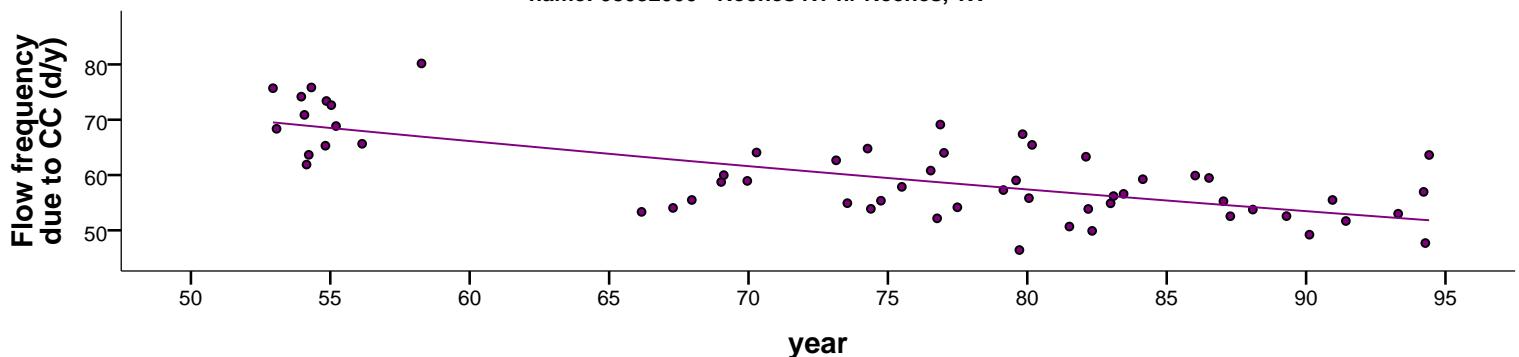
name: 08019000 - Lake Fk Ck nr Quitman, TX



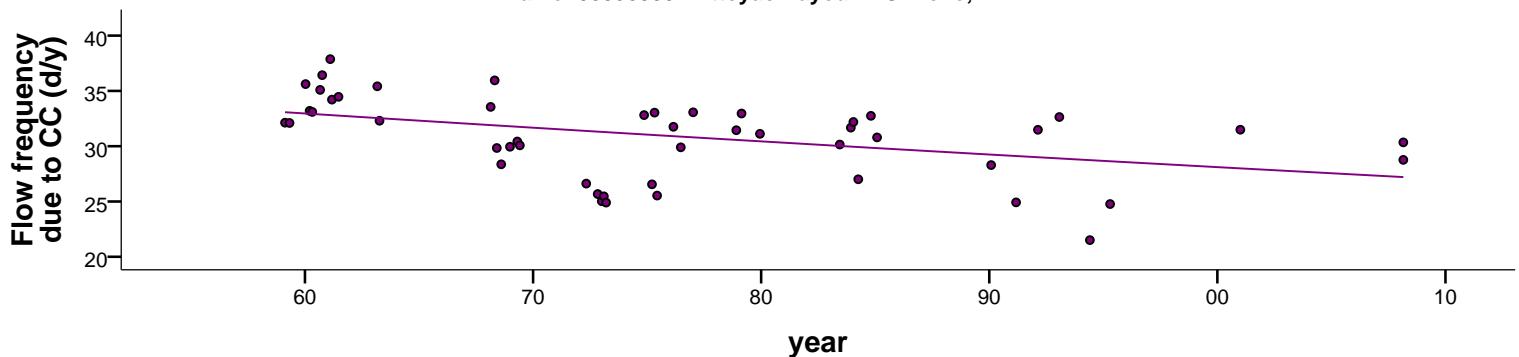
name: 08028000 - Bayou Anacoco near Rosepine, LA



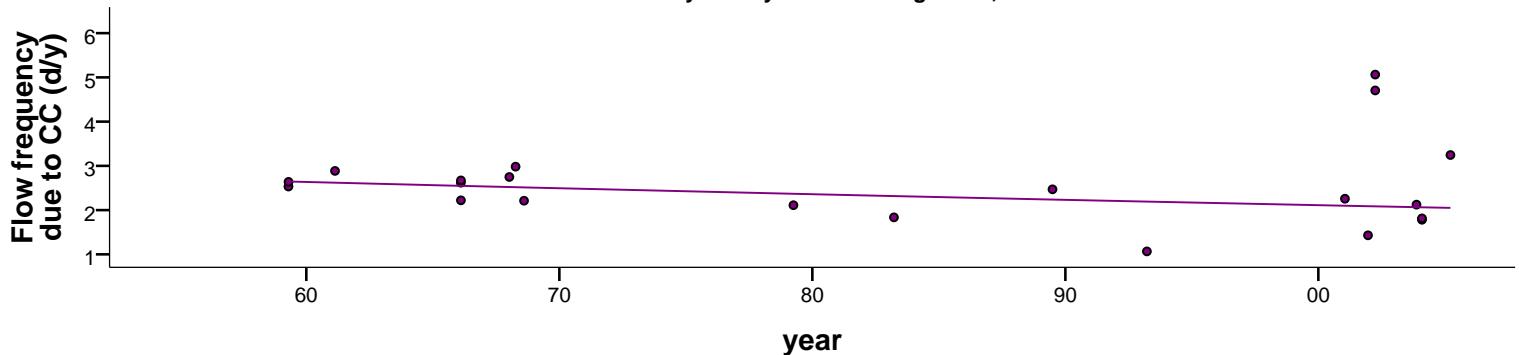
name: 08032000 - Neches Rv nr Neches, TX



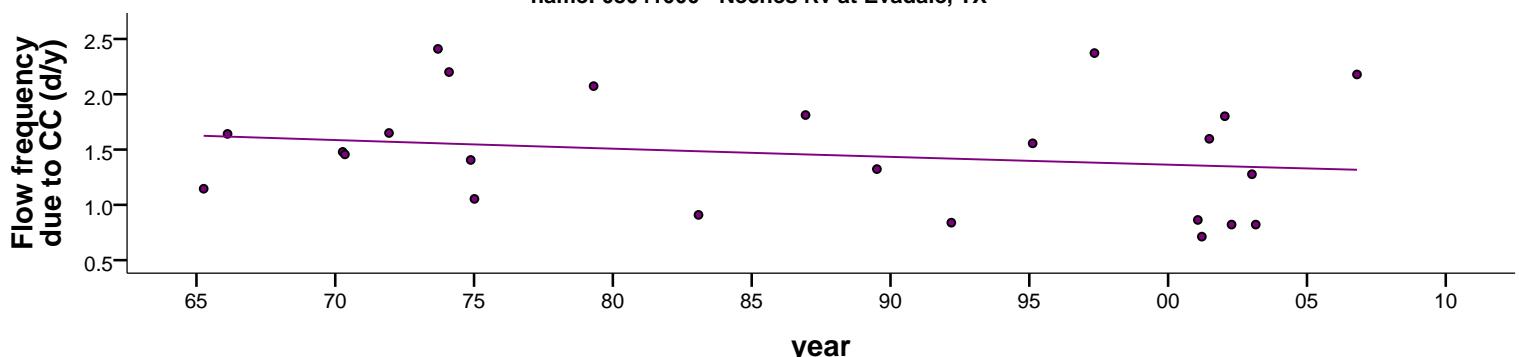
name: 08038000 - Attoyac Bayou nr Chireno, TX



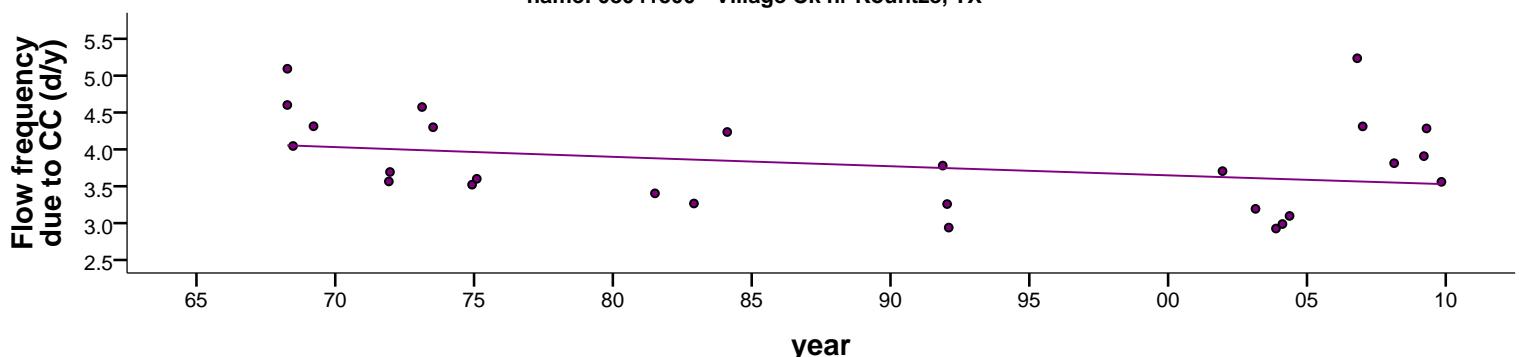
name: 08039100 - Ayish Bayou nr San Augustine, TX



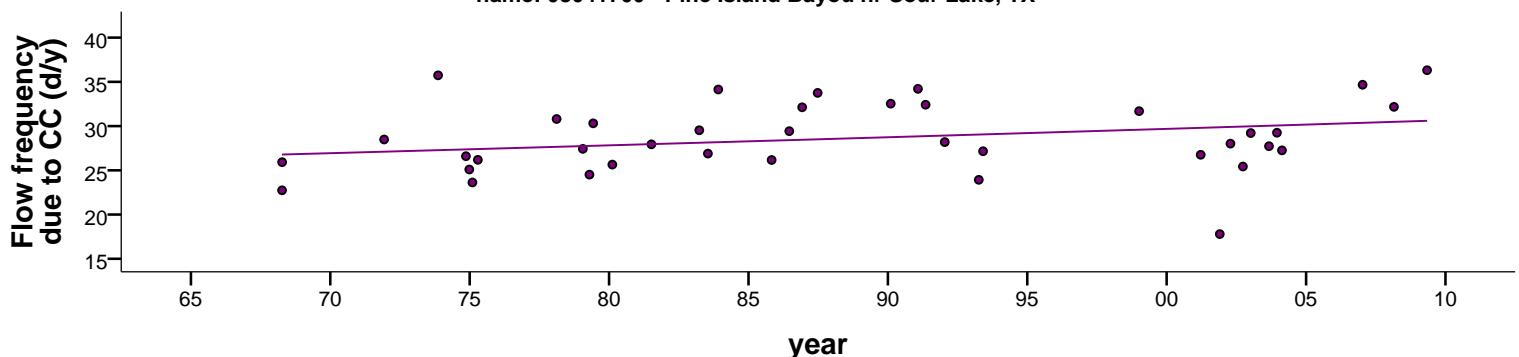
name: 08041000 - Neches Rv at Evadale, TX



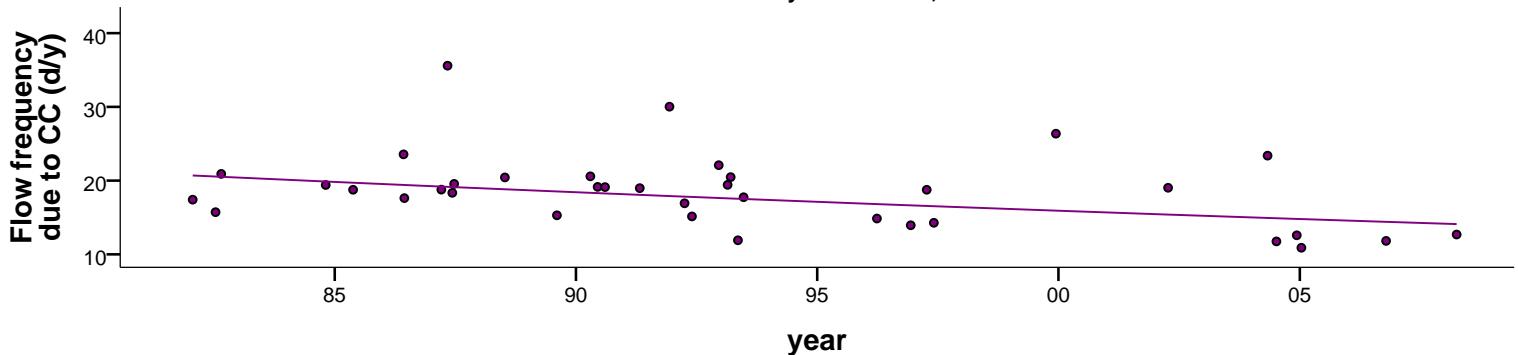
name: 08041500 - Village Ck nr Kountze, TX



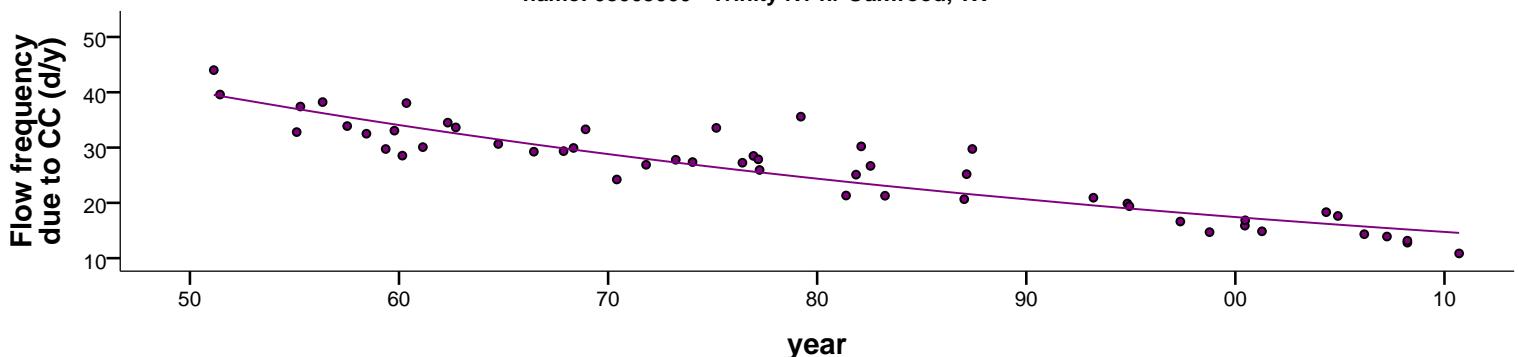
name: 08041700 - Pine Island Bayou nr Sour Lake, TX



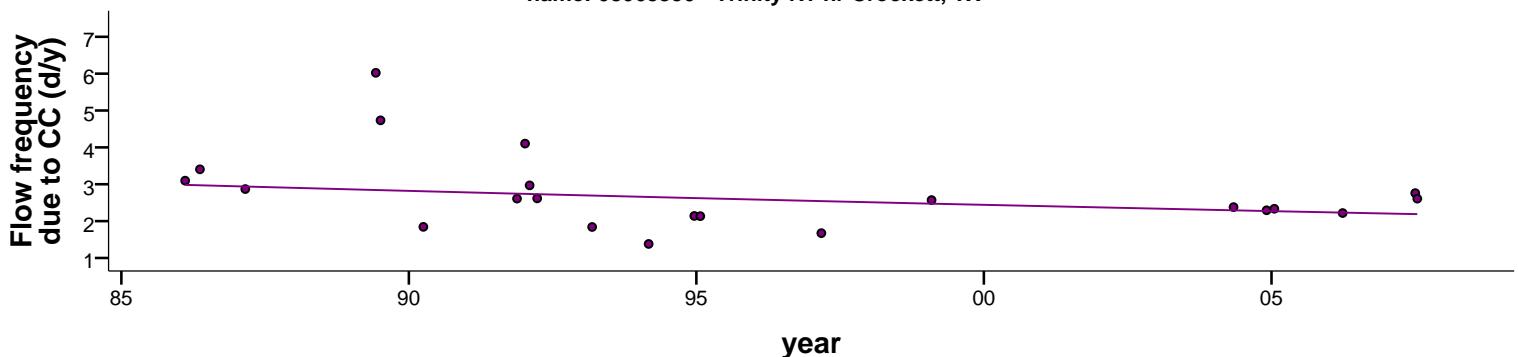
name: 08057000 - Trinity Rv at Dallas, TX



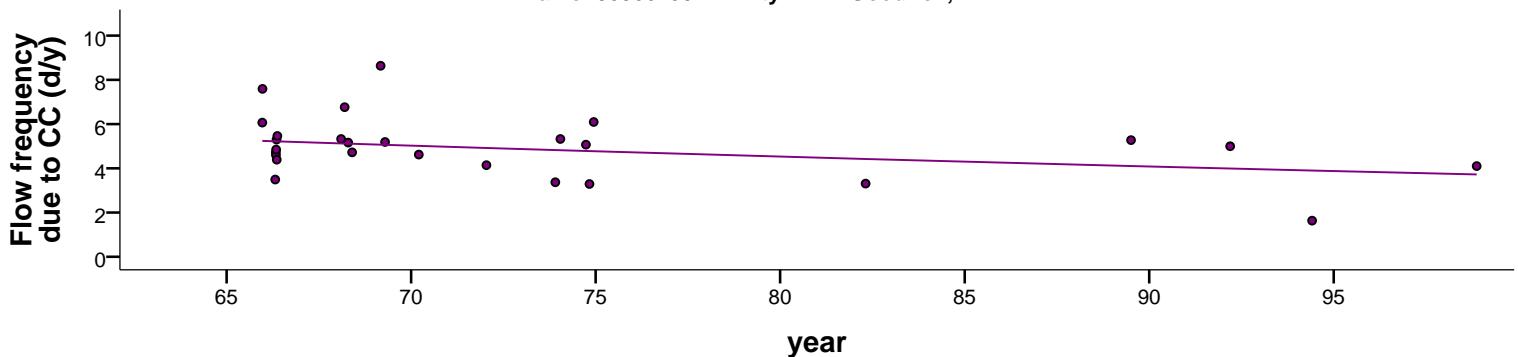
name: 08065000 - Trinity Rv nr Oakwood, TX



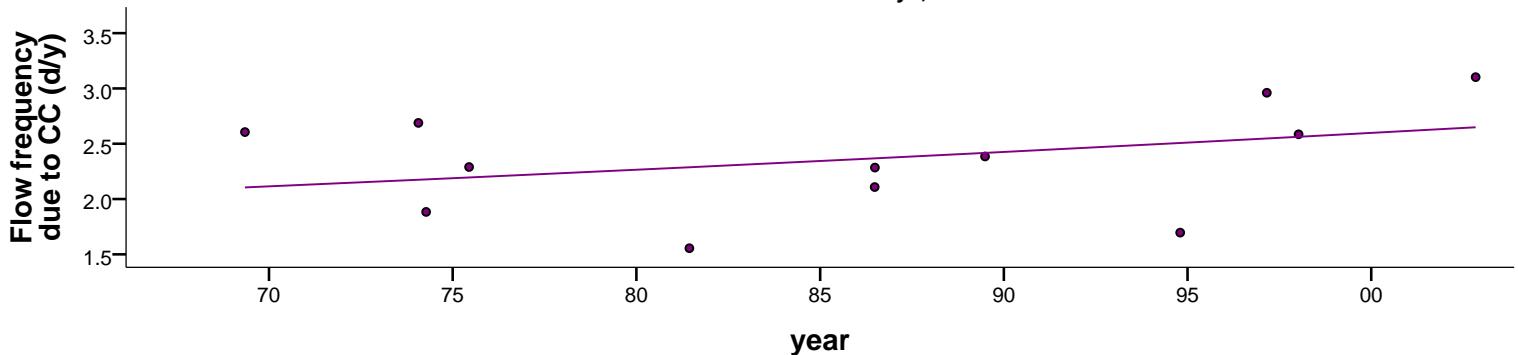
name: 08065350 - Trinity Rv nr Crockett, TX



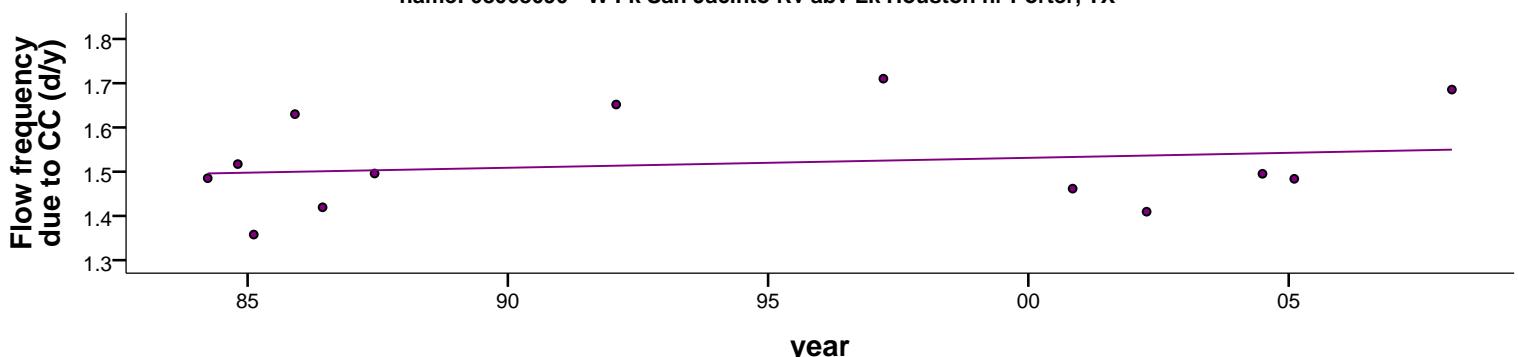
name: 08066250 - Trinity Rv nr Goodrich, TX



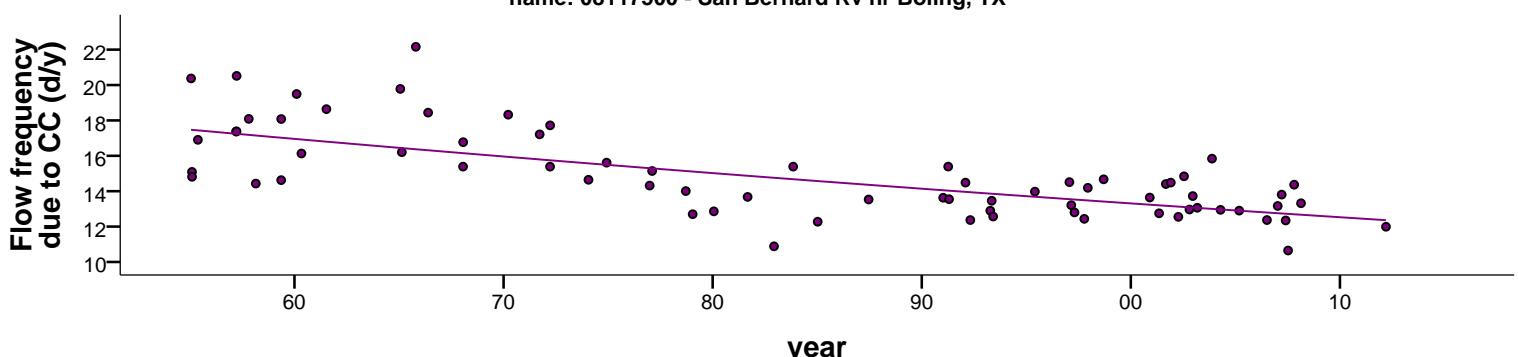
name: 08066300 - Menard Ck nr Rye, TX



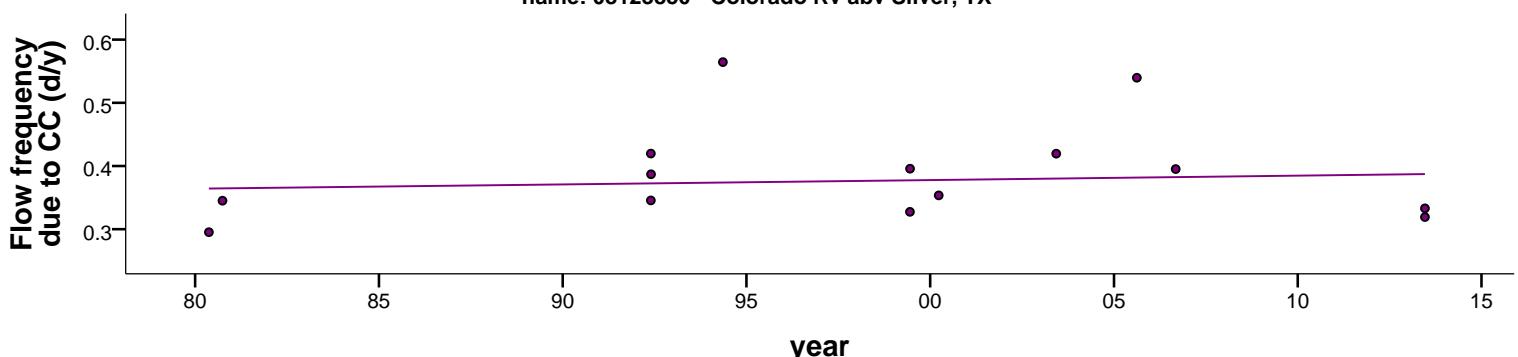
name: 08068090 - W Fk San Jacinto Rv abv Lk Houston nr Porter, TX



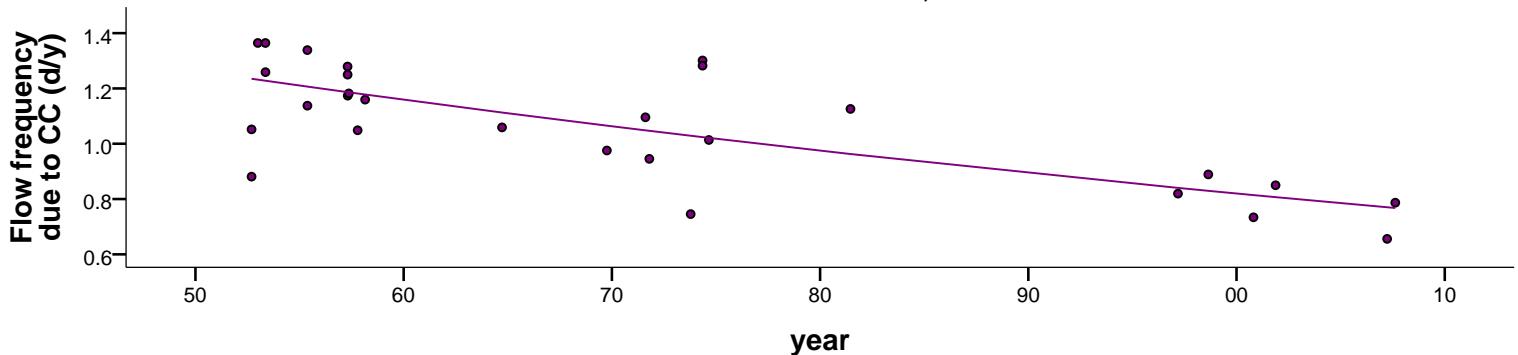
name: 08117500 - San Bernard Rv nr Boling, TX



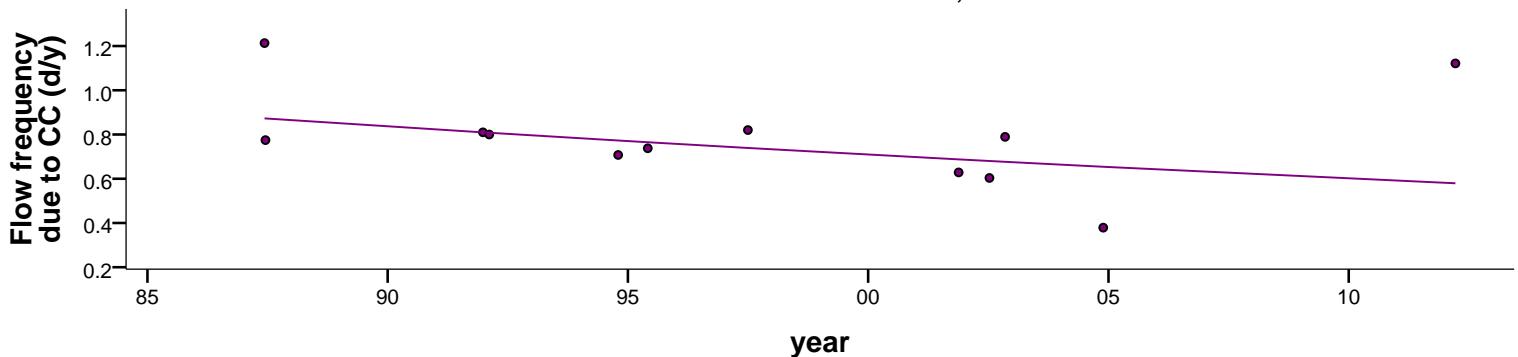
name: 08123850 - Colorado Rv abv Silver, TX



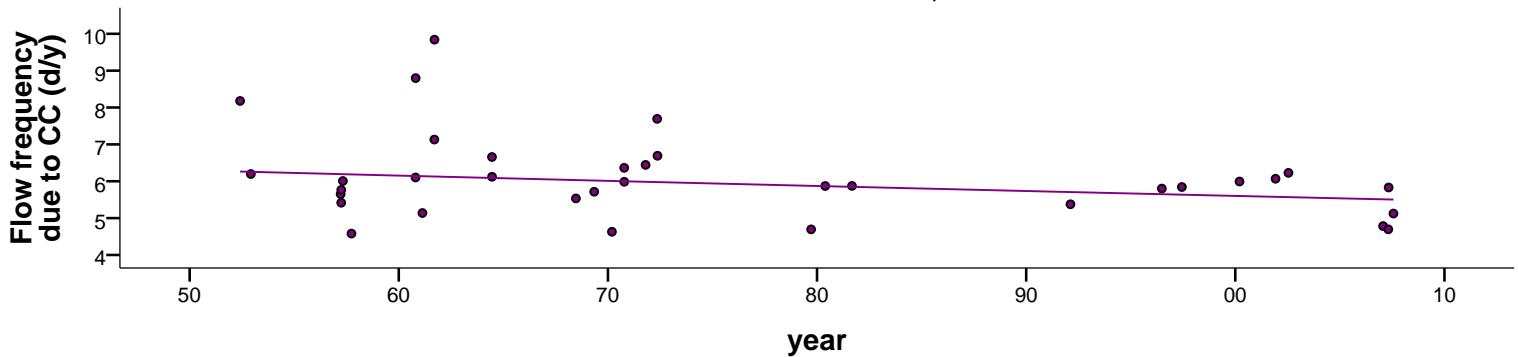
name: 08151500 - Llano Rv at Llano, TX



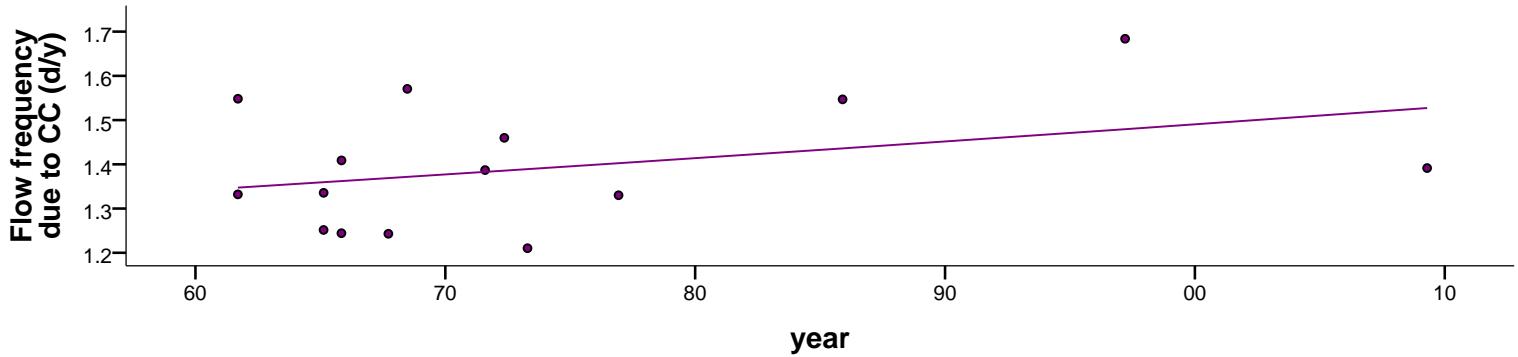
name: 08162000 - Colorado Rv at Wharton, TX



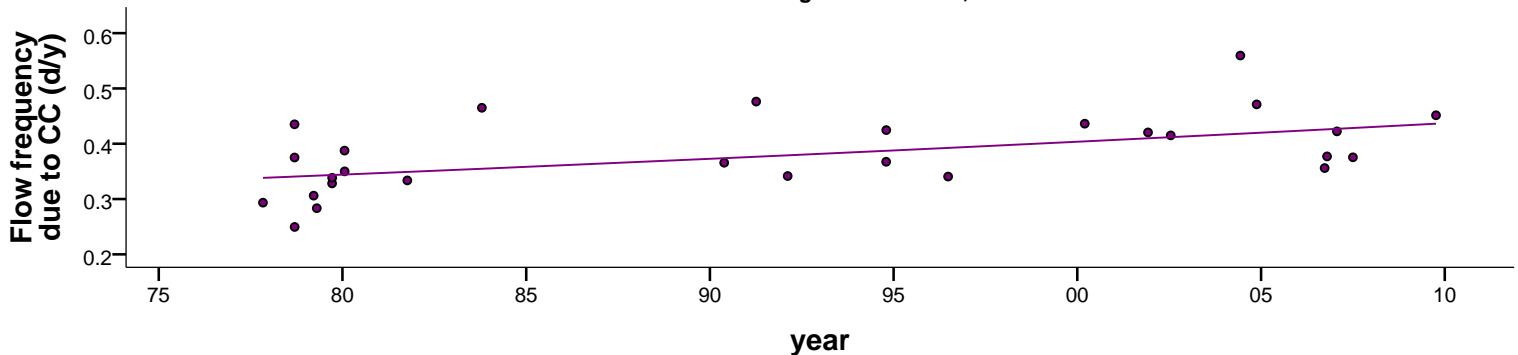
name: 08164000 - Lavaca Rv nr Edna, TX



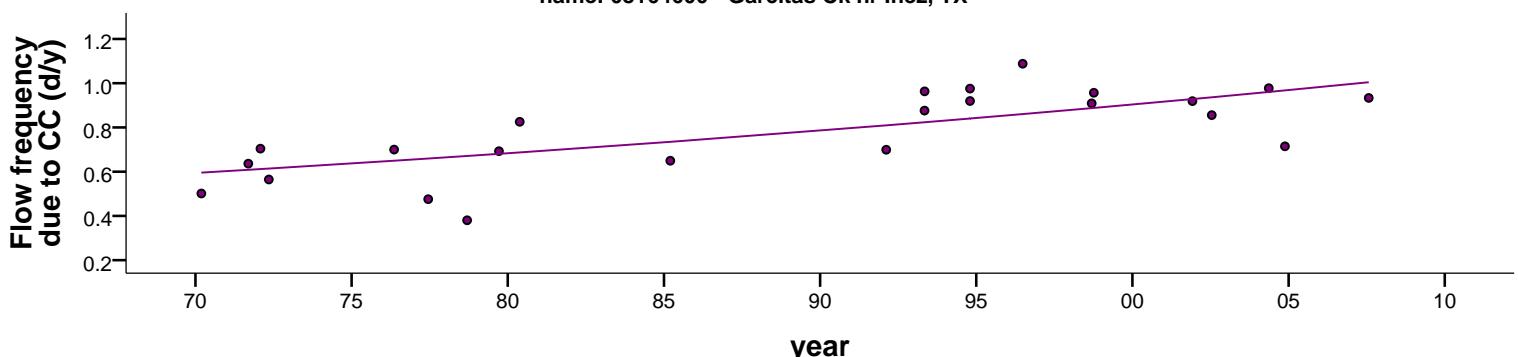
name: 08164300 - Navidad Rv nr Hallettsville, TX



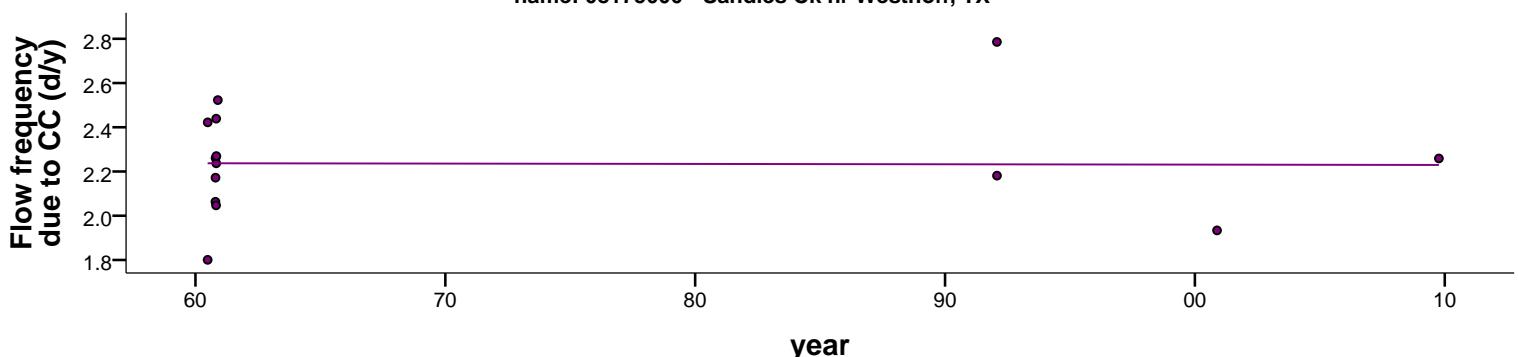
name: 08164503 - W Mustang Ck nr Ganado, TX



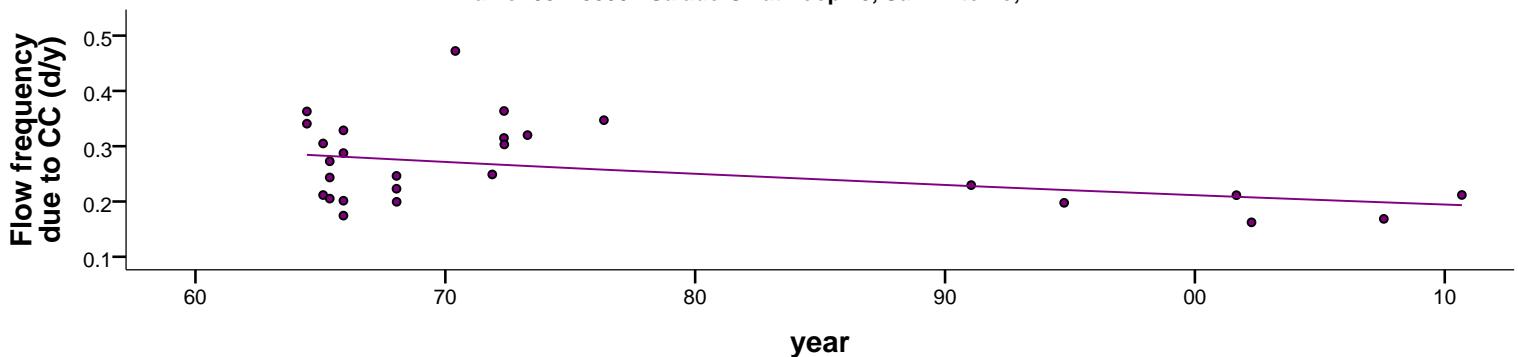
name: 08164600 - Garcitas Ck nr Inez, TX



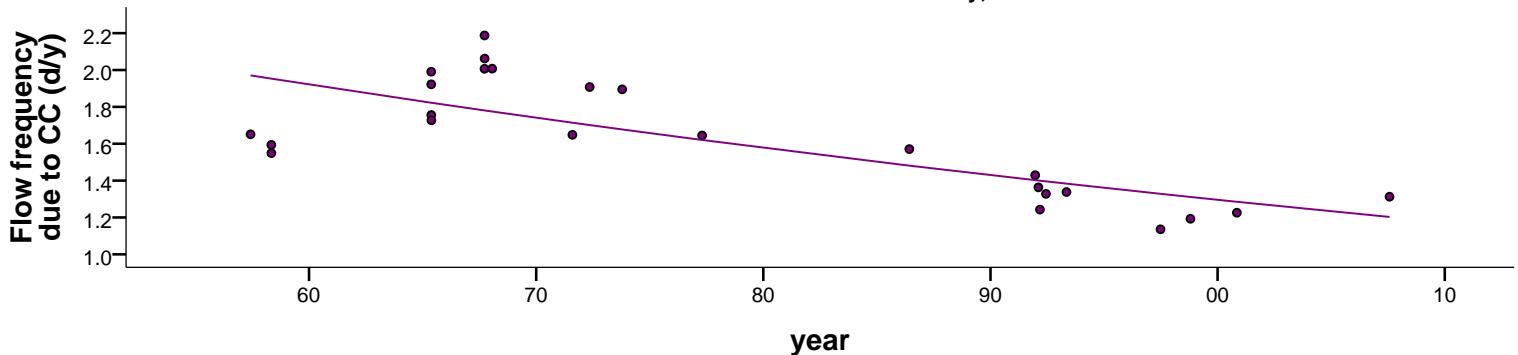
name: 08175000 - Sandies Ck nr Westhoff, TX



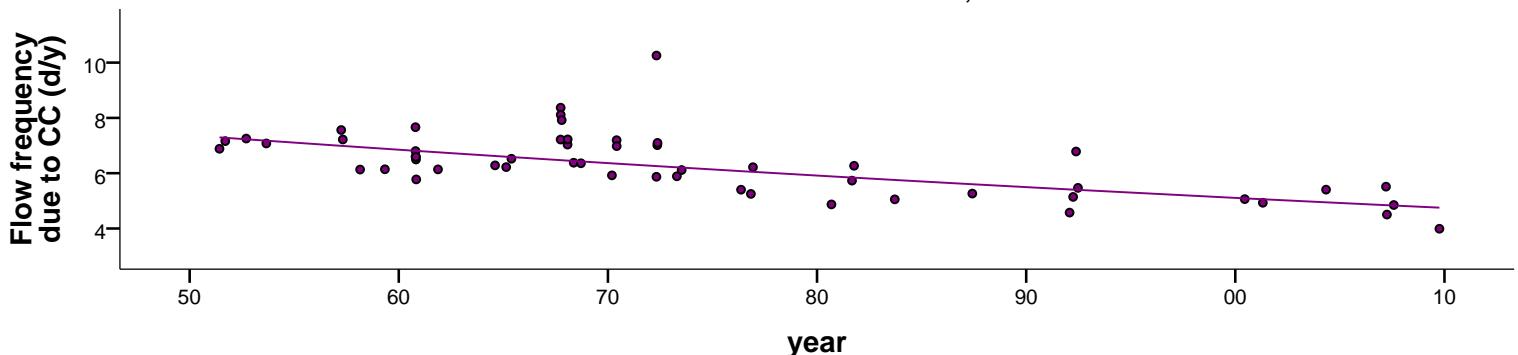
name: 08178800 - Salado Ck at Loop 13, San Antonio, TX



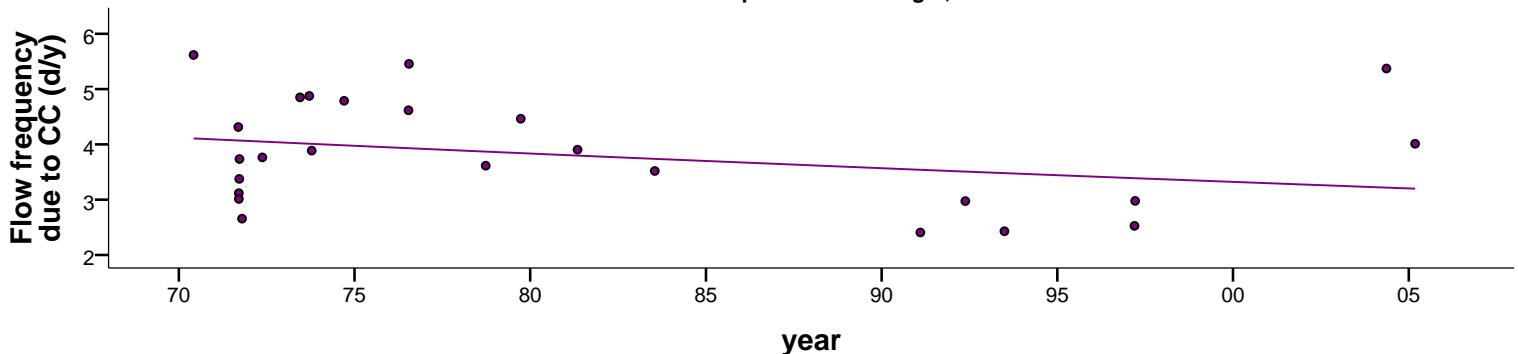
name: 08183500 - San Antonio Rv nr Falls City, TX



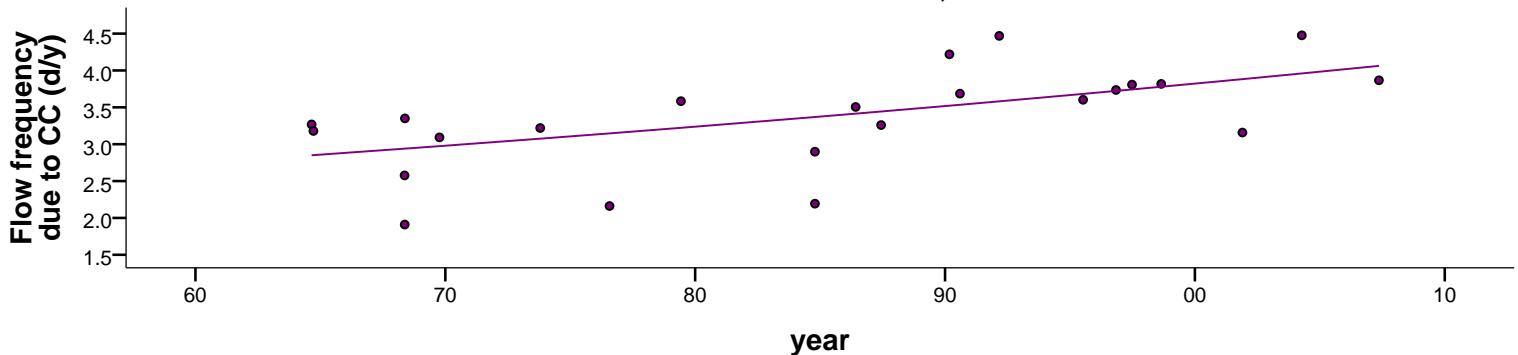
name: 08188500 - San Antonio Rv at Goliad, TX



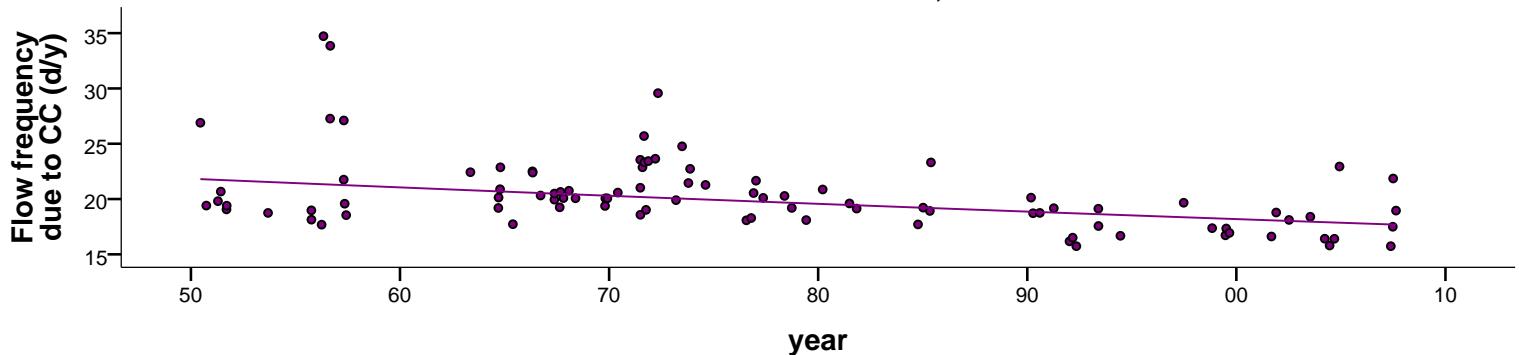
name: 08189200 - Copano Ck nr Refugio, TX



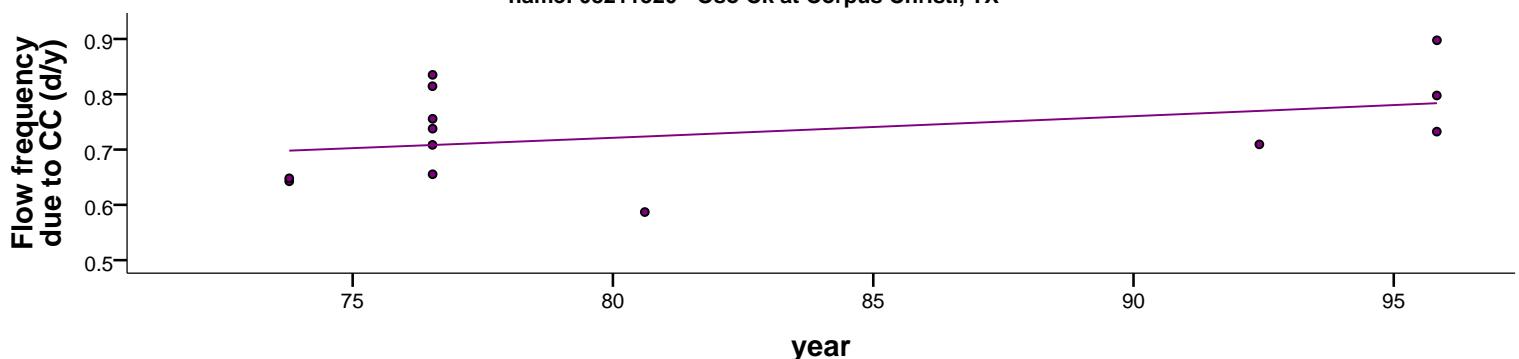
name: 08194000 - Nueces Rv at Cotulla, TX



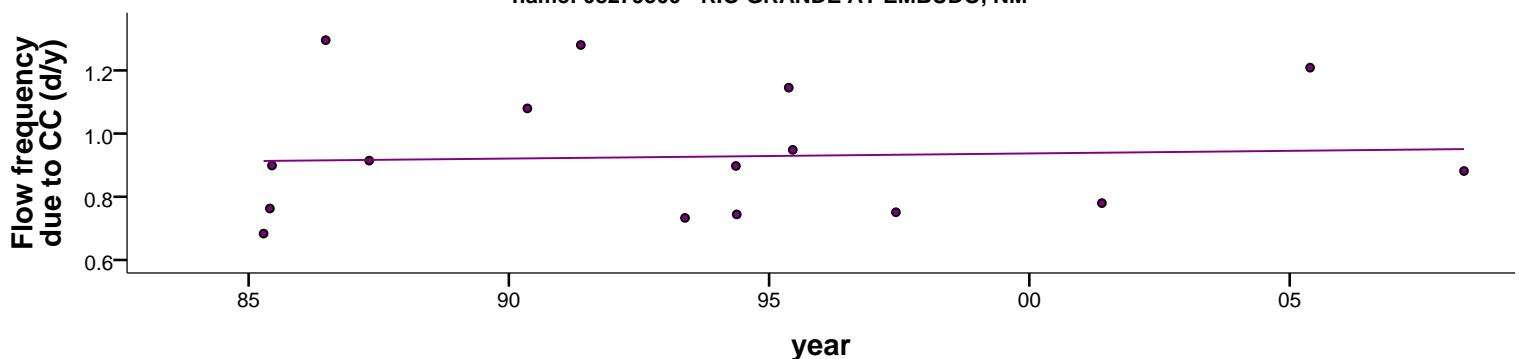
name: 08194500 - Nueces Rv nr Tilden, TX



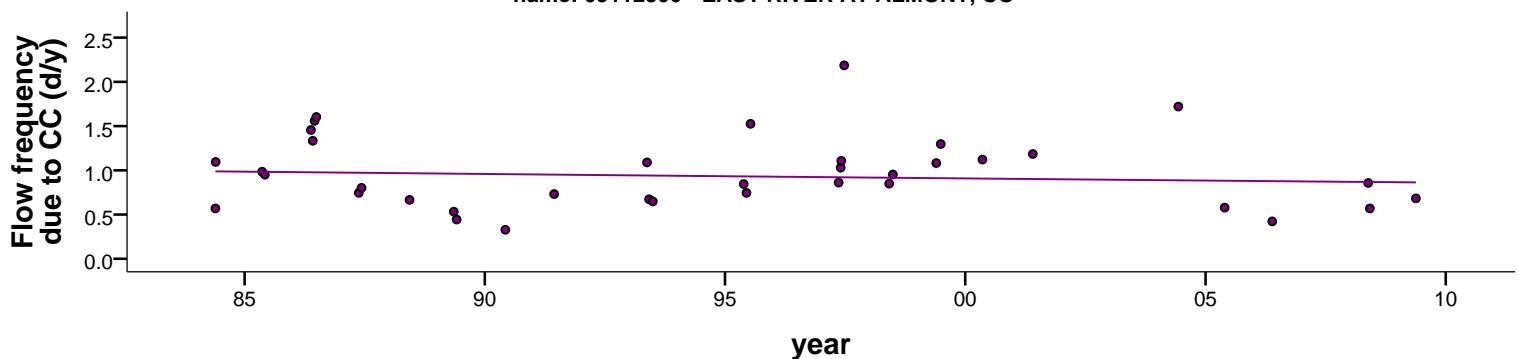
name: 08211520 - Oso Ck at Corpus Christi, TX



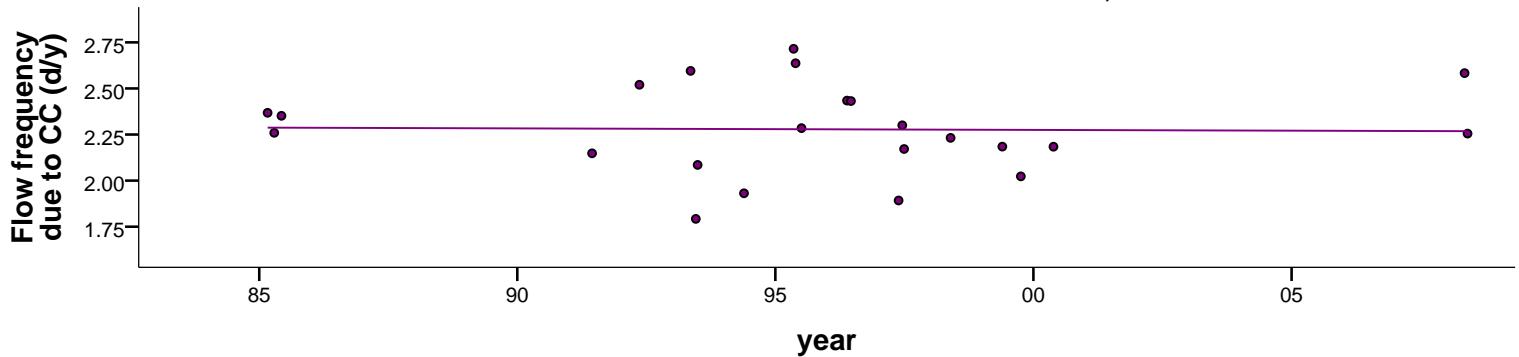
name: 08279500 - RIO GRANDE AT EMBUDO, NM



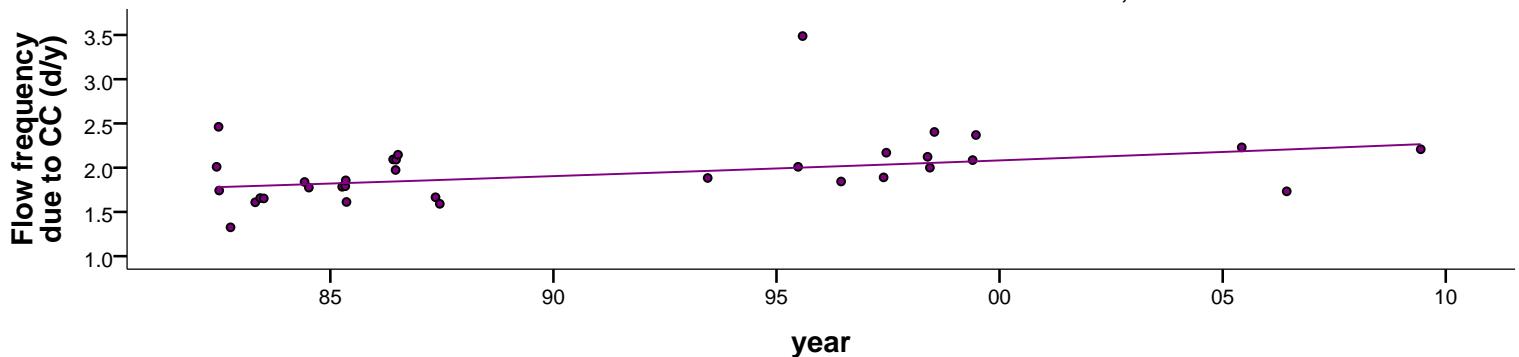
name: 09112500 - EAST RIVER AT ALMONT, CO



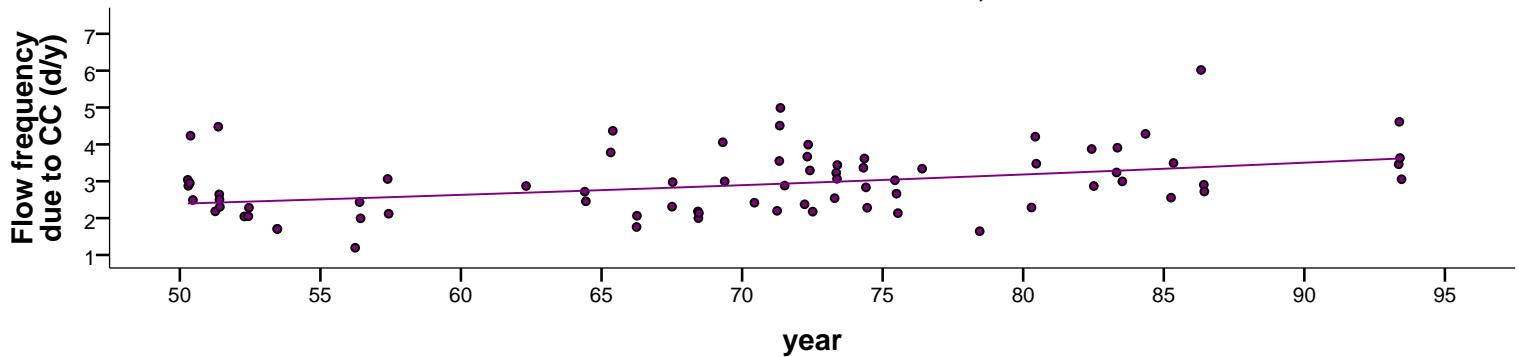
name: 09128000 - GUNNISON RIVER BELOW GUNNISON TUNNEL, CO



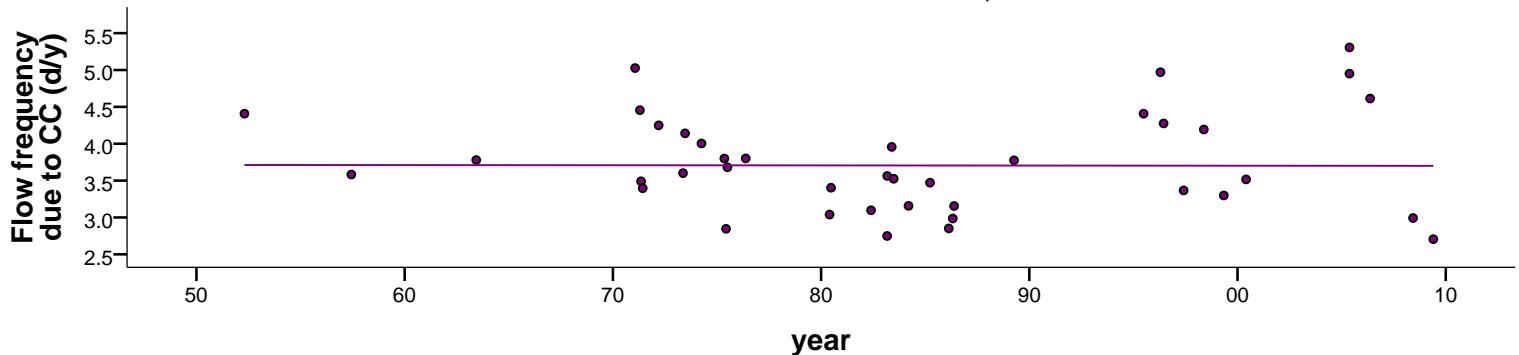
name: 09211200 - GREEN RIVER BELOW FONTENELLE RESERVOIR, WY



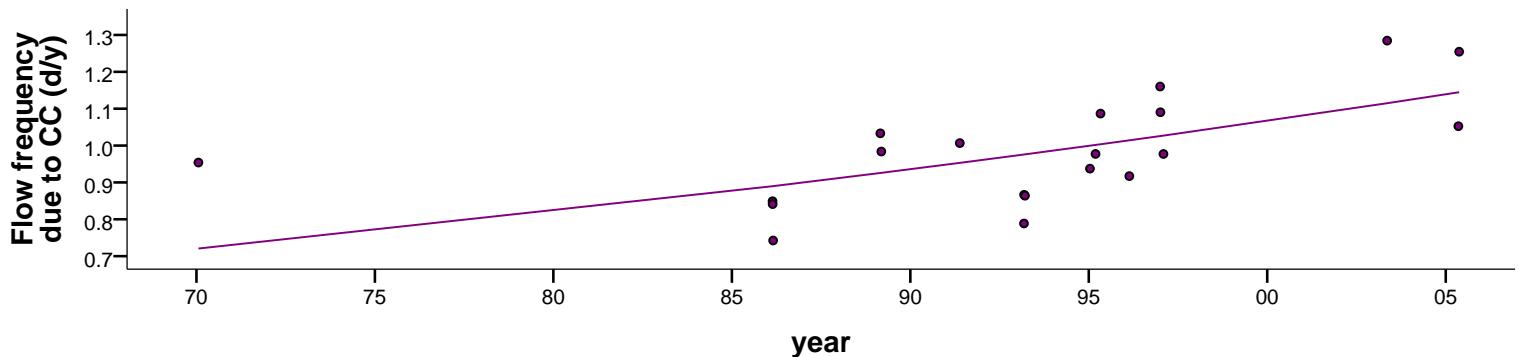
name: 10039500 - BEAR RIVER AT BORDER, WY



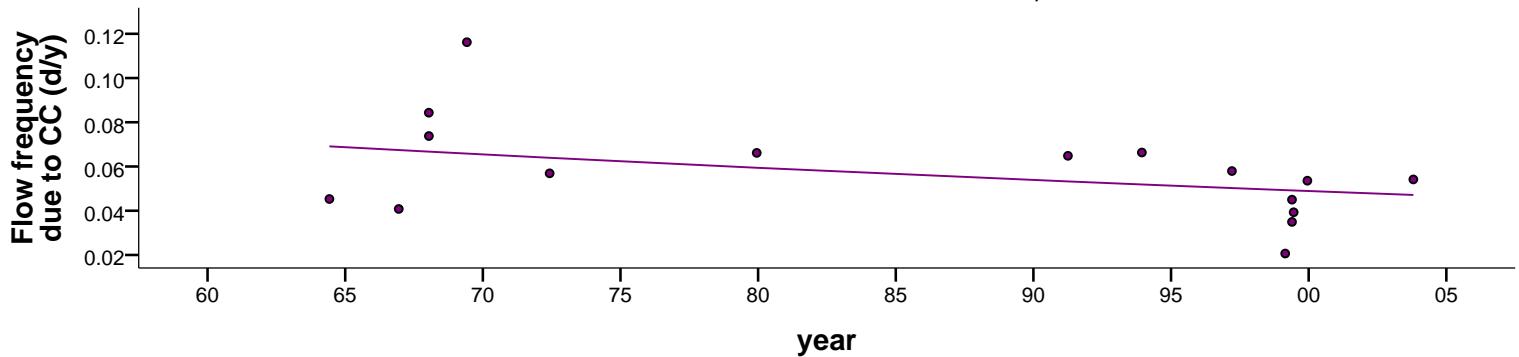
name: 10321000 - HUMBOLDT RV NR CARLIN, NV



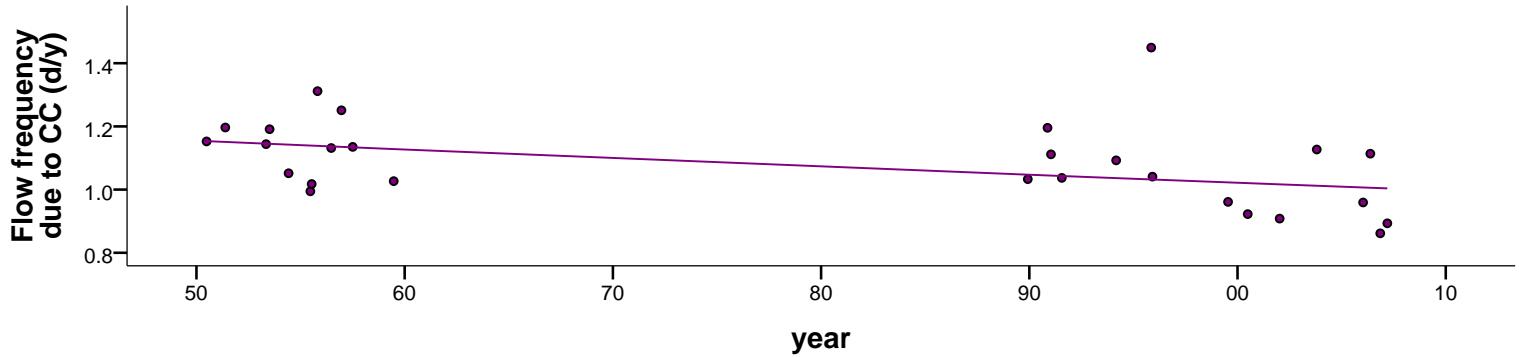
name: 11348500 - PIT R NR CANBY CA



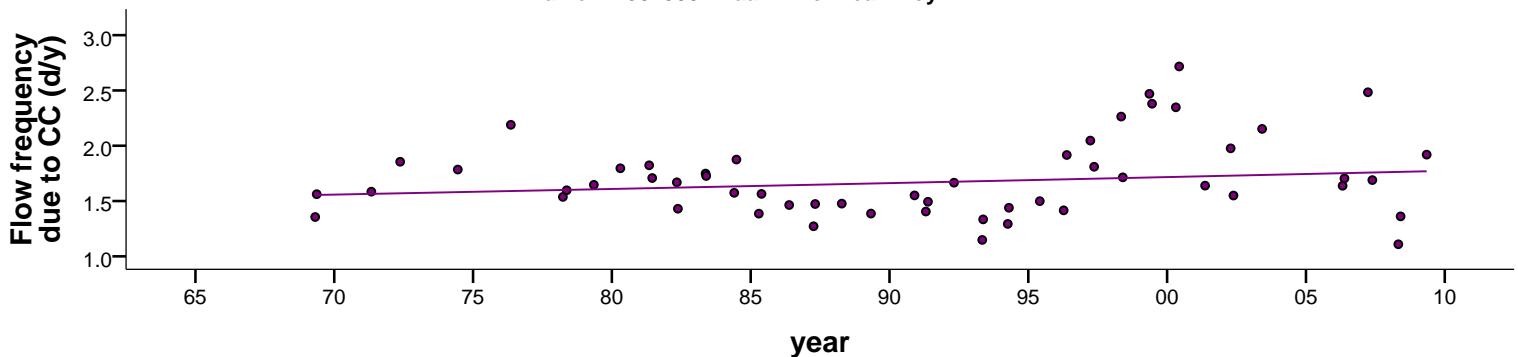
name: 12048000 - DUNGENESS RIVER NEAR SEQUIM, WA



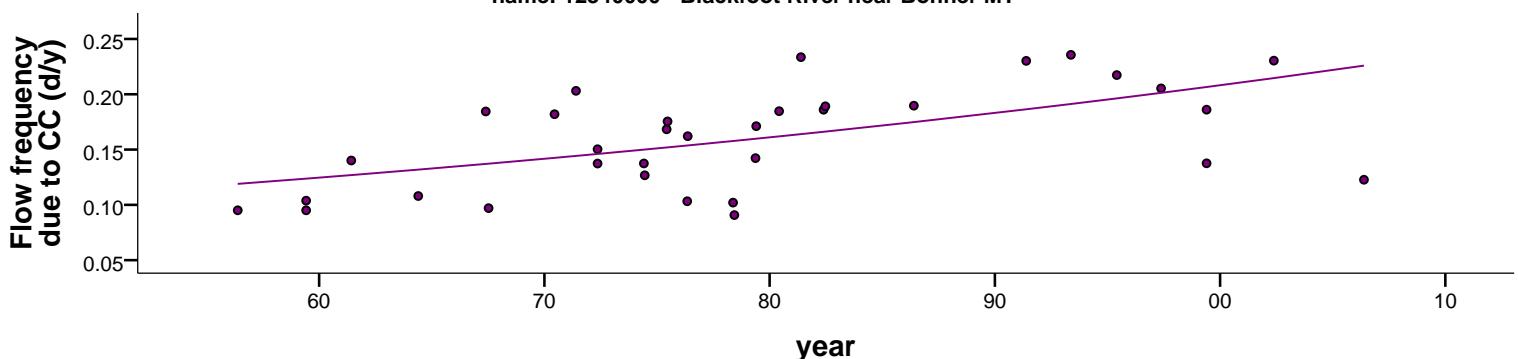
name: 12194000 - SKAGIT RIVER NEAR CONCRETE, WA



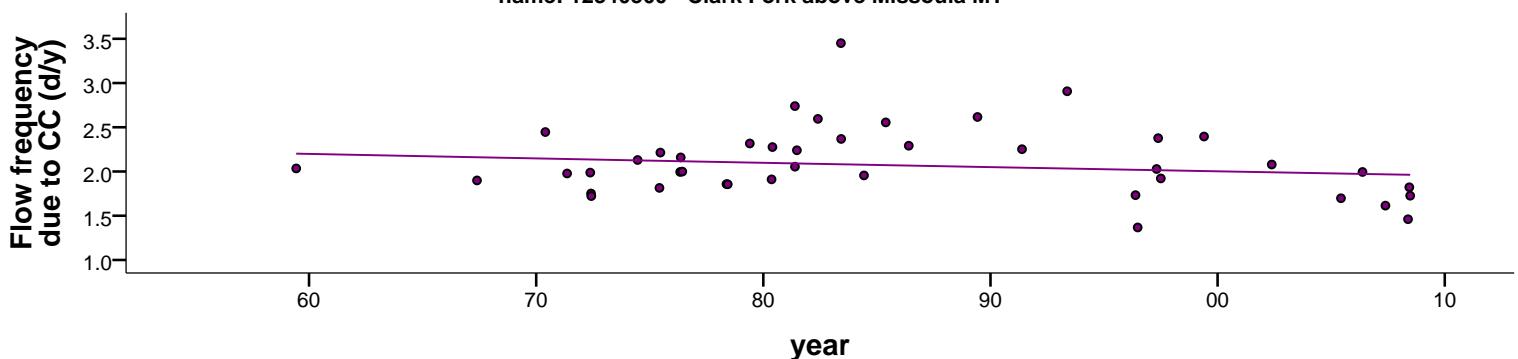
name: 12304500 - Yaak River near Troy MT



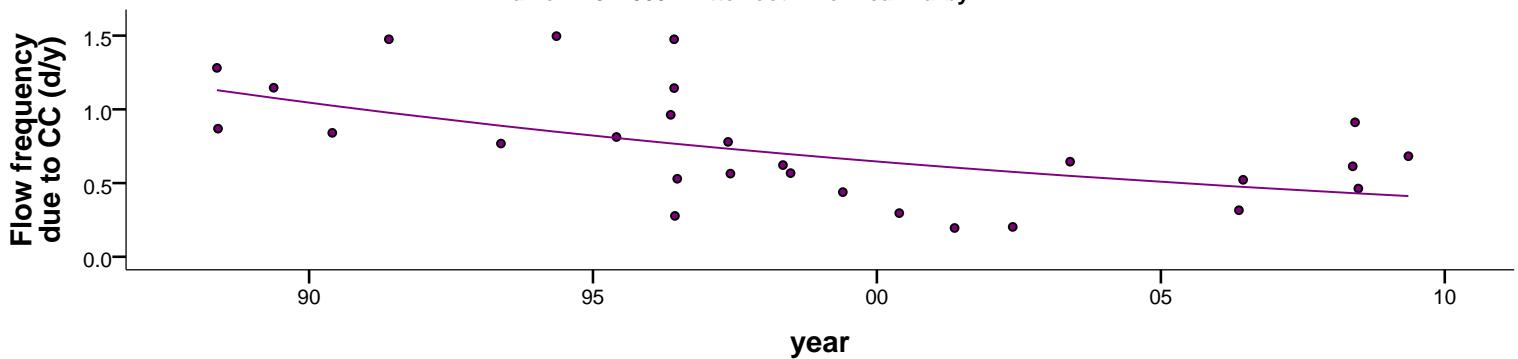
name: 12340000 - Blackfoot River near Bonner MT



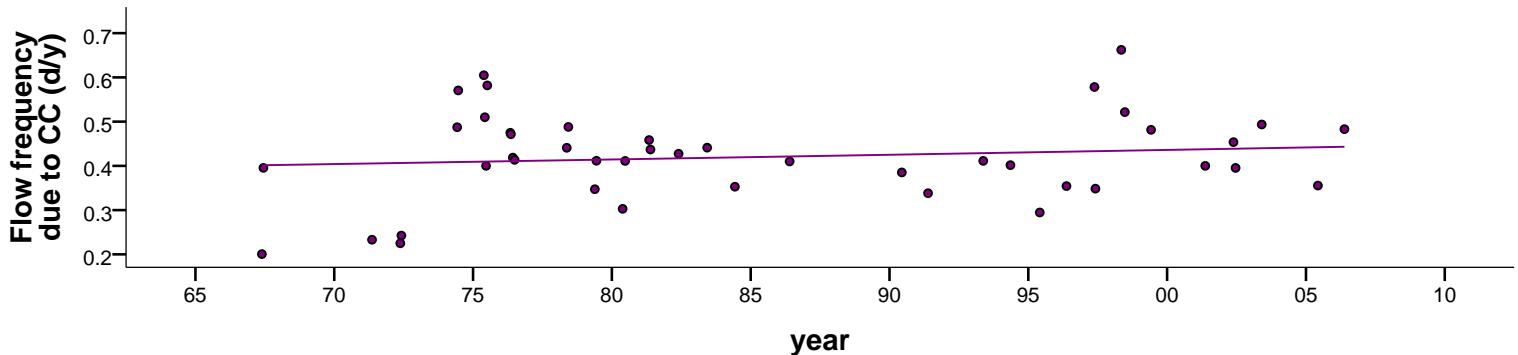
name: 12340500 - Clark Fork above Missoula MT



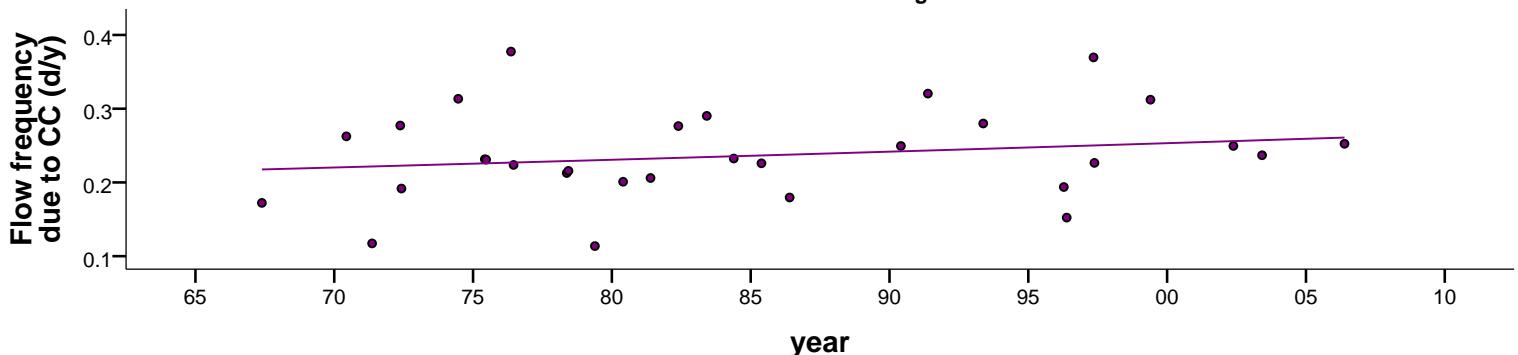
name: 12344000 - Bitterroot River near Darby MT



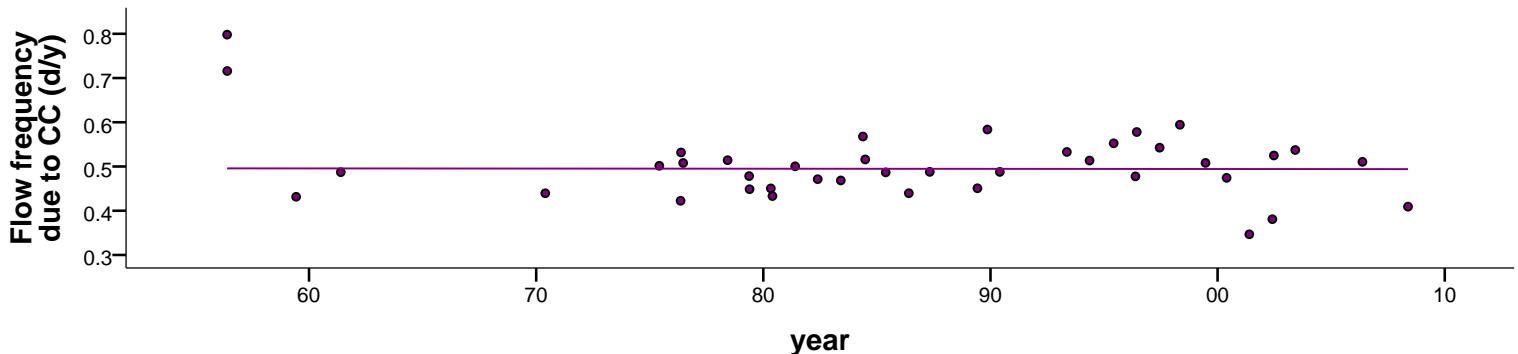
name: 12353000 - Clark Fork below Missoula MT



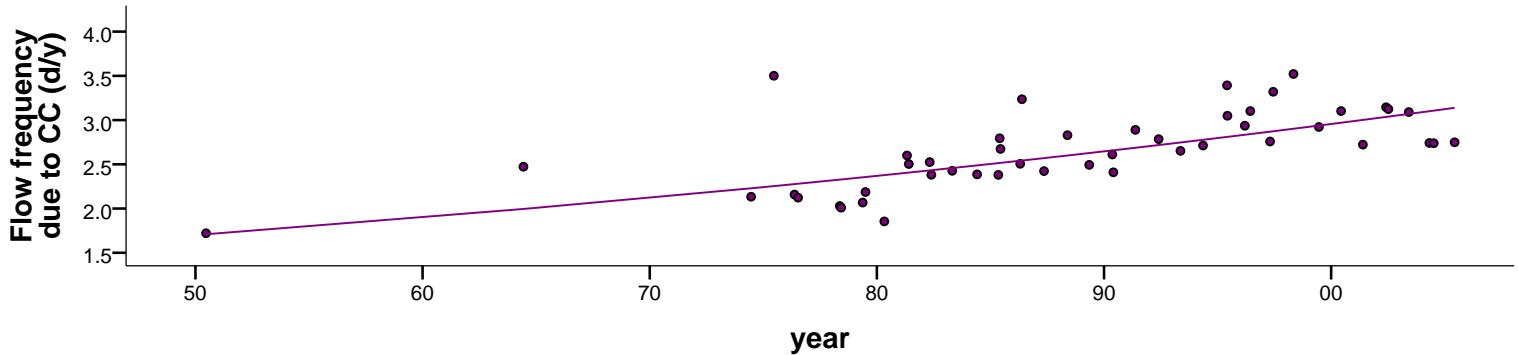
name: 12354500 - Clark Fork at St. Regis MT



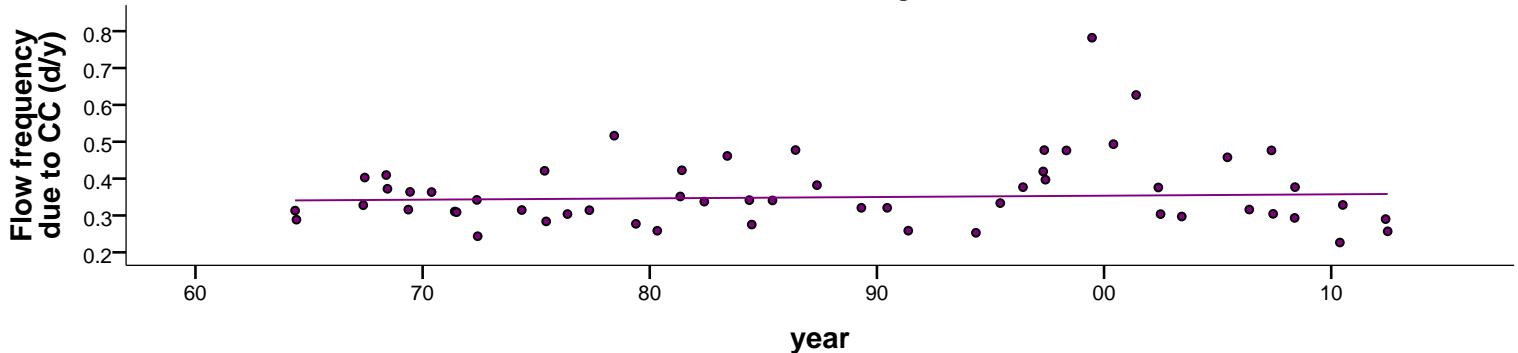
name: 12358500 - M F Flathead River near West Glacier MT



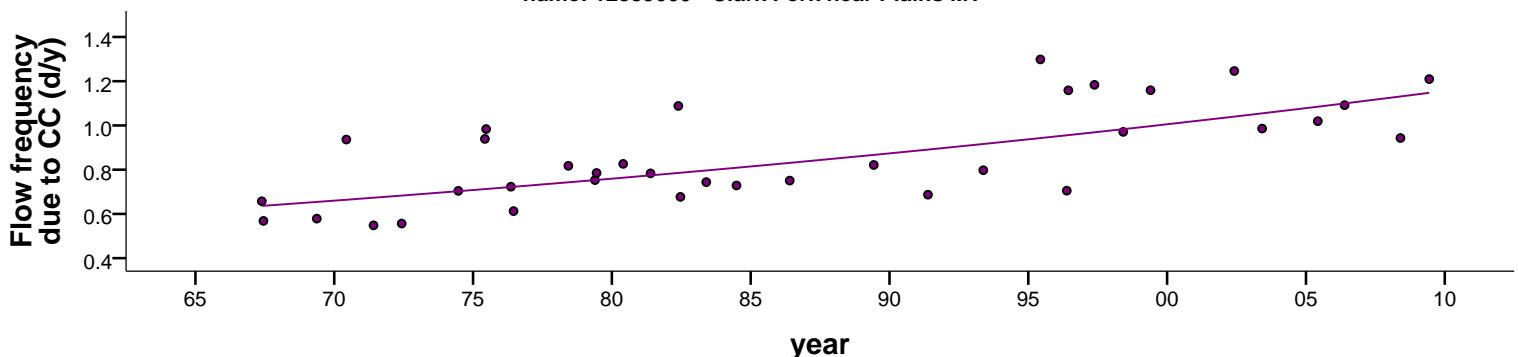
name: 12363000 - Flathead River at Columbia Falls MT



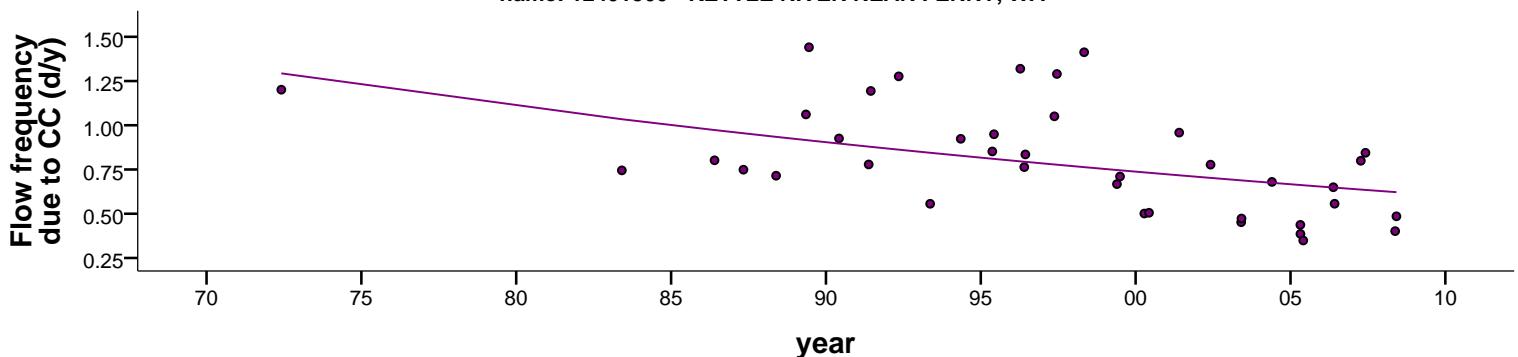
name: 12370000 - Swan River near Bigfork, MT



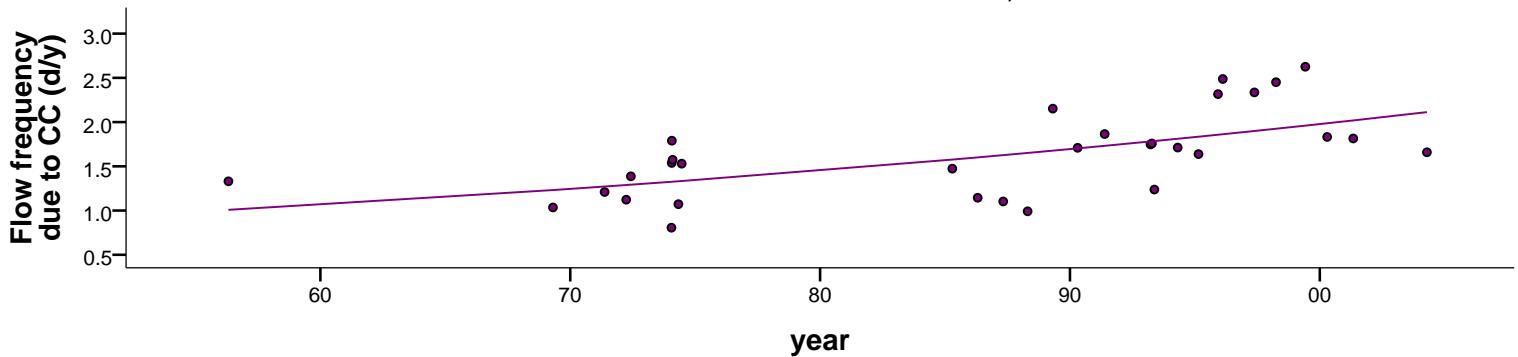
name: 12389000 - Clark Fork near Plains MT



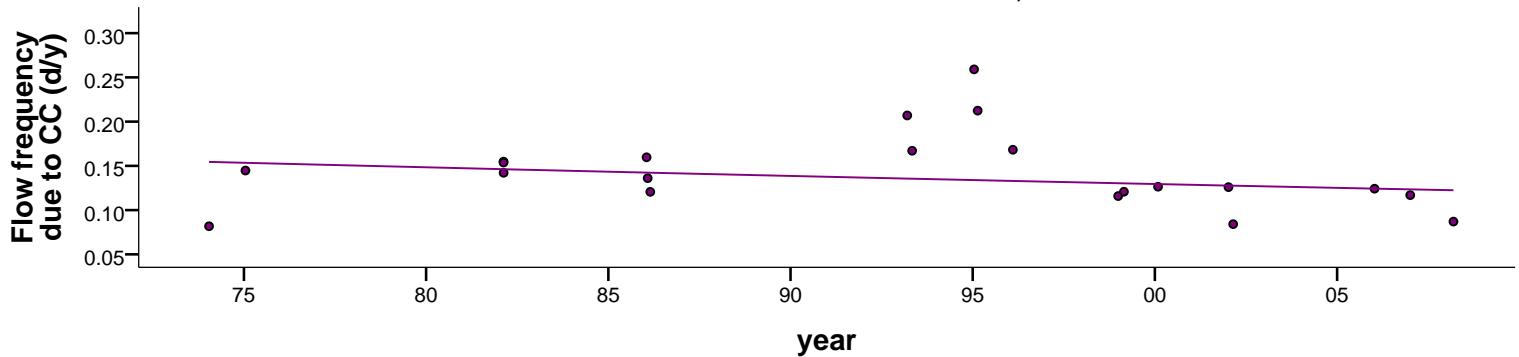
name: 12401500 - KETTLE RIVER NEAR FERRY, WA



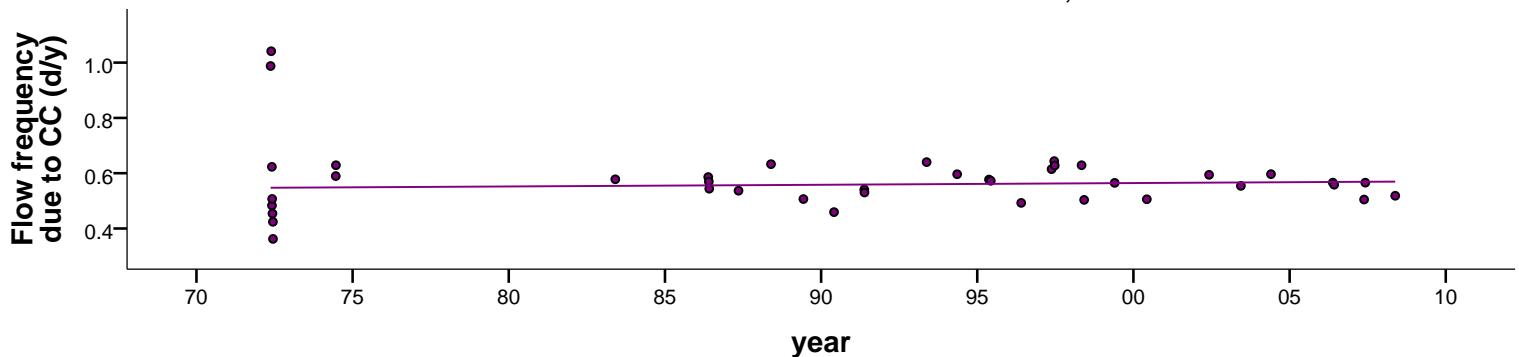
name: 12422500 - SPOKANE RIVER AT SPOKANE, WA



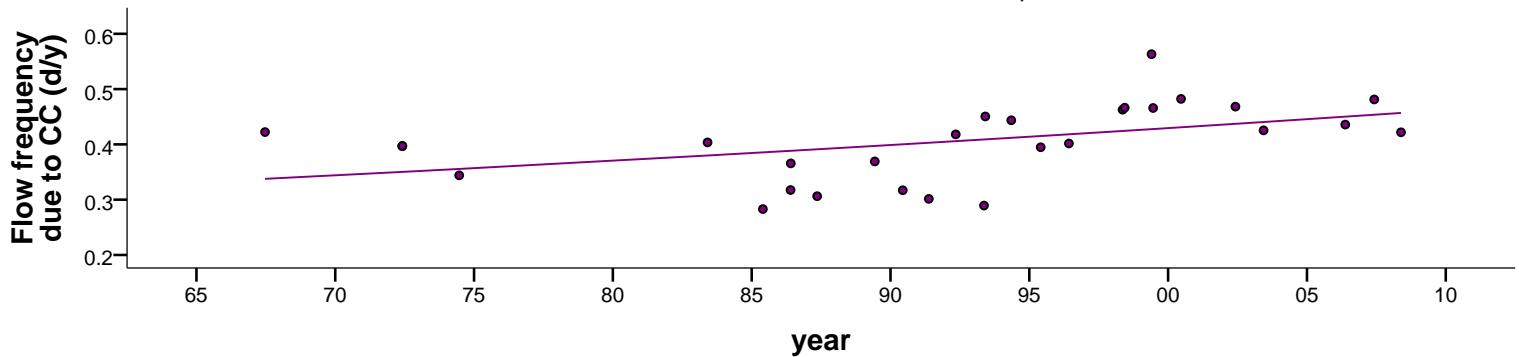
name: 12424000 - HANGMAN CREEK AT SPOKANE, WA



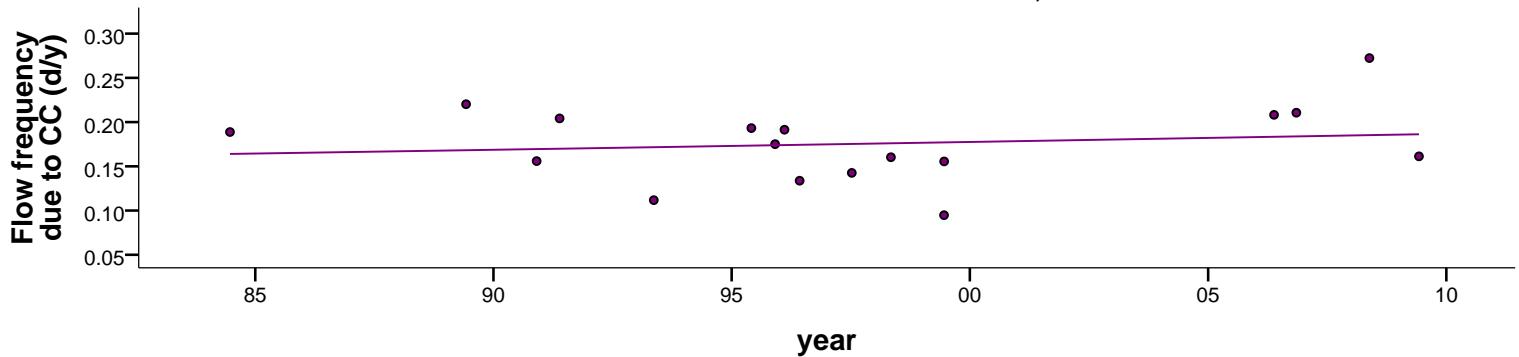
name: 12442500 - SIMILKAMEEN RIVER NEAR NIGHTHAWK, WA



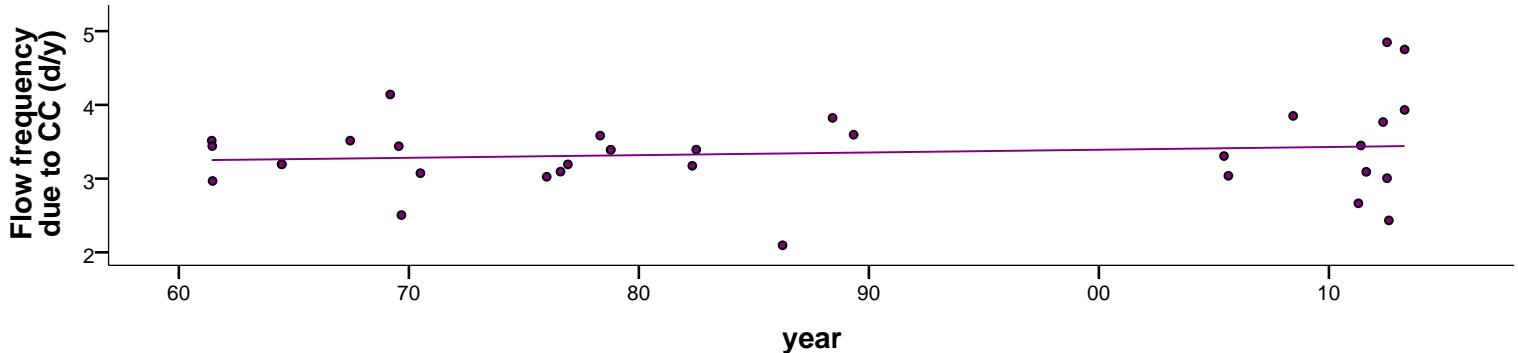
name: 12449950 - METHOW RIVER NEAR PATEROS, WA



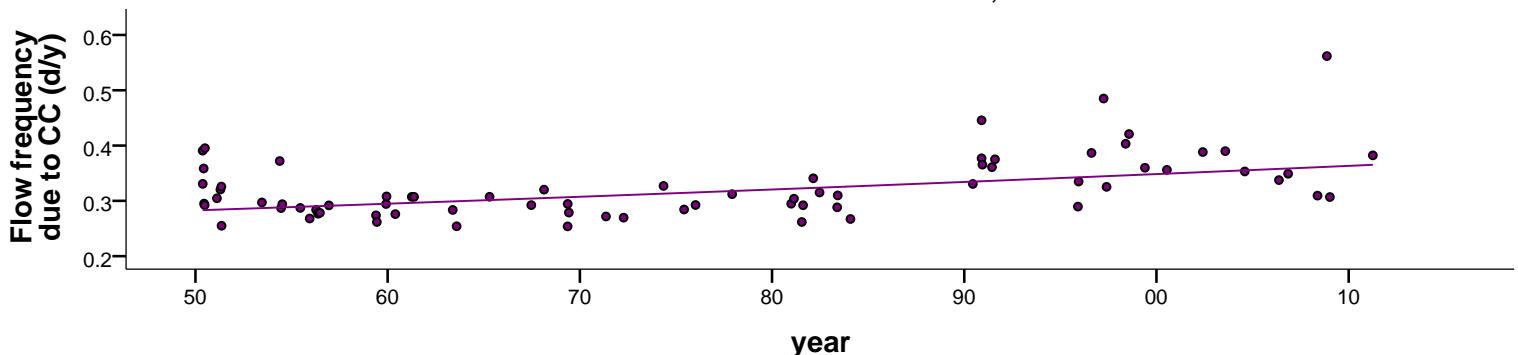
name: 12459000 - WENATCHEE RIVER AT PESHASTIN, WA



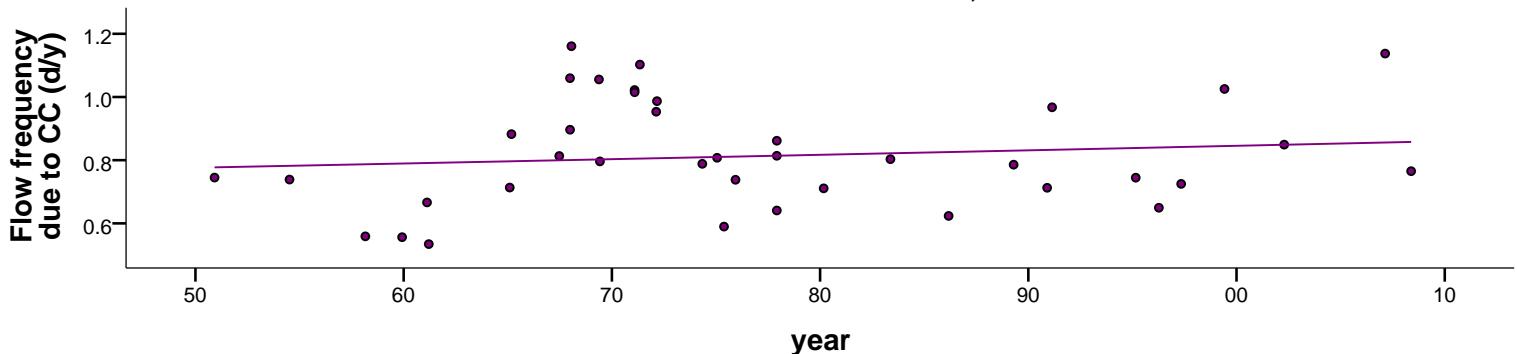
name: 12472800 - COLUMBIA RIVER BELOW PRIEST RAPIDS DAM, WA



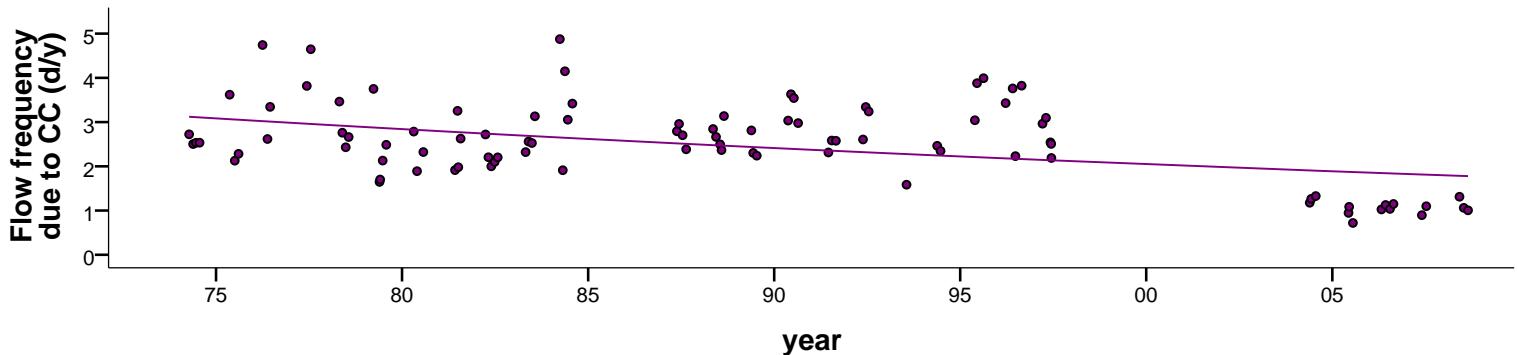
name: 12484500 - YAKIMA RIVER AT UMTANUM, WA



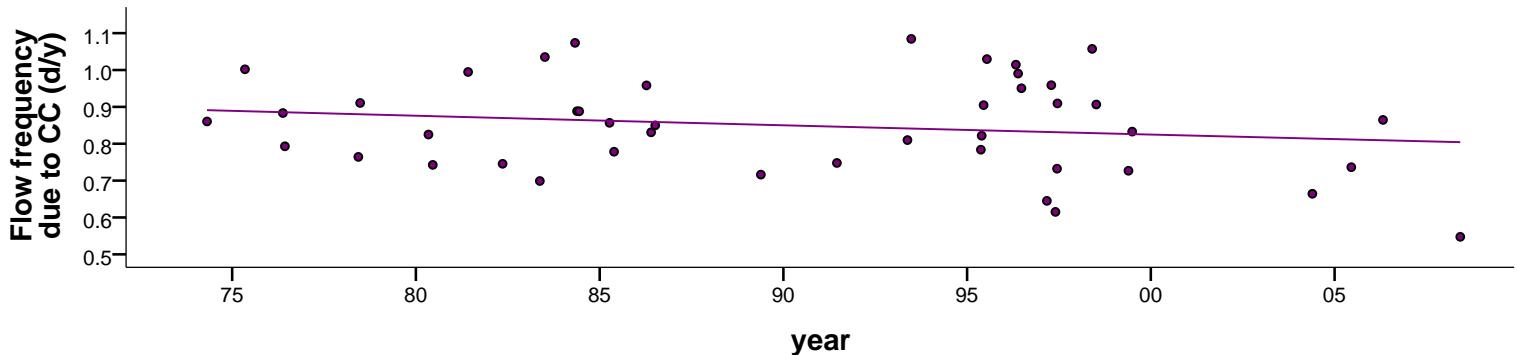
name: 12510500 - YAKIMA RIVER AT KIONA, WA



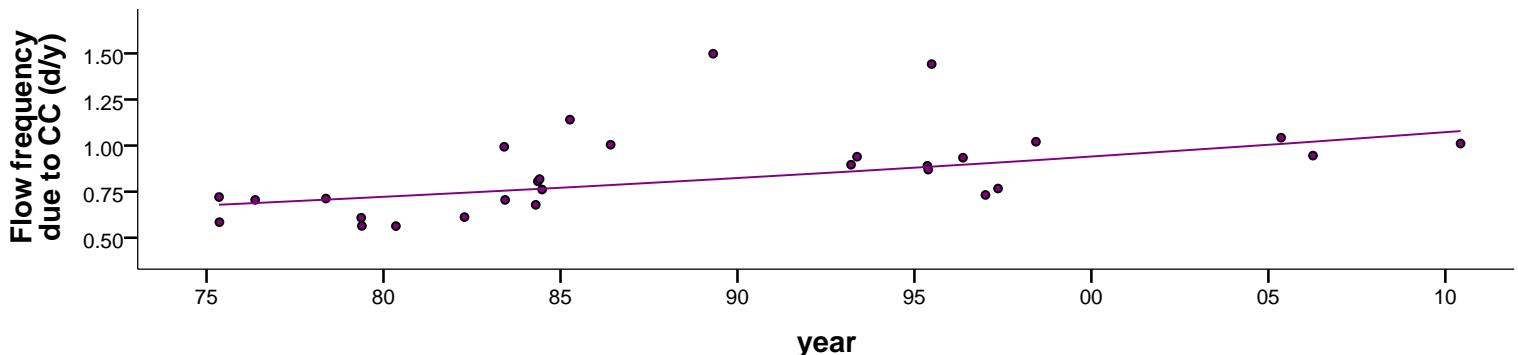
name: 13037500 - SNAKE RIVER NR HEISE ID



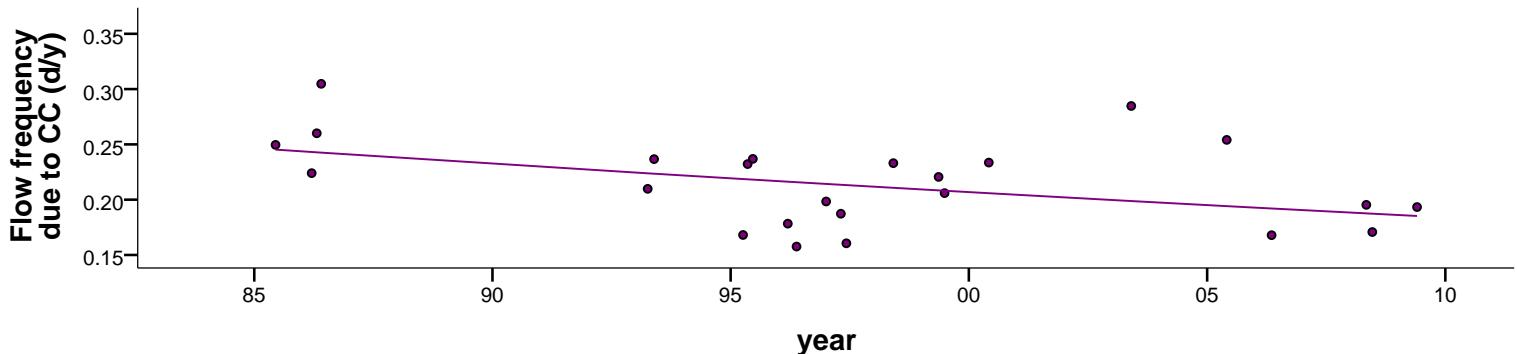
name: 13060000 - SNAKE RIVER NR SHELLEY ID



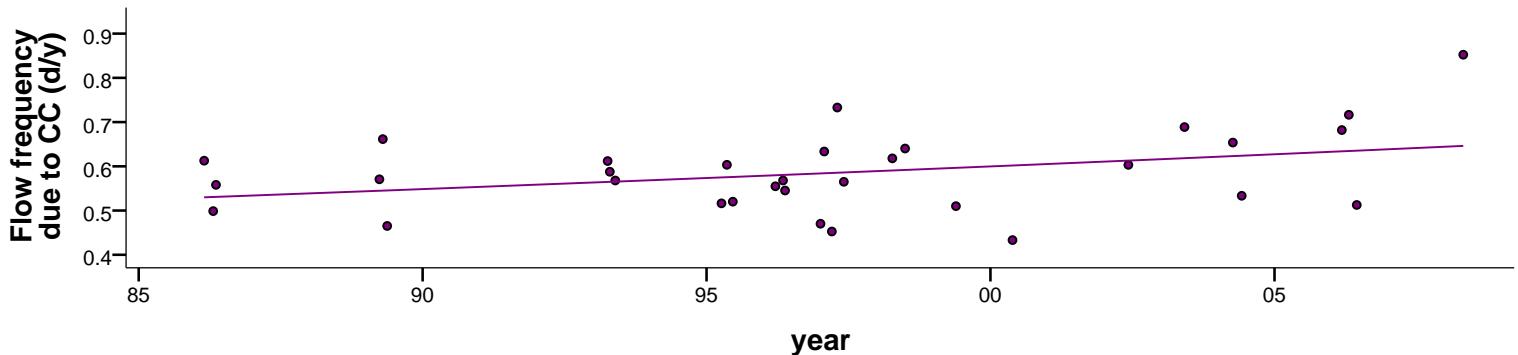
name: 13168500 - BRUNEAU RIVER NR HOT SPRING ID



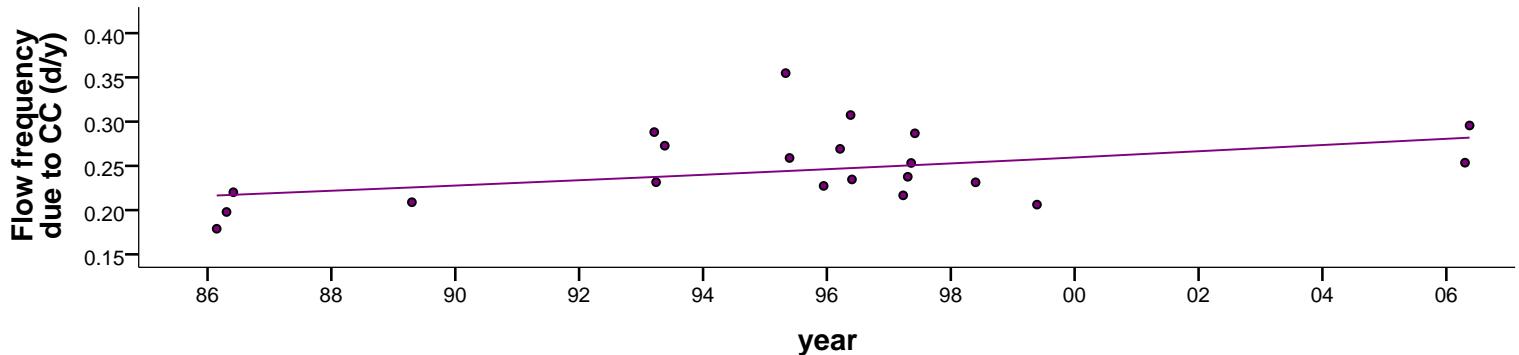
name: 13247500 - PAYETTE RIVER NR HORSeshoe BEND ID



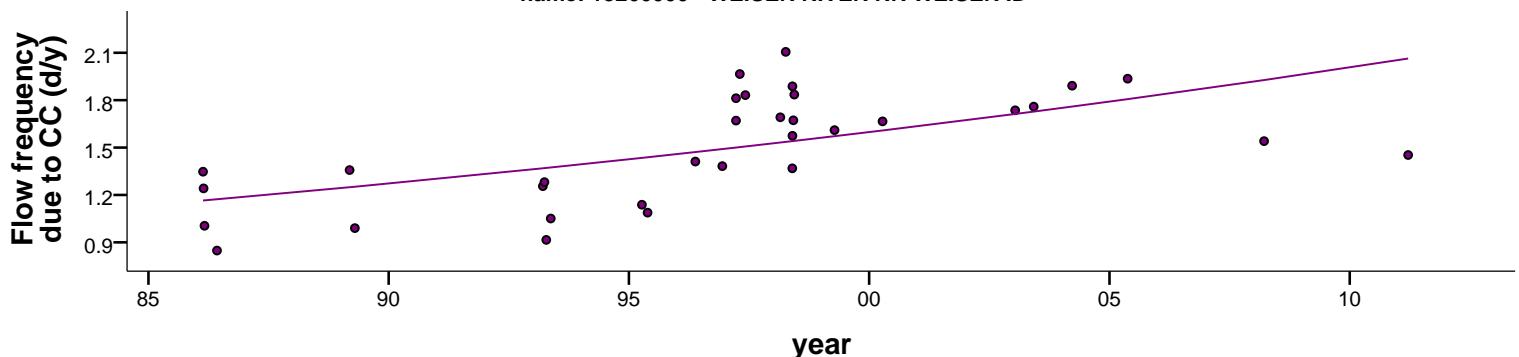
name: 13249500 - PAYETTE RIVER NR EMMETT ID



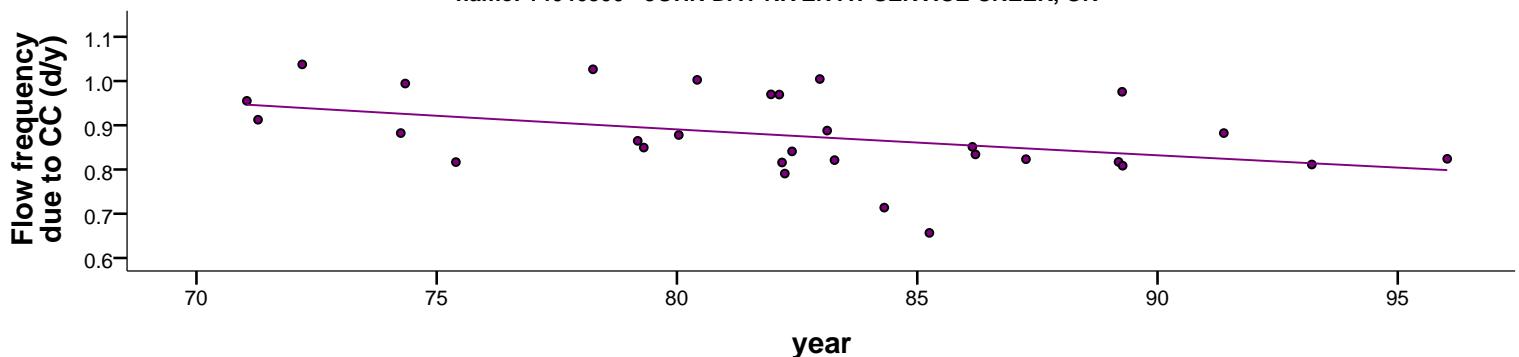
name: 13251000 - PAYETTE RIVER NR PAYETTE ID



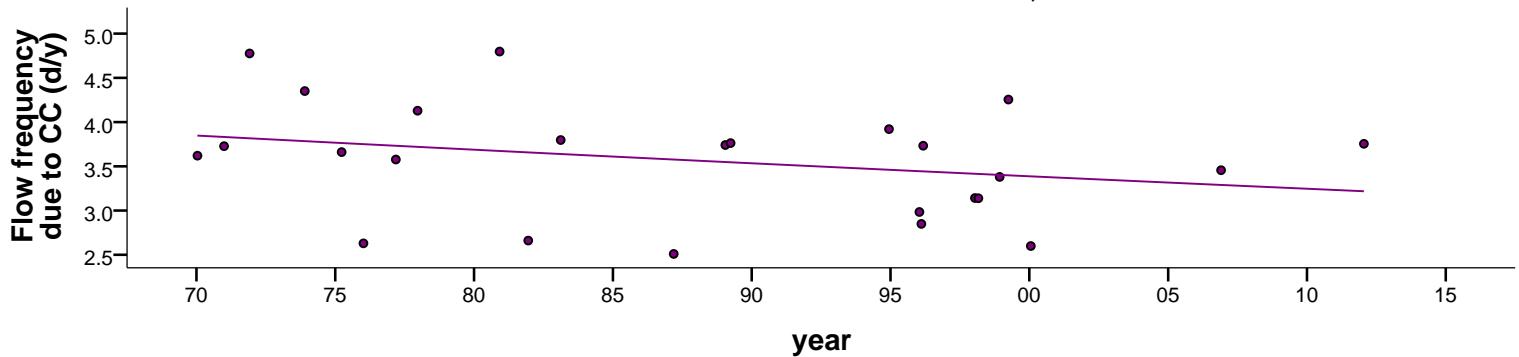
name: 13266000 - WEISER RIVER NR WEISER ID



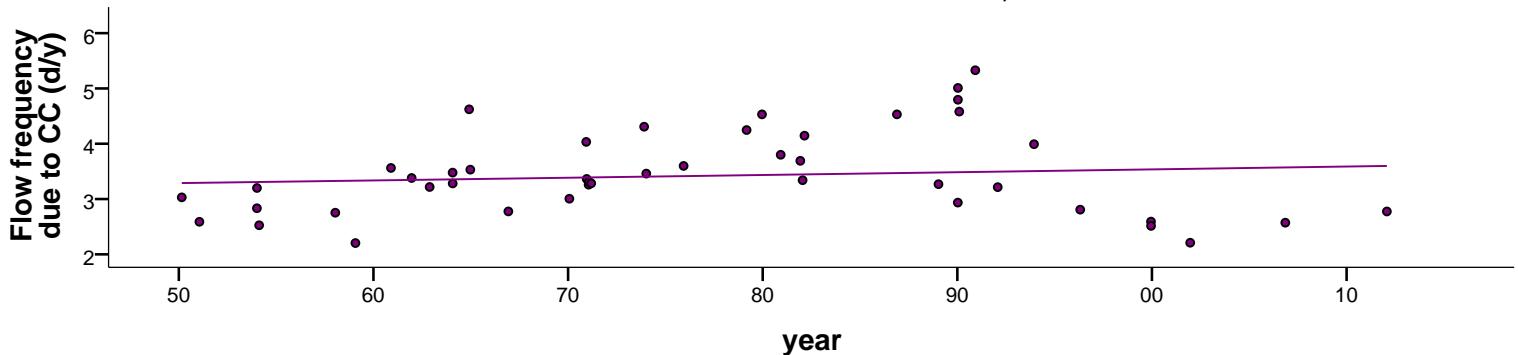
name: 14046500 - JOHN DAY RIVER AT SERVICE CREEK, OR



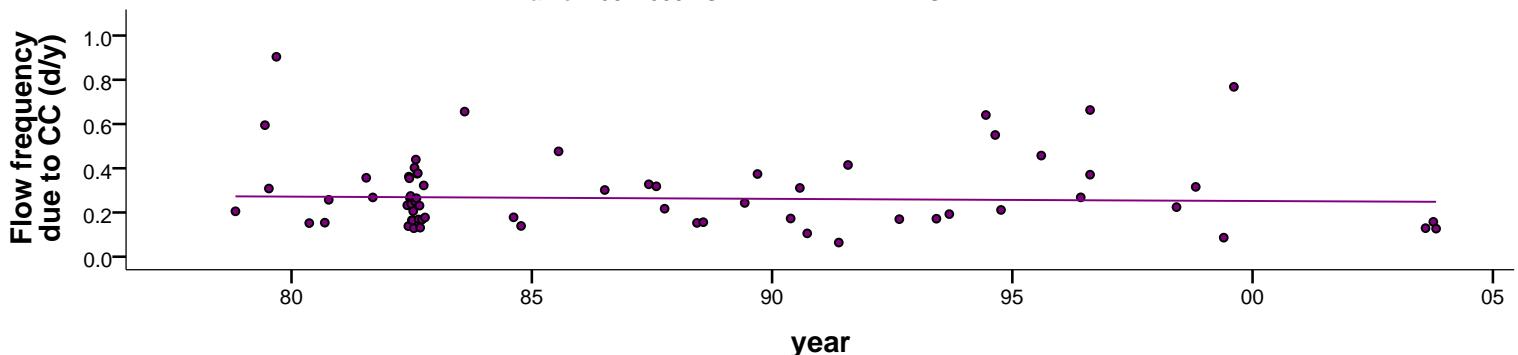
name: 14190500 - LUCKIAMUTE RIVER NEAR SUVER, OR



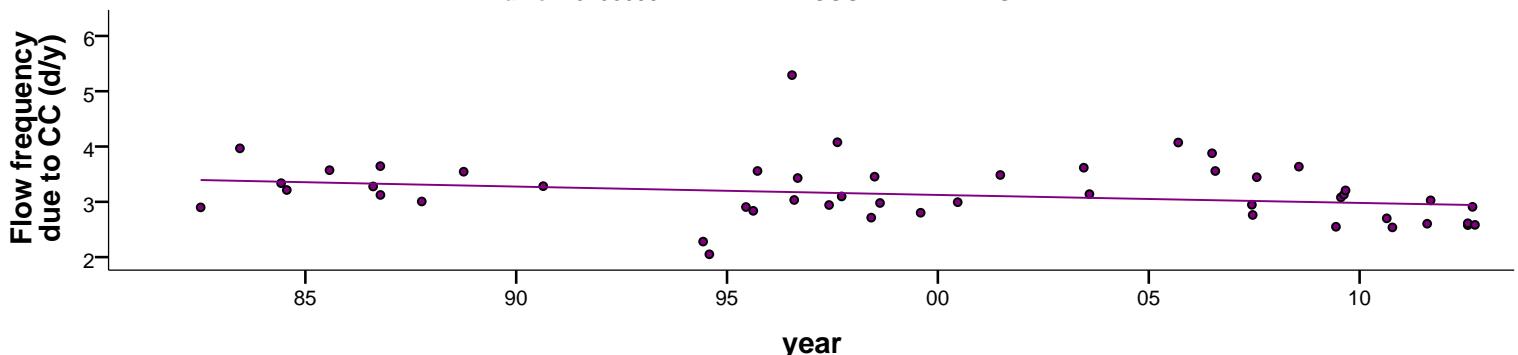
name: 14301000 - NEHALEM RIVER NEAR FOSS, OR



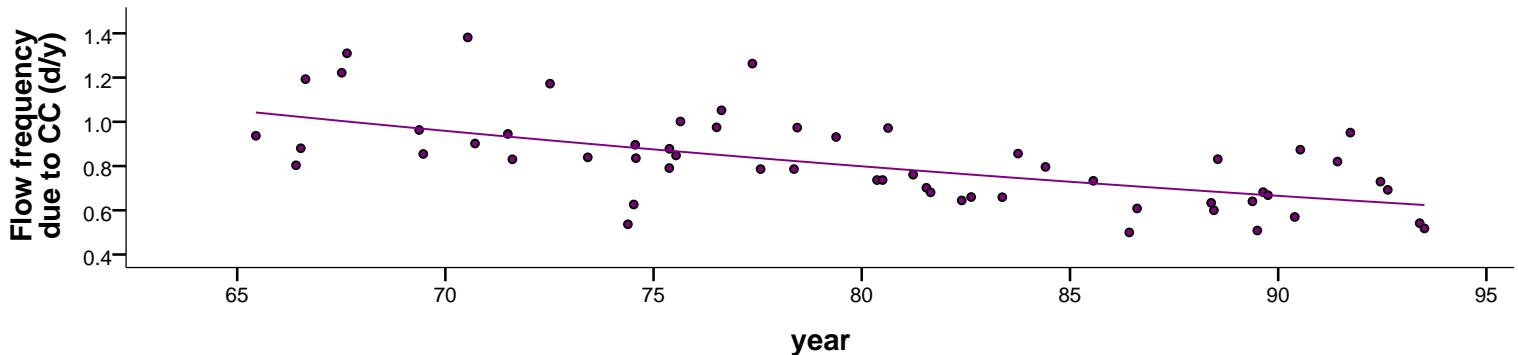
name: 15024800 - STIKINE R NR WRANGELL AK



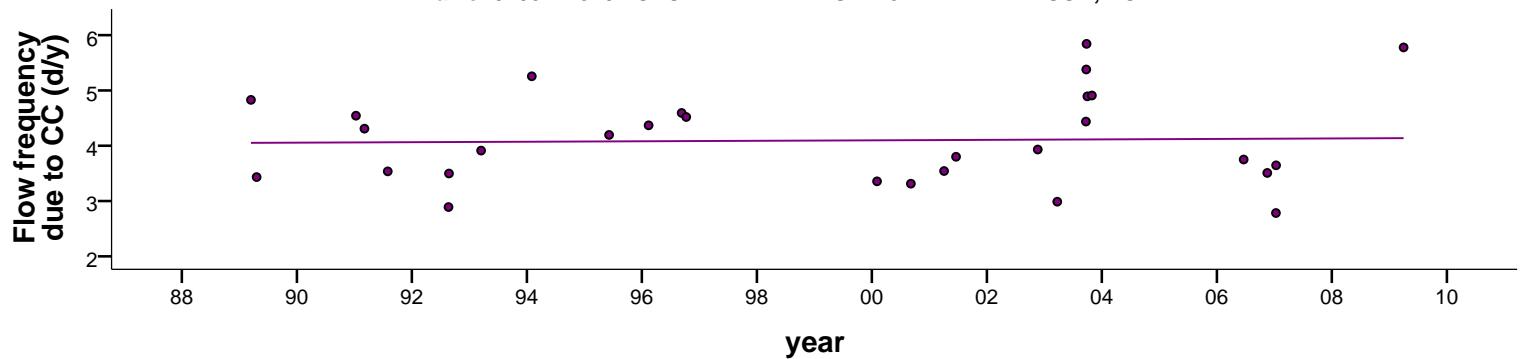
name: 15258000 - KENAI R AT COOPER LANDING AK



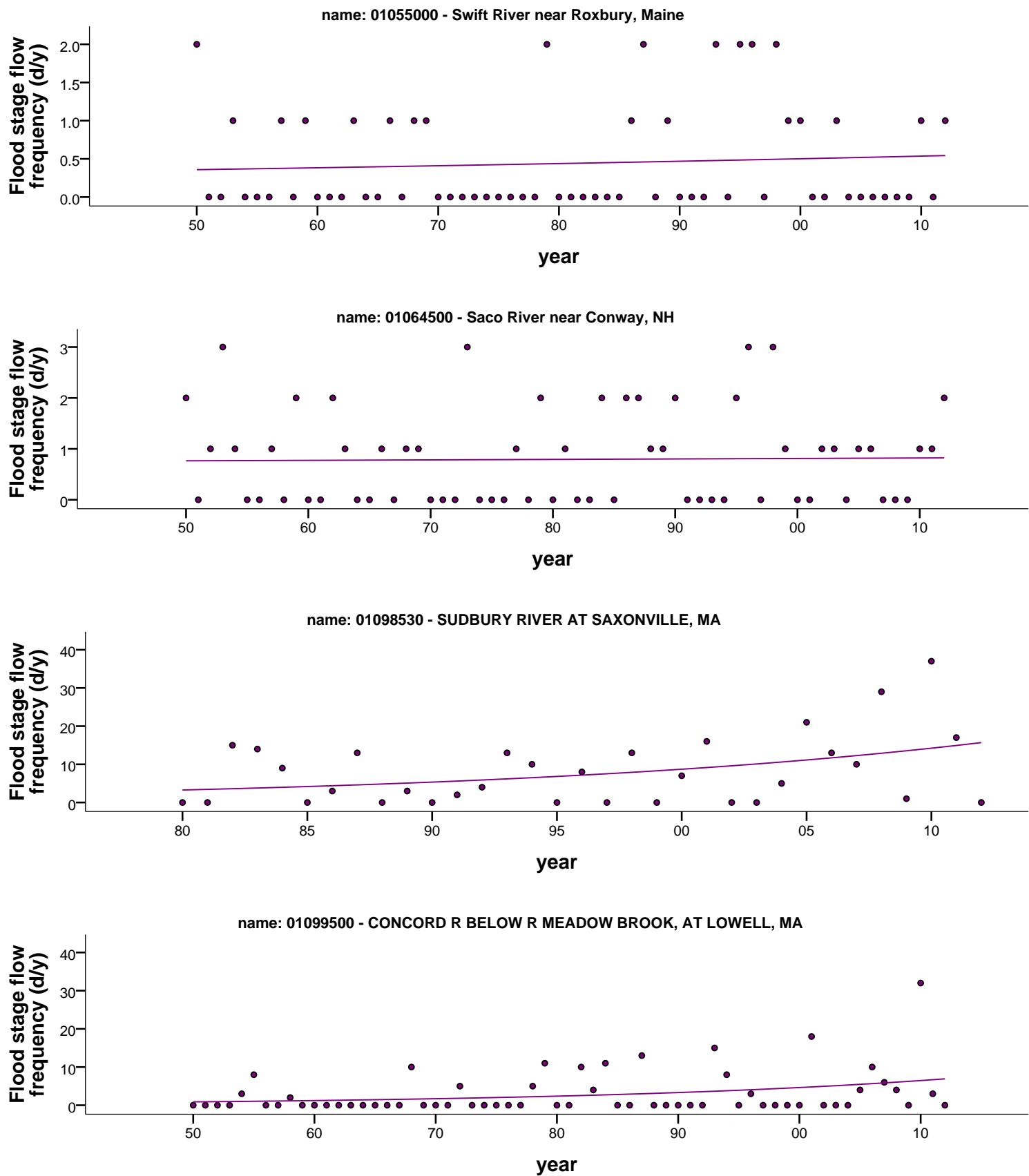
name: 15292000 - SUSITNA R AT GOLD CREEK AK



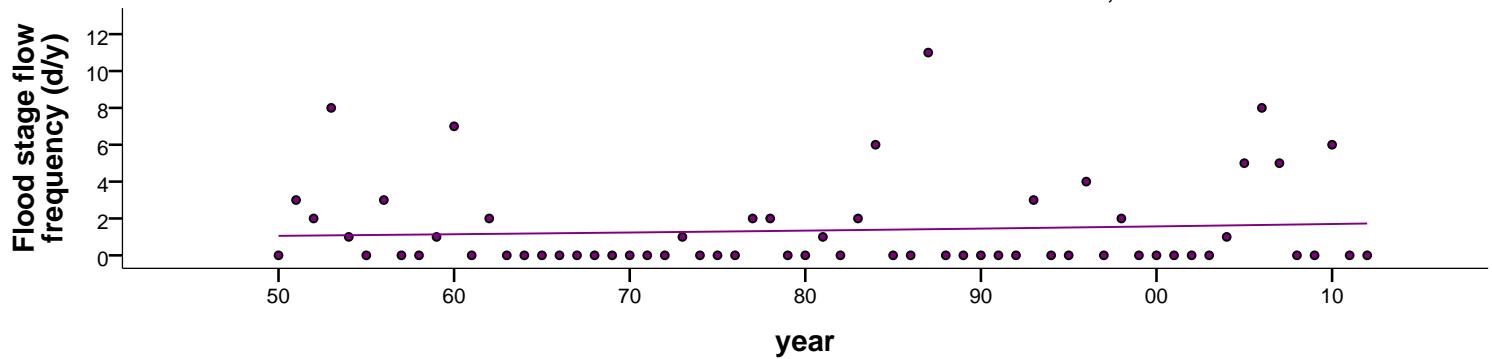
name: 0208111310 - CASHIE RIVER AT SR1257 NEAR WINDSOR, NC



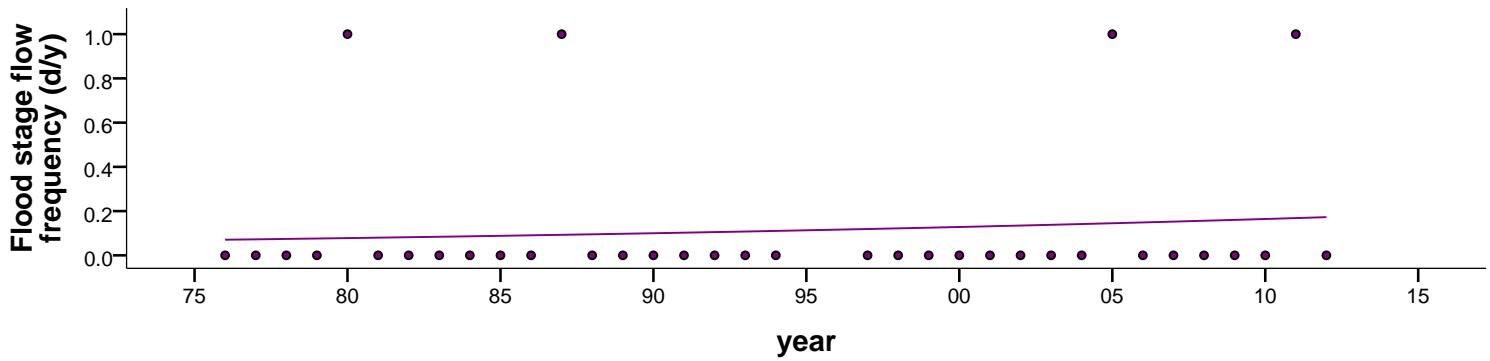
Graphs of trends in the flood stage flow frequency (flow frequency effects on flood hazard frequency)



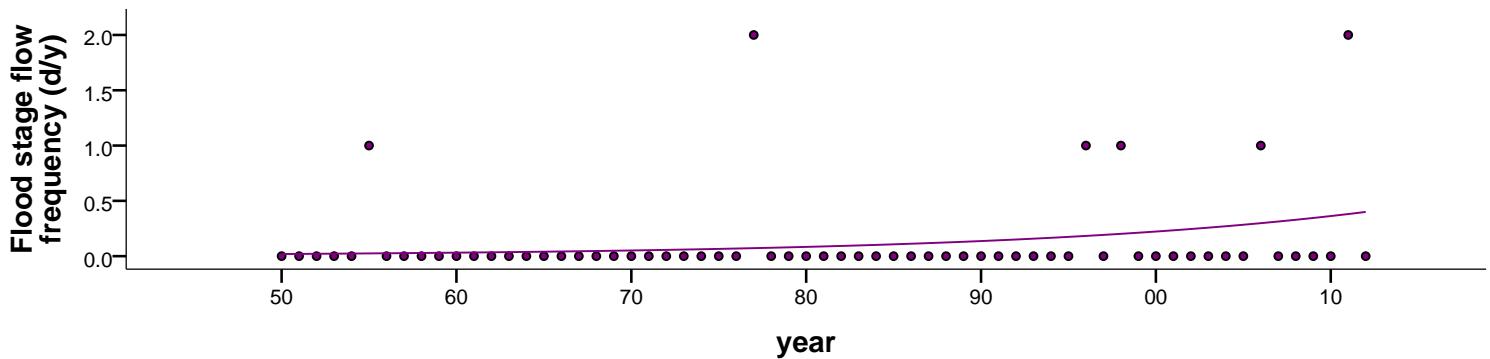
name: 01100000 - MERRIMACK RIVER BL CONCORD RIVER AT LOWELL, MA



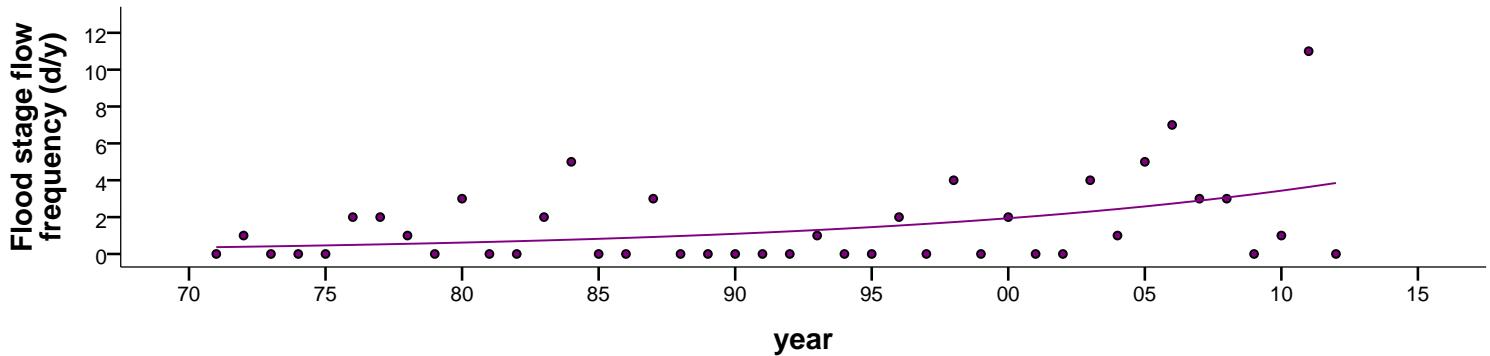
name: 01350355 - SCHOHARIE CREEK AT BREAKABEEN NY



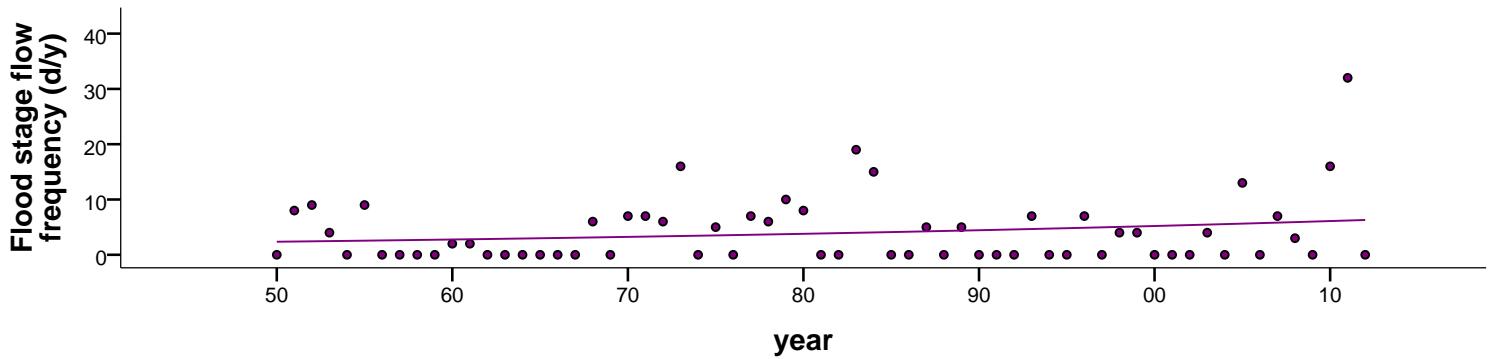
name: 01357500 - MOHAWK RIVER AT COHOES NY



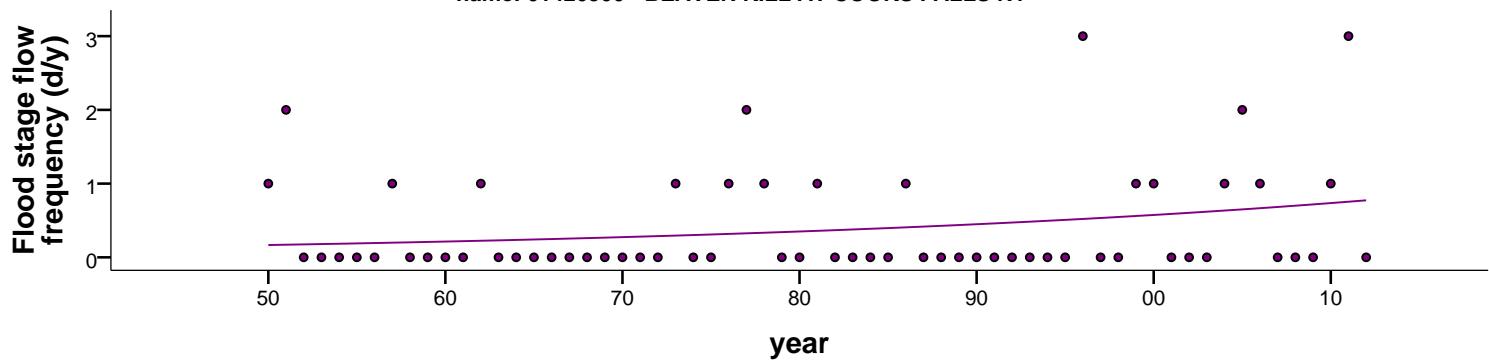
name: 01364500 - ESOPUS CREEK AT MOUNT MARION NY



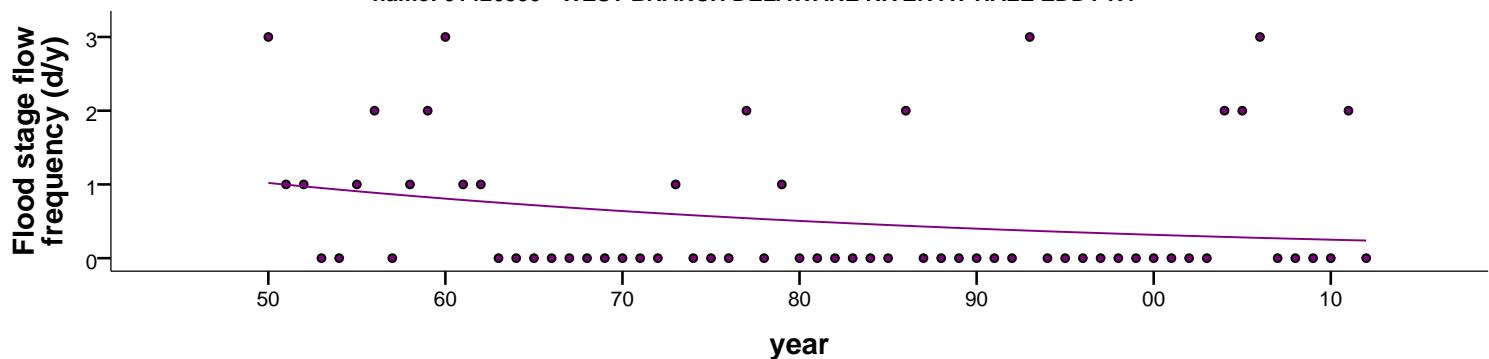
name: 01389500 - Passaic River at Little Falls NJ



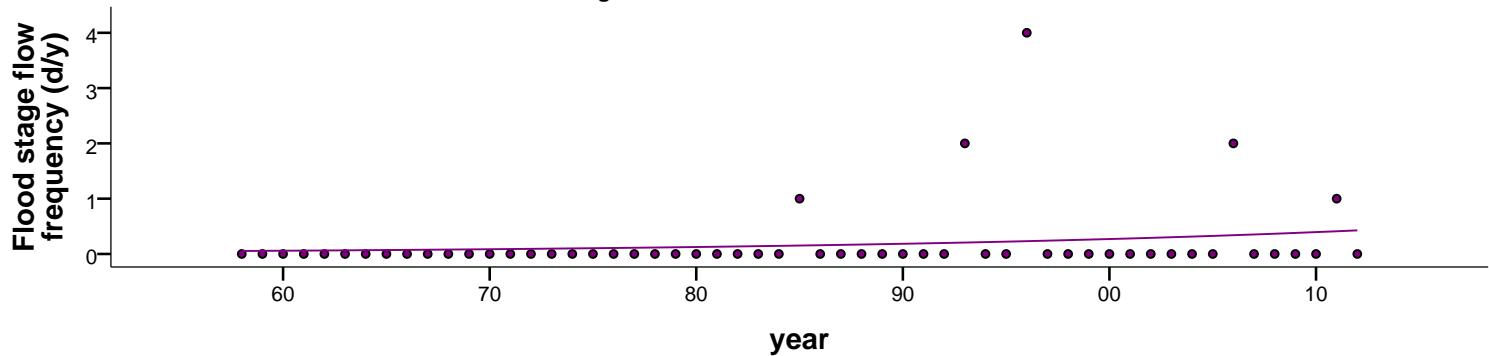
**name: 01420500 - BEAVER KILL AT COOKS FALLS NY**



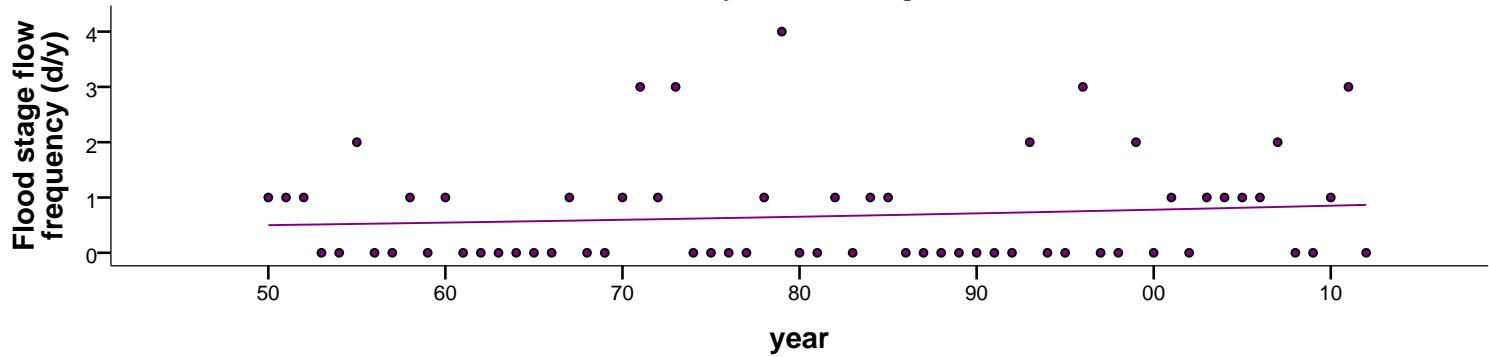
**name: 01426500 - WEST BRANCH DELAWARE RIVER AT HALE EDDY NY**



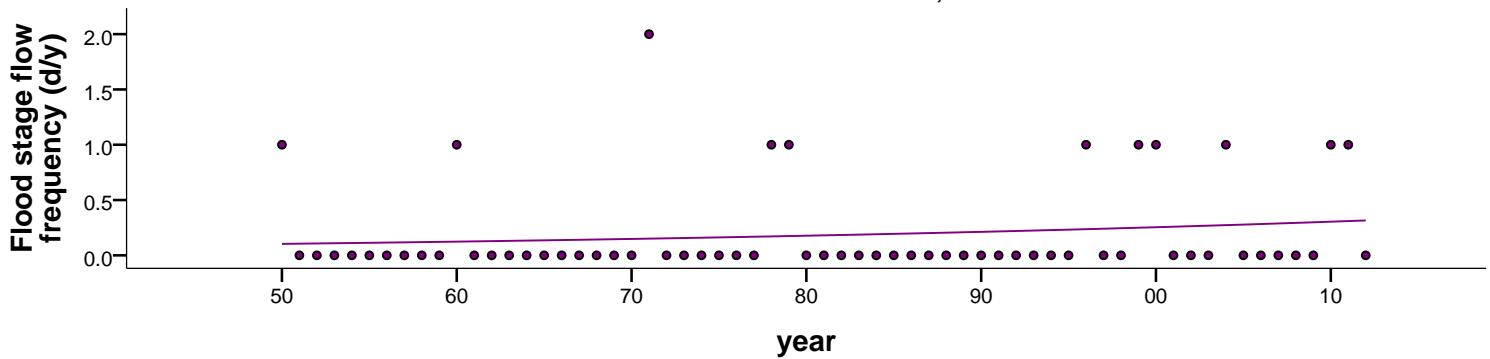
**name: 01447800 - Lehigh R bl Francis E Walter Res nr White Haven PA**



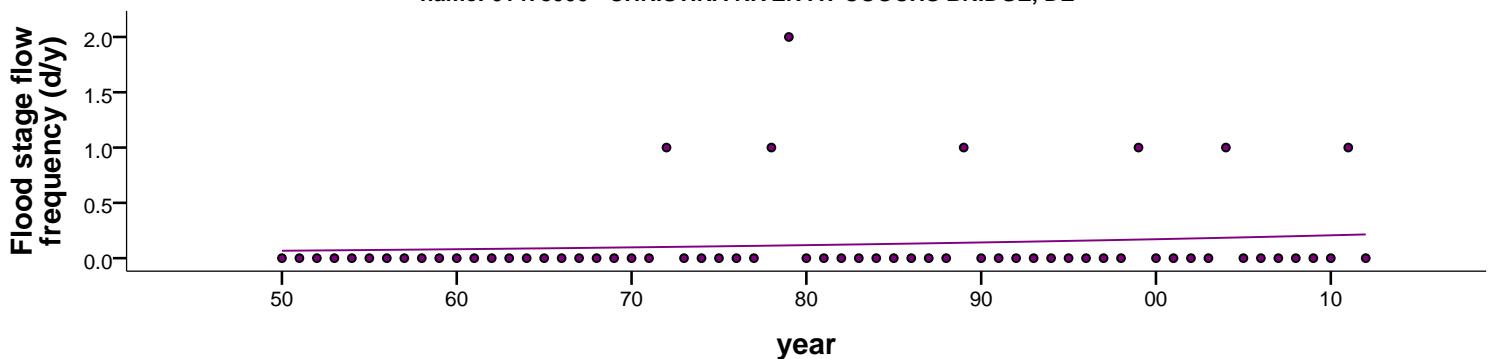
**name: 01465500 - Neshaminy Creek near Langhorne, PA**



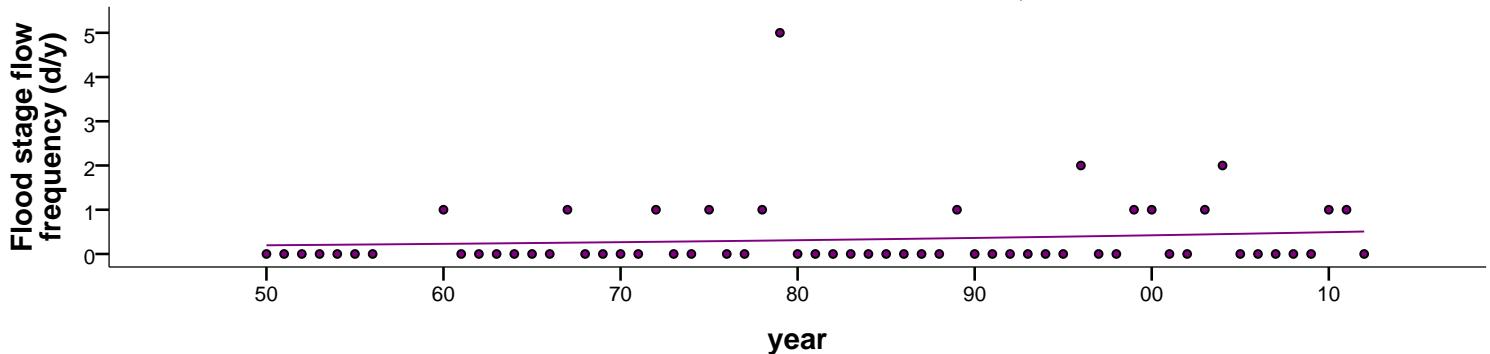
name: 01477000 - Chester Creek near Chester, PA



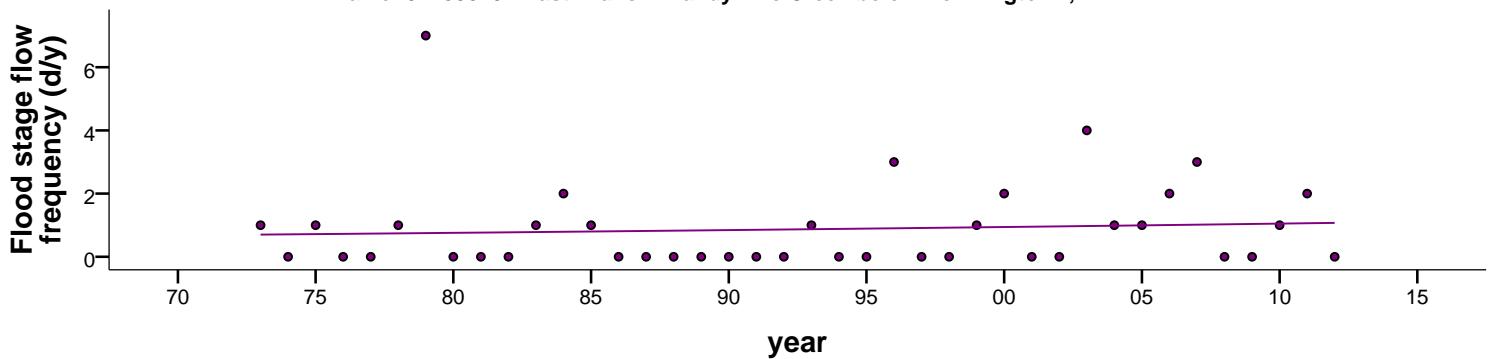
name: 01478000 - CHRISTINA RIVER AT COOCHS BRIDGE, DE



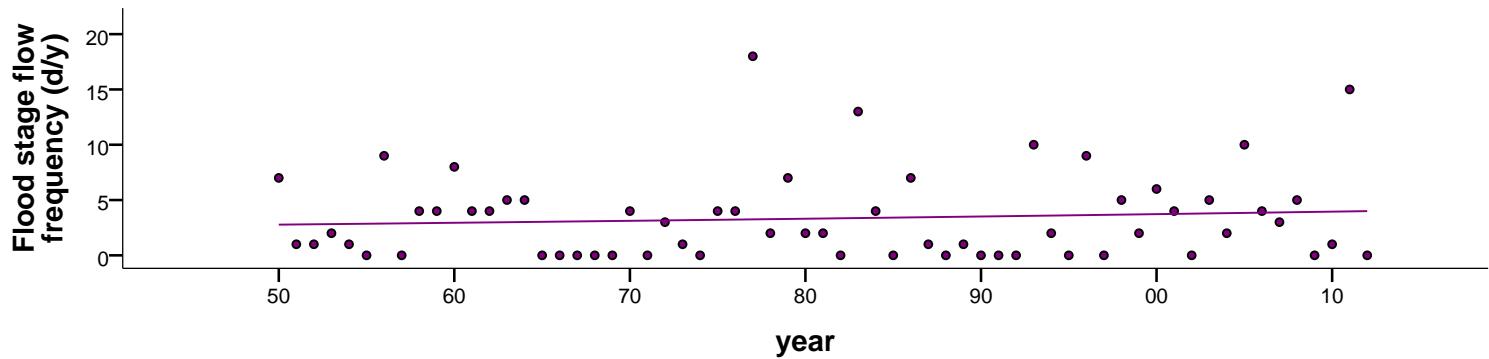
name: 01479000 - WHITE CLAY CREEK NEAR NEWARK, DE



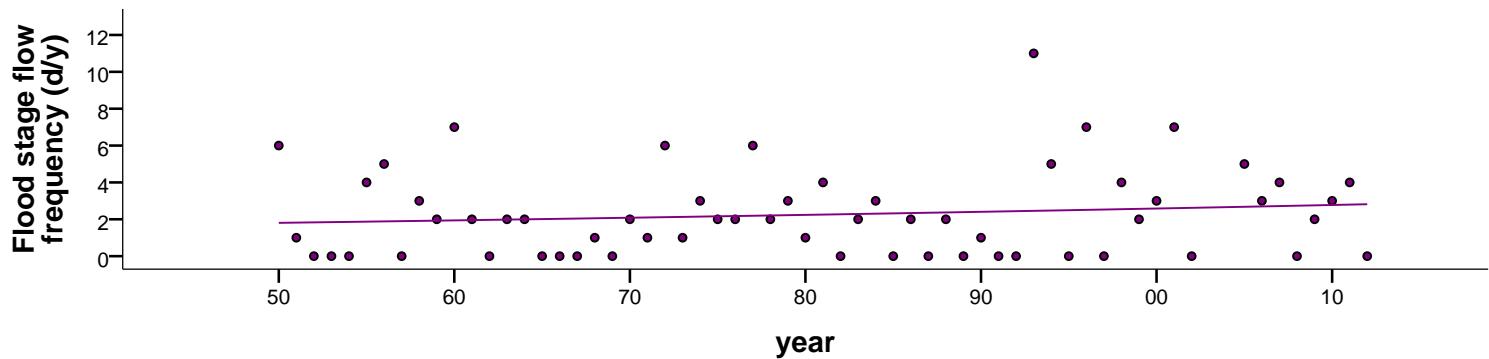
name: 01480870 - East Branch Brandywine Creek below Downingtown, PA



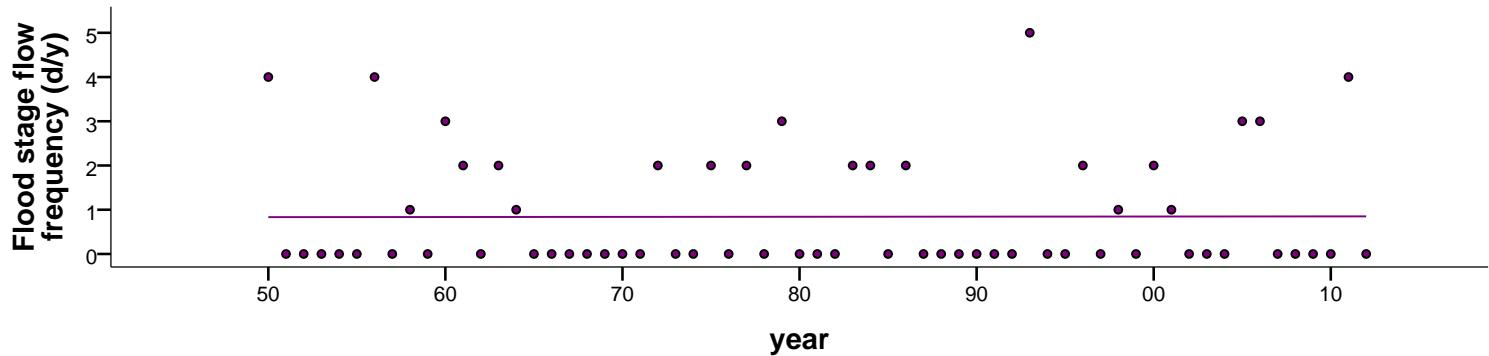
name: 01503000 - SUSQUEHANNA RIVER AT CONKLIN NY



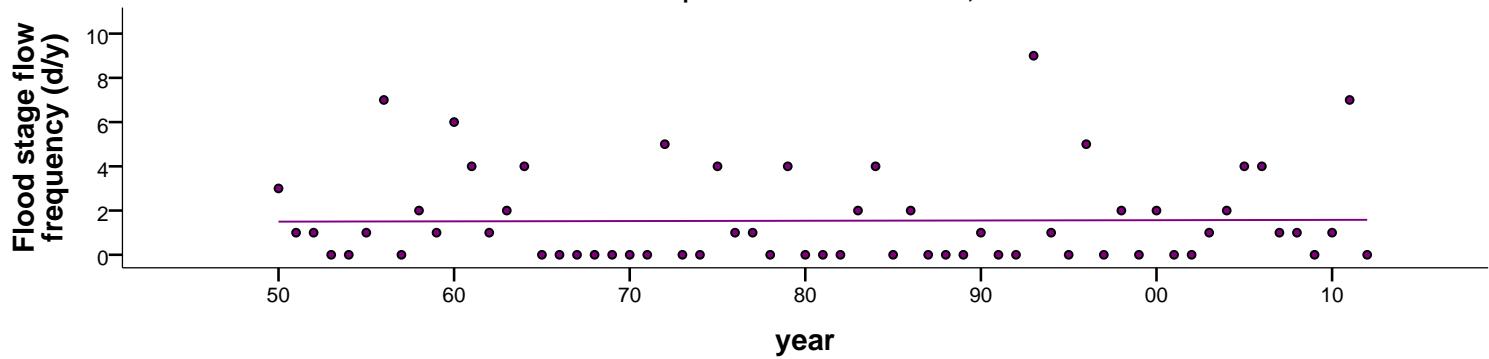
name: 01509000 - TIOUGHNIOGA RIVER AT CORTLAND NY



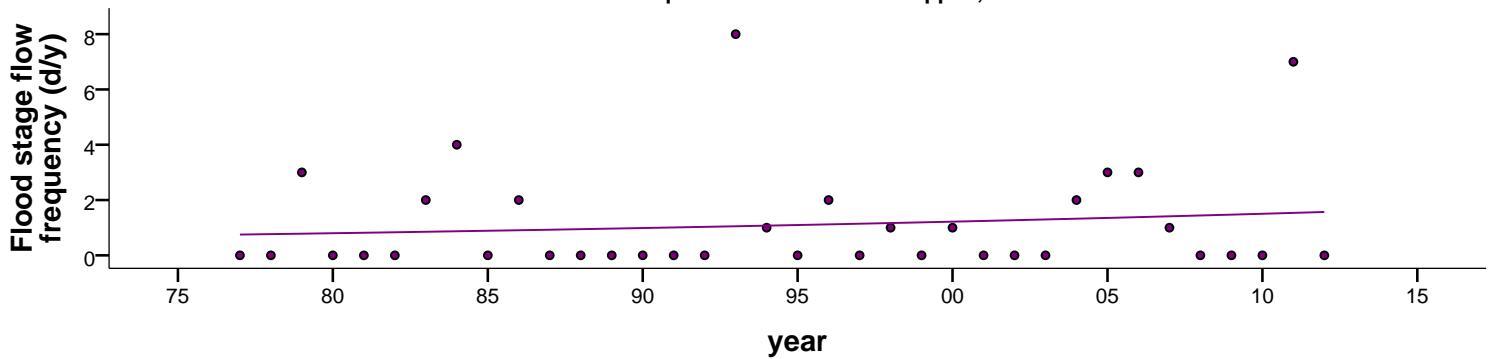
name: 01512500 - CHENANGO RIVER NEAR CHENANGO FORKS NY



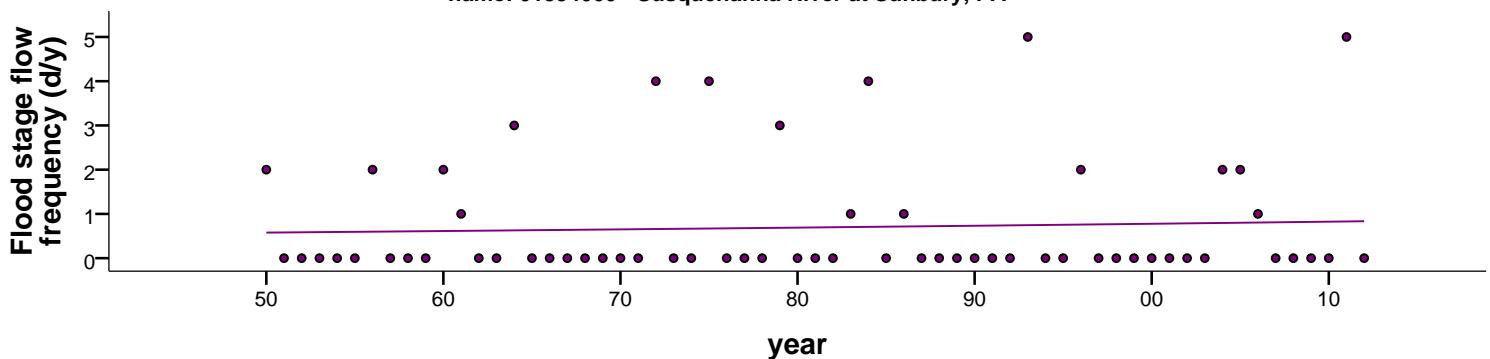
name: 01531500 - Susquehanna River at Towanda, PA



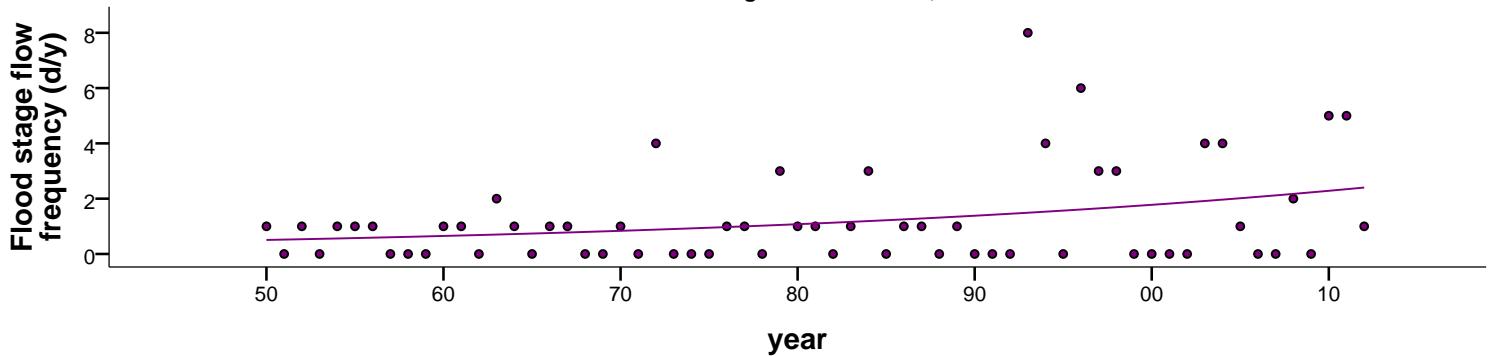
name: 01533400 - Susquehanna River at Meshoppen, PA



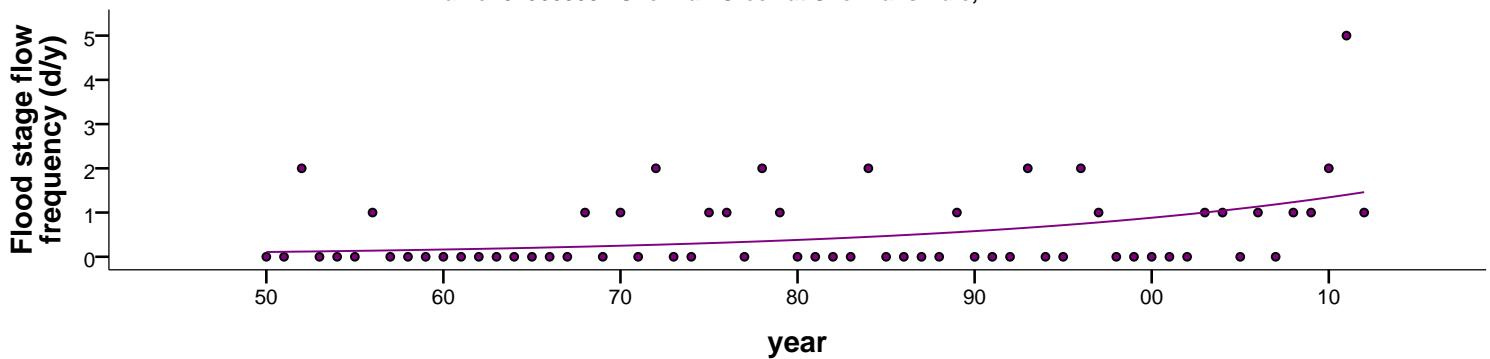
name: 01554000 - Susquehanna River at Sunbury, PA

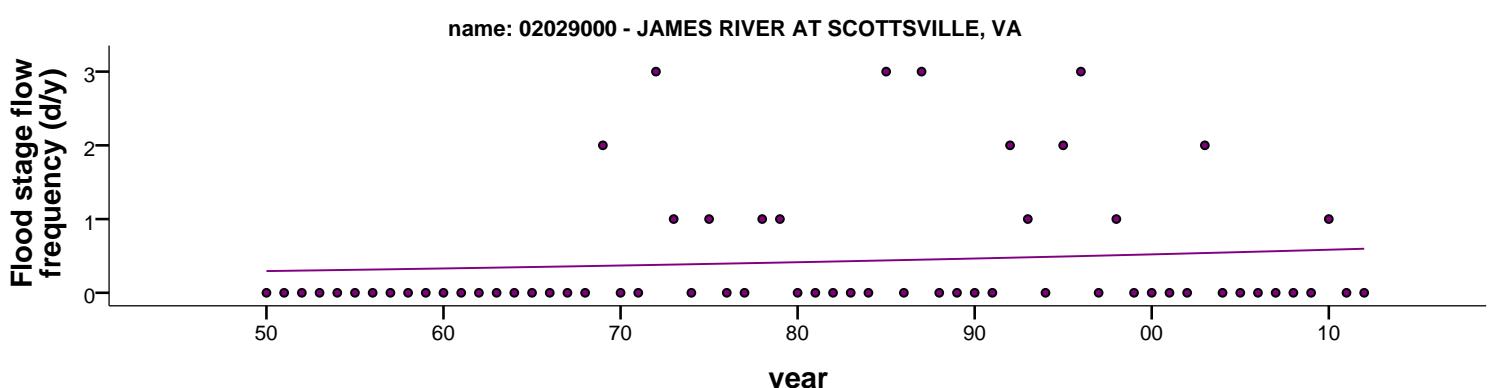
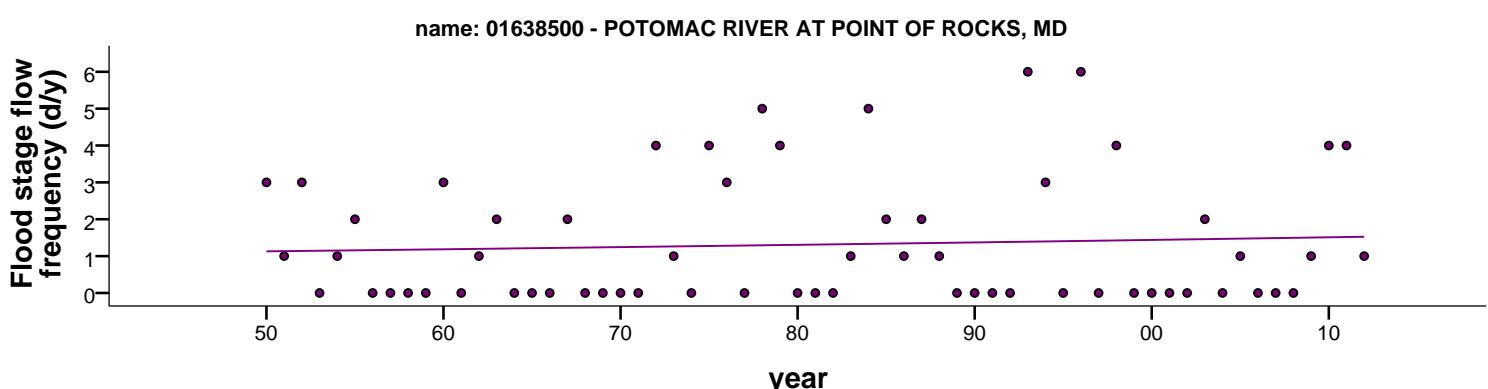
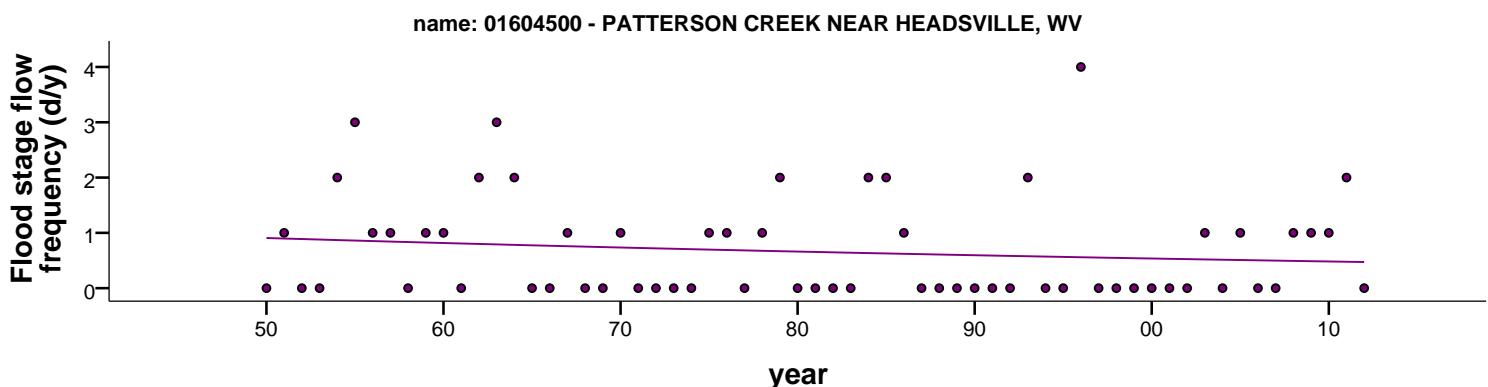
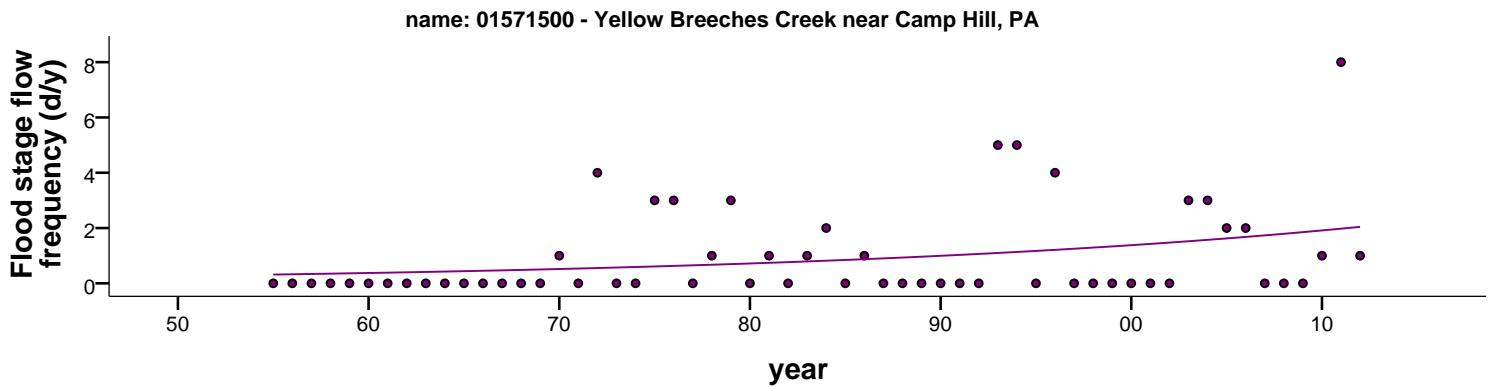


name: 01560000 - Dunning Creek at Belden, PA

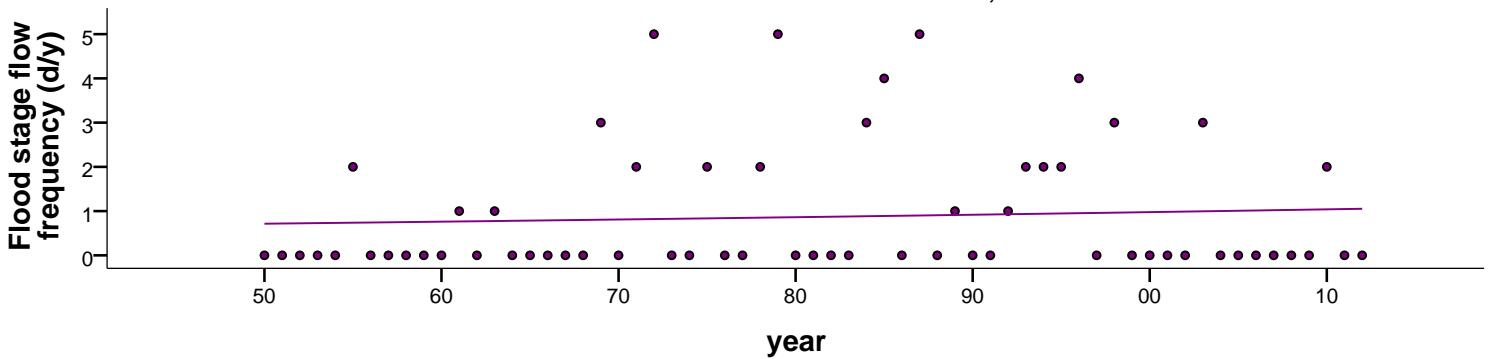


name: 01568000 - Sherman Creek at Shermans Dale, PA

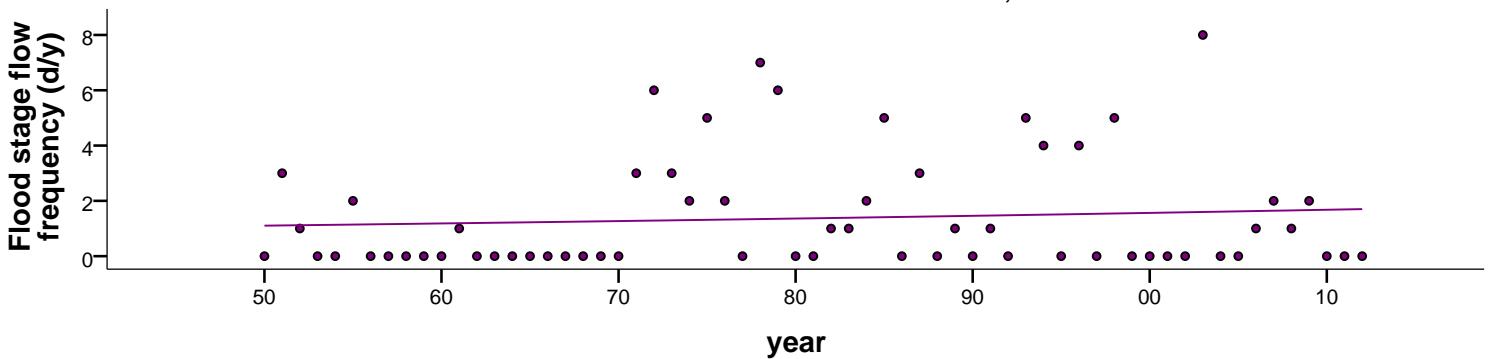




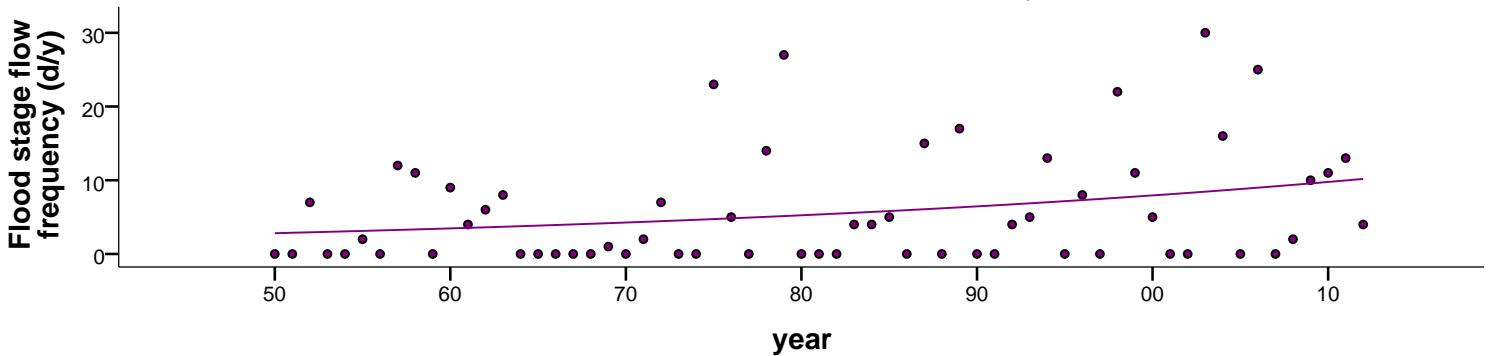
name: 02035000 - JAMES RIVER AT CARTERSVILLE, VA



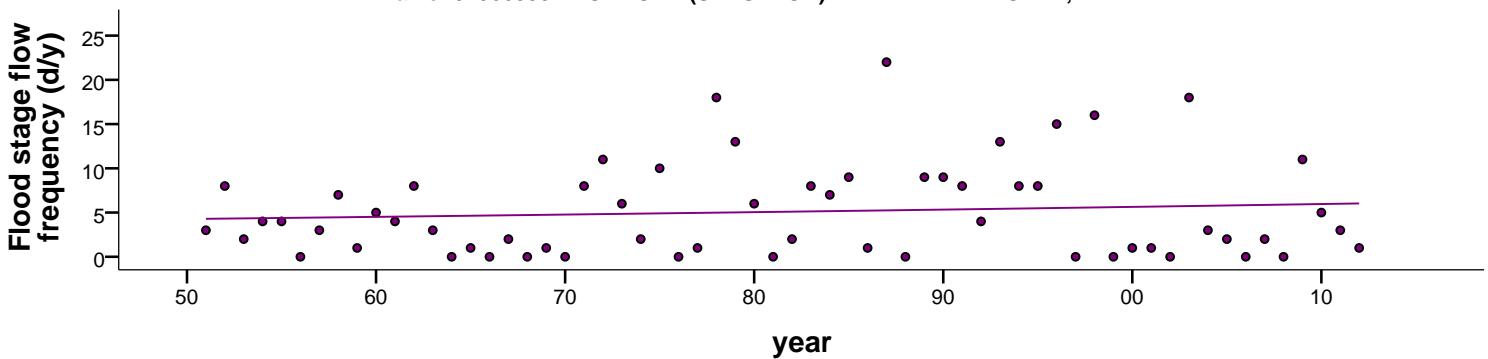
name: 02039500 - APPOMATTOX RIVER AT FARMVILLE, VA



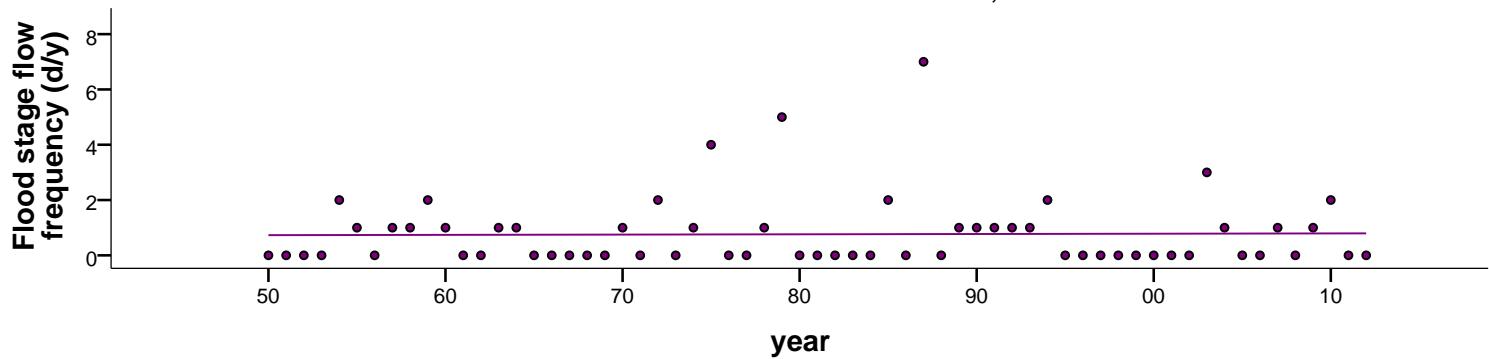
name: 02049500 - BLACKWATER RIVER NEAR FRANKLIN, VA



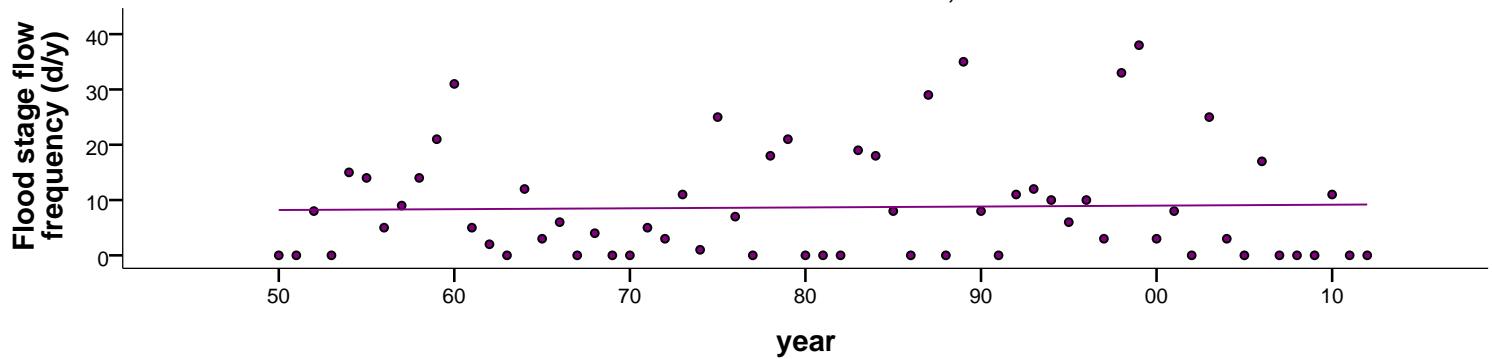
name: 02066000 - ROANOKE (STAUNTON) RIVER AT RANDOLPH, VA



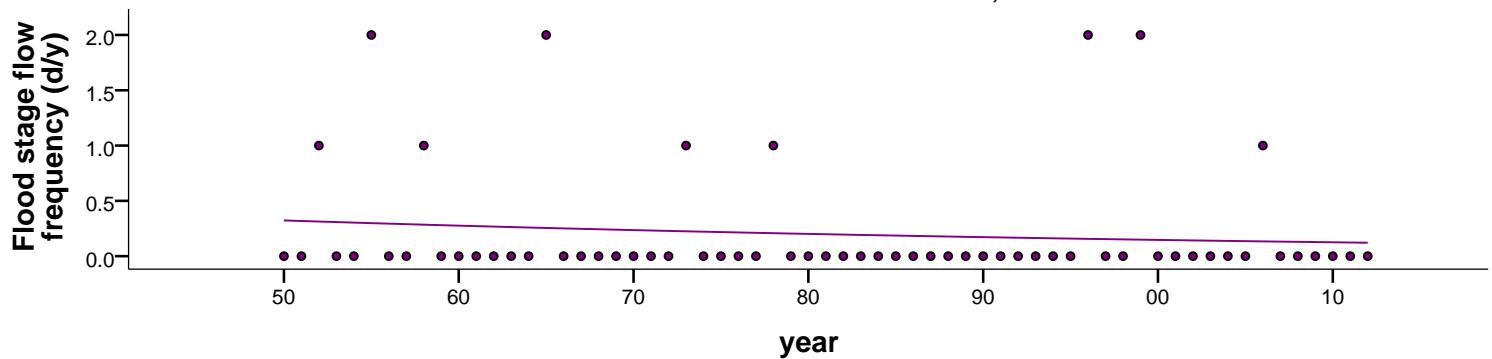
name: 02071000 - DAN RIVER NEAR WENTWORTH, NC



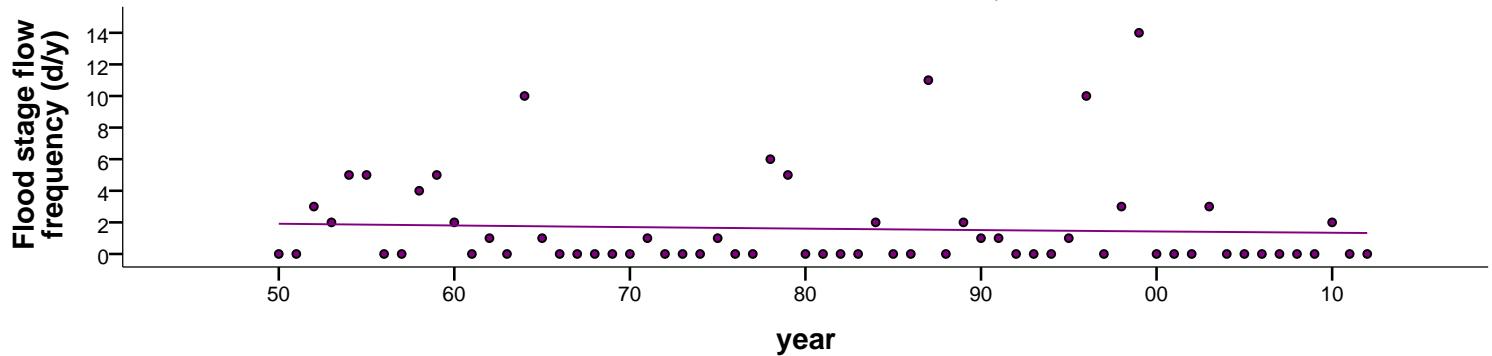
name: 02083500 - TAR RIVER AT TARBORO, NC



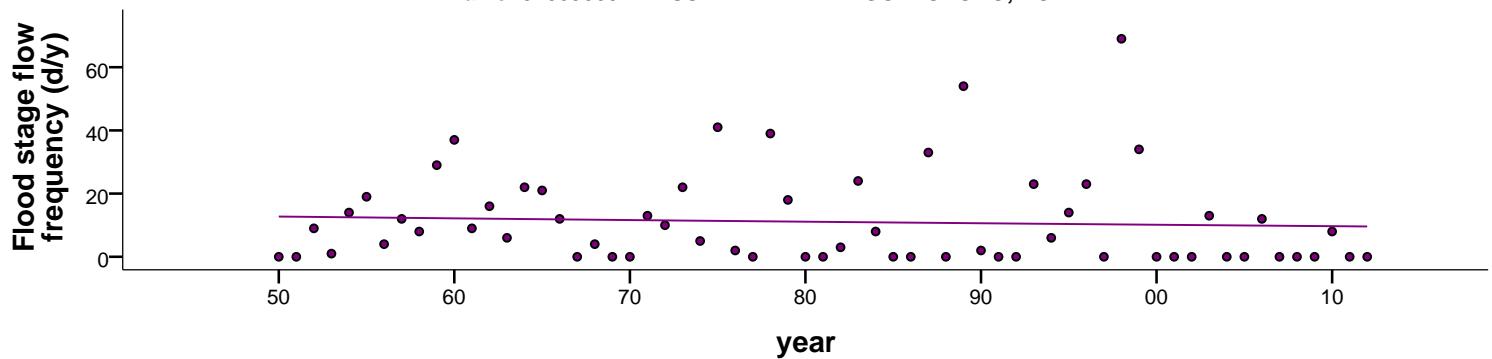
name: 02088000 - MIDDLE CREEK NEAR CLAYTON, NC



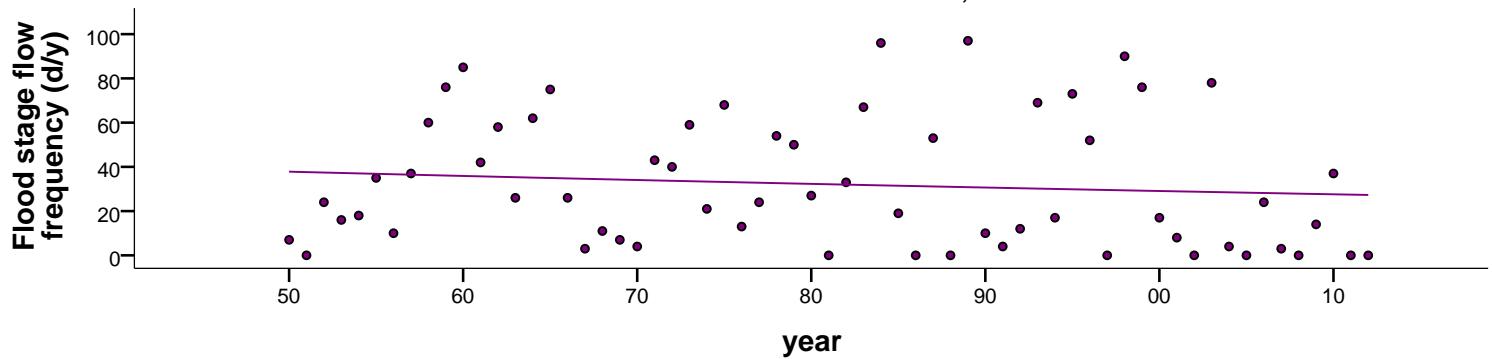
name: 02088500 - LITTLE RIVER NEAR PRINCETON, NC



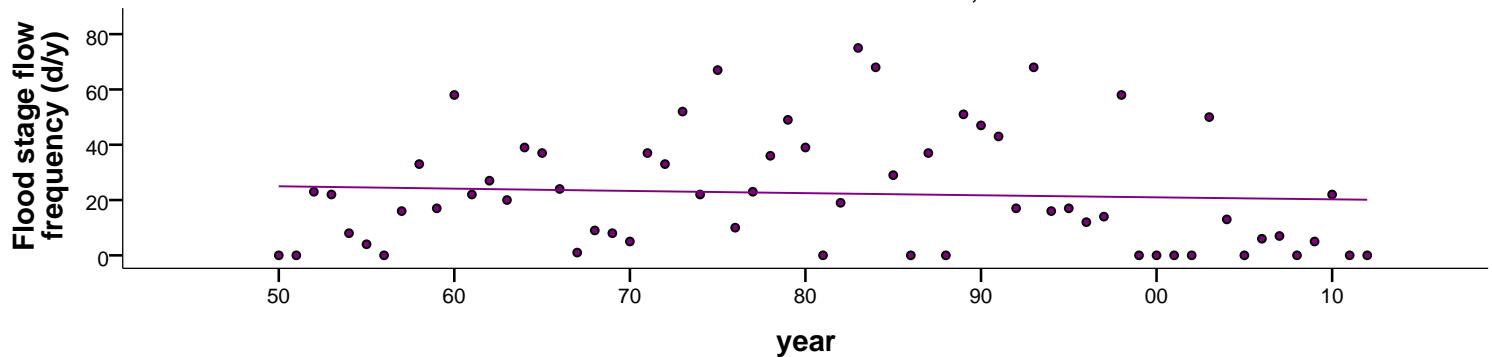
name: 02089000 - NEUSE RIVER NEAR GOLDSBORO, NC



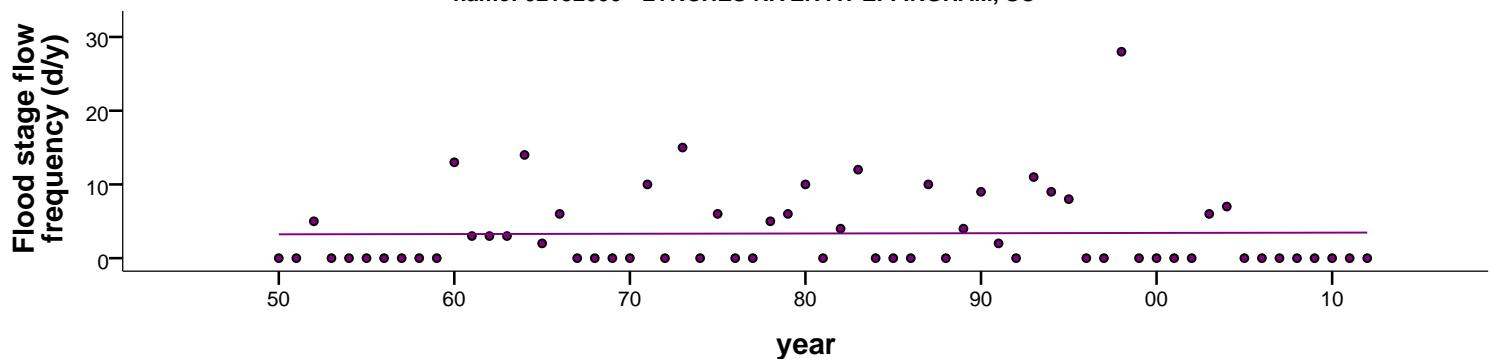
name: 02089500 - NEUSE RIVER AT KINSTON, NC



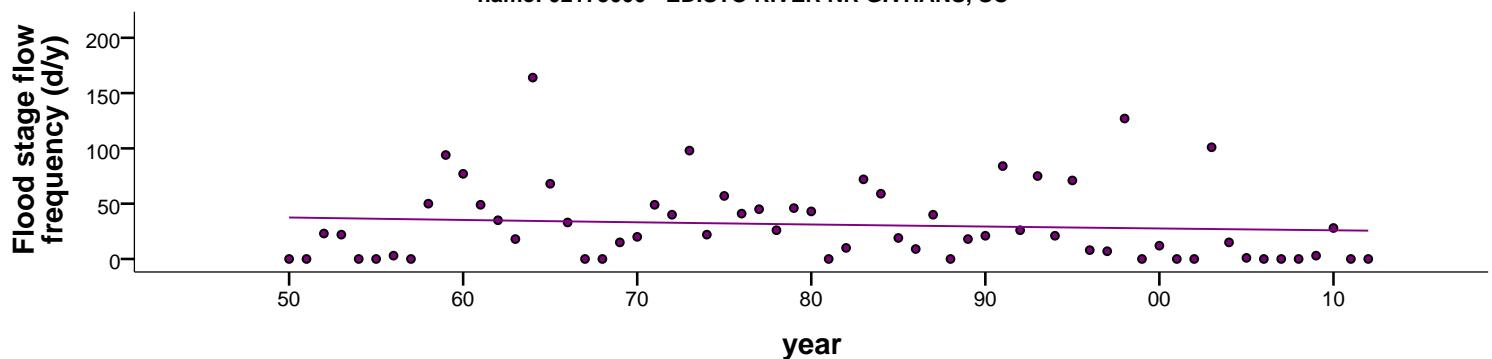
name: 02131000 - PEE DEE RIVER AT PEEDEE, SC



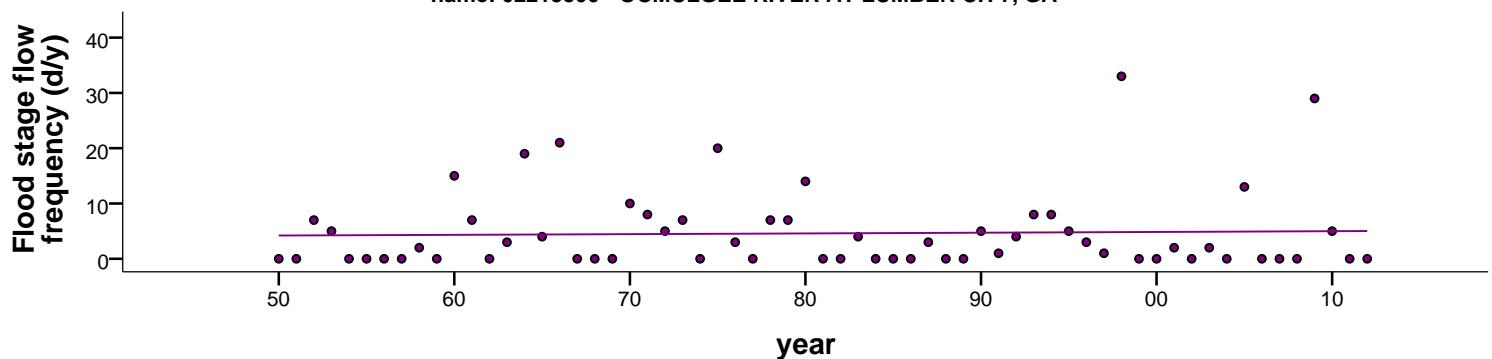
name: 02132000 - LYNCHES RIVER AT EFFINGHAM, SC



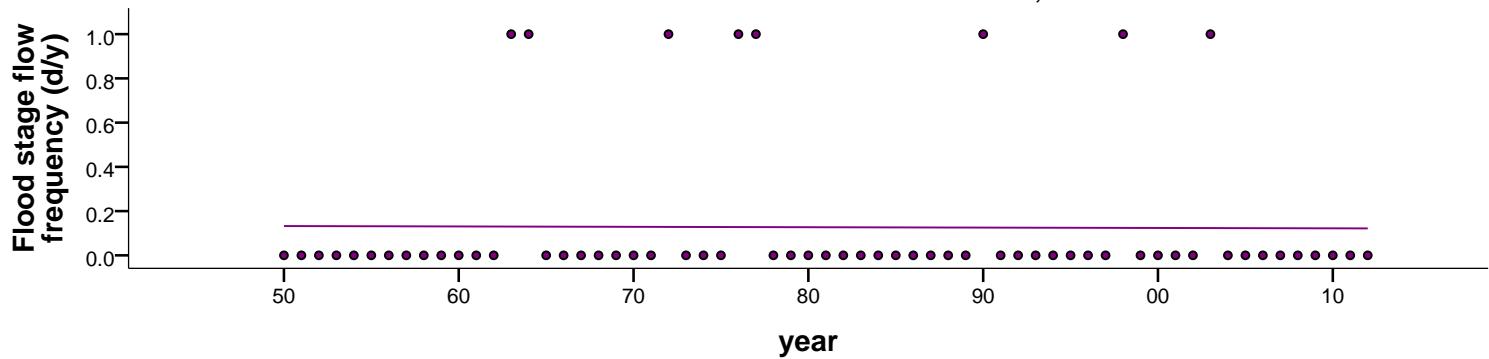
name: 02175000 - EDISTO RIVER NR GIVHANS, SC



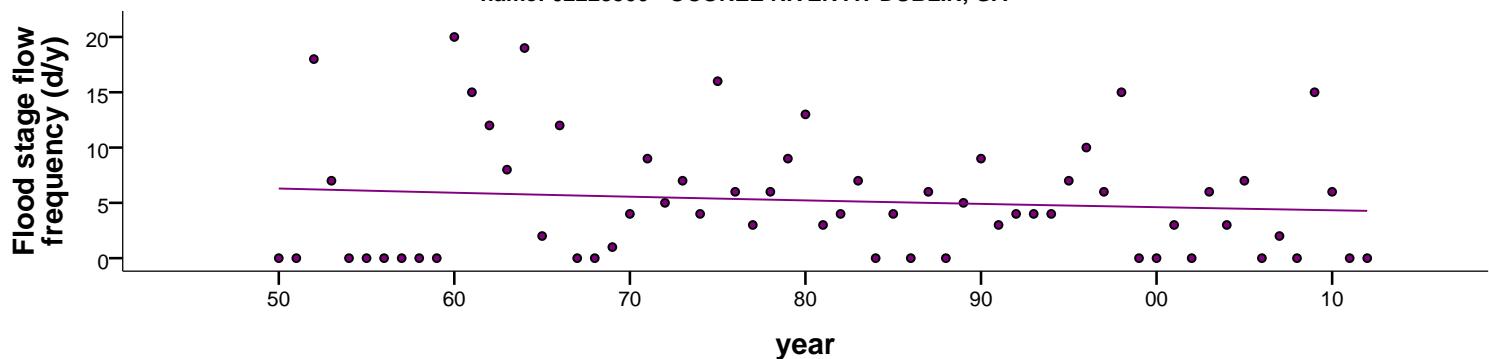
name: 02215500 - OCMULGEE RIVER AT LUMBER CITY, GA



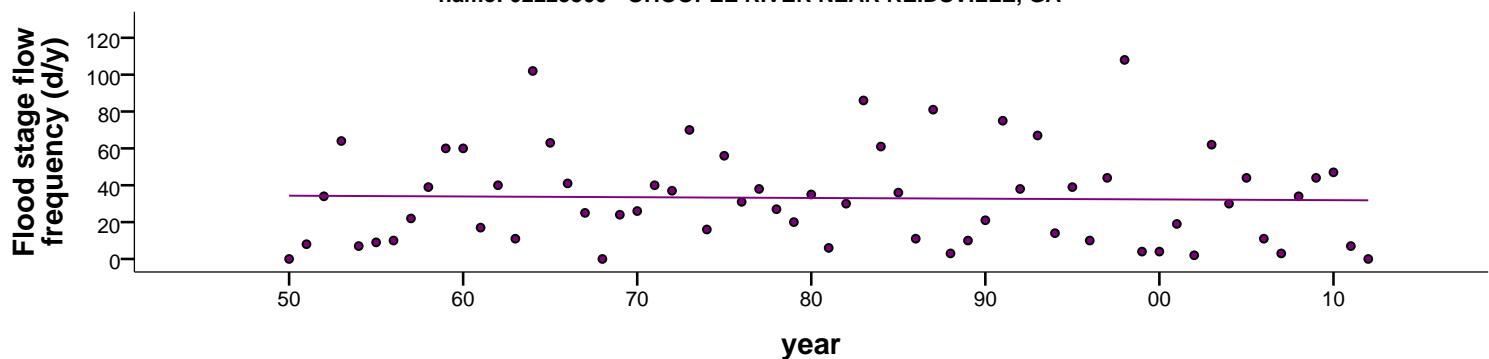
name: 02217500 - MIDDLE OCONEE RIVER NEAR ATHENS, GA



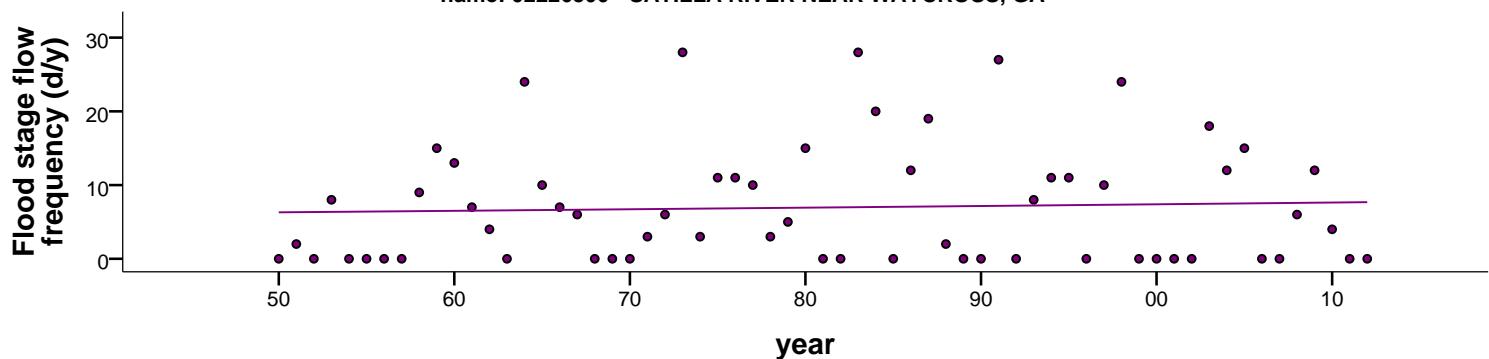
name: 02223500 - OCONEE RIVER AT DUBLIN, GA



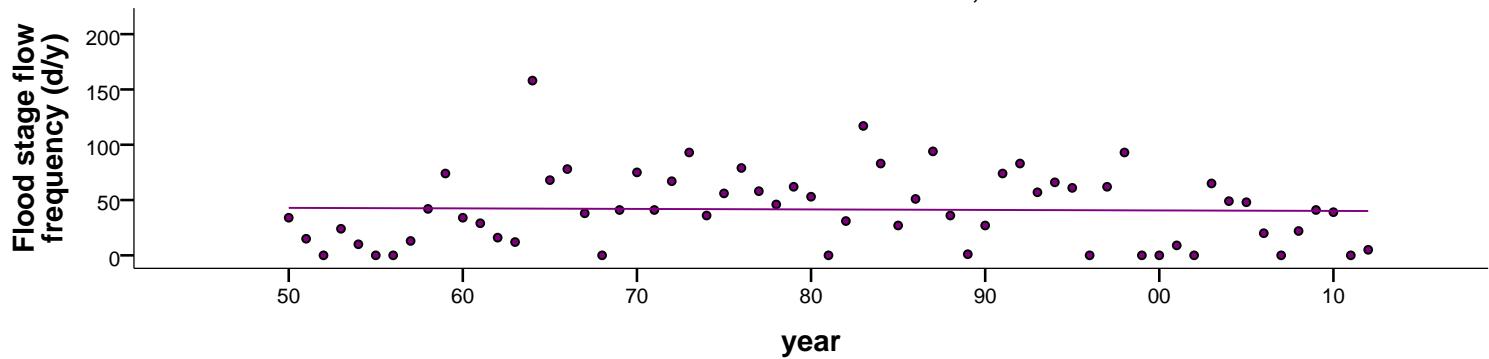
name: 02225500 - OHOOPEE RIVER NEAR REIDSVILLE, GA



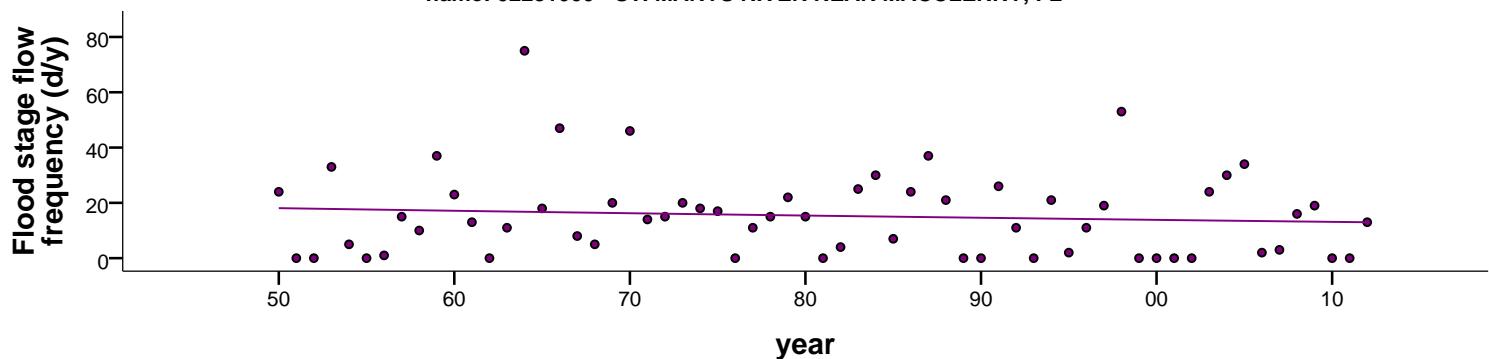
name: 02226500 - SATILLA RIVER NEAR WAYCROSS, GA



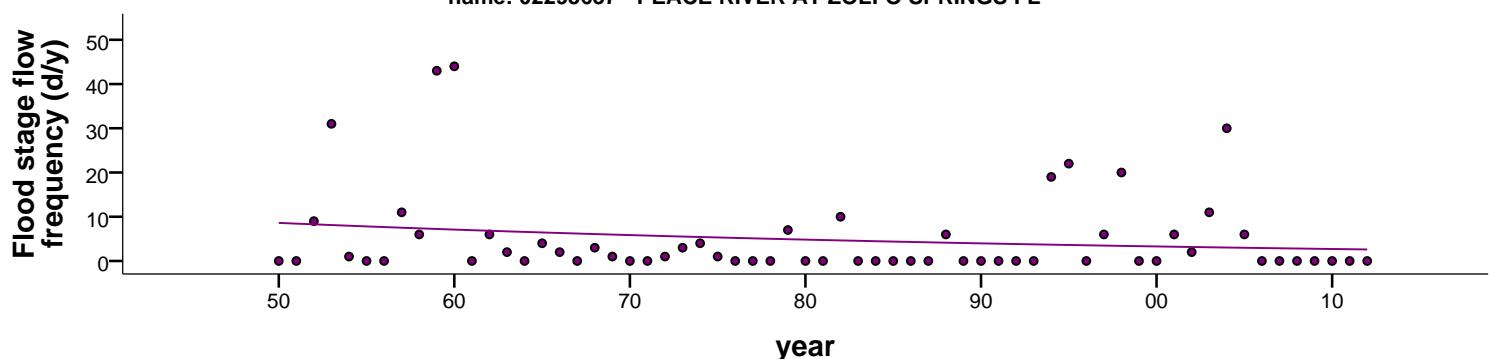
name: 02228000 - SATILLA RIVER AT ATKINSON, GA



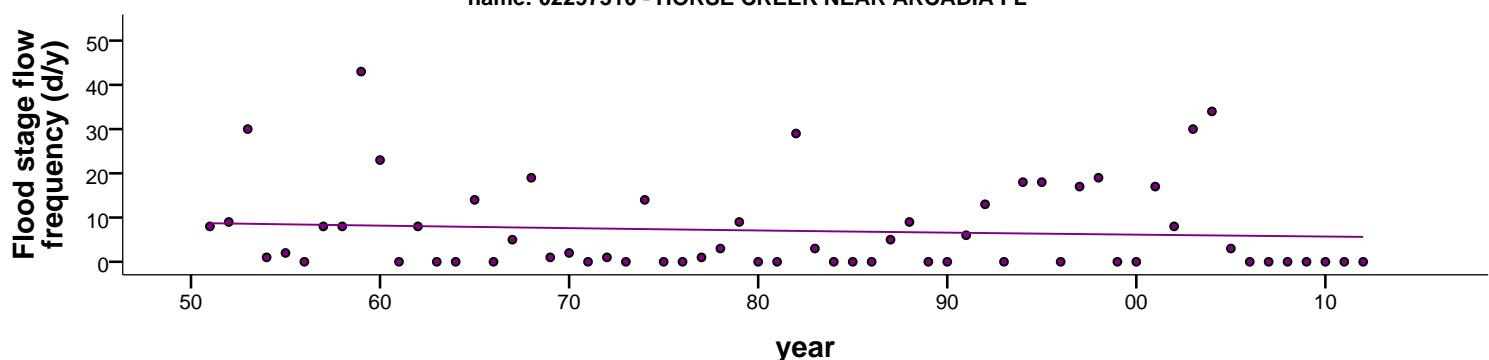
name: 02231000 - ST. MARYS RIVER NEAR MACCLENNY, FL

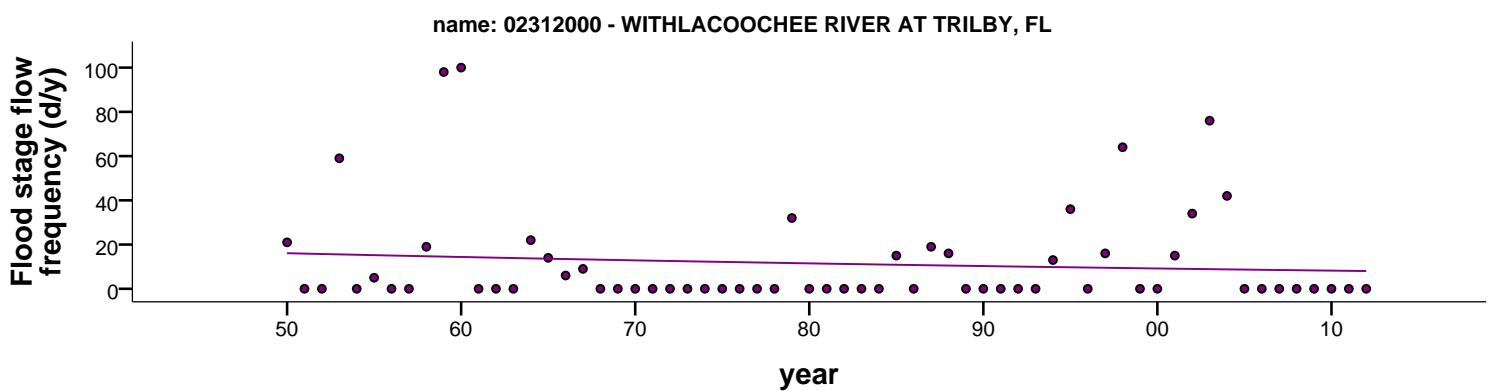
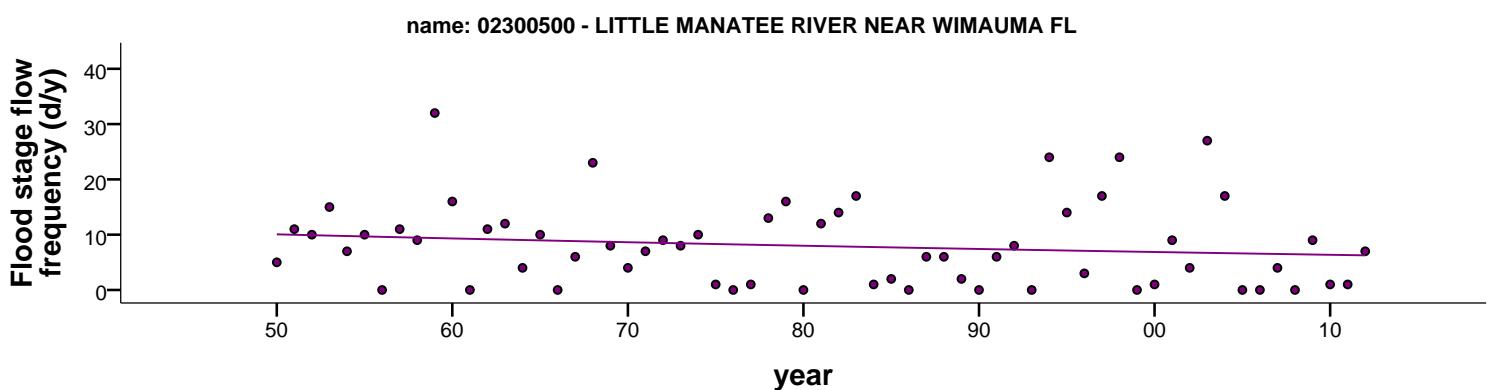
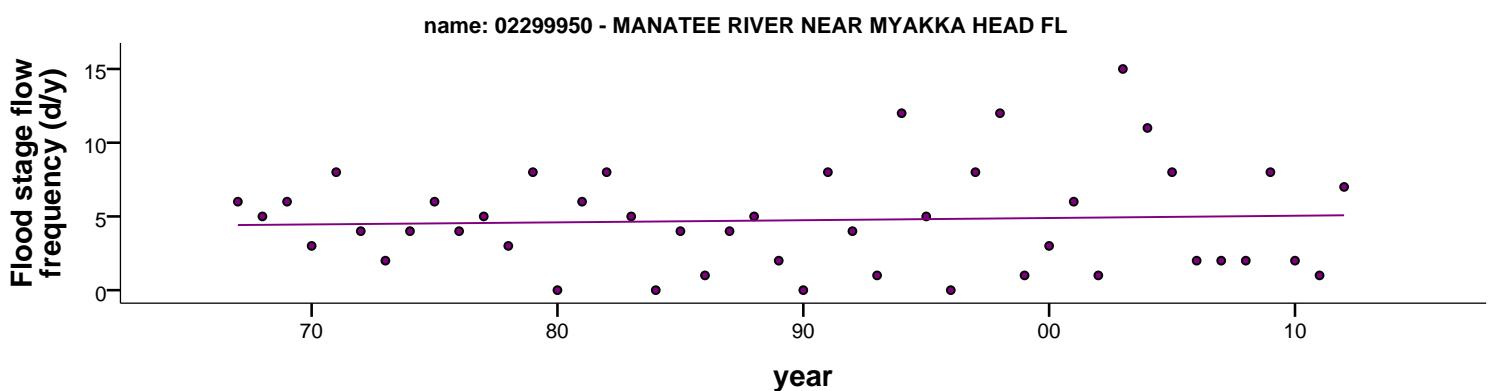
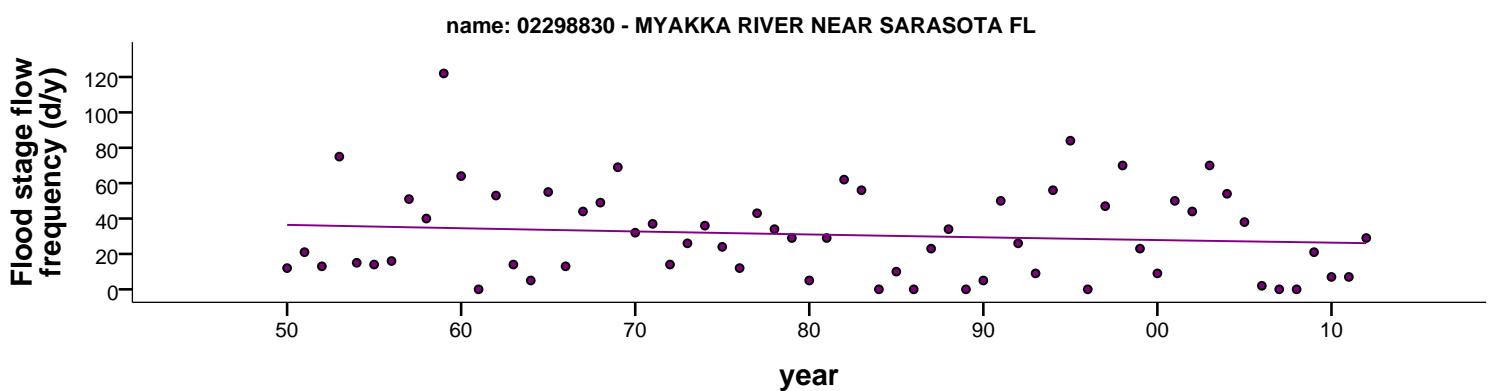


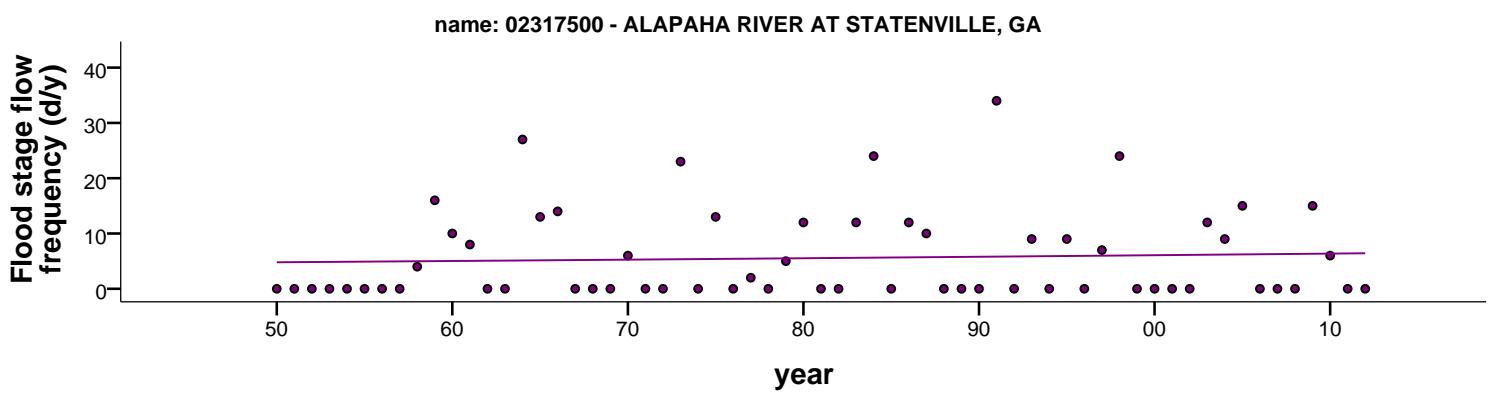
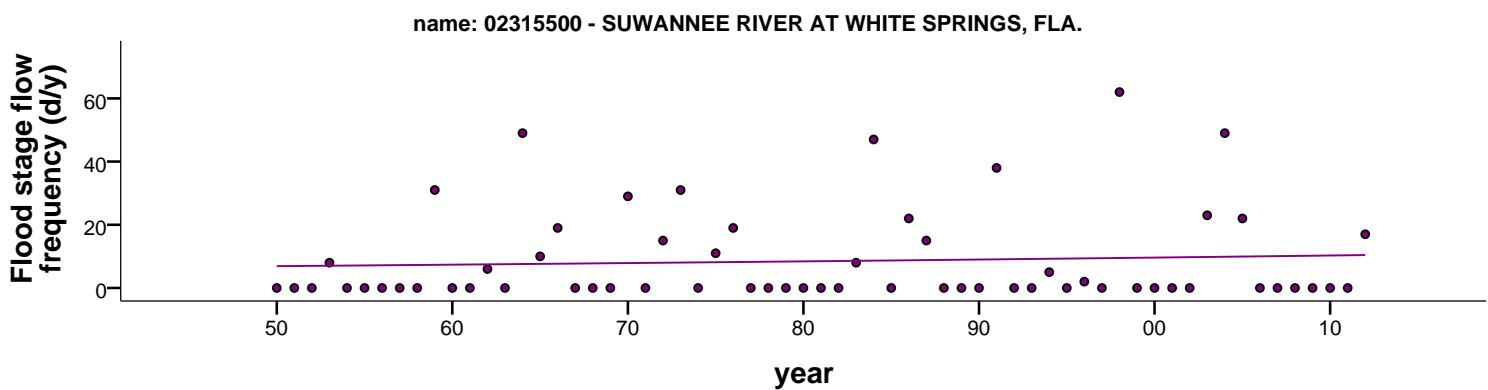
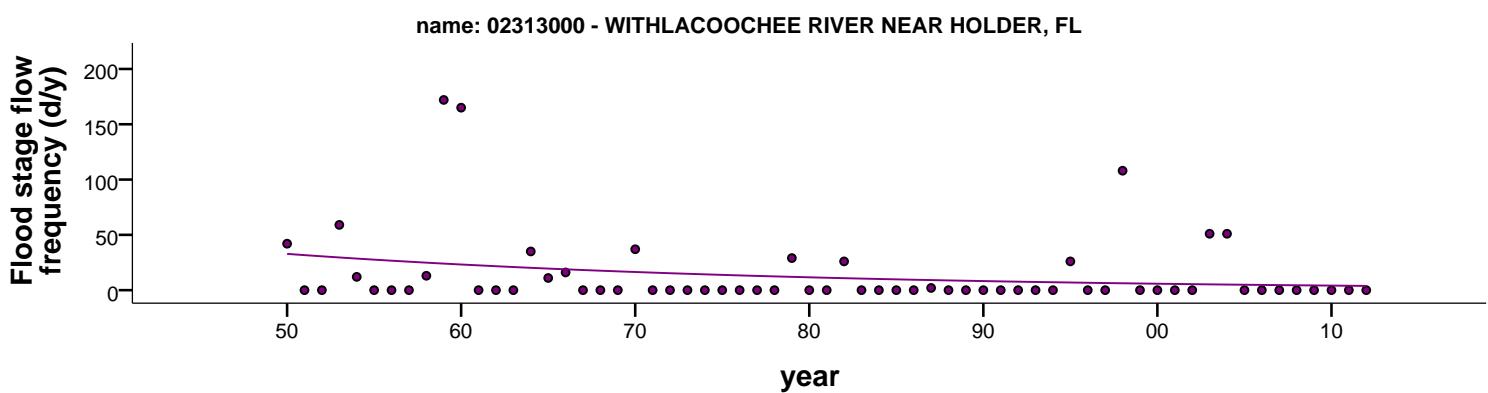
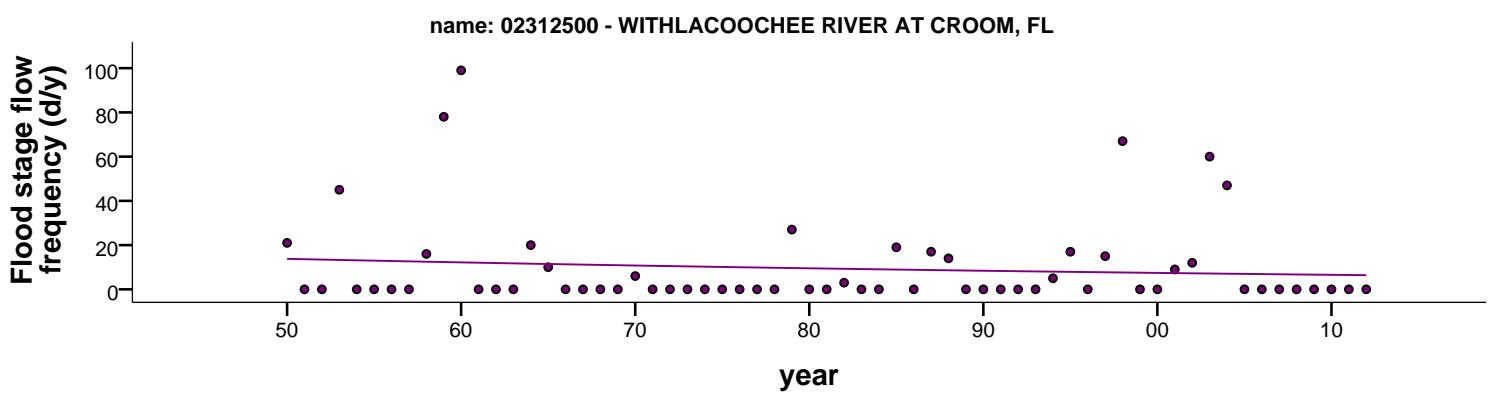
name: 02295637 - PEACE RIVER AT ZOLFO SPRINGS FL



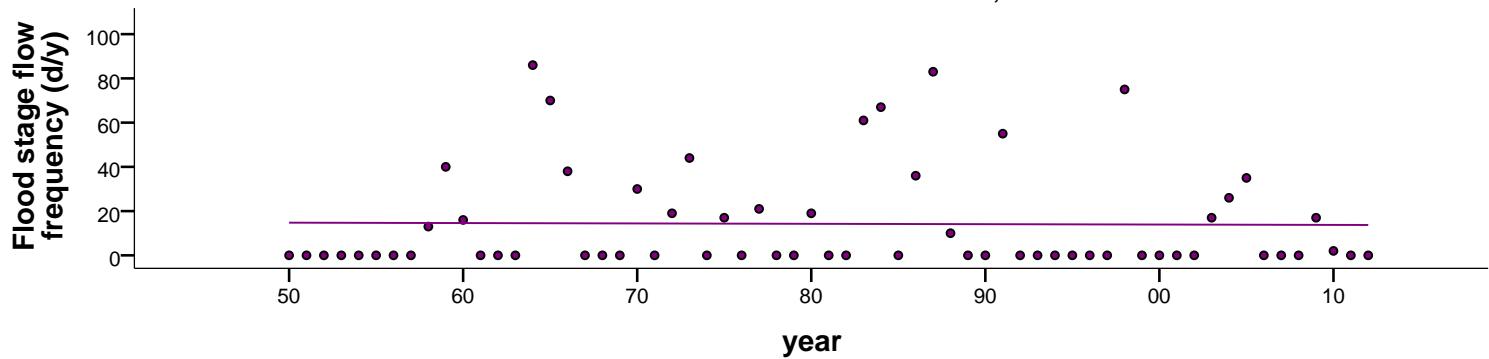
name: 02297310 - HORSE CREEK NEAR ARCADIA FL



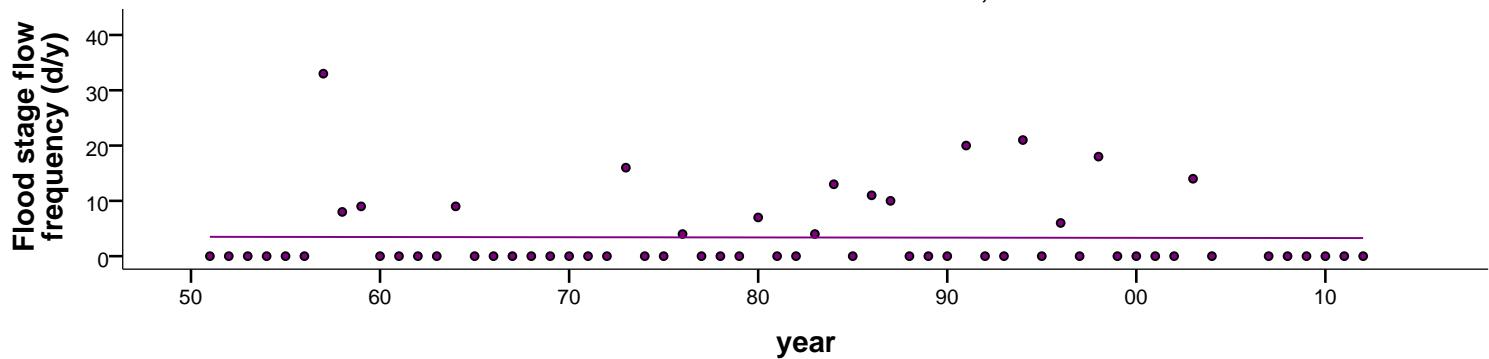




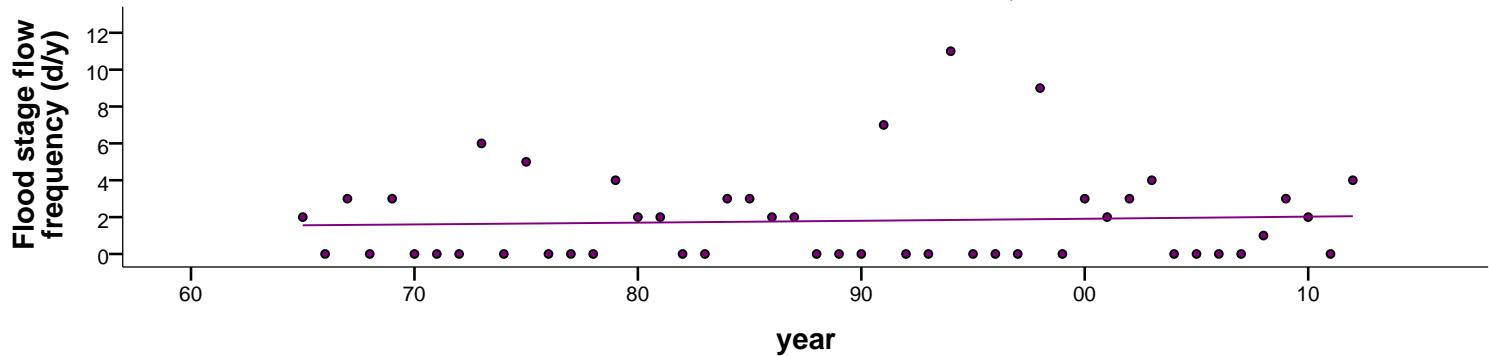
name: 02323500 - SUWANNEE RIVER NEAR WILCOX, FLA.



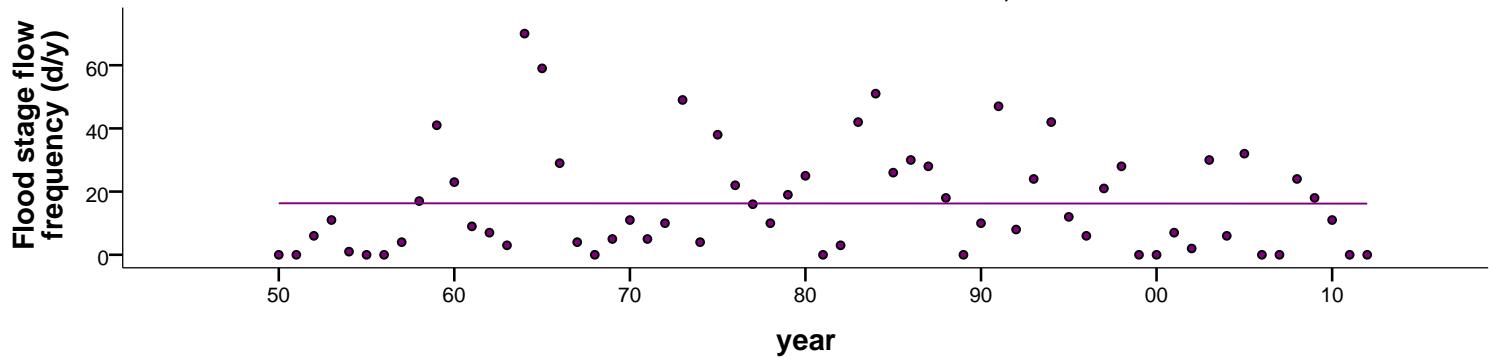
name: 02326000 - ECONFINA RIVER NEAR PERRY, FLA.

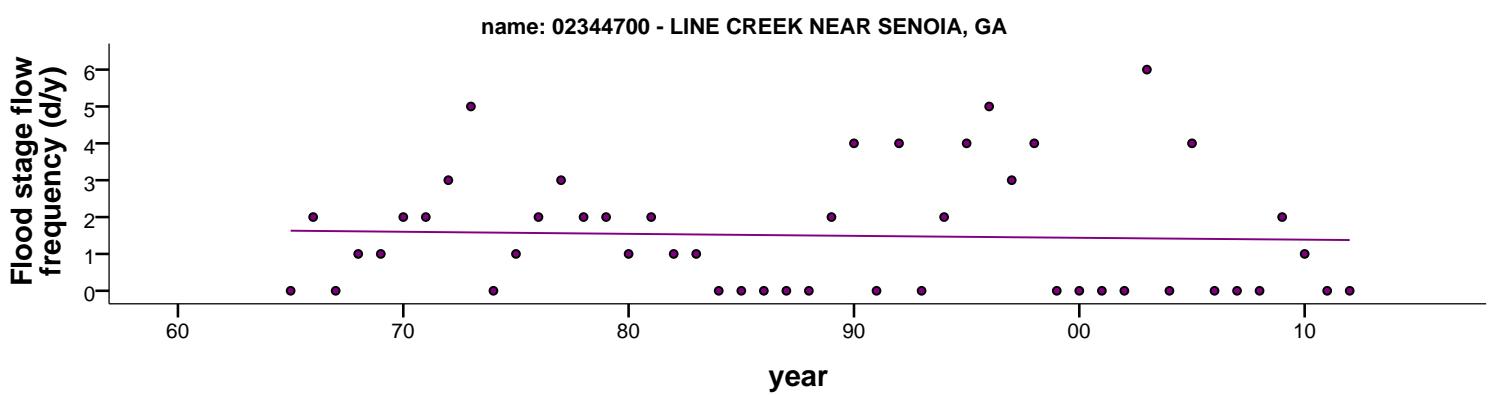
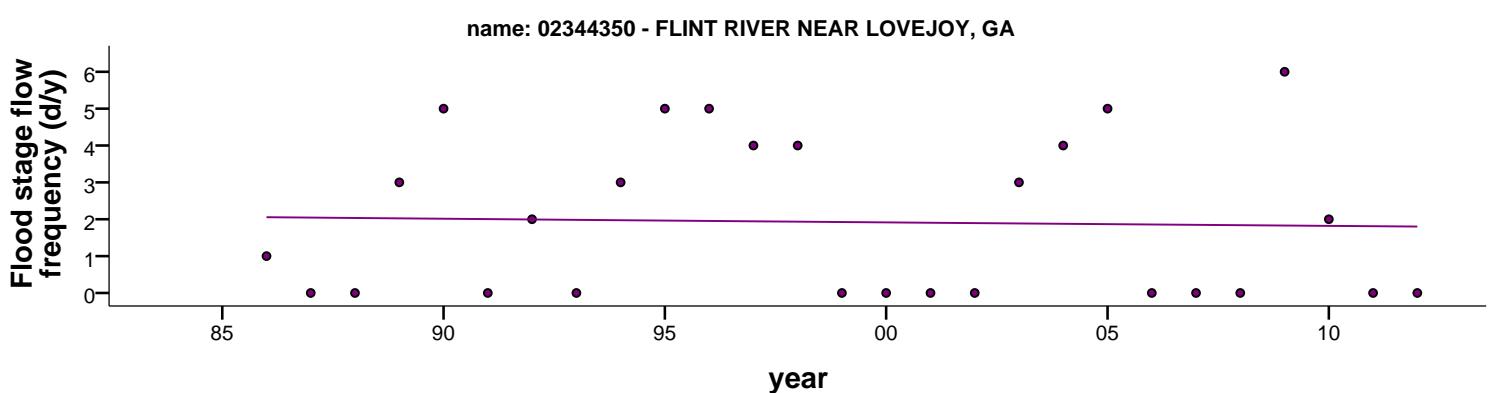
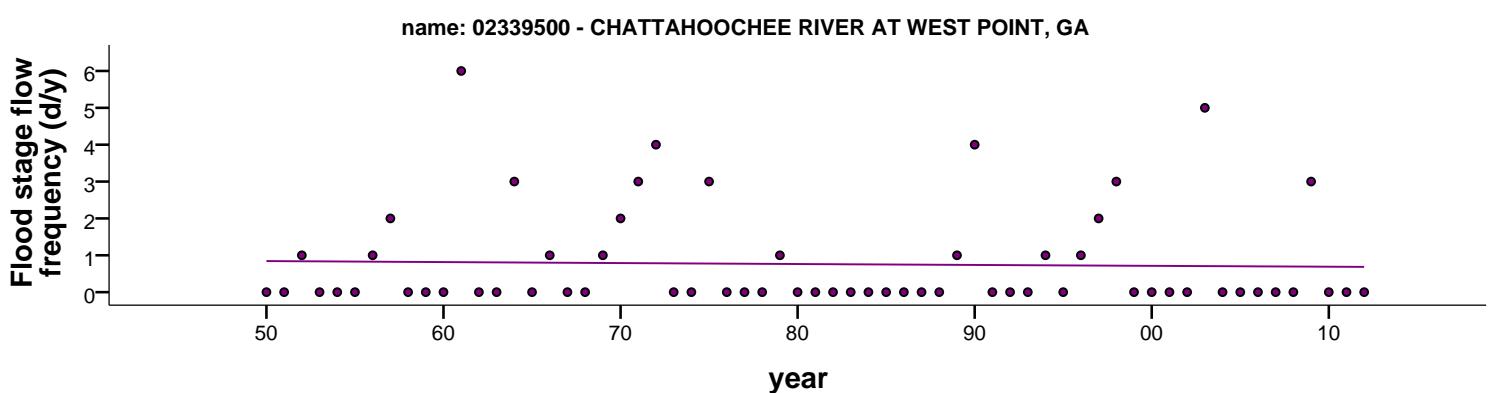
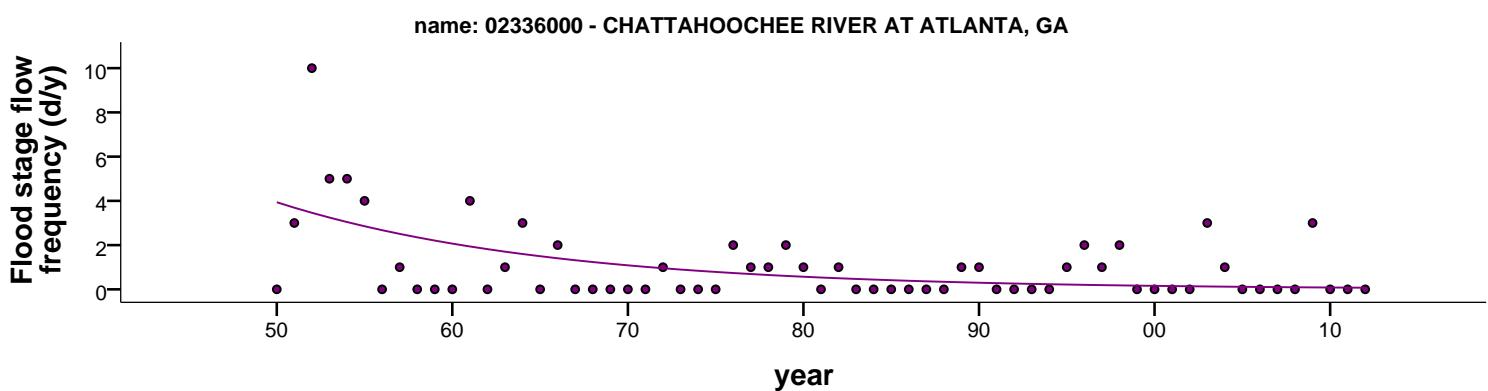


name: 02327100 - SOPCHOPPY RIVER NR SOPCHOPPY, FLA.

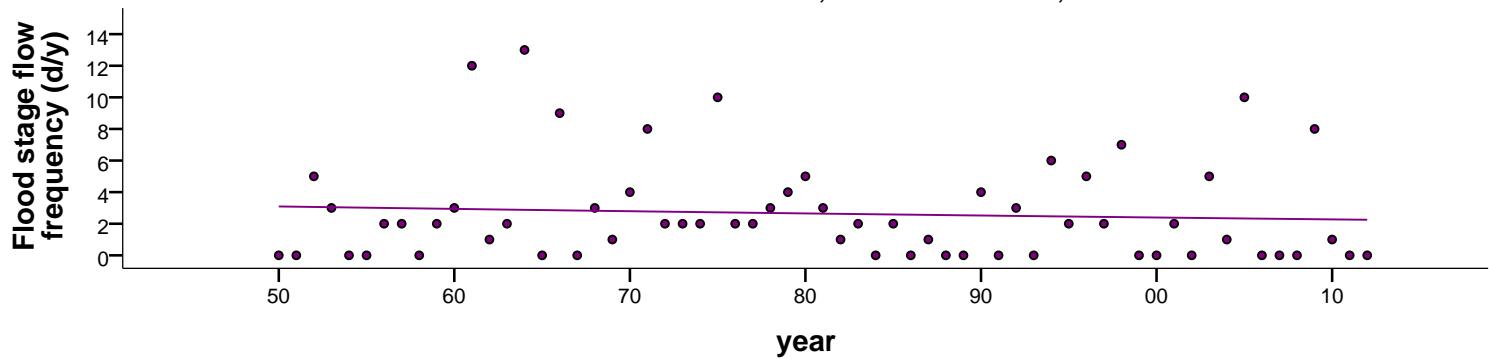


name: 02329000 - OCHLOCKONEE RIVER NR HAVANA, FLA.

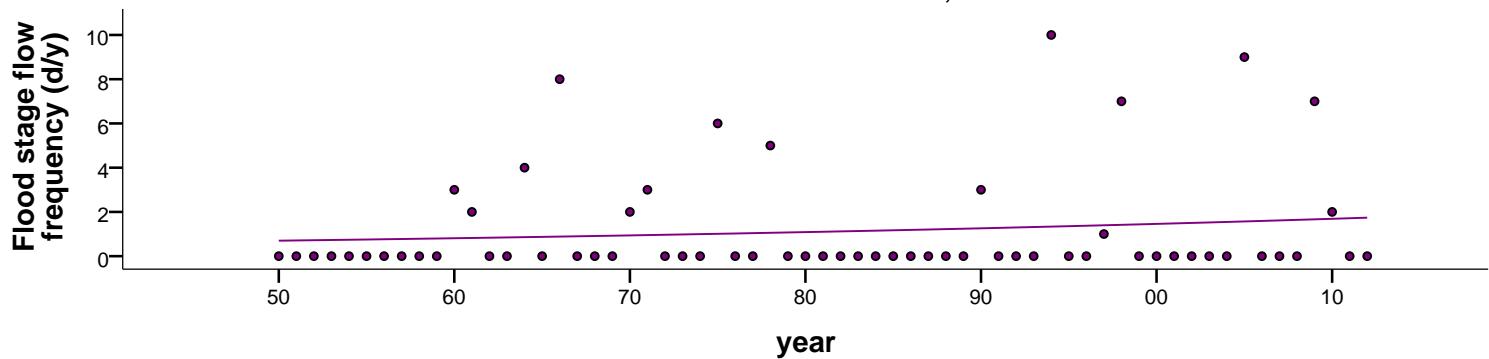




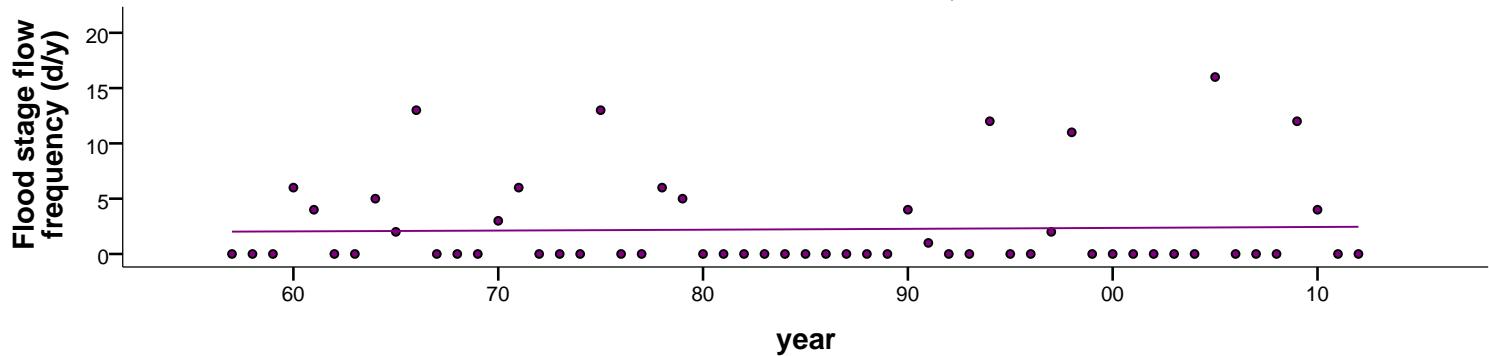
name: 02347500 - FLINT RIVER AT US 19, NEAR CARSONVILLE, GA



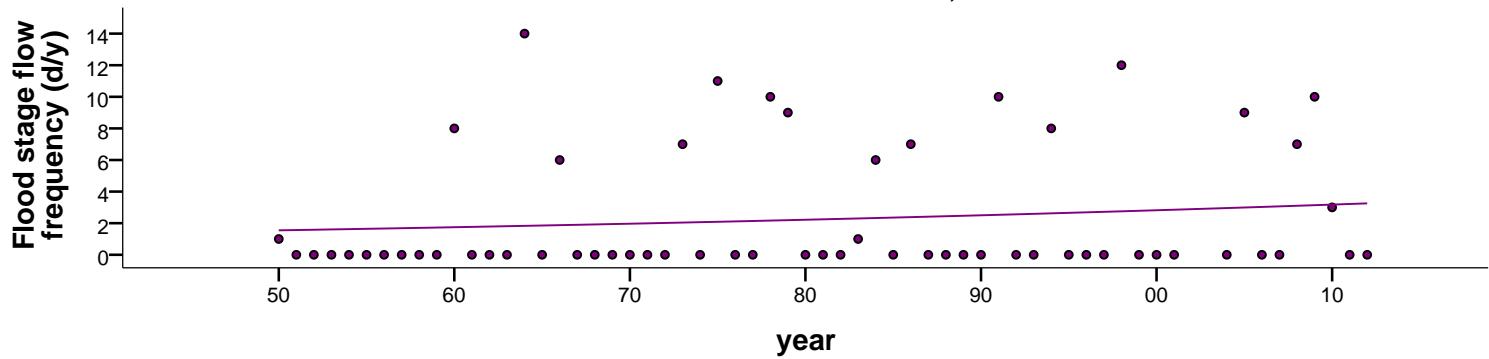
name: 02352500 - FLINT RIVER AT ALBANY, GA



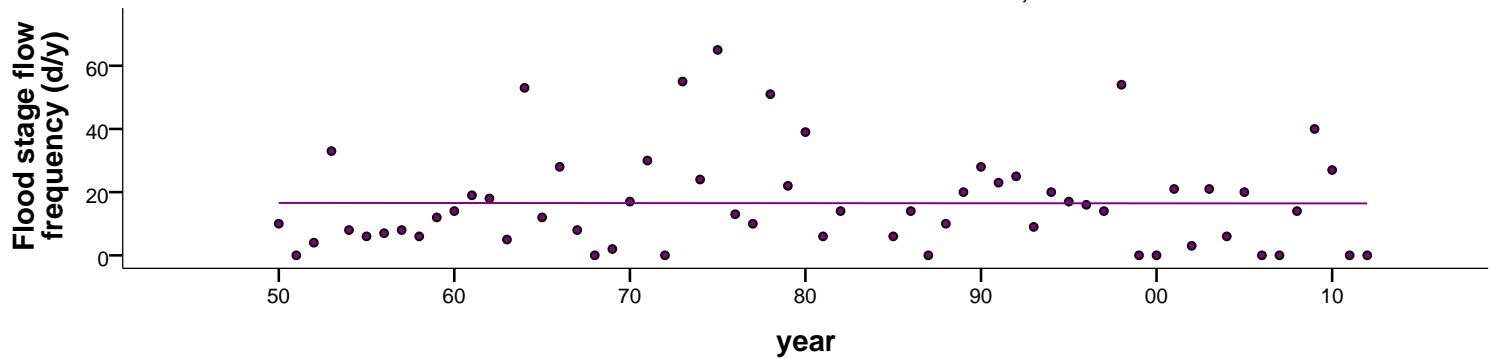
name: 02353000 - FLINT RIVER AT NEWTON, GA



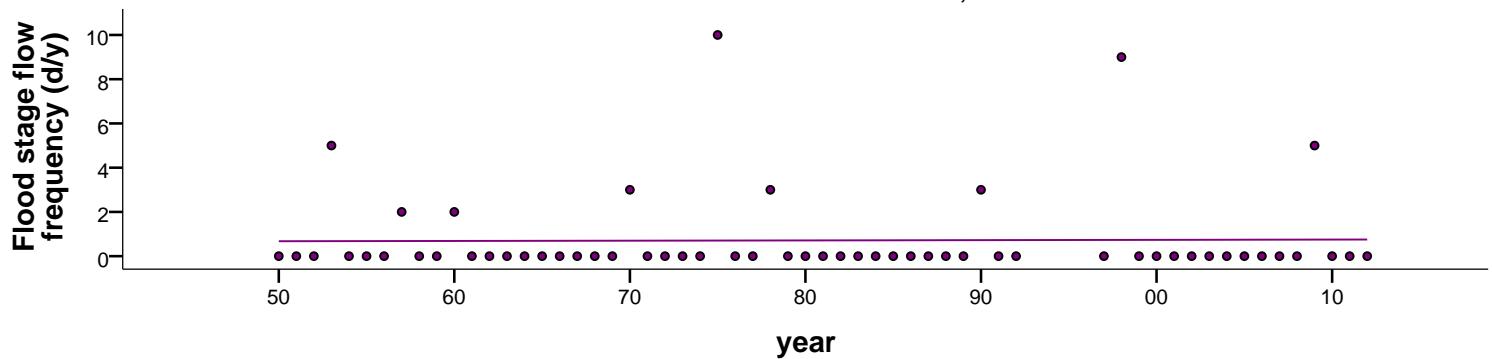
name: 02359000 - CHIPOLA RIVER NR ALTHA, FLA.



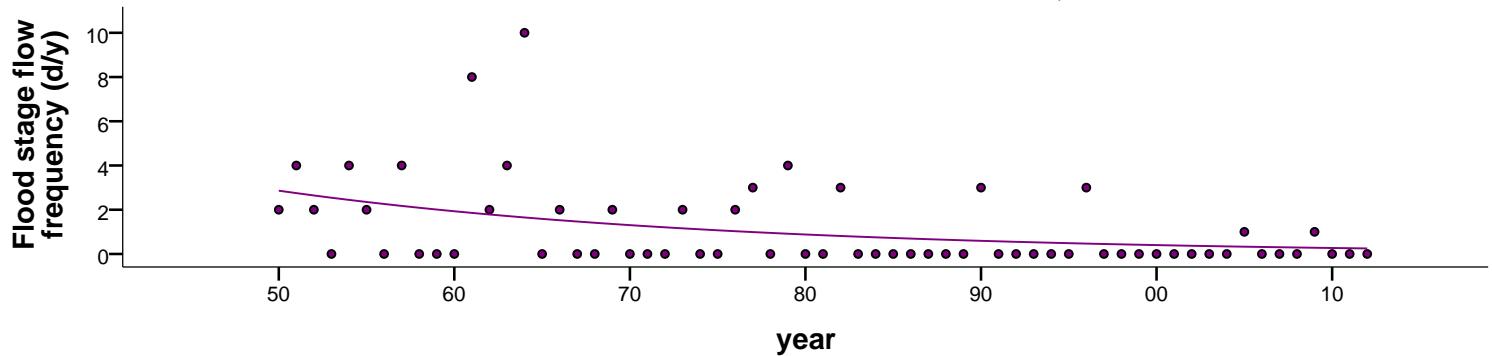
name: 02366500 - CHOCTAWHATCHEE RIVER NR BRUCE, FLA.



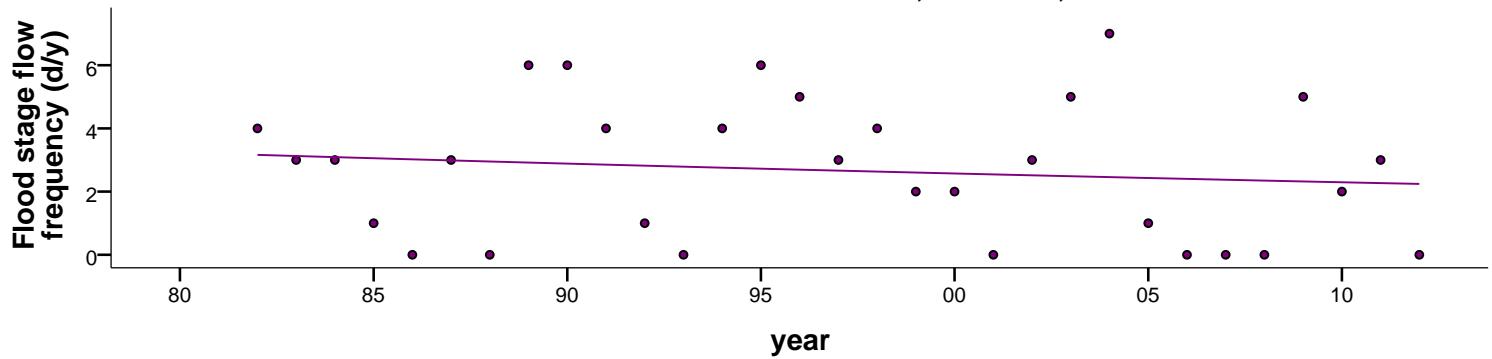
name: 02368000 - YELLOW RIVER AT MILLIGAN, FLA.



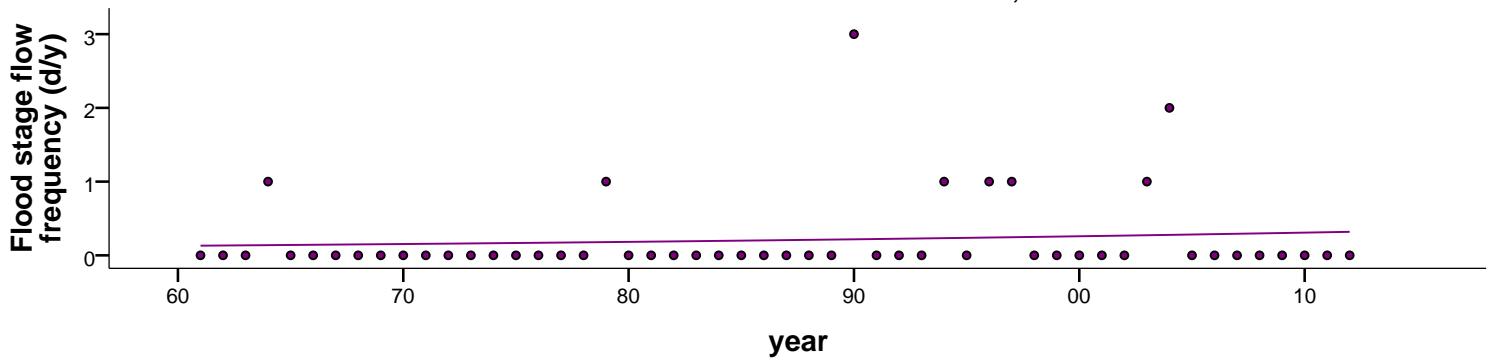
name: 02383500 - COOSAWATTEE RIVER NEAR PINE CHAPEL, GA



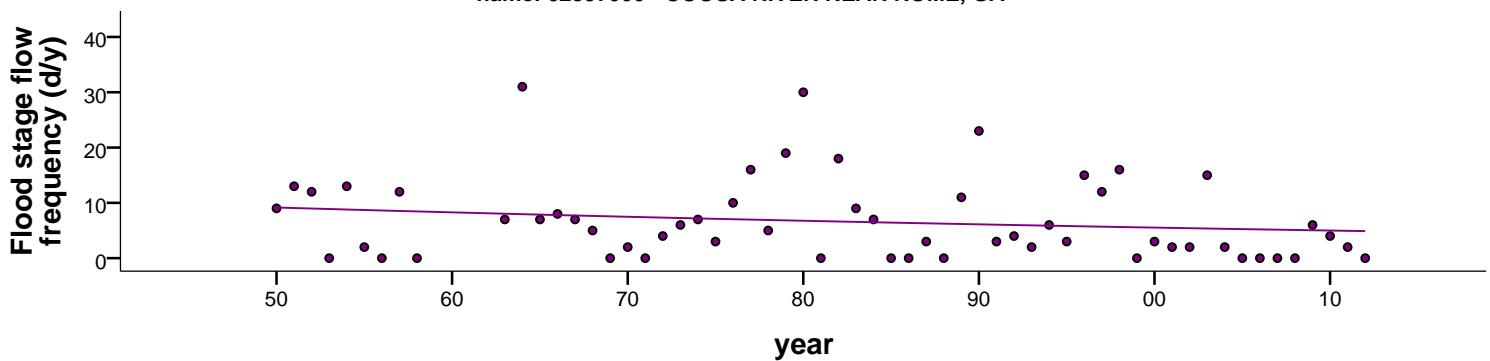
name: 02384500 - CONASAUGA RIVER AT GA 286, NEAR ETON, GA



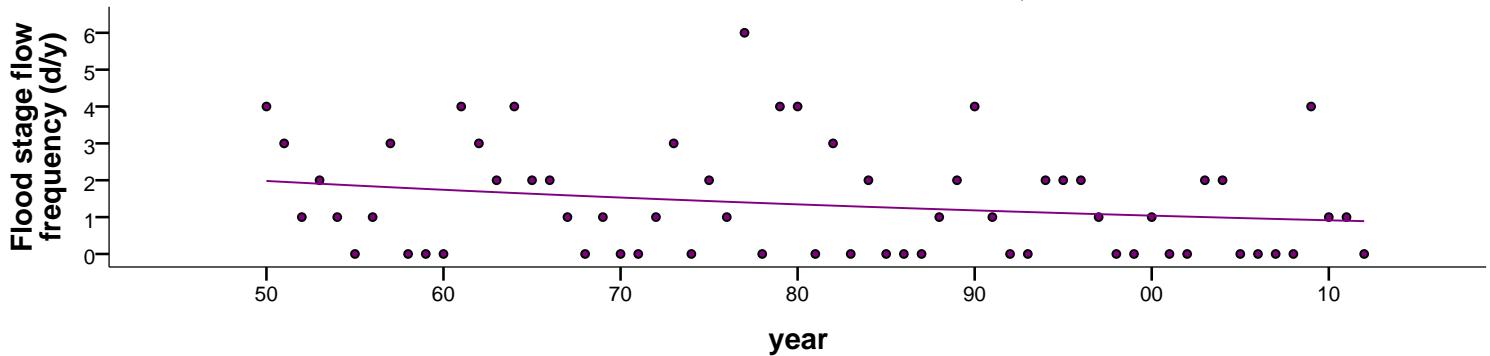
name: 02385800 - HOLLY CREEK NEAR CHATSWORTH, GA



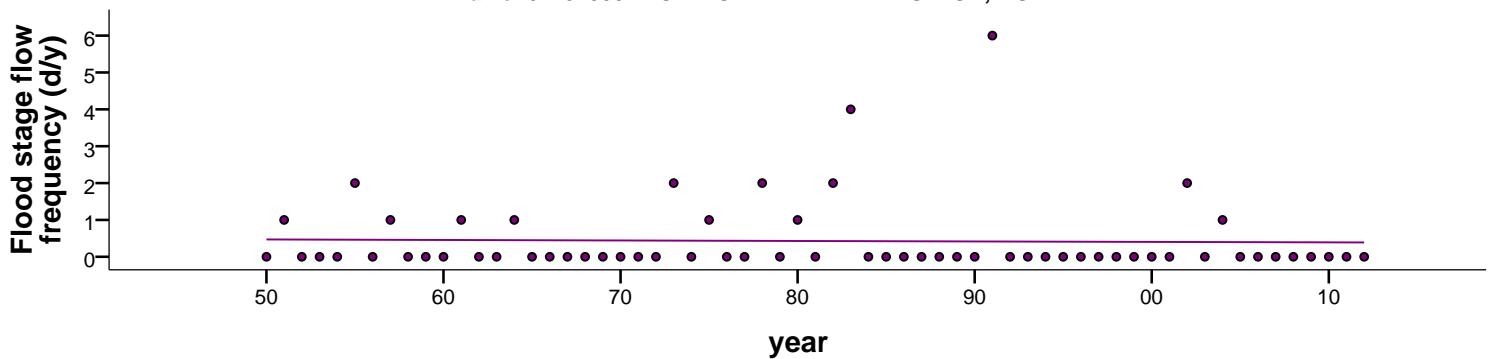
name: 02397000 - COOSA RIVER NEAR ROME, GA



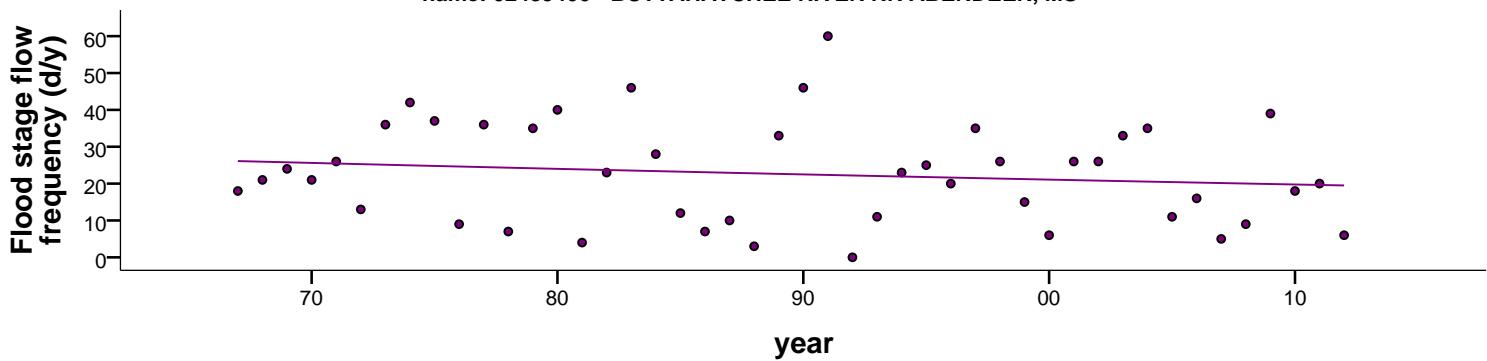
name: 02398000 - CHATTOOGA RIVER AT SUMMERTVILLE, GA



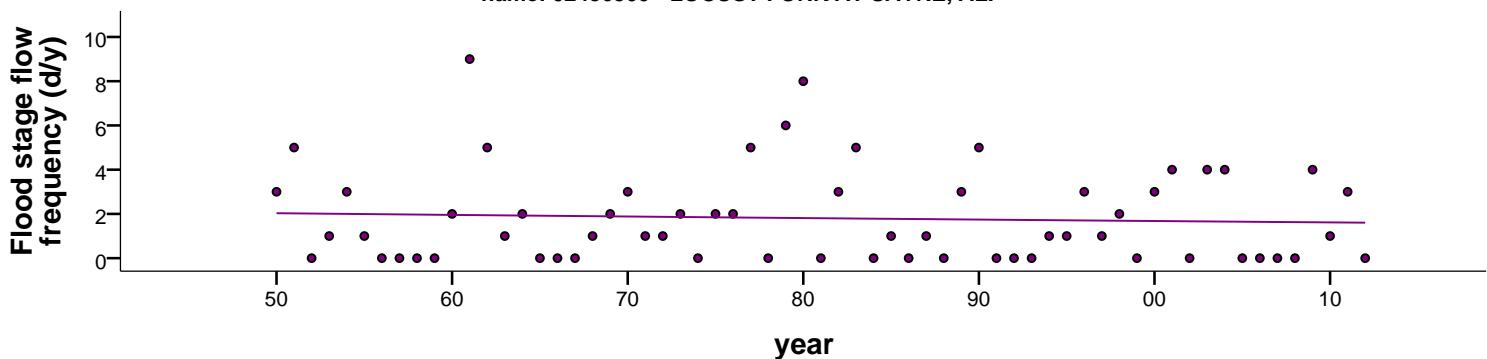
name: 02431000 - TOMBIGBEE RIVER NR FULTON, MS



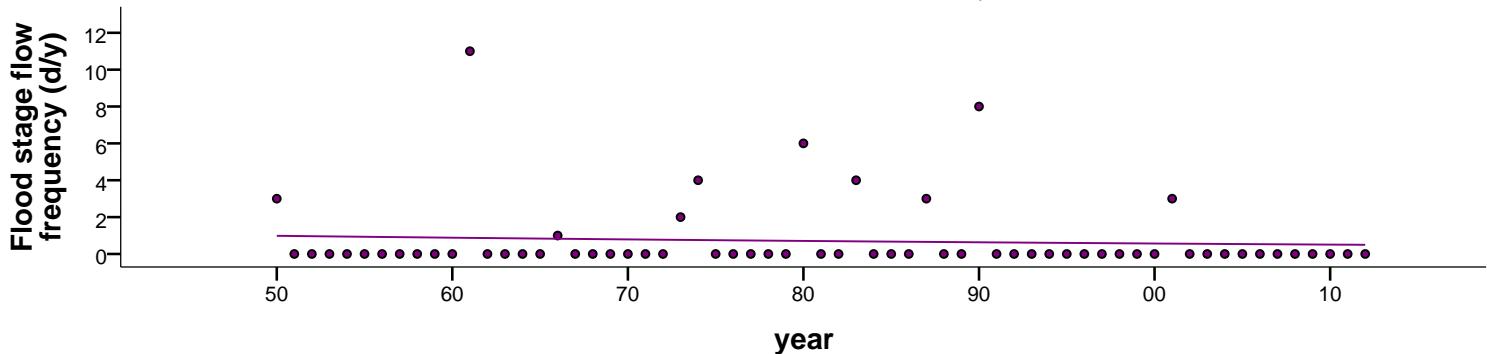
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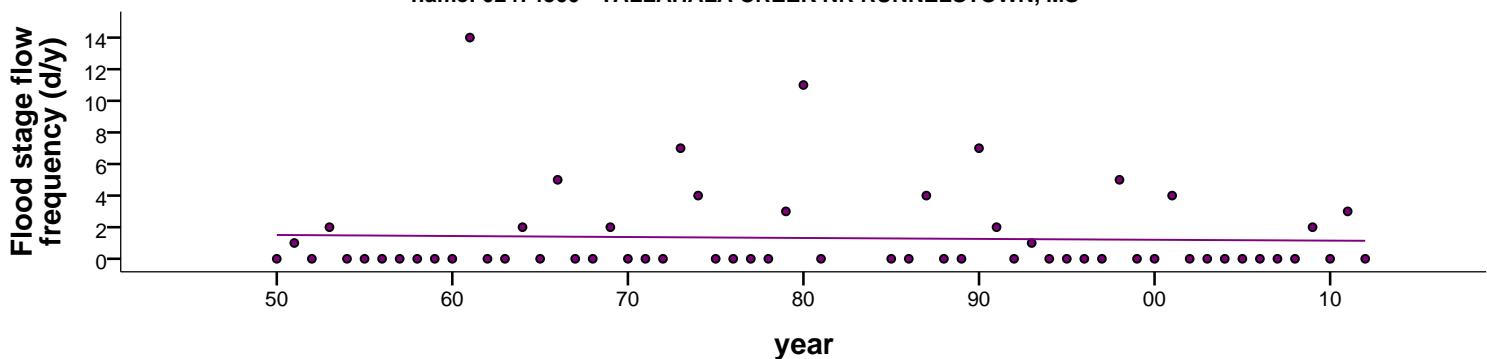
name: 02456500 - LOCUST FORK AT SAYRE, AL.

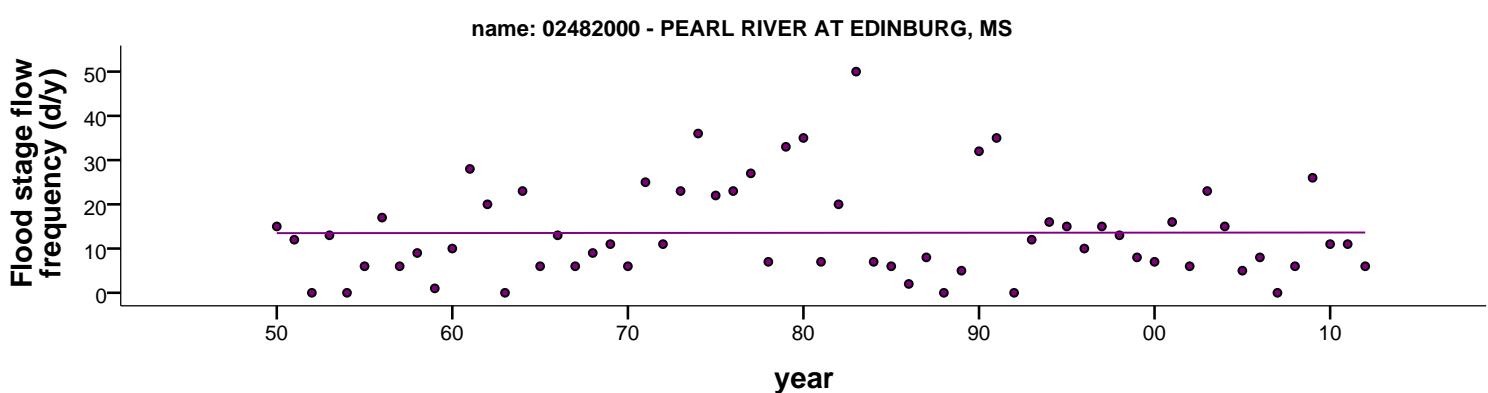
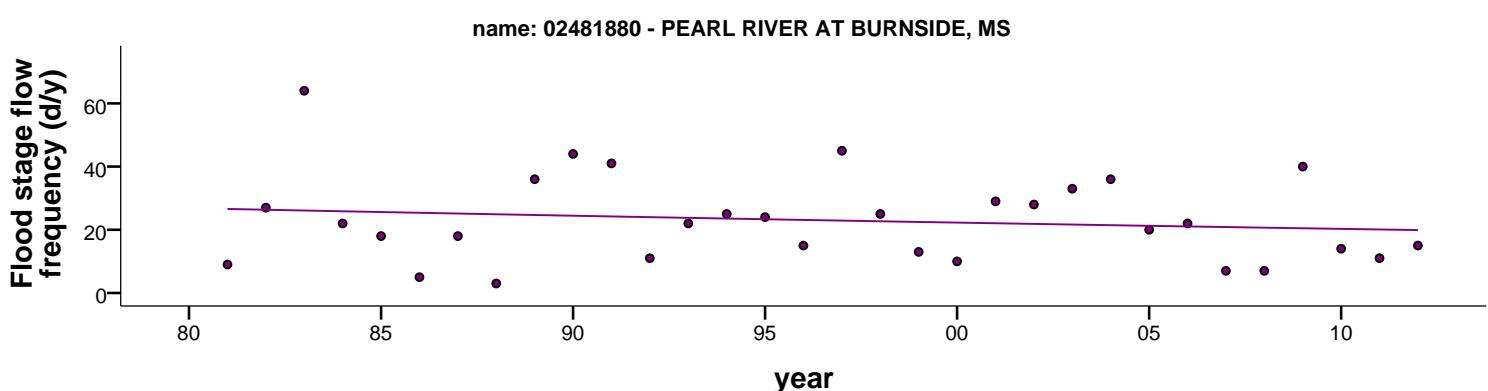
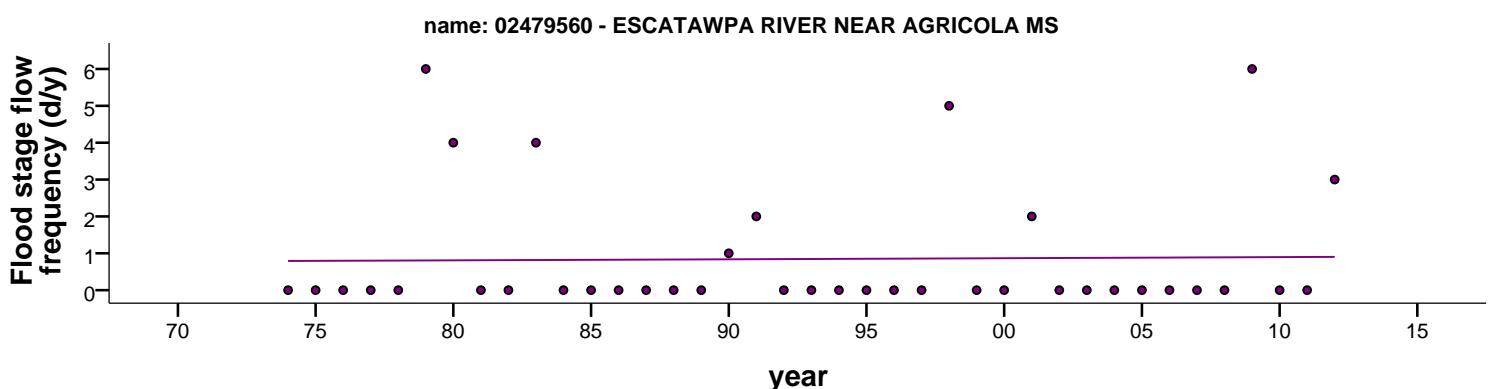
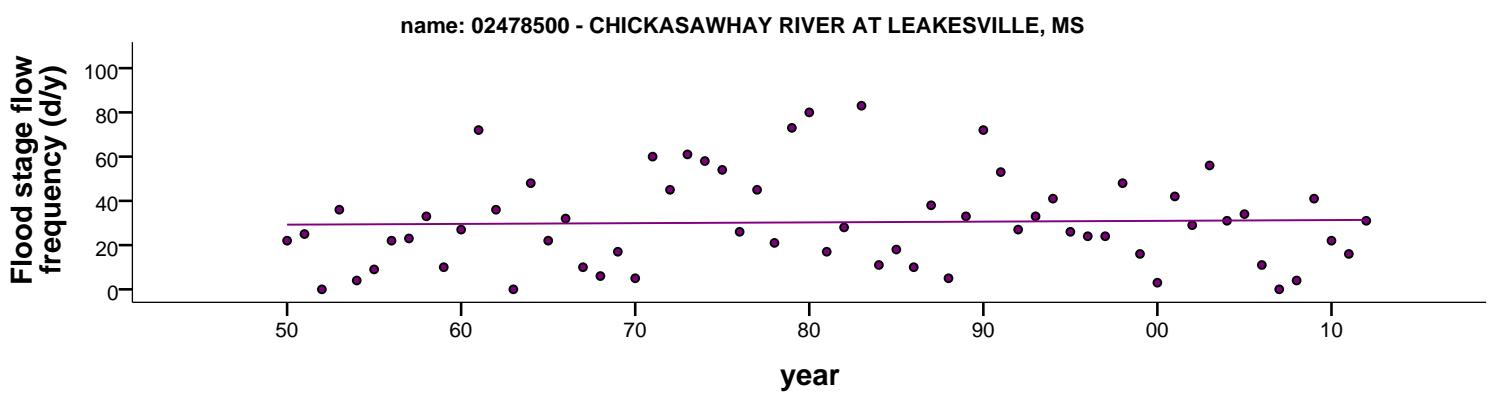


name: 02473000 - LEAF RIVER AT HATTIESBURG, MS

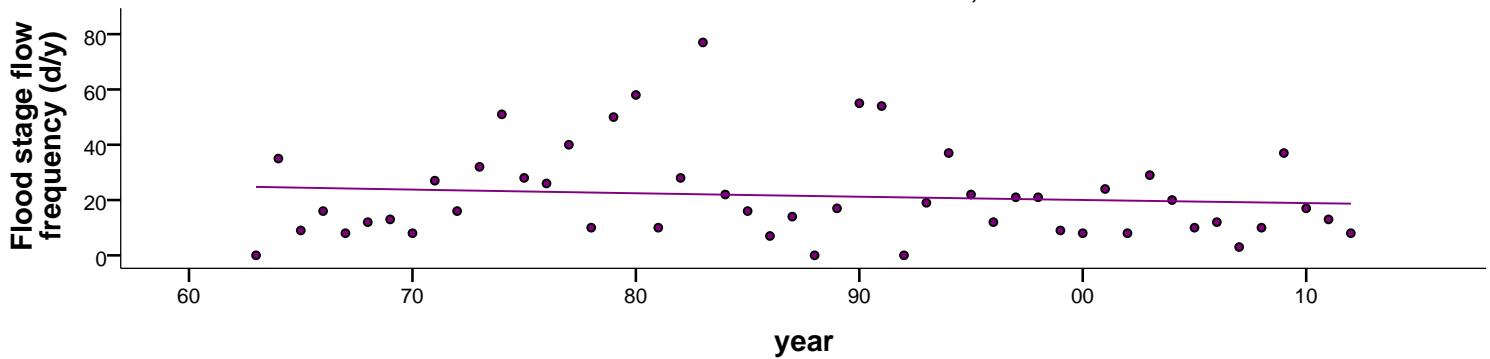


name: 02474500 - TALLAHALA CREEK NR RUNNELSTOWN, MS

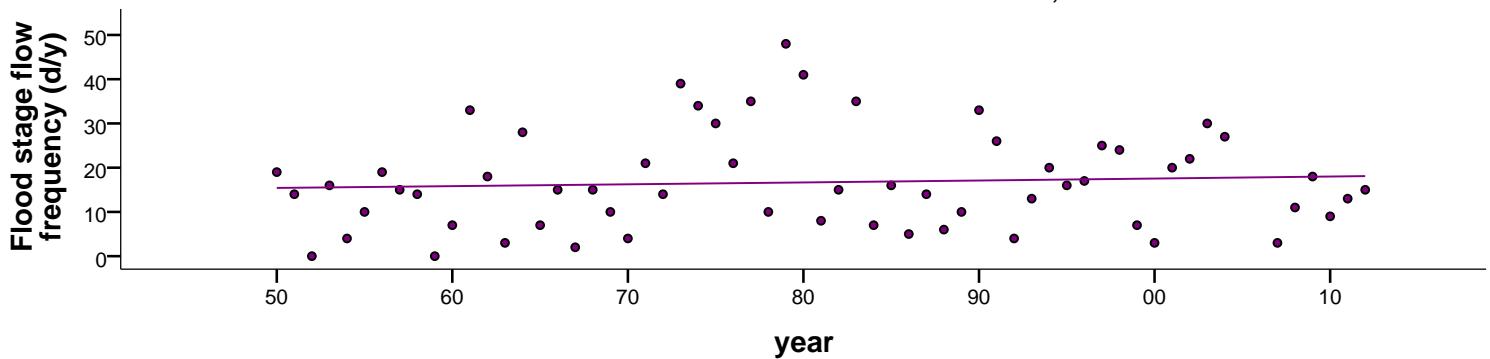




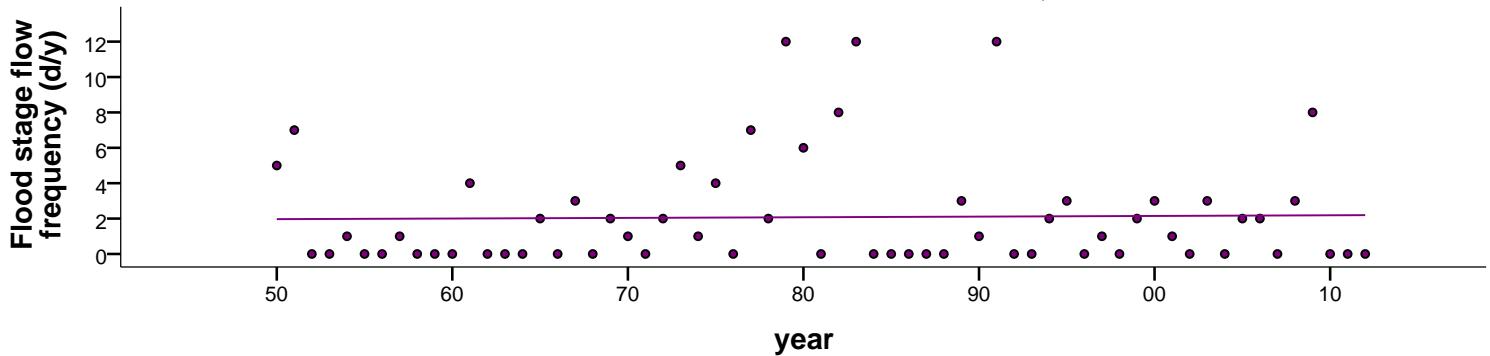
name: 02482550 - PEARL RIVER NR CARTHAGE, MS



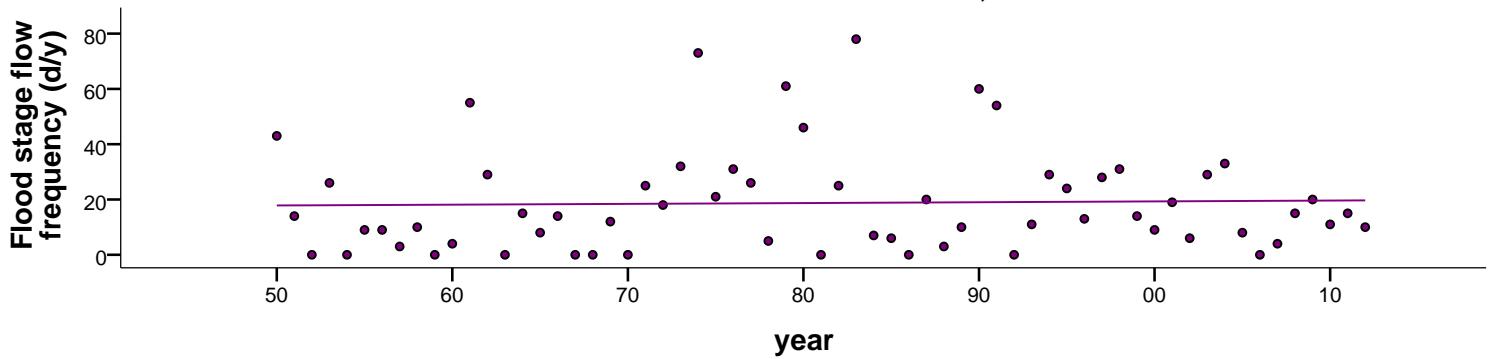
name: 02483000 - TUSCOLAMETA CREEK AT WALNUT GROVE, MS



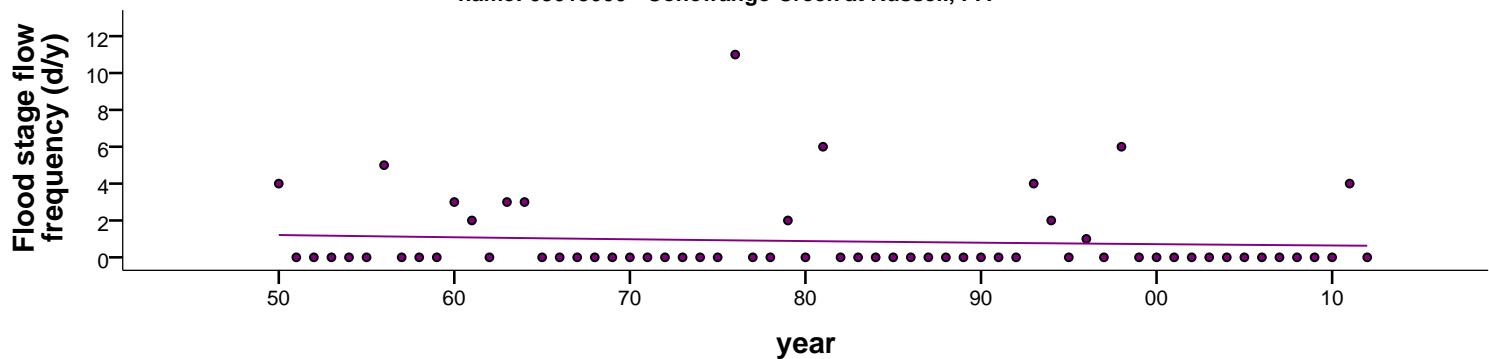
name: 02484000 - YOCKANOOKANY RIVER NR KOSCIUSKO, MS



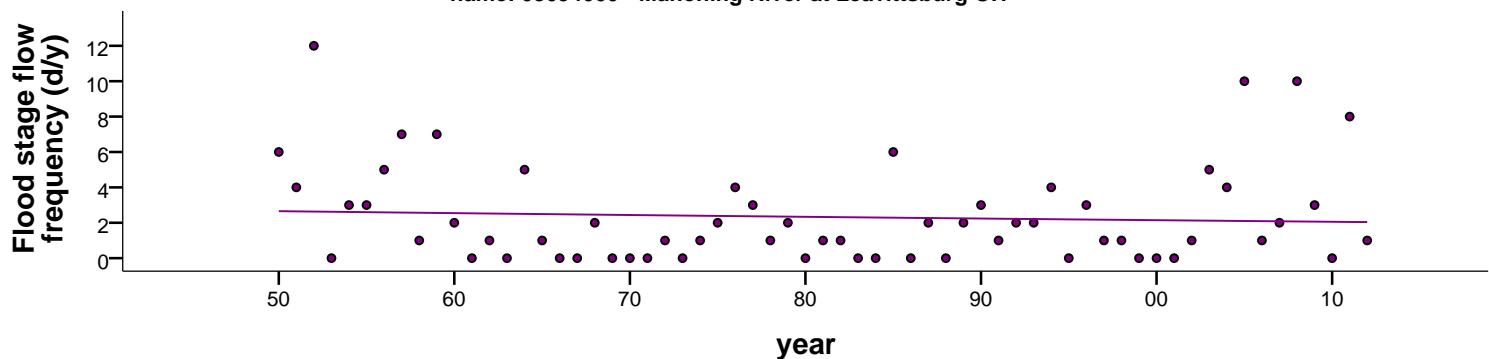
name: 02488500 - PEARL RIVER NR MONTICELLO, MS



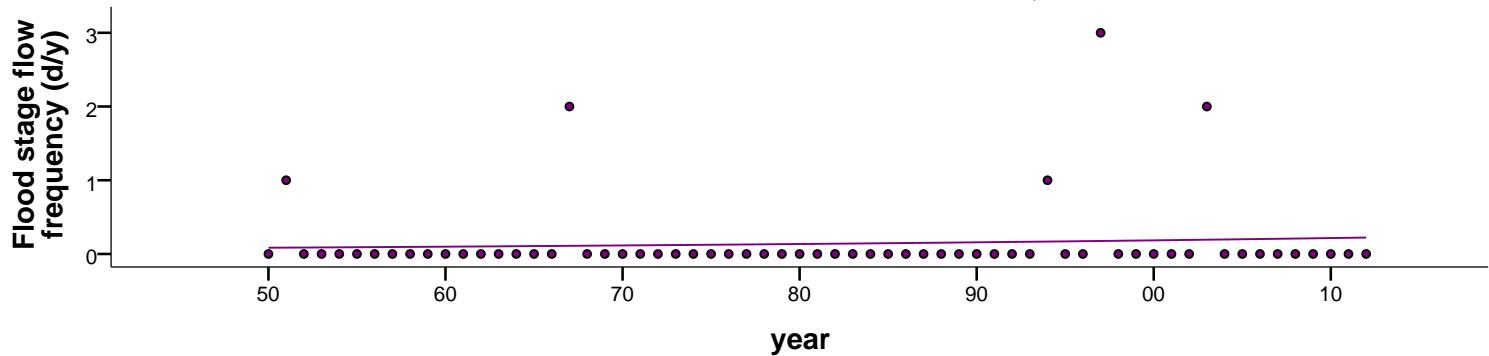
name: 03015000 - Conewango Creek at Russell, PA



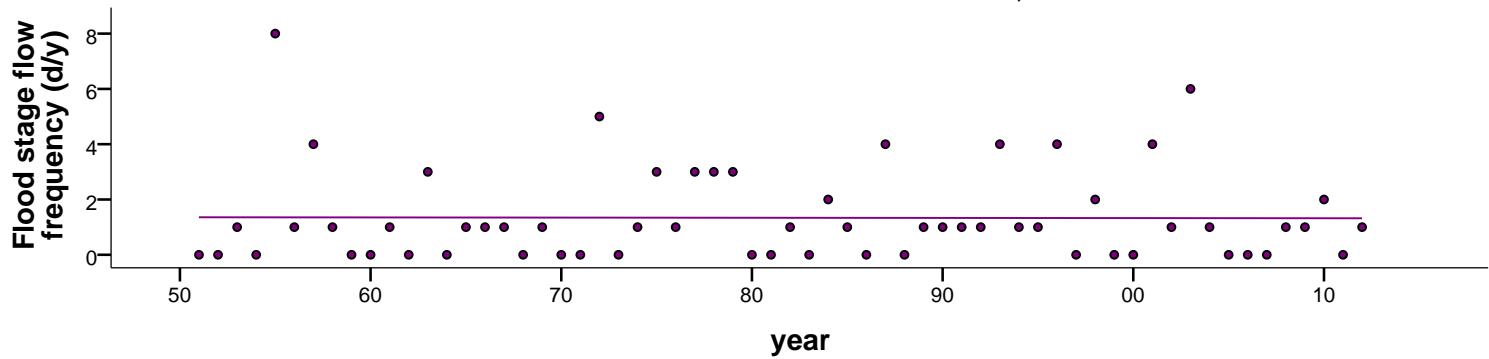
name: 03094000 - Mahoning River at Leavittsburg OH



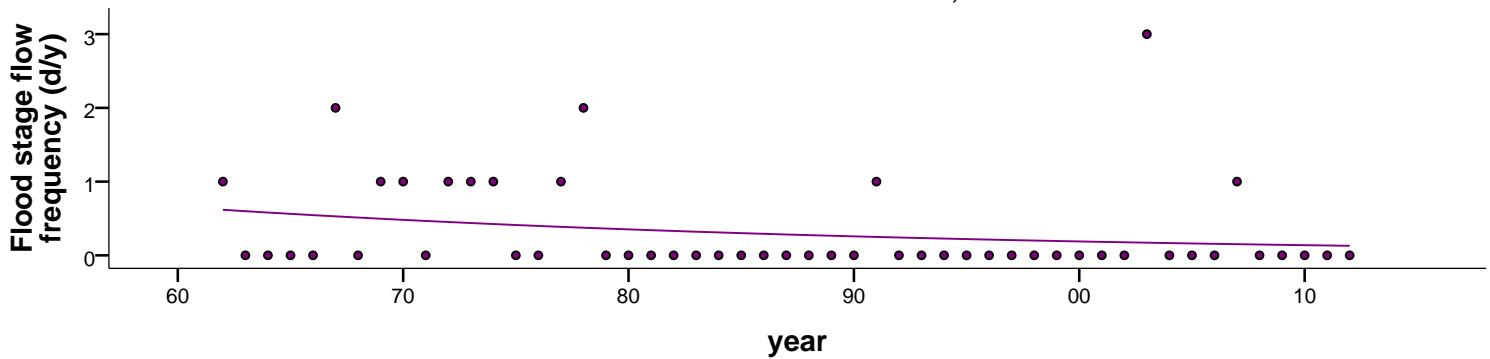
name: 03155000 - LITTLE KANAWHA RIVER AT PALESTINE, WV



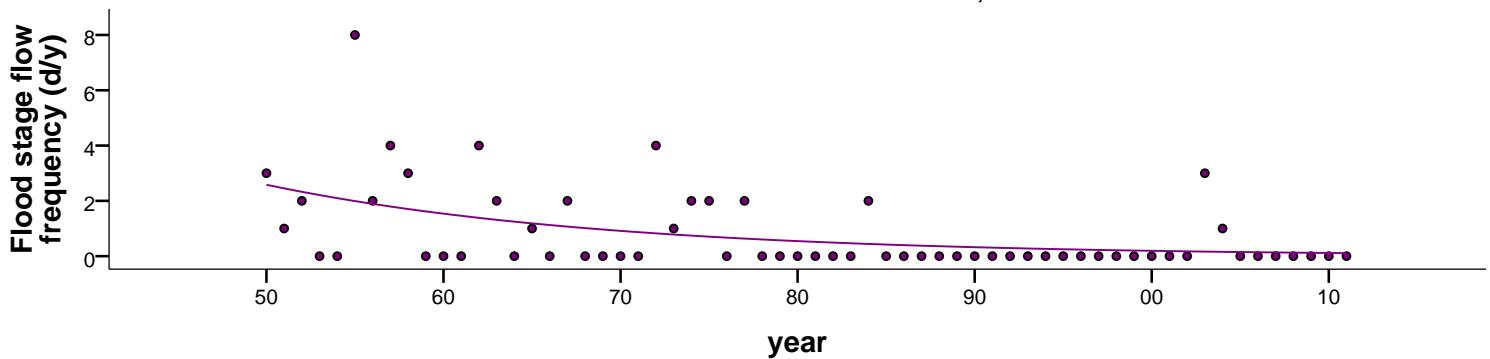
name: 03179000 - BLUESTONE RIVER NEAR PIPESTEM, WV



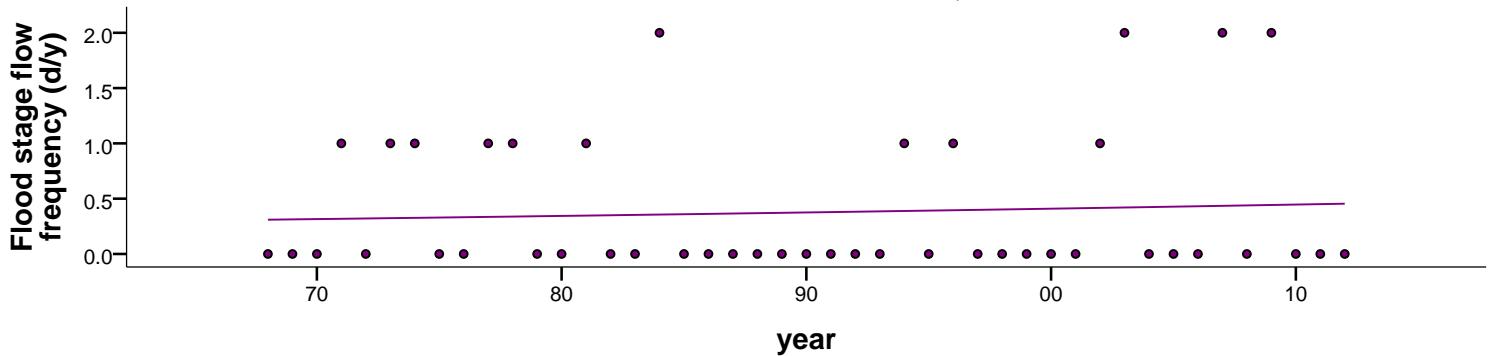
name: 03200500 - COAL RIVER AT TORNADO, WV



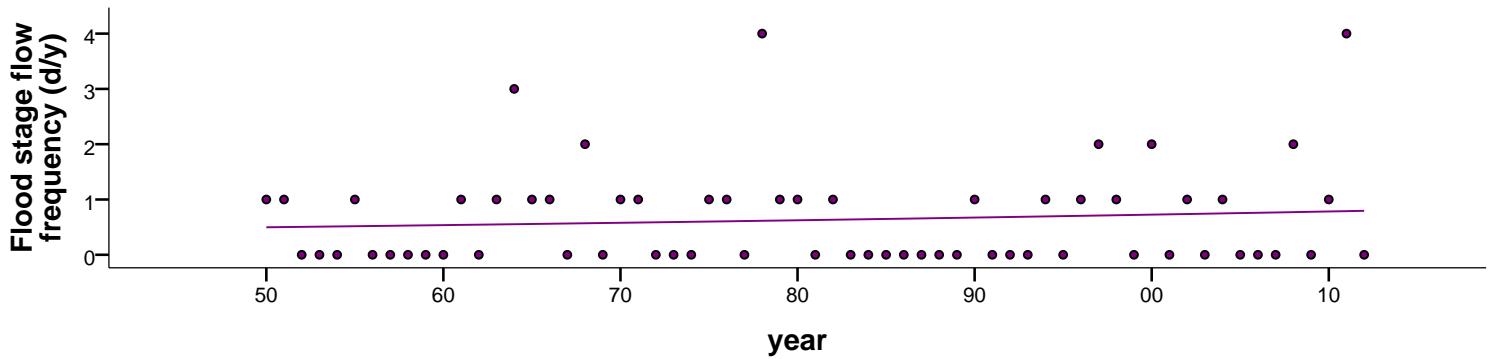
name: 03212500 - LEVISA FORK AT PAINTSVILLE, KY



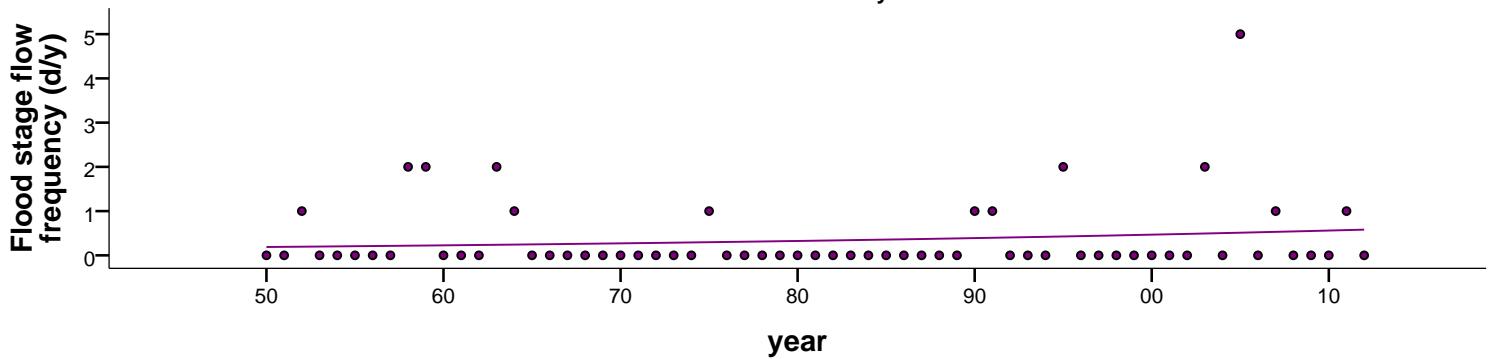
name: 03213700 - TUG FORK AT WILLIAMSON, WV



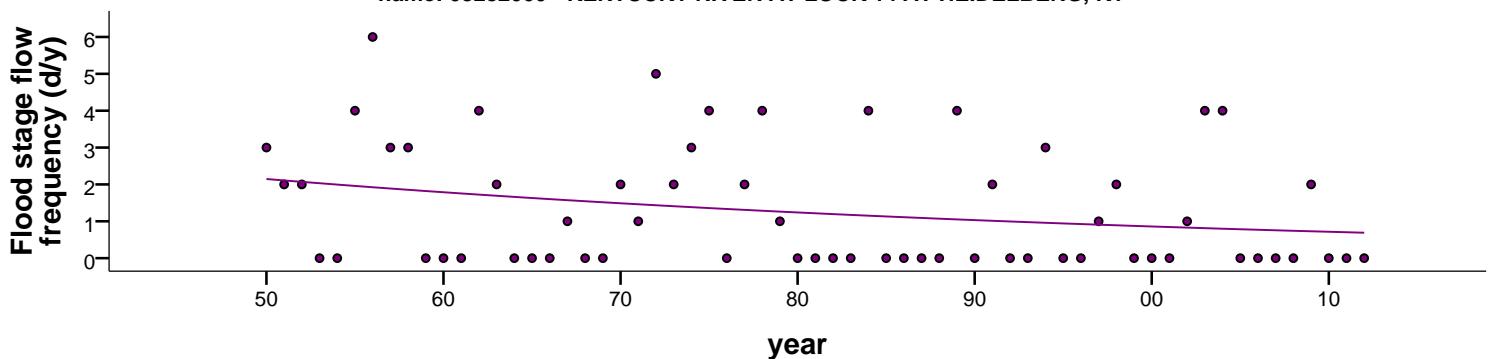
name: 03237500 - Ohio Brush Creek near West Union OH



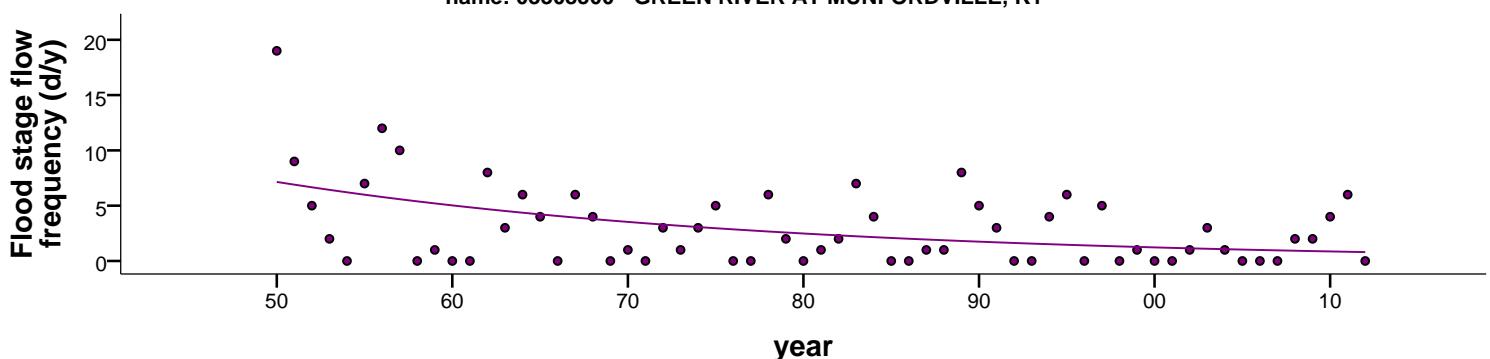
name: 03263000 - Great Miami River at Taylorsville OH



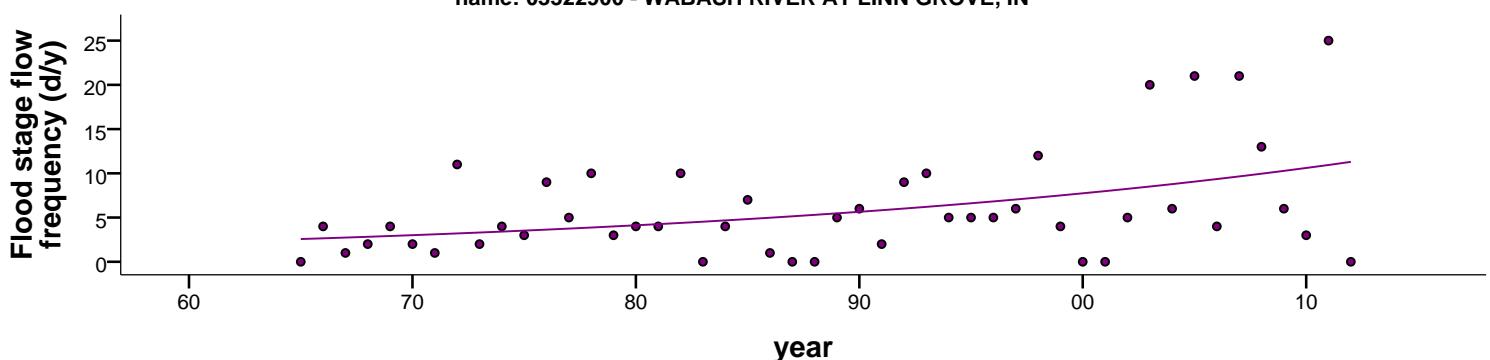
name: 03282000 - KENTUCKY RIVER AT LOCK 14 AT HEIDELBERG, KY



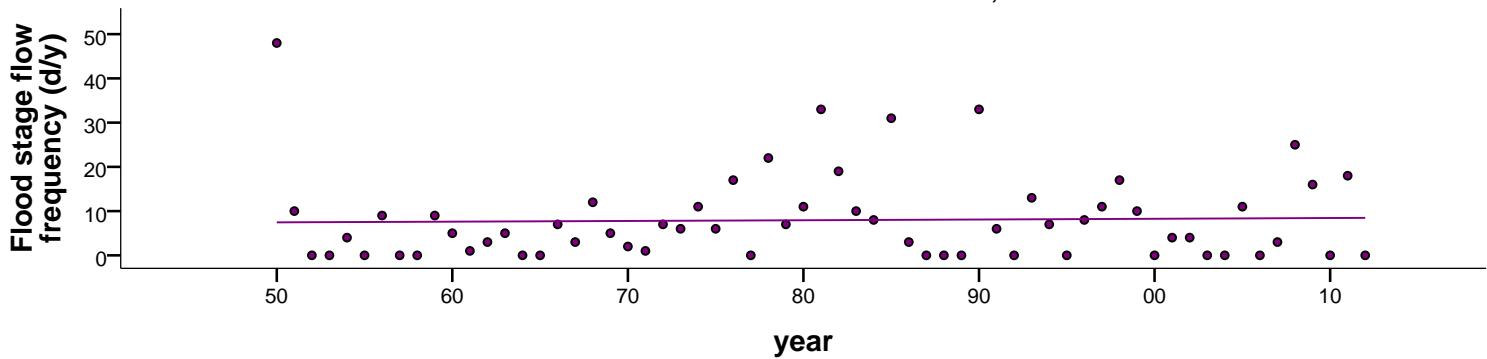
name: 03308500 - GREEN RIVER AT MUNFORDVILLE, KY



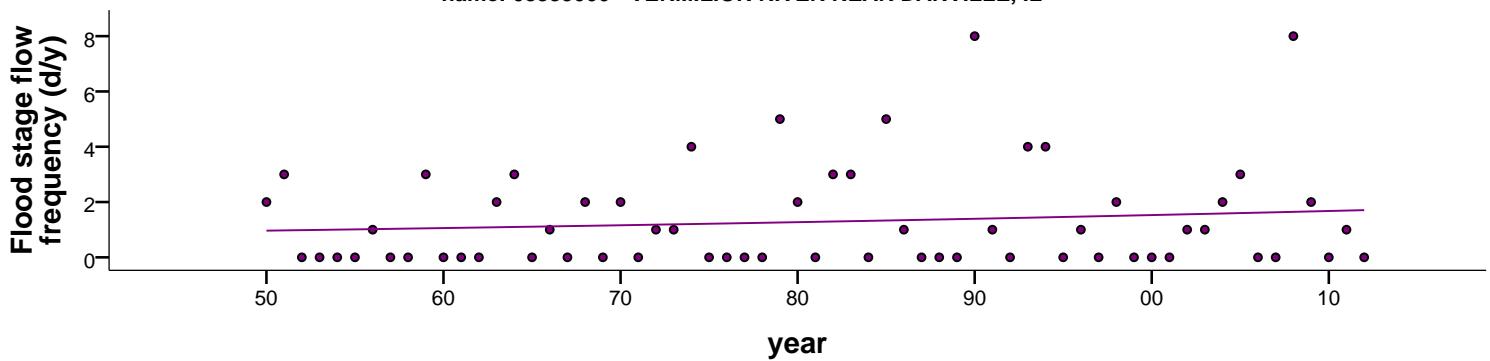
name: 03322900 - WABASH RIVER AT LINN GROVE, IN



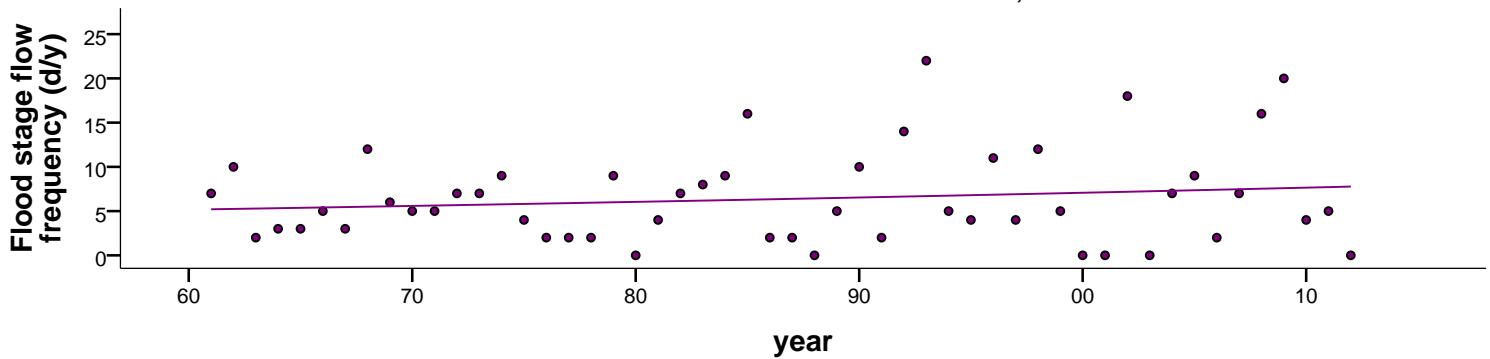
name: 03331500 - TIPPECANOE RIVER NEAR ORA, IN



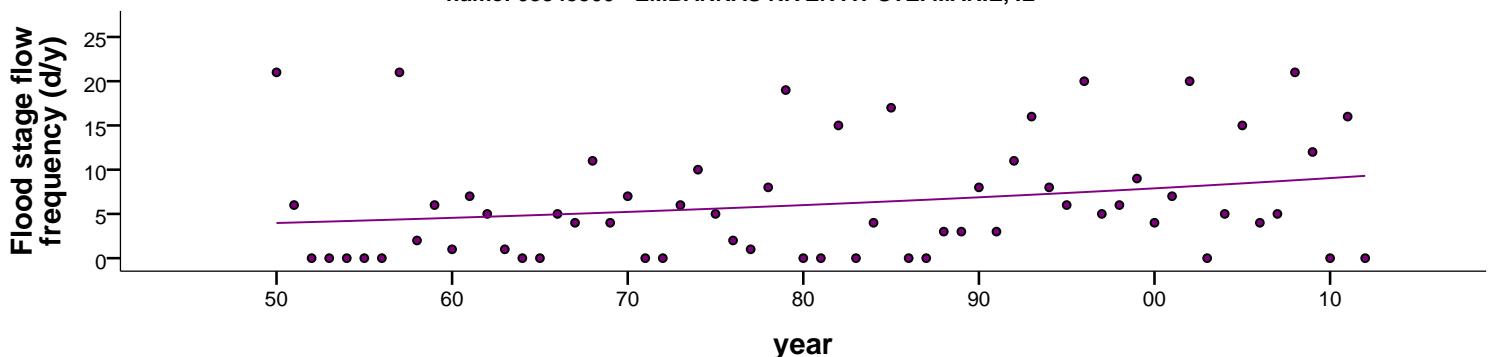
name: 03339000 - VERMILION RIVER NEAR DANVILLE, IL



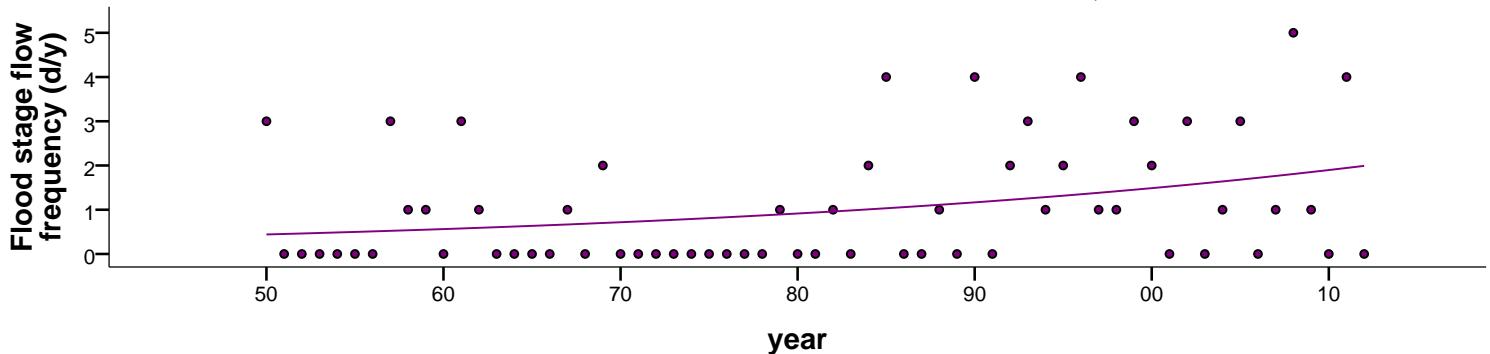
name: 03343400 - EMBARRAS RIVER NEAR CAMARGO, IL



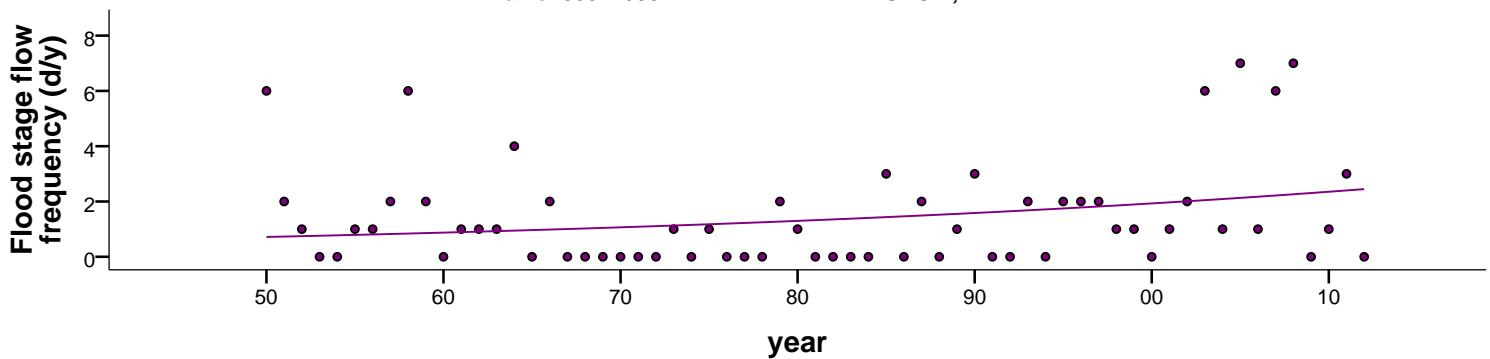
name: 03345500 - EMBARRAS RIVER AT STE. MARIE, IL



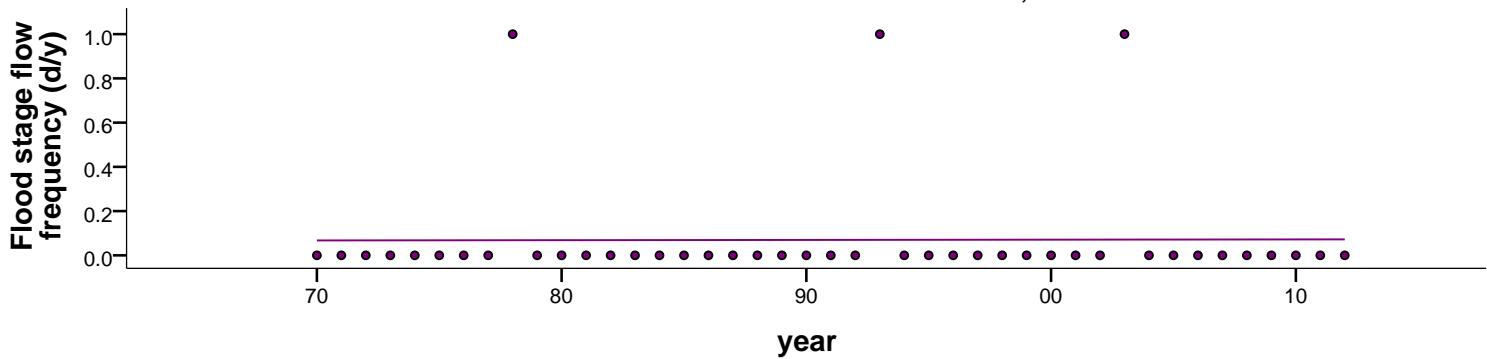
name: 03346000 - NORTH FORK EMBARRAS RIVER NEAR OBLONG, IL



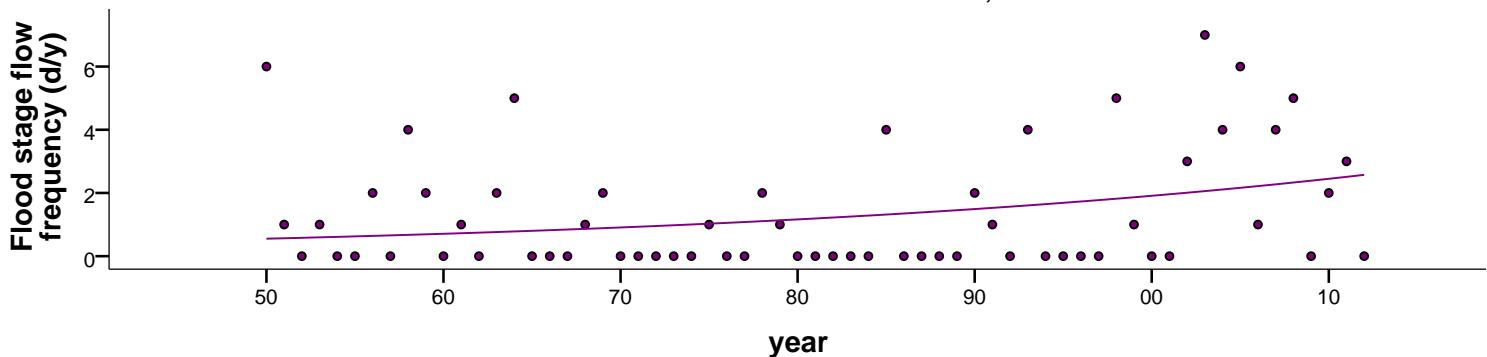
name: 03347000 - WHITE RIVER AT MUNCIE, IN



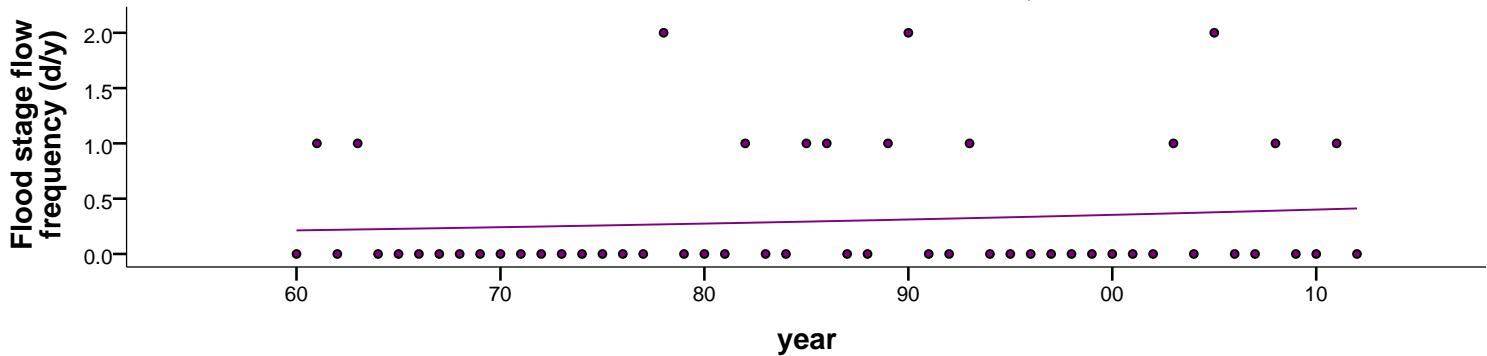
name: 03351310 - CROOKED CREEK AT INDIANAPOLIS, IN



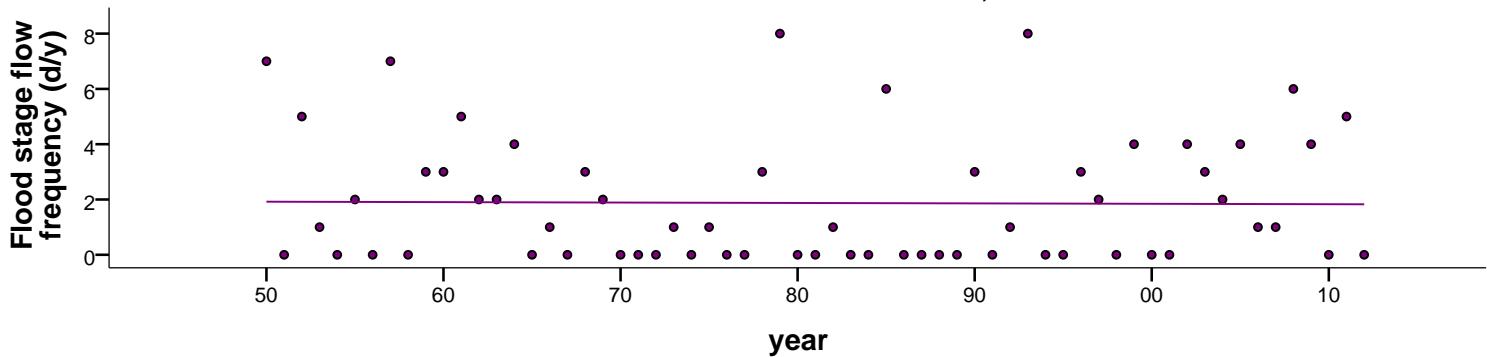
name: 03352500 - FALL CREEK AT MILLERSVILLE, IN



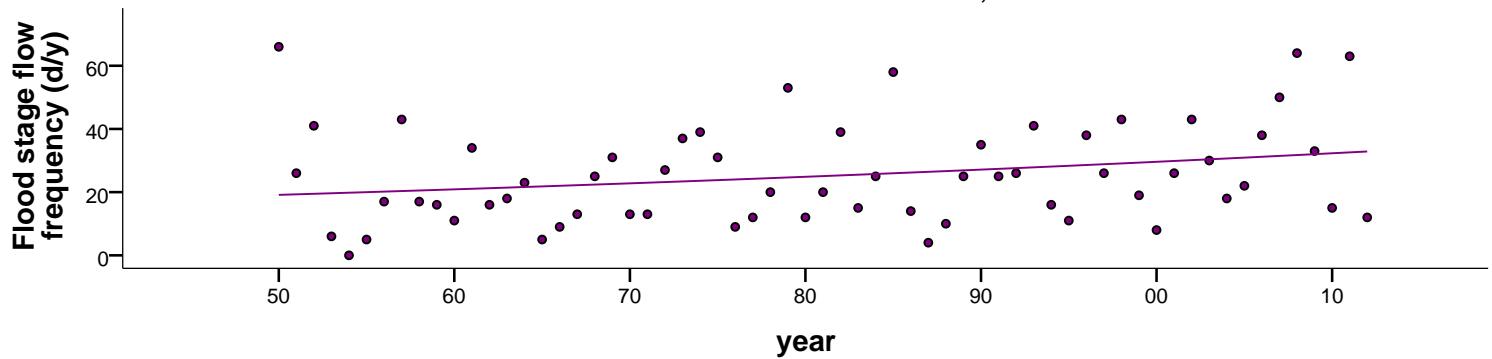
name: 03353600 - LITTLE EAGLE CREEK AT SPEEDWAY, IN



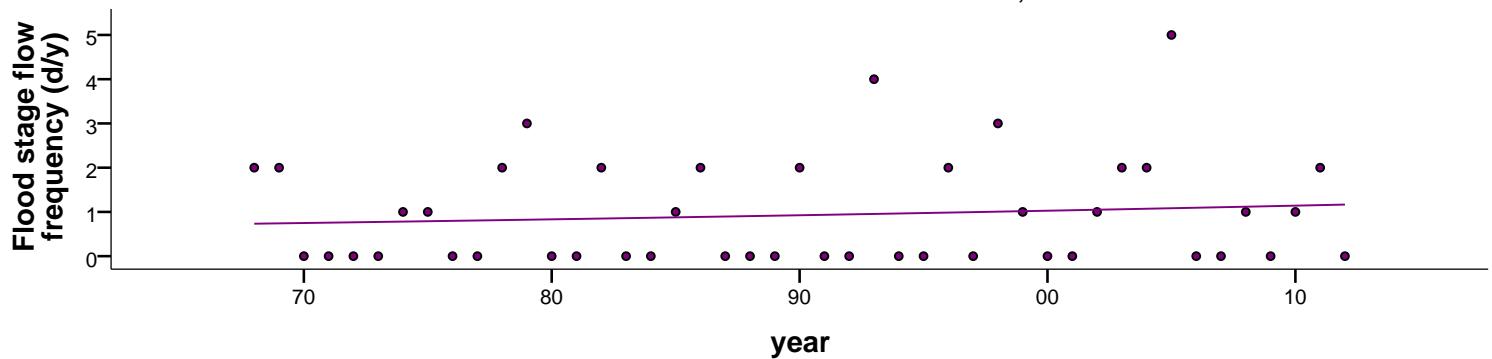
name: 03358000 - MILL CREEK NEAR CATARACT, IN



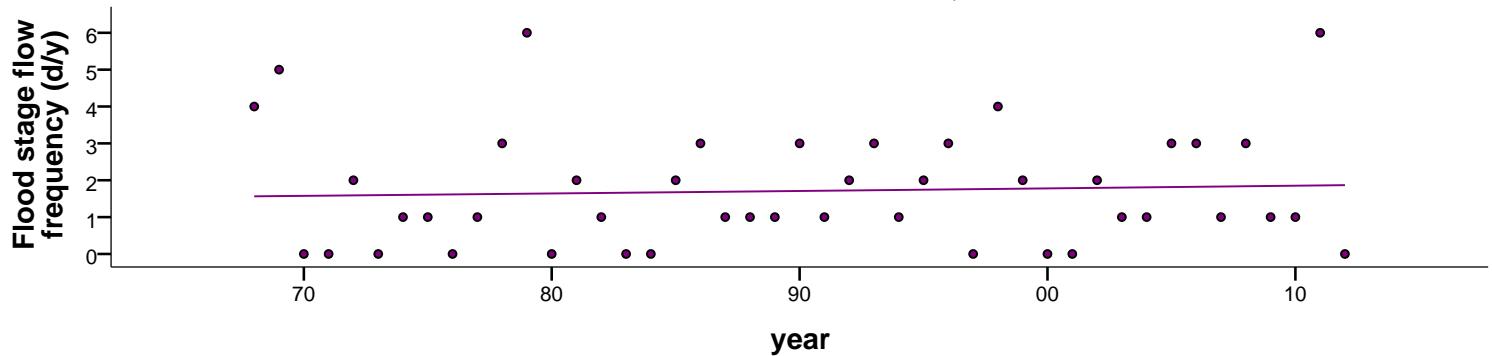
name: 03360500 - WHITE RIVER AT NEWBERRY, IN



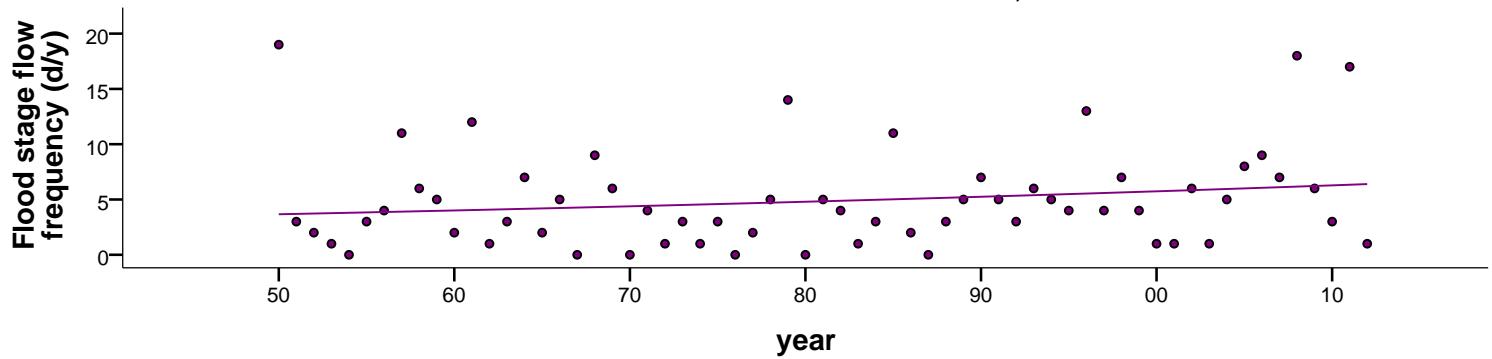
name: 03361650 - SUGAR CREEK AT NEW PALESTINE, IN



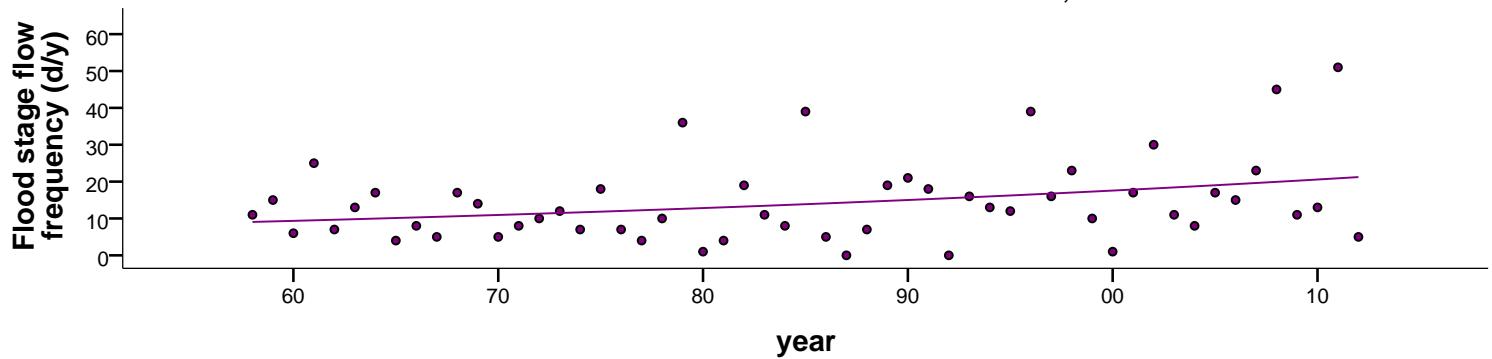
name: 03361850 - BUCK CREEK AT ACTON, IN



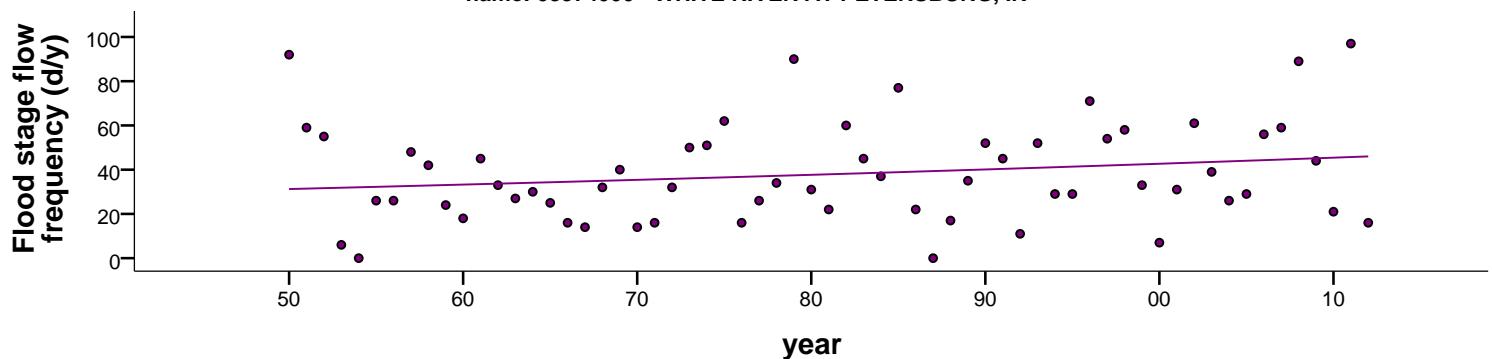
name: 03362500 - SUGAR CREEK NEAR EDINBURGH, IN



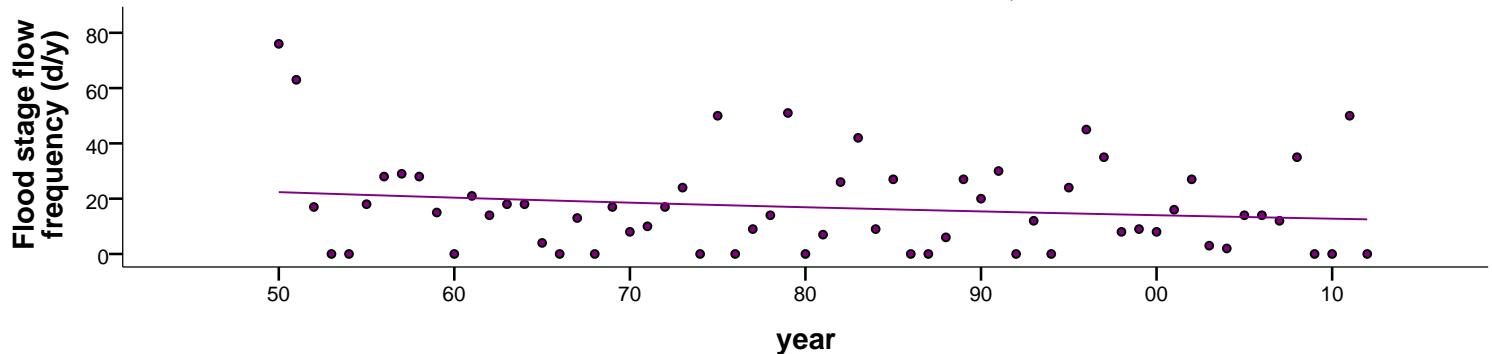
name: 03371500 - EAST FORK WHITE RIVER NEAR BEDFORD, IN



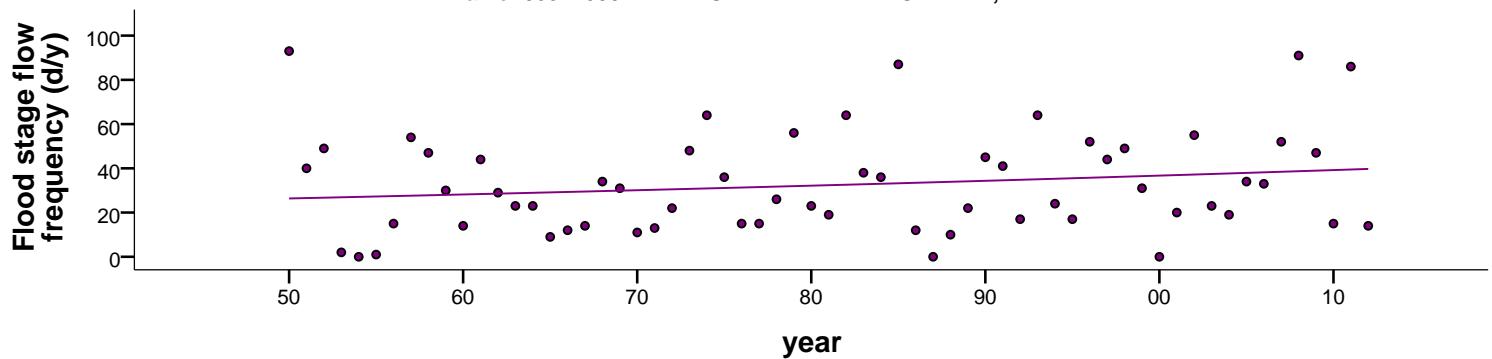
name: 03374000 - WHITE RIVER AT PETERSBURG, IN

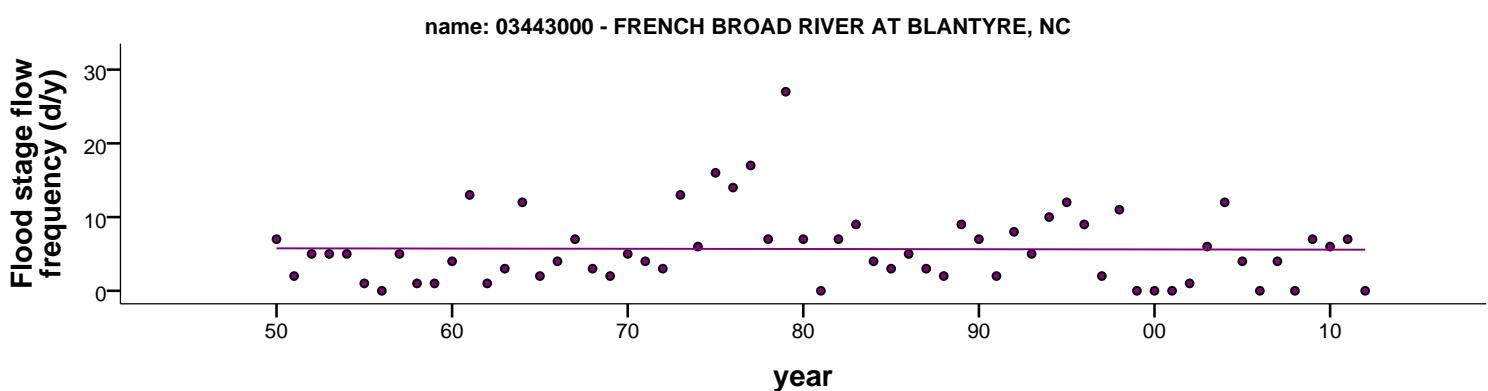
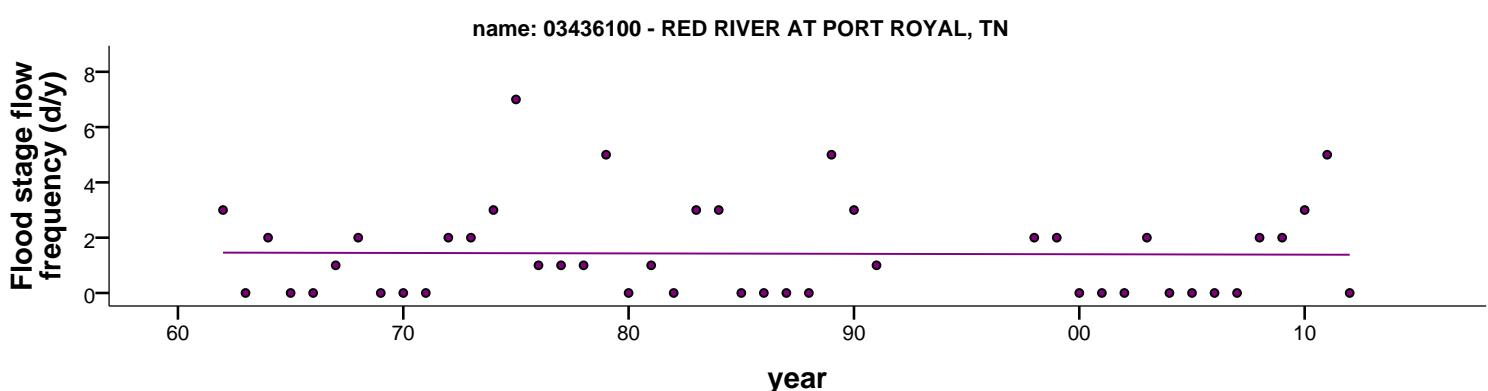
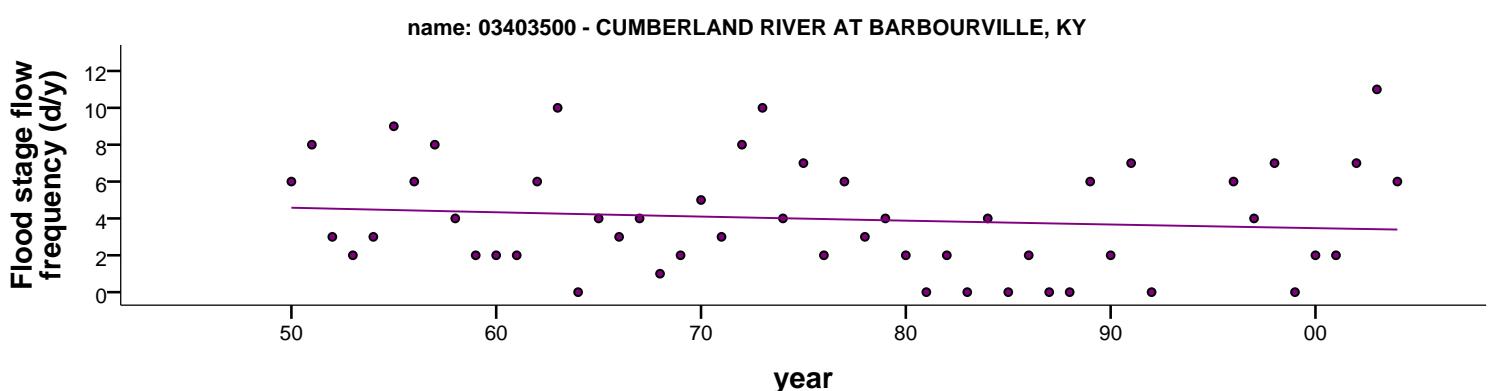
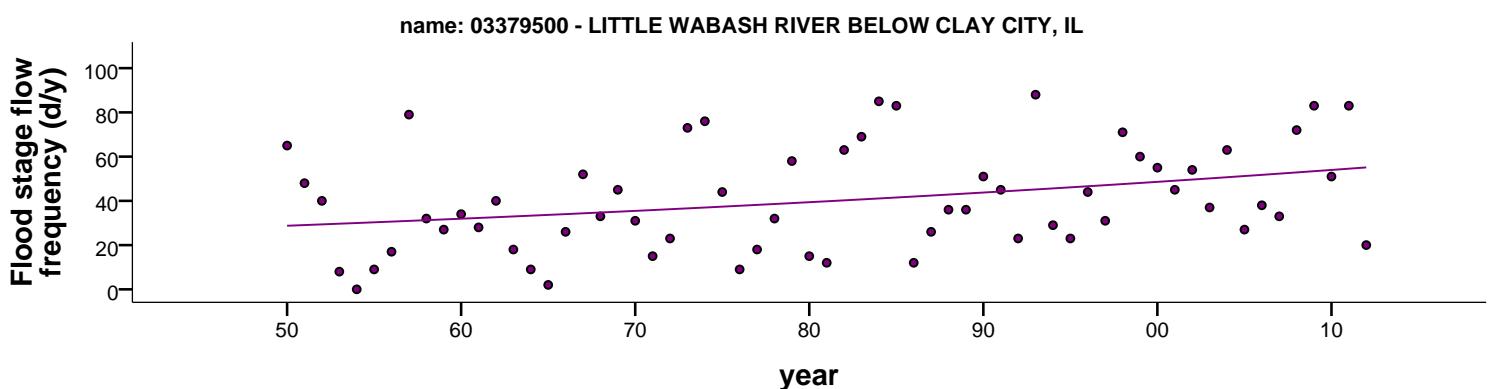


name: 03376500 - PATOKA RIVER NEAR PRINCETON, IN

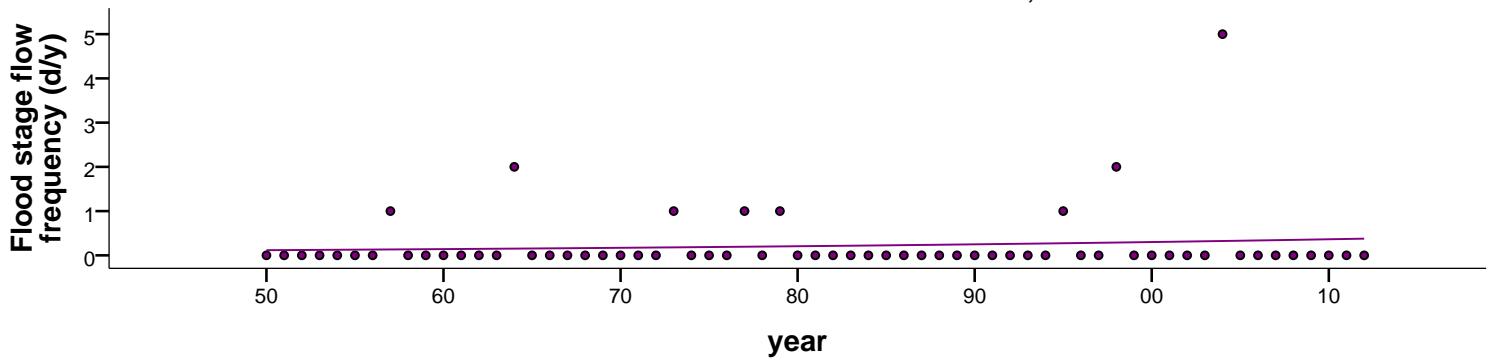


name: 03377500 - WABASH RIVER AT MT. CARMEL, IL

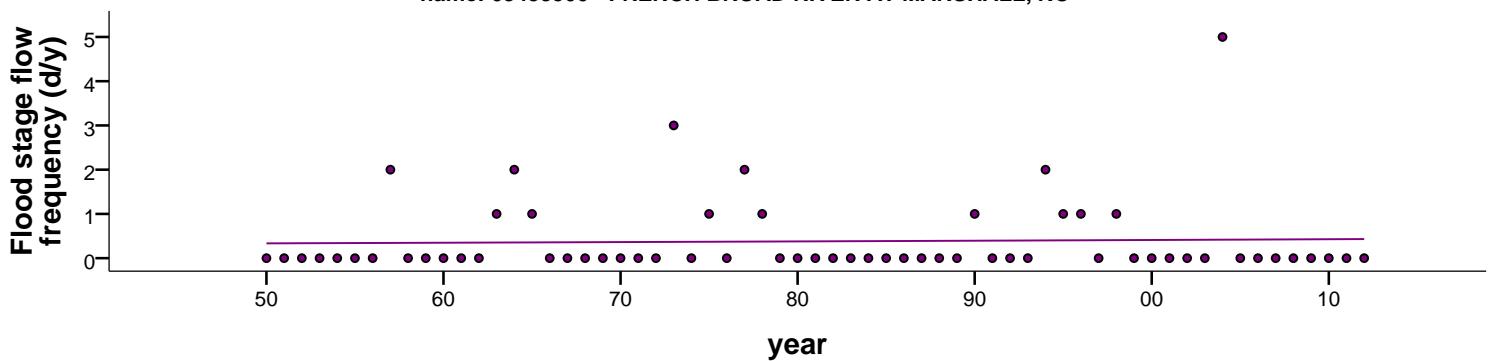




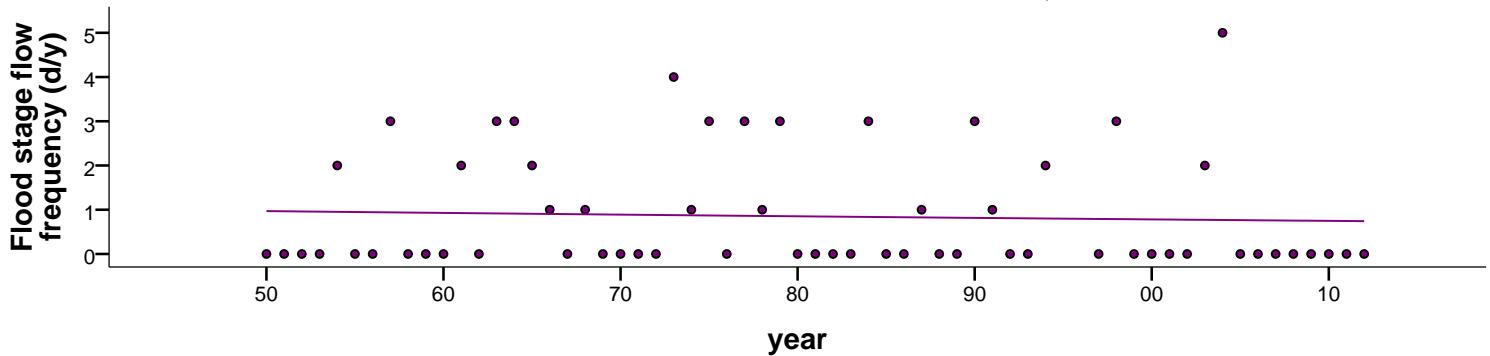
name: 03451500 - FRENCH BROAD RIVER AT ASHEVILLE, NC



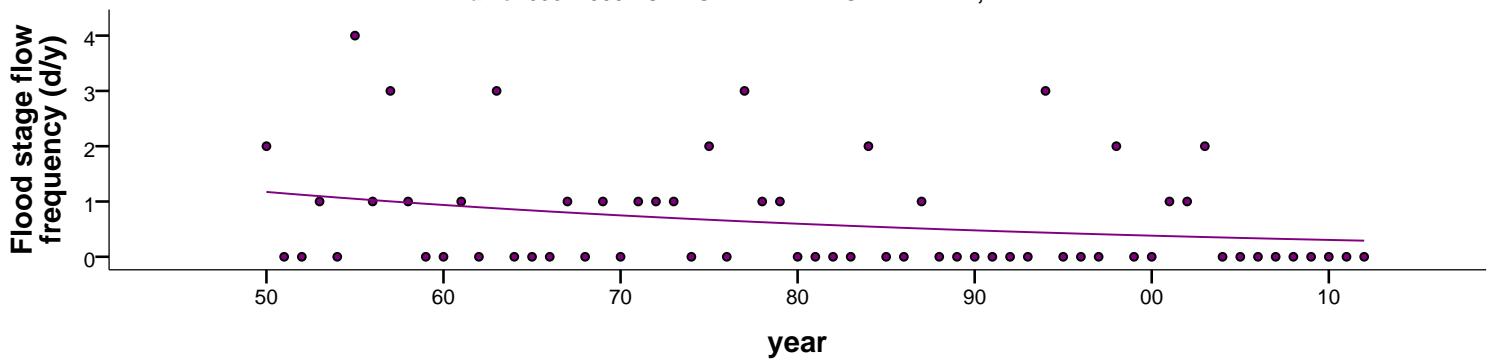
name: 03453500 - FRENCH BROAD RIVER AT MARSHALL, NC



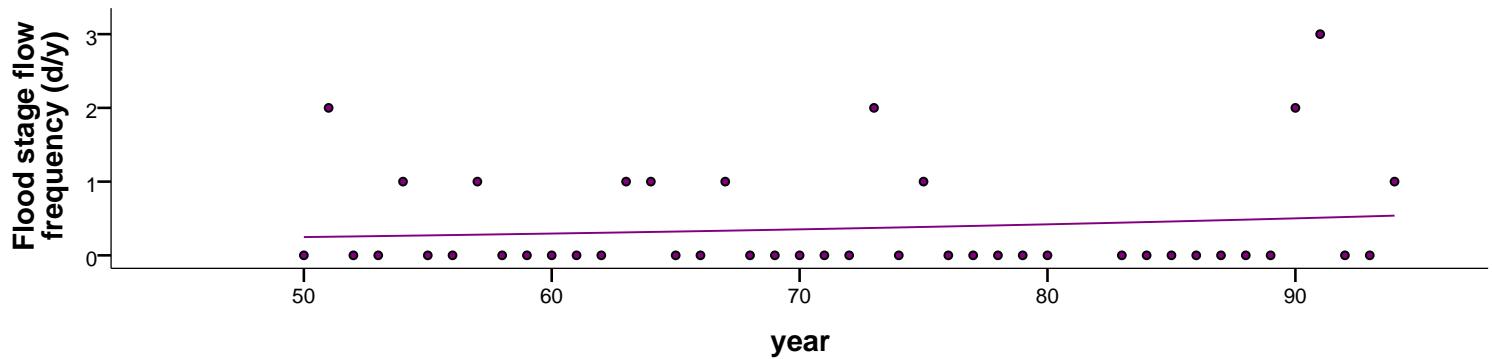
name: 03455000 - FRENCH BROAD RIVER NEAR NEWPORT, TN



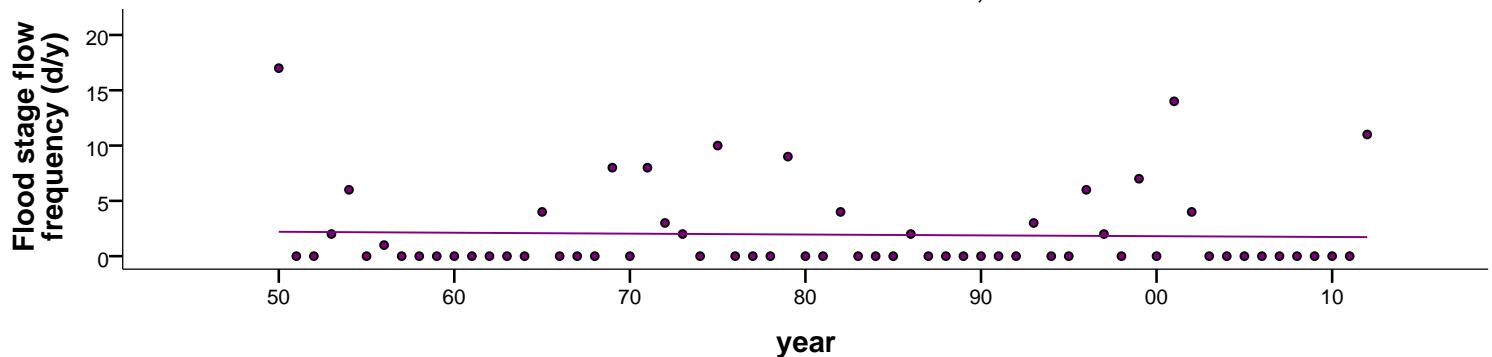
name: 03524000 - CLINCH RIVER AT CLEVELAND, VA



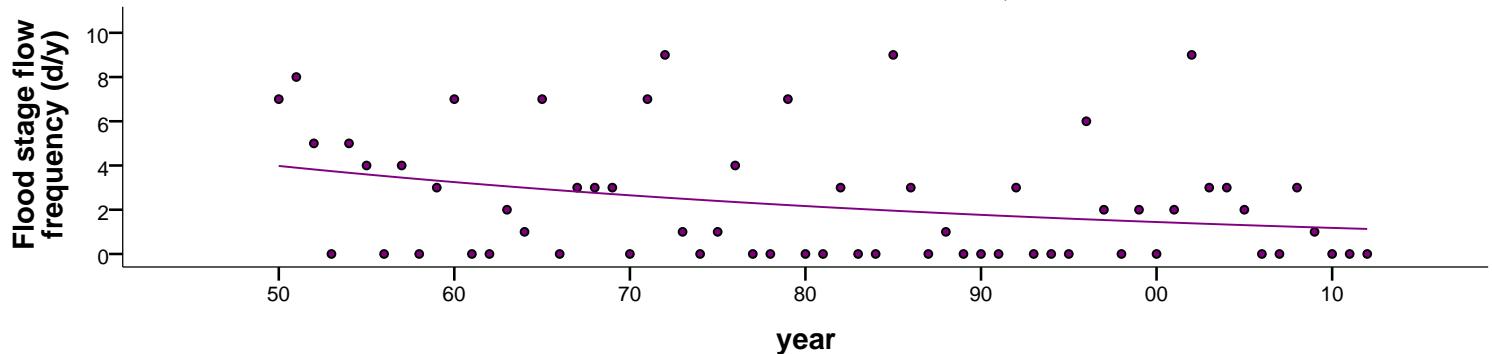
name: 03575000 - FLINT RIVER NEAR CHASE AL



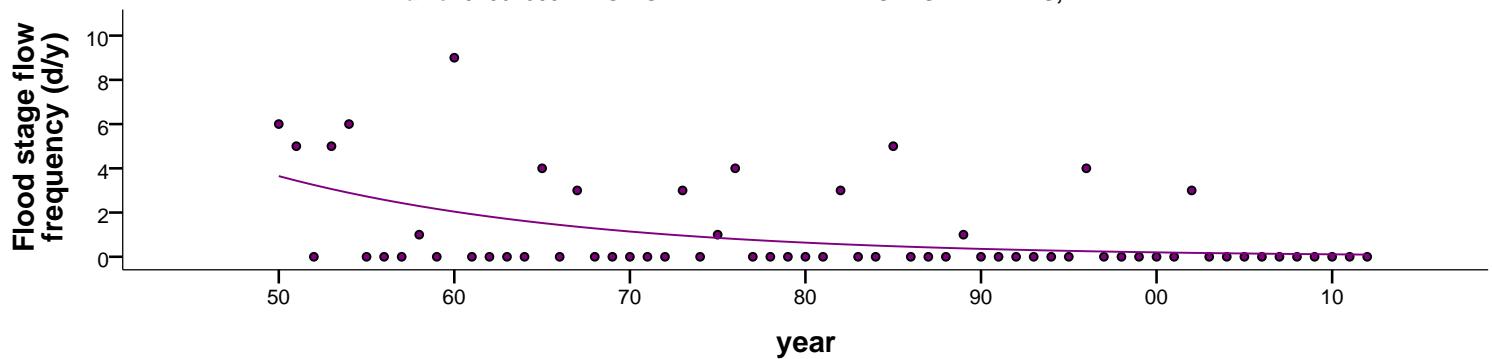
name: 04024000 - ST. LOUIS RIVER AT SCANLON, MN



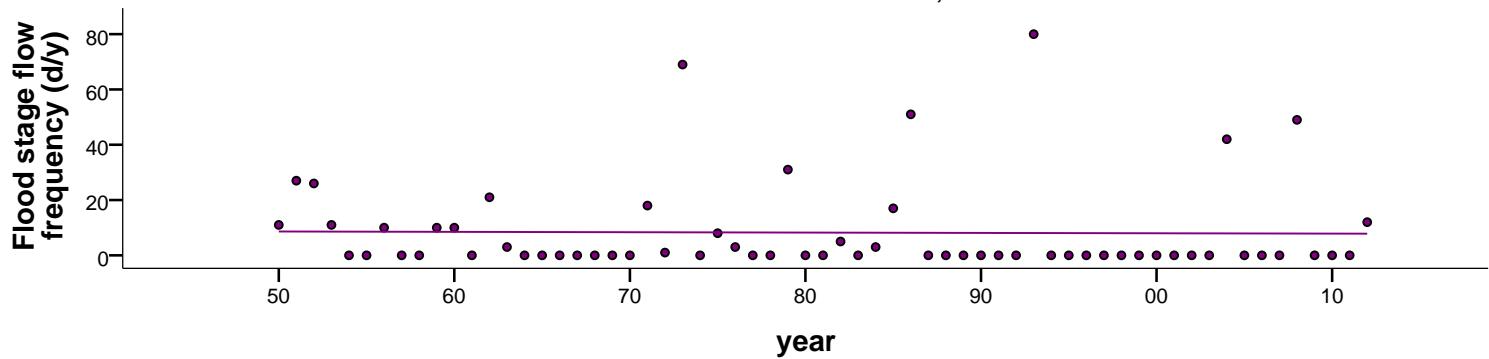
name: 04041500 - STURGEON RIVER NEAR ALSTON, MI



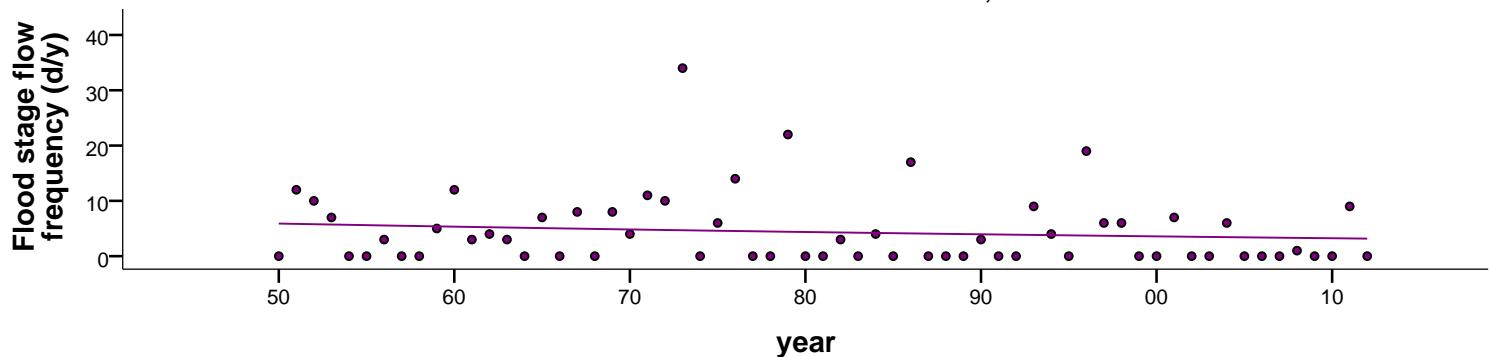
name: 04062500 - MICHIGAMME RIVER NEAR CRYSTAL FALLS, MI



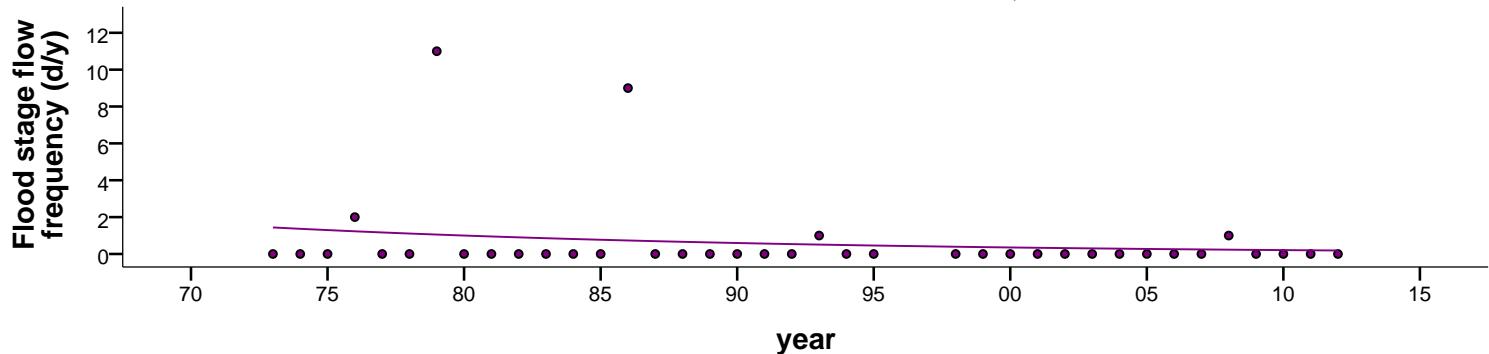
name: 04073500 - FOX RIVER AT BERLIN, WI



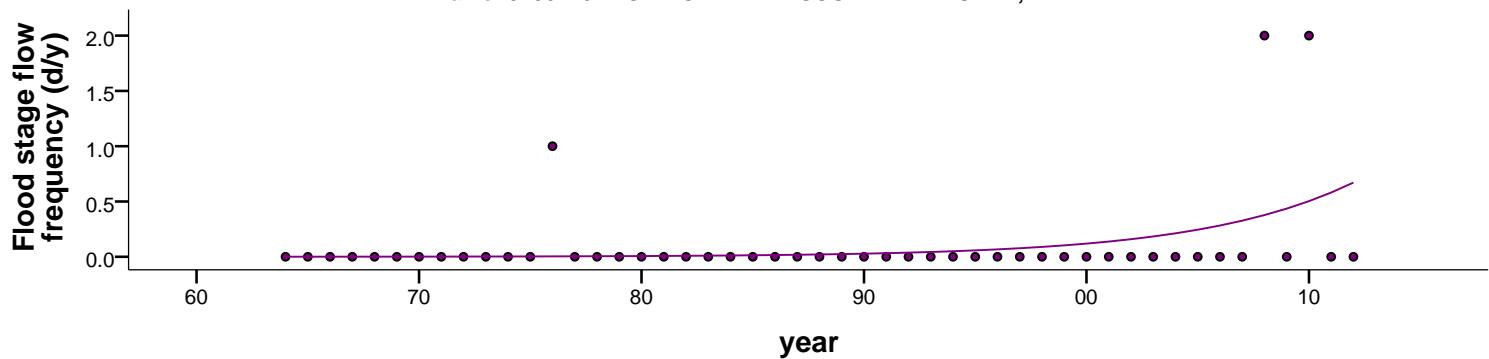
name: 04079000 - WOLF RIVER AT NEW LONDON, WI



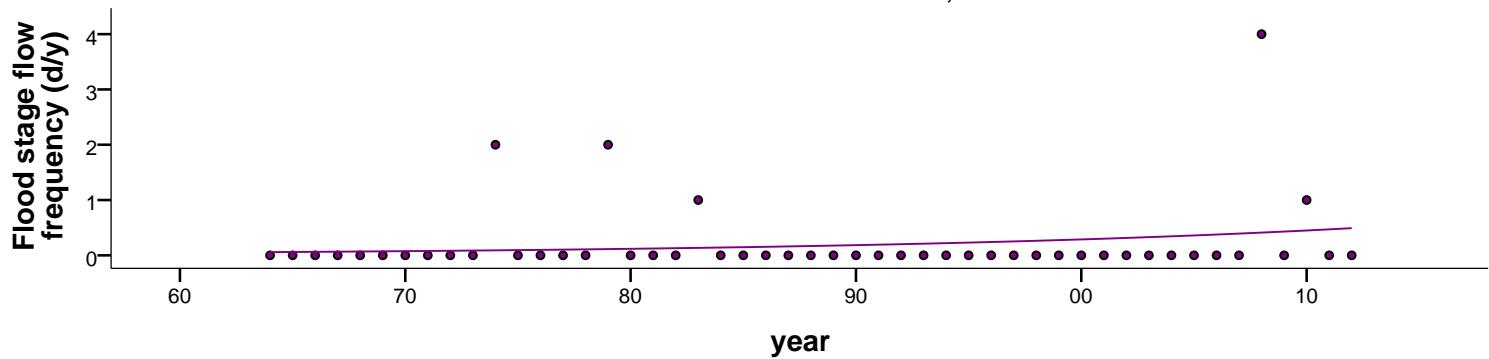
name: 04085427 - MANITOWOC RIVER AT MANITOWOC, WI



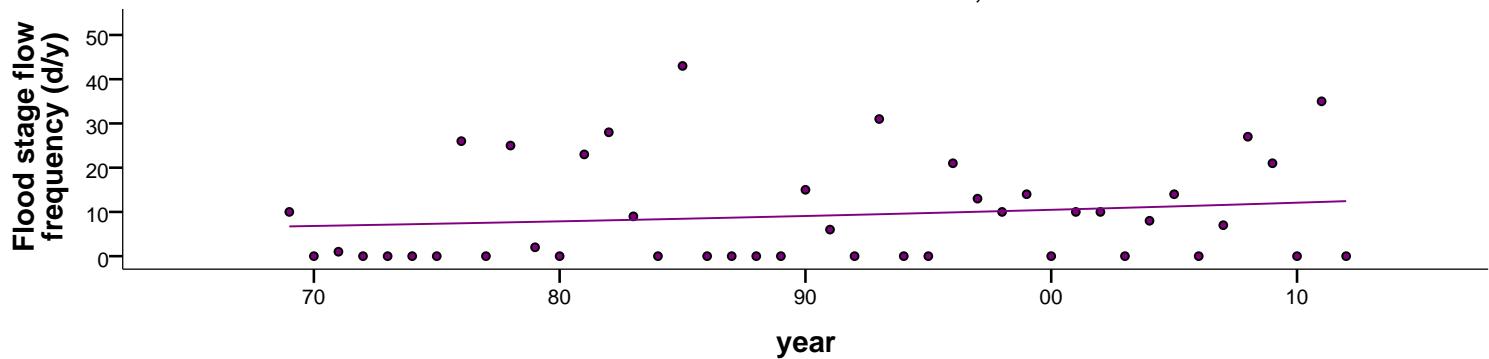
name: 04087204 - OAK CREEK AT SOUTH MILWAUKEE, WI



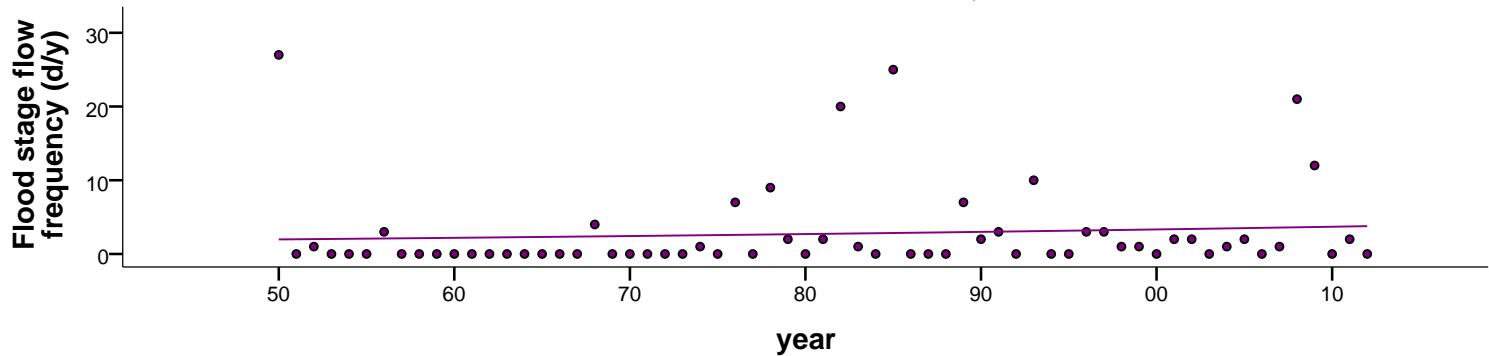
name: 04087240 - ROOT RIVER AT RACINE, WI



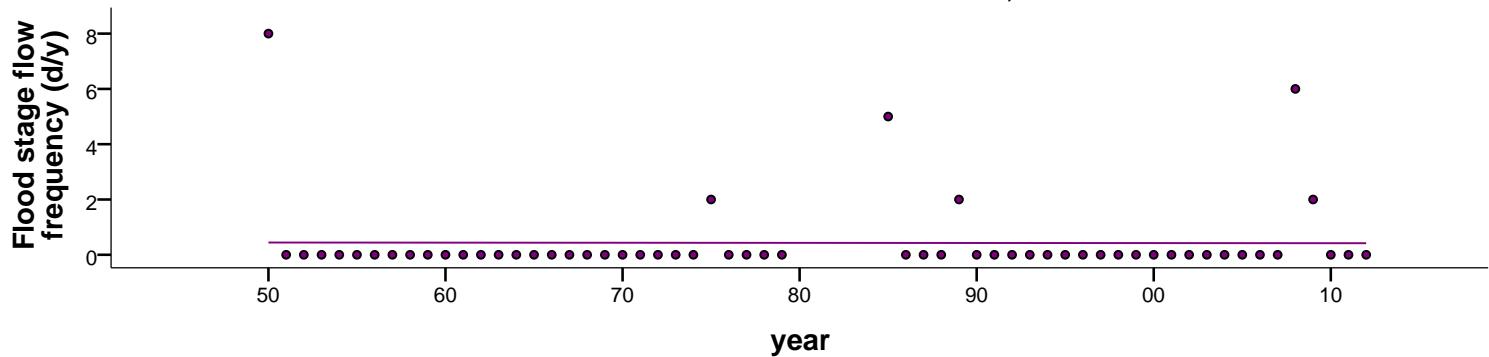
name: 04099750 - PIGEON RIVER NEAR SCOTT, IN



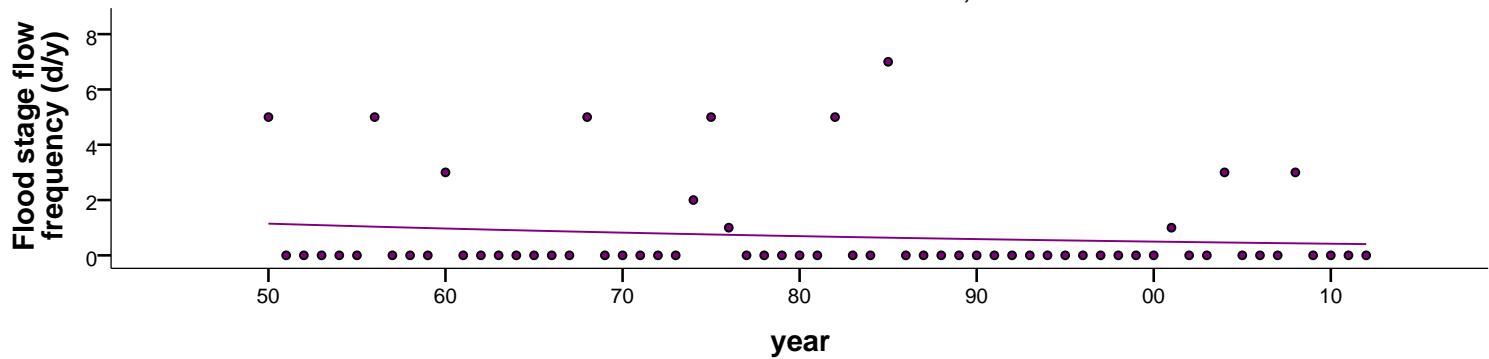
name: 04101500 - ST. JOSEPH RIVER AT NILES, MI



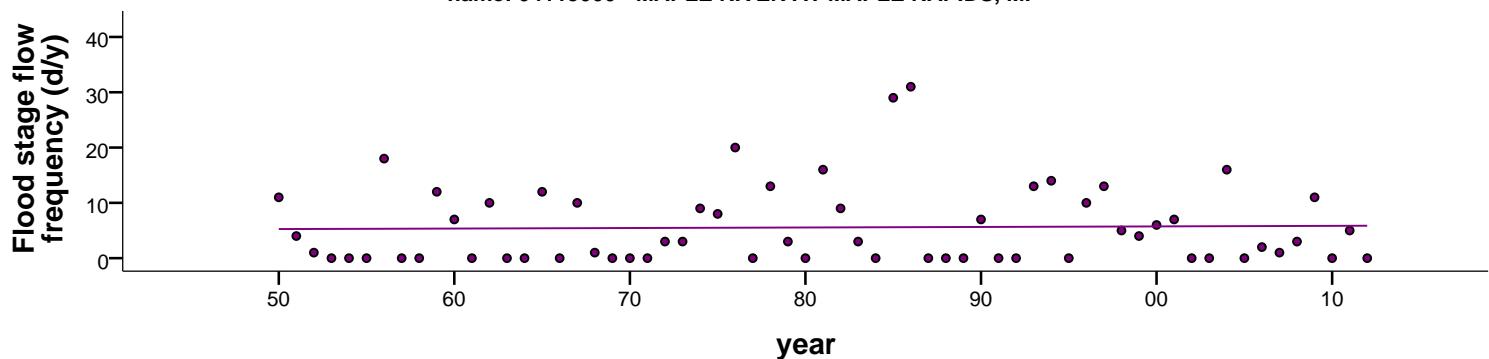
name: 04106000 - KALAMAZOO RIVER AT COMSTOCK, MI



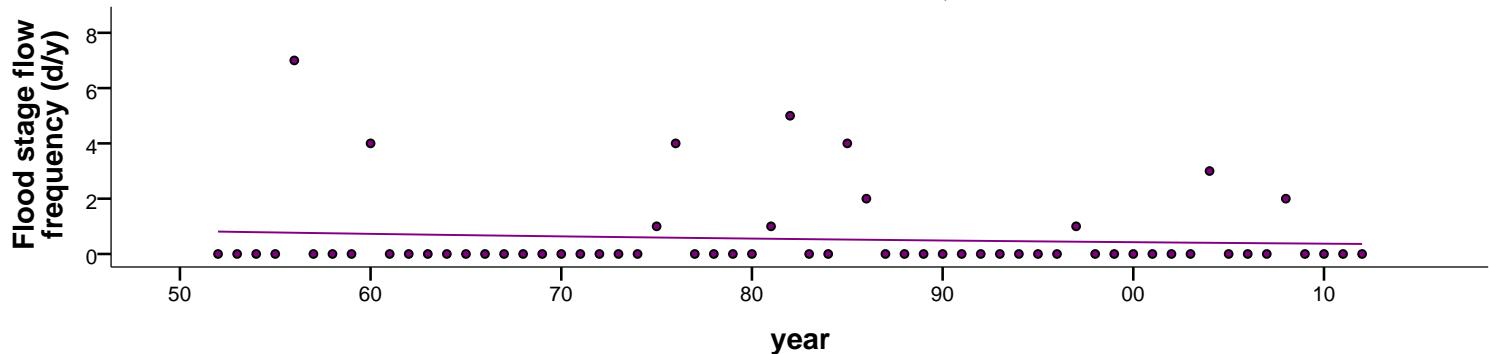
name: 04113000 - GRAND RIVER AT LANSING, MI



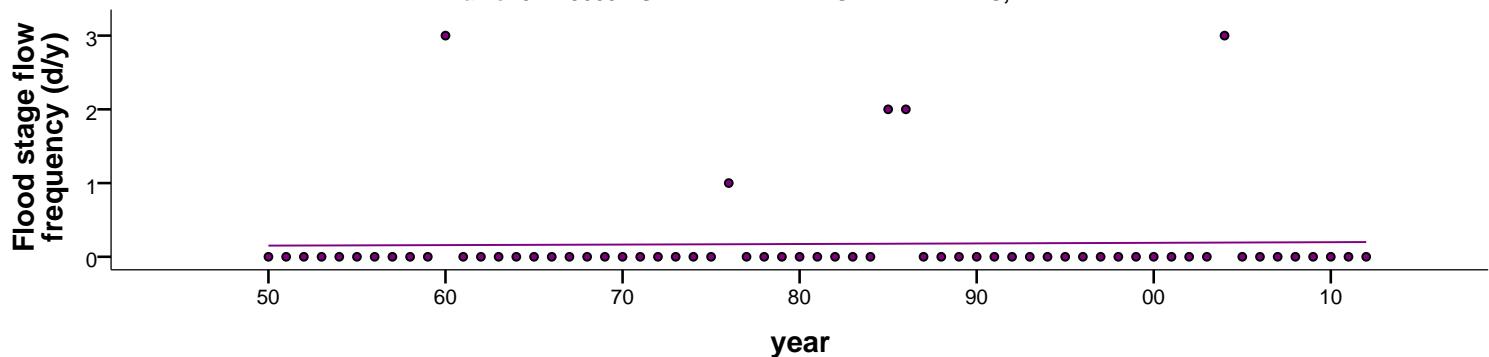
name: 04115000 - MAPLE RIVER AT MAPLE RAPIDS, MI



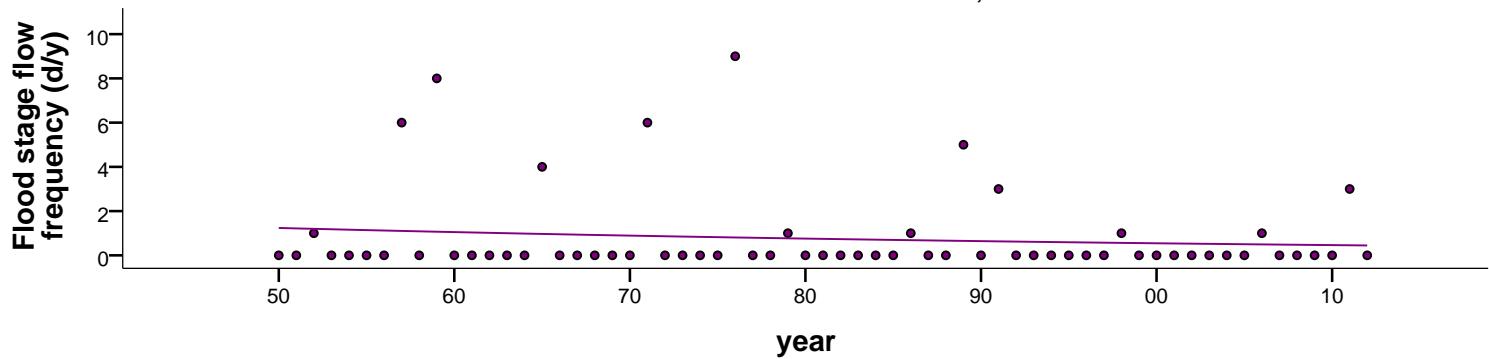
name: 04116000 - GRAND RIVER AT IONIA, MI



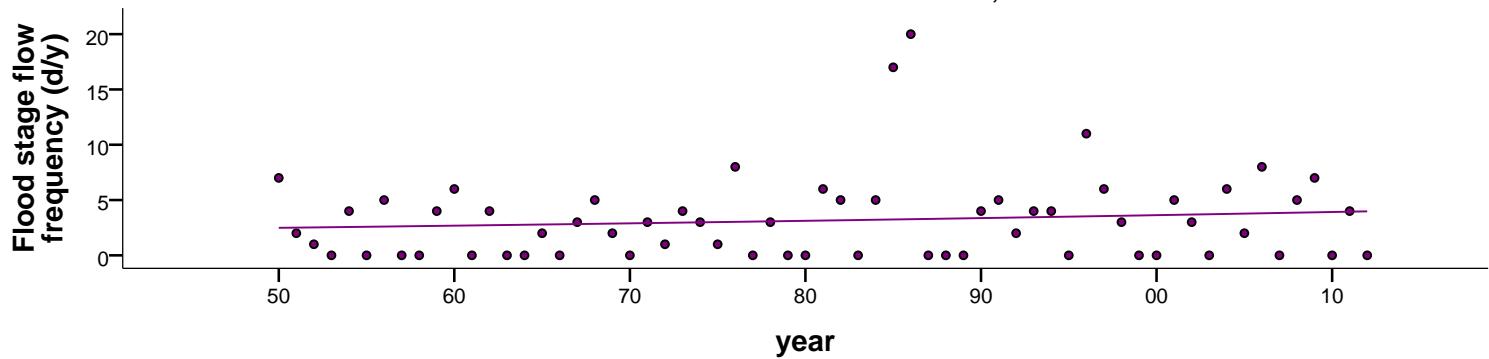
name: 04119000 - GRAND RIVER AT GRAND RAPIDS, MI



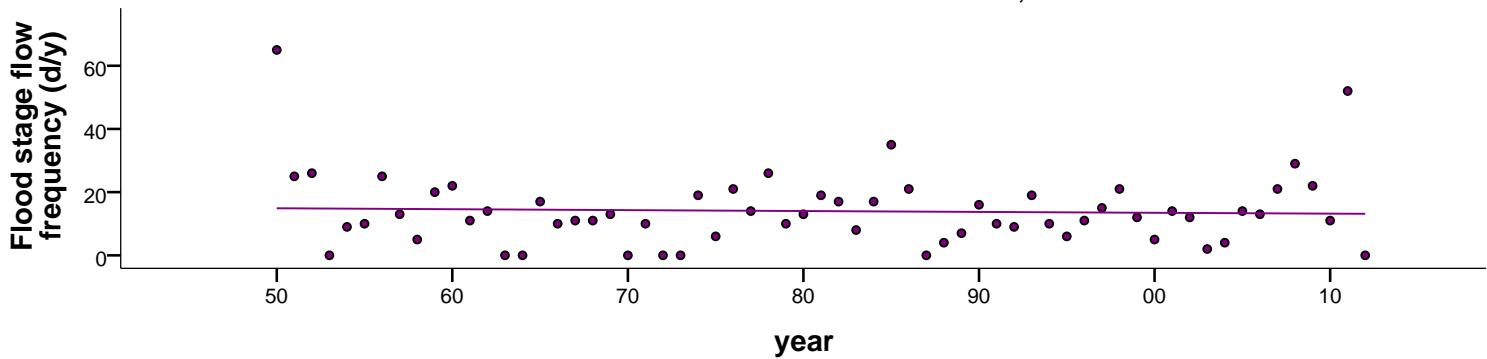
name: 04121500 - MUSKEGON RIVER AT EVART, MI



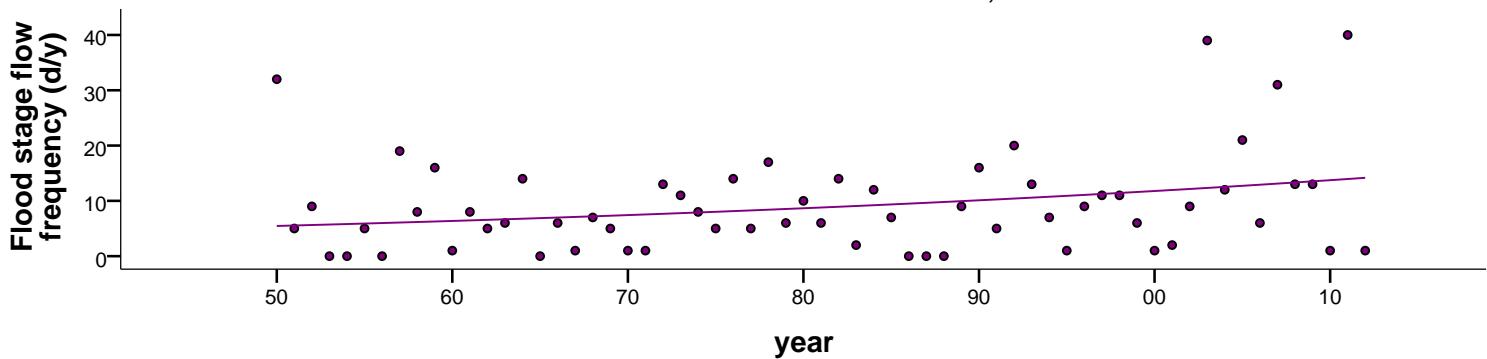
name: 04151500 - CASS RIVER AT FRANKENMUTH, MI



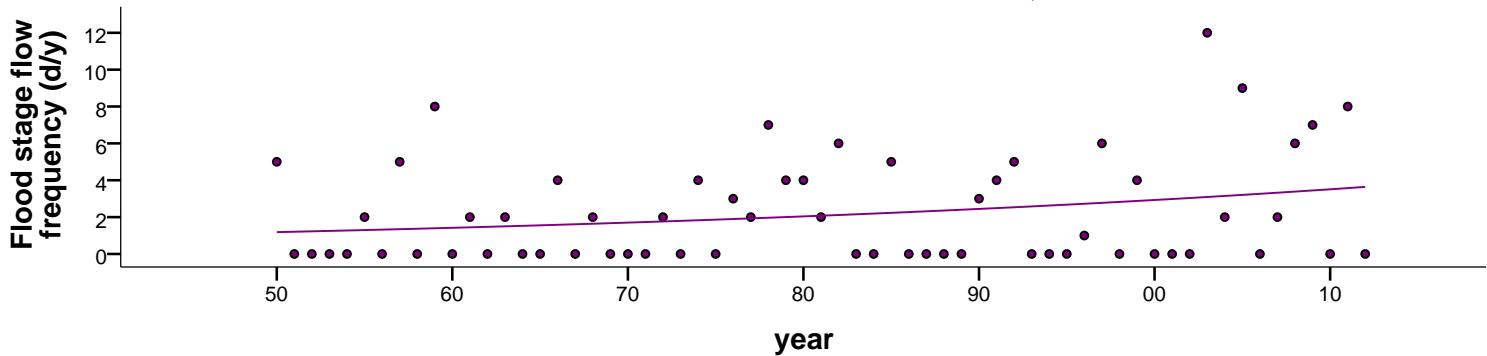
name: 04178000 - ST. JOSEPH RIVER NEAR NEWVILLE, IN



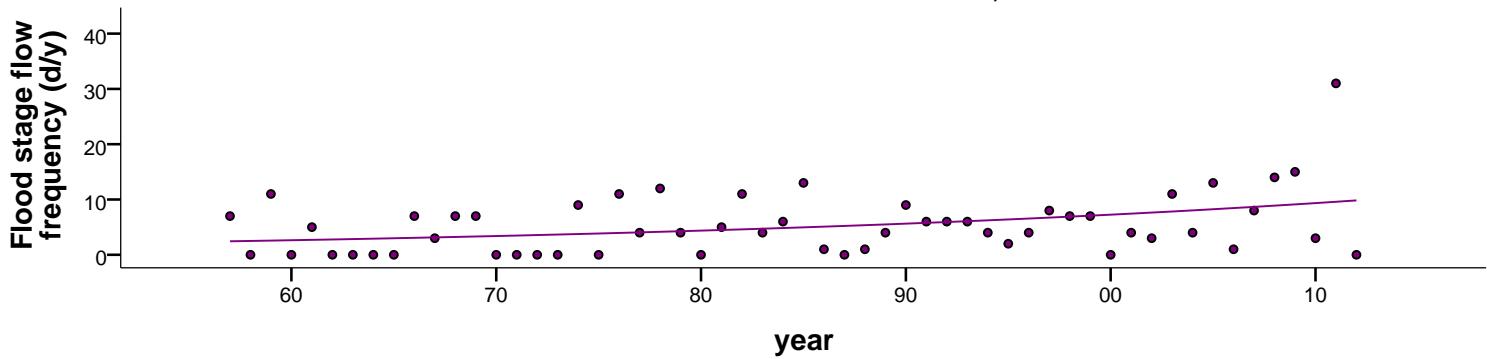
name: 04181500 - ST. MARYS RIVER AT DECATUR, IN



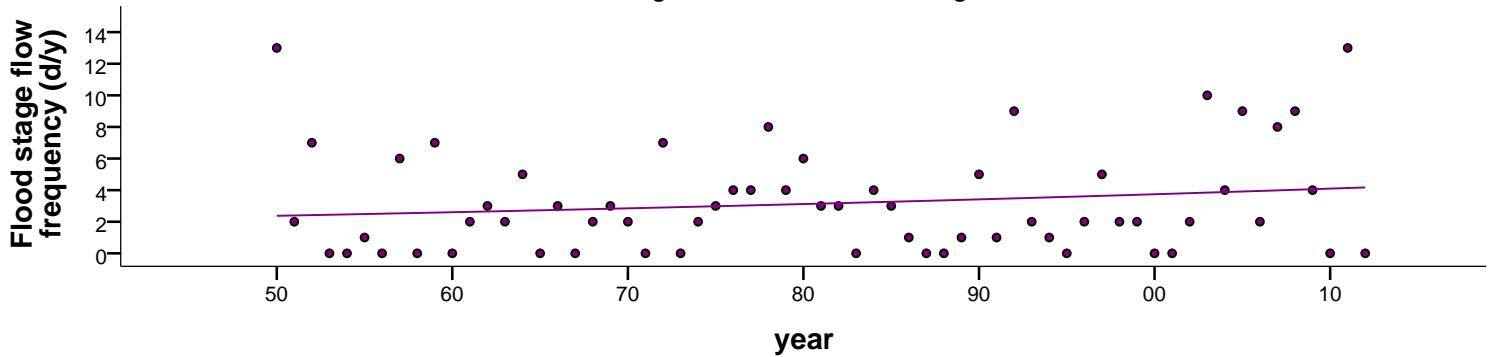
name: 04182000 - ST. MARYS RIVER NEAR FORT WAYNE, IN



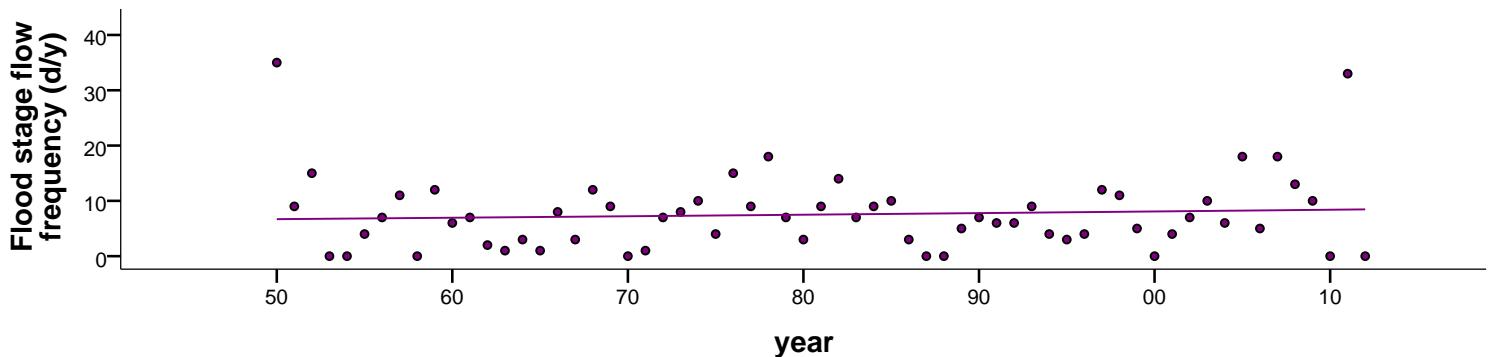
name: 04183000 - MAUMEE RIVER AT NEW HAVEN, IN



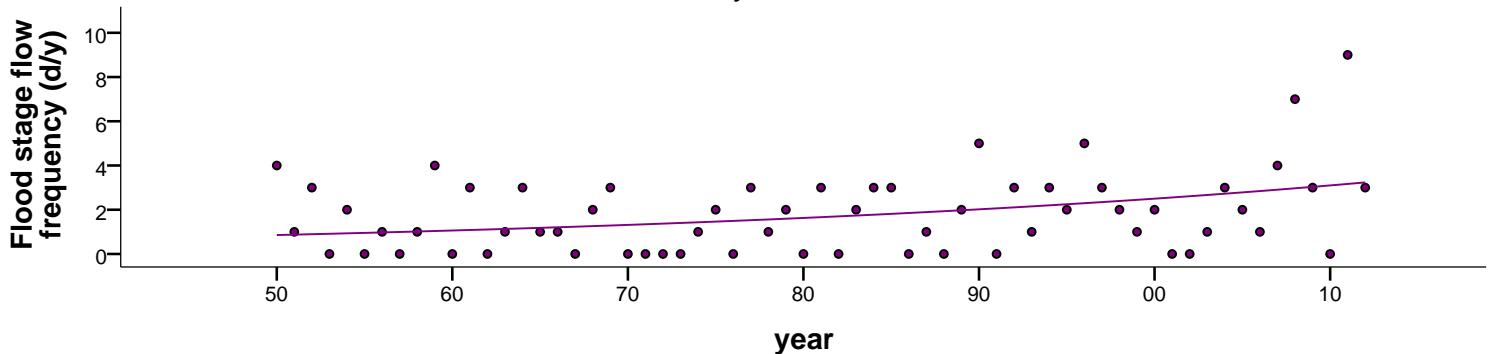
name: 04186500 - Auglaize River near Fort Jennings OH



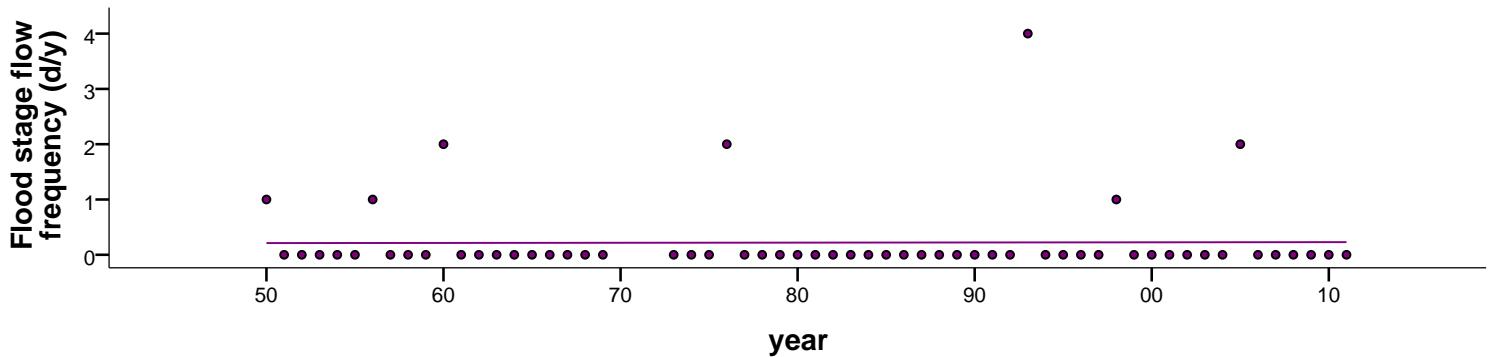
name: 04193500 - Maumee River at Waterville OH



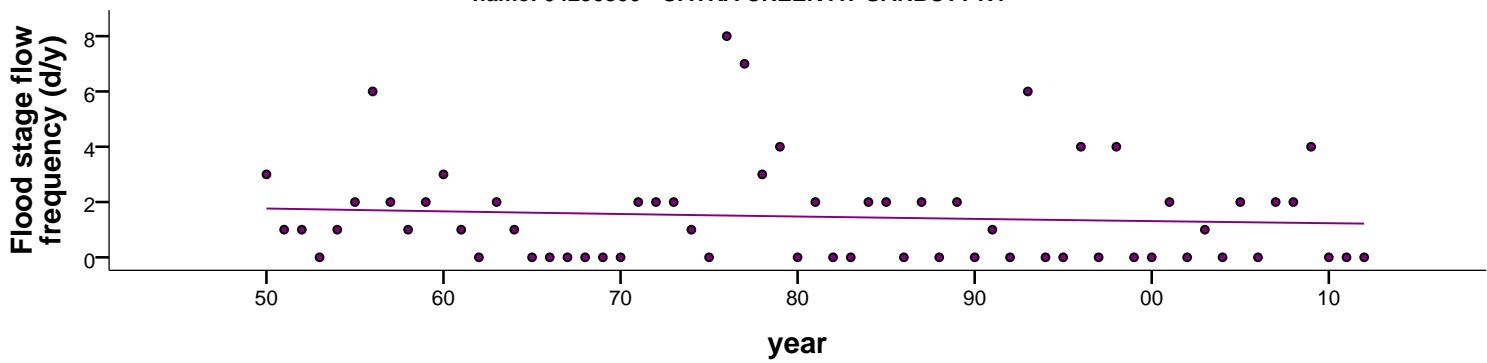
name: 04201500 - Rocky River near Berea OH



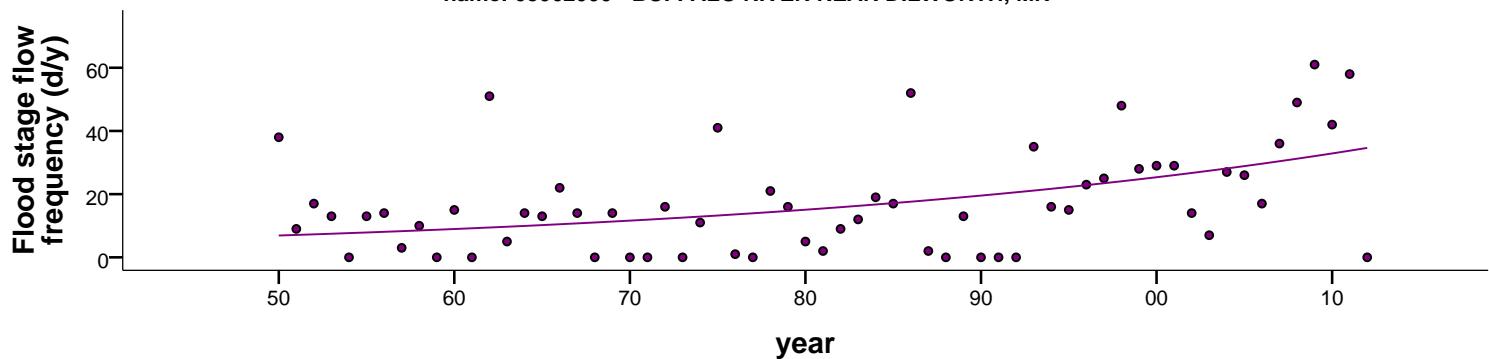
name: 04229500 - HONEOYE CREEK AT HONEOYE FALLS NY



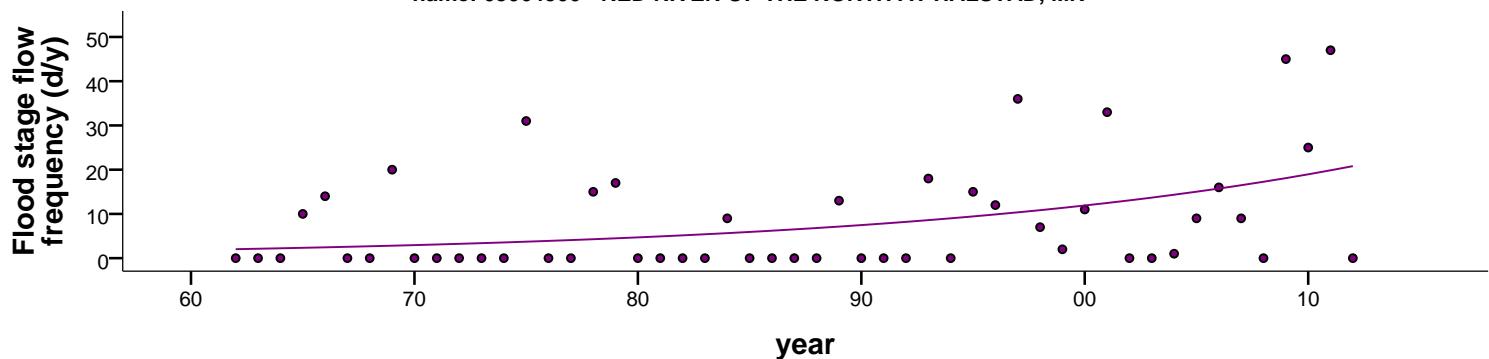
name: 04230500 - OATKA CREEK AT GARBUZZ NY



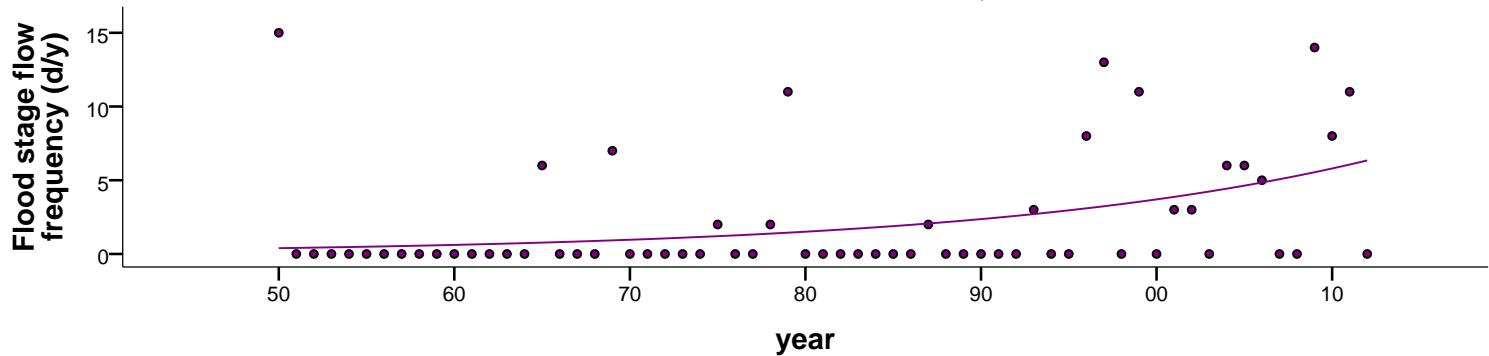
name: 05062000 - BUFFALO RIVER NEAR DILWORTH, MN



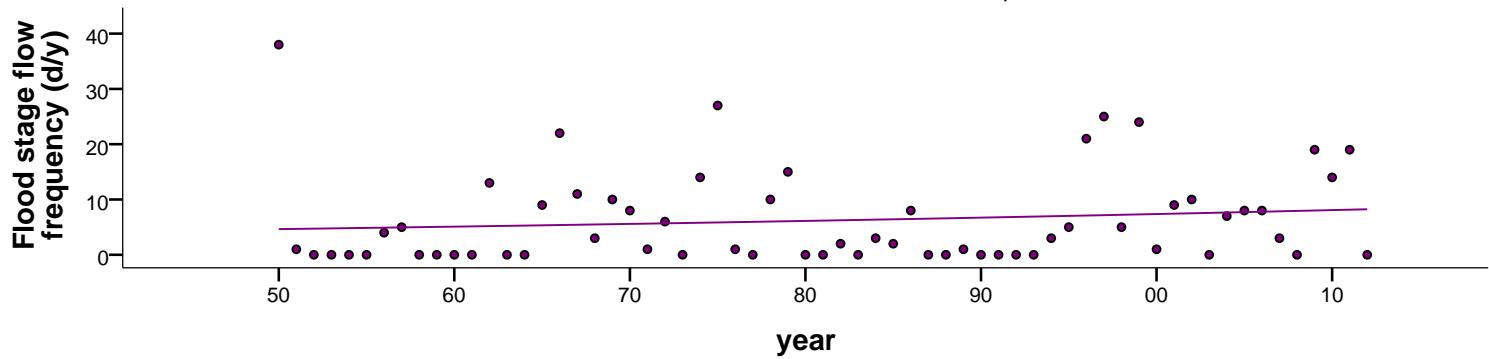
name: 05064500 - RED RIVER OF THE NORTH AT HALSTAD, MN



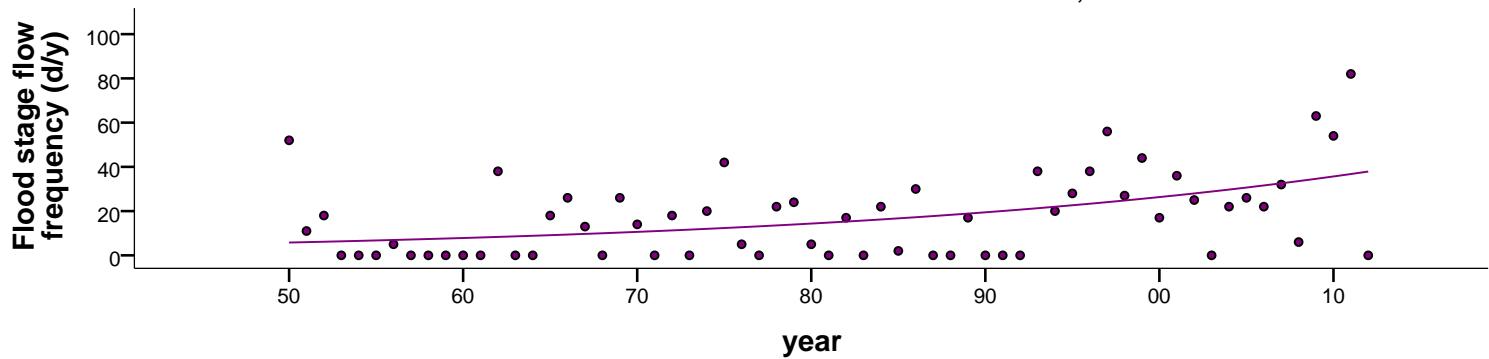
name: 05066500 - GOOSE RIVER AT HILLSBORO, ND



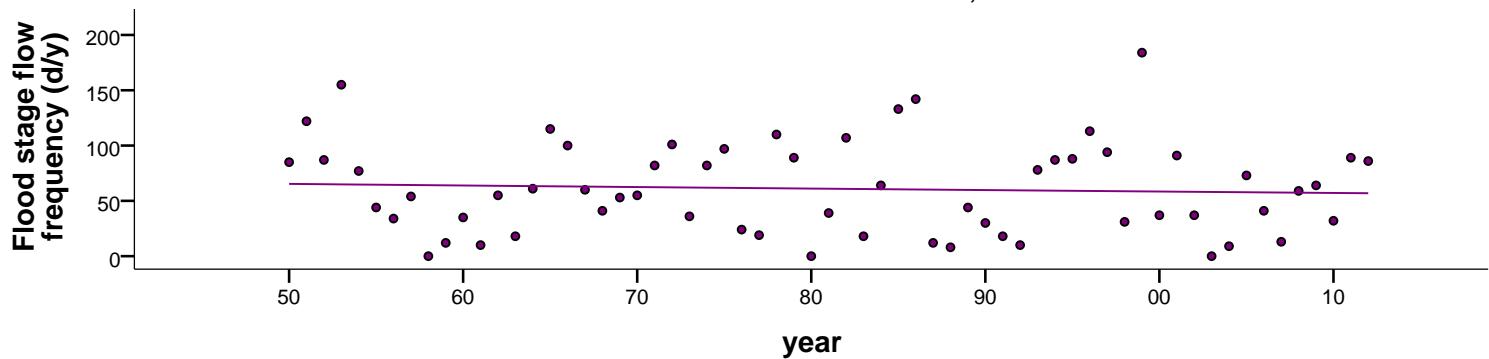
name: 05079000 - RED LAKE RIVER AT CROOKSTON, MN



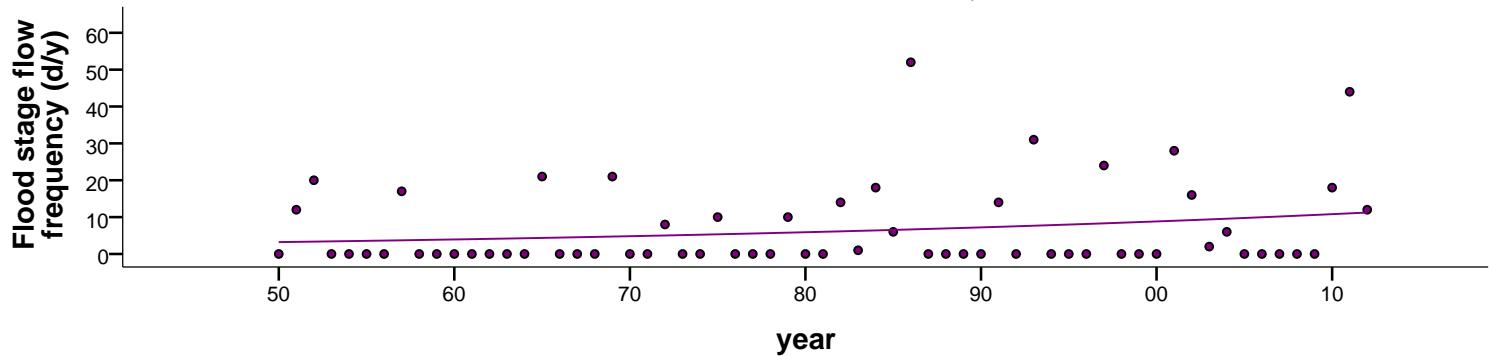
name: 05082500 - RED RIVER OF THE NORTH AT GRAND FORKS, ND



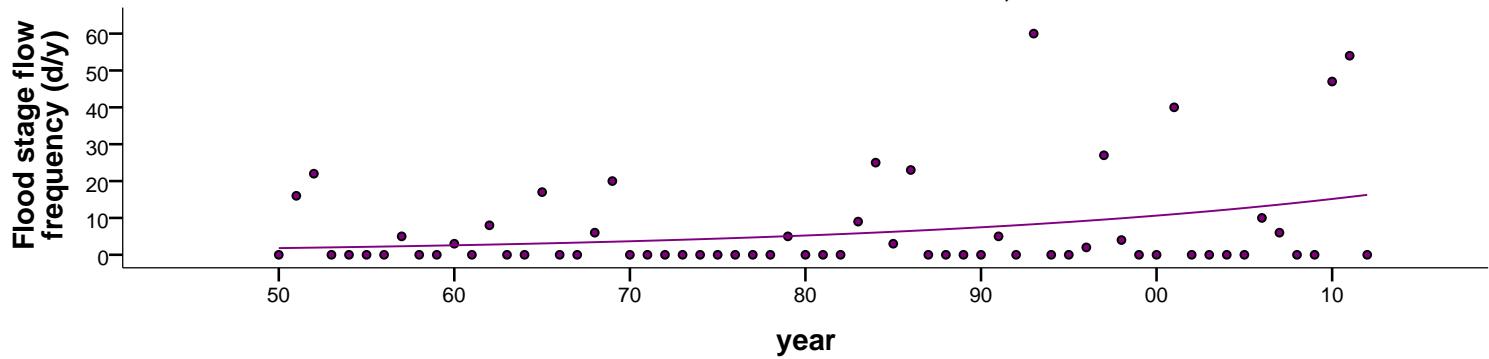
name: 05227500 - MISSISSIPPI RIVER AT AITKIN, MN



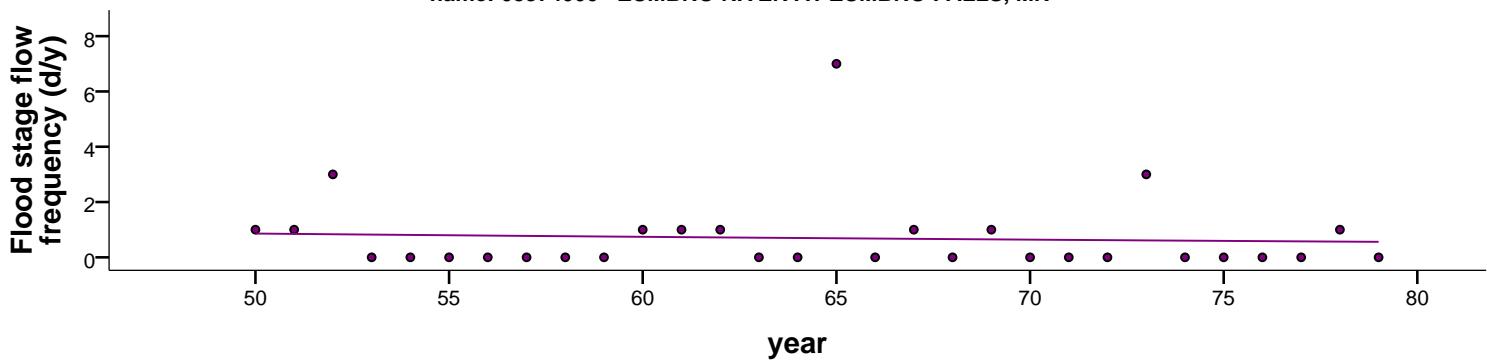
name: 05280000 - CROW RIVER AT ROCKFORD, MN



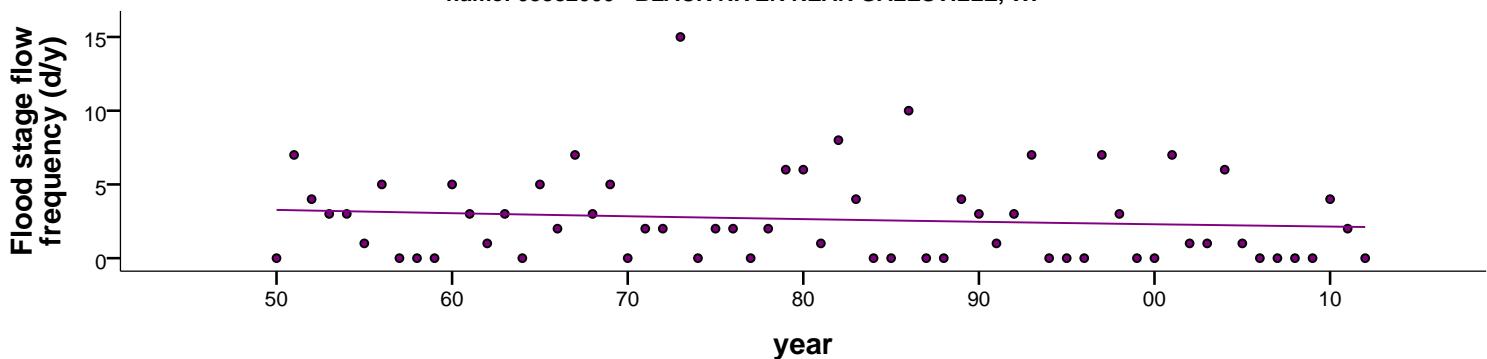
name: 05330000 - MINNESOTA RIVER NEAR JORDAN, MN



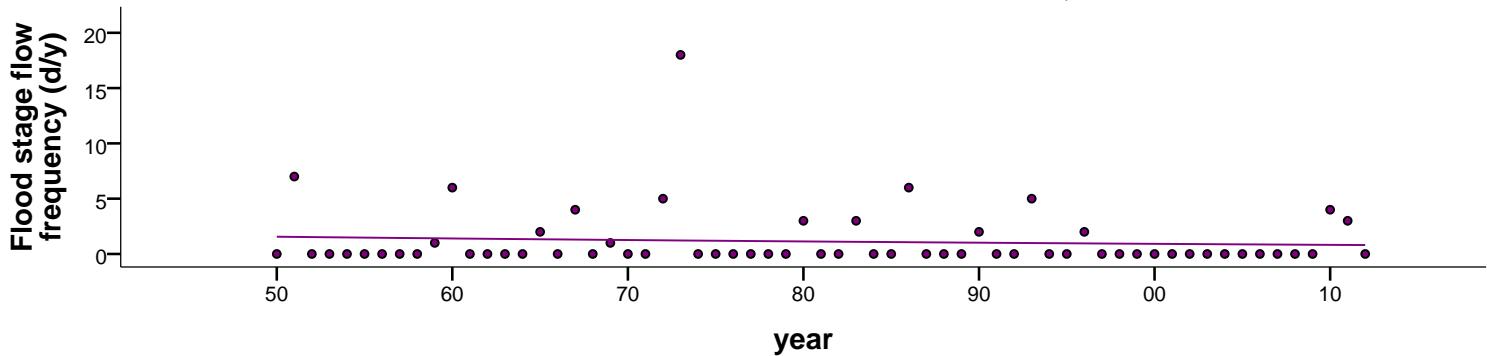
name: 05374000 - ZUMBRO RIVER AT ZUMBRO FALLS, MN



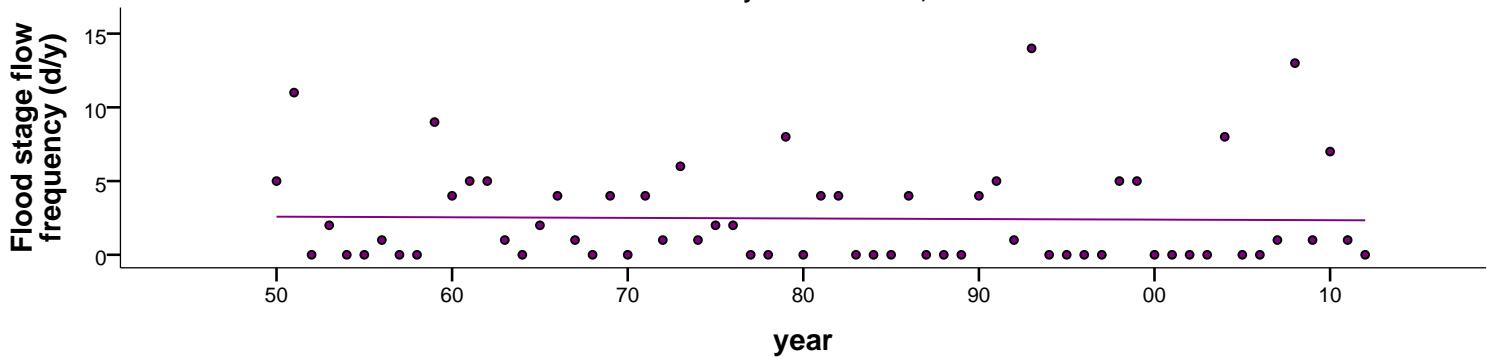
name: 05382000 - BLACK RIVER NEAR GALESVILLE, WI



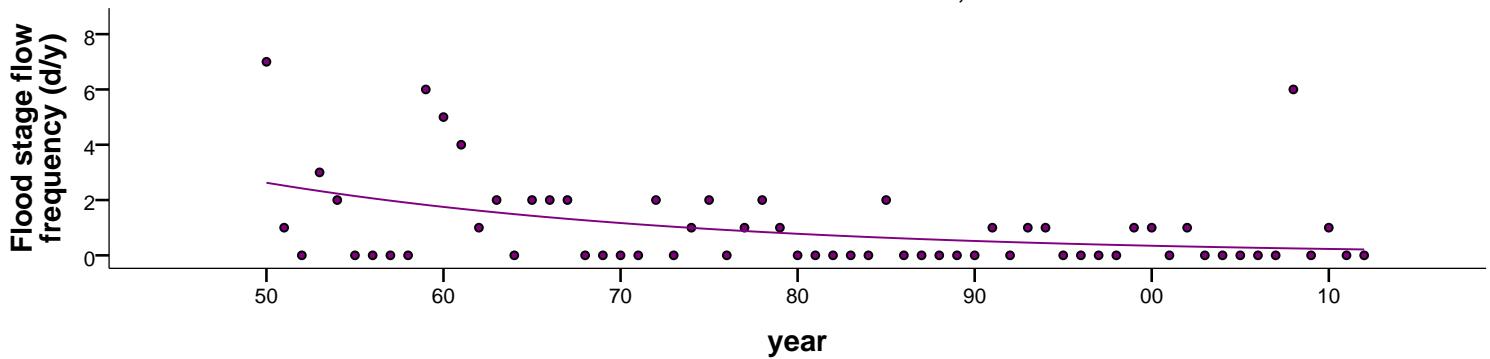
name: 05404000 - WISCONSIN RIVER NEAR WISCONSIN DELLS, WI



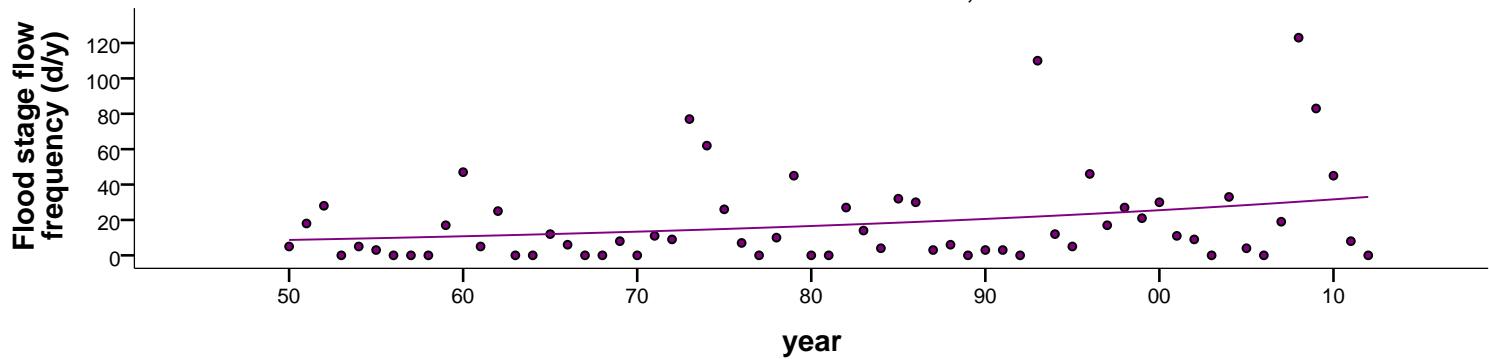
name: 05412500 - Turkey River at Garber, IA



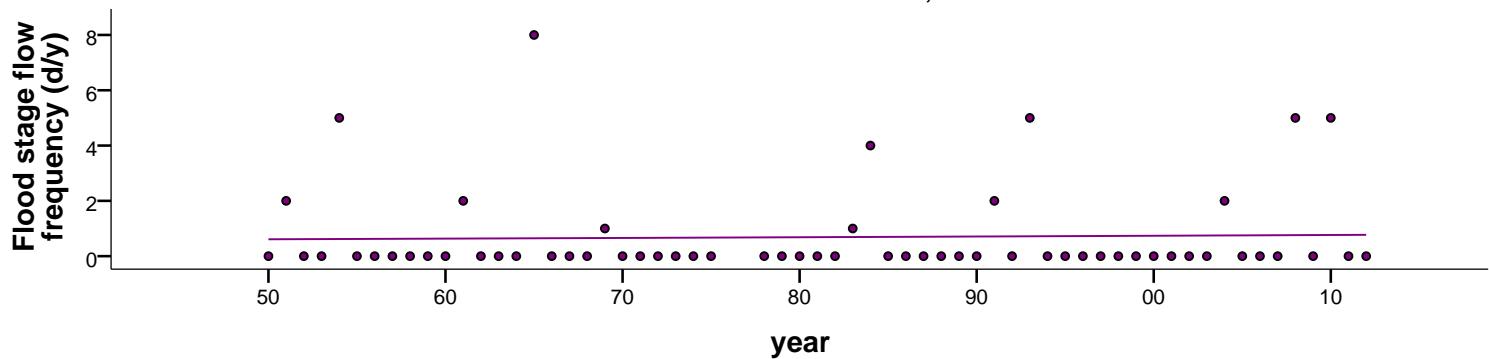
name: 05413500 - GRANT RIVER AT BURTON, WI



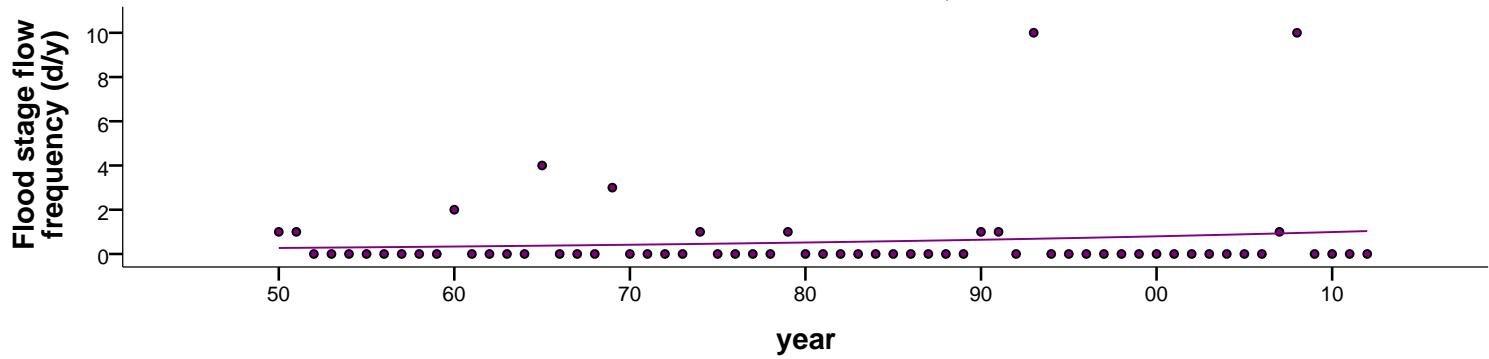
name: 05446500 - ROCK RIVER NEAR JOSLIN, IL



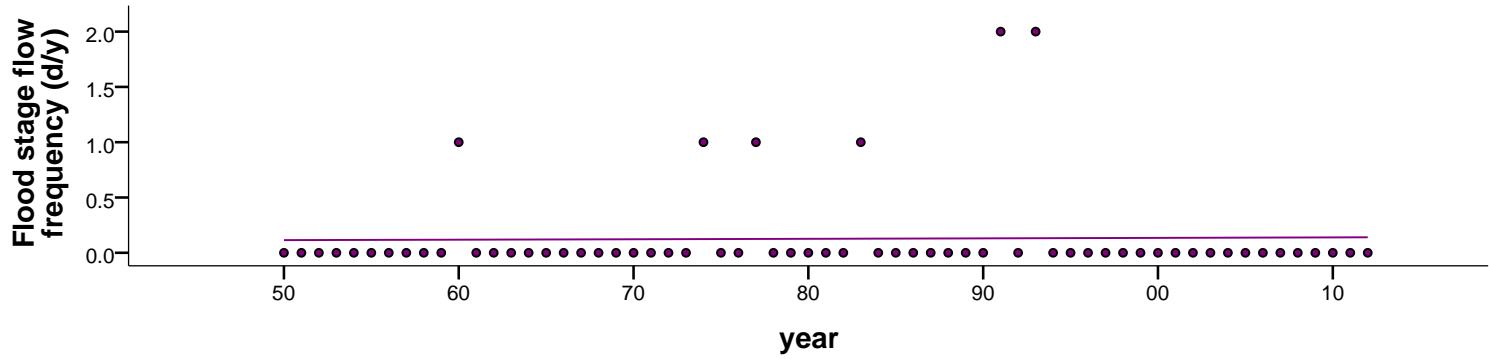
name: 05449500 - Iowa River near Rowan, IA



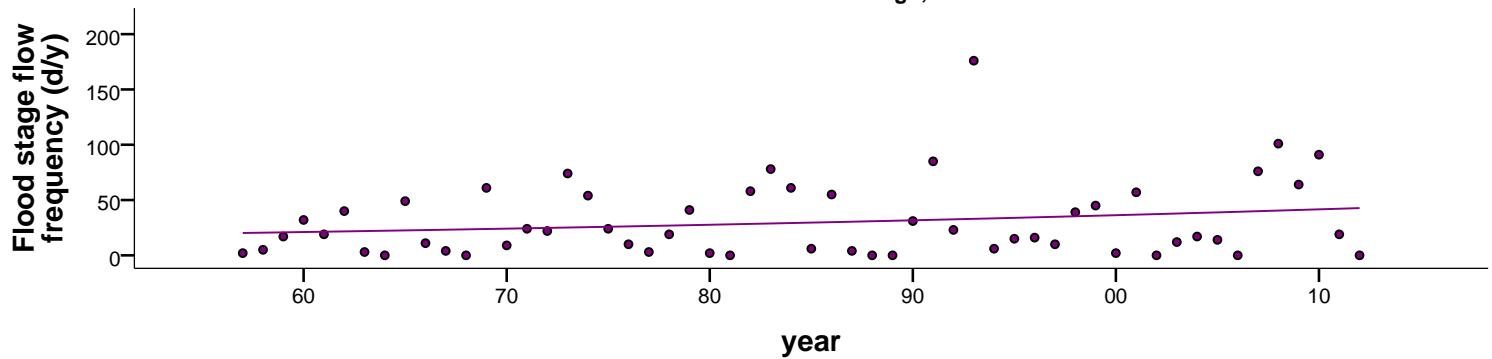
name: 05451500 - Iowa River at Marshalltown, IA



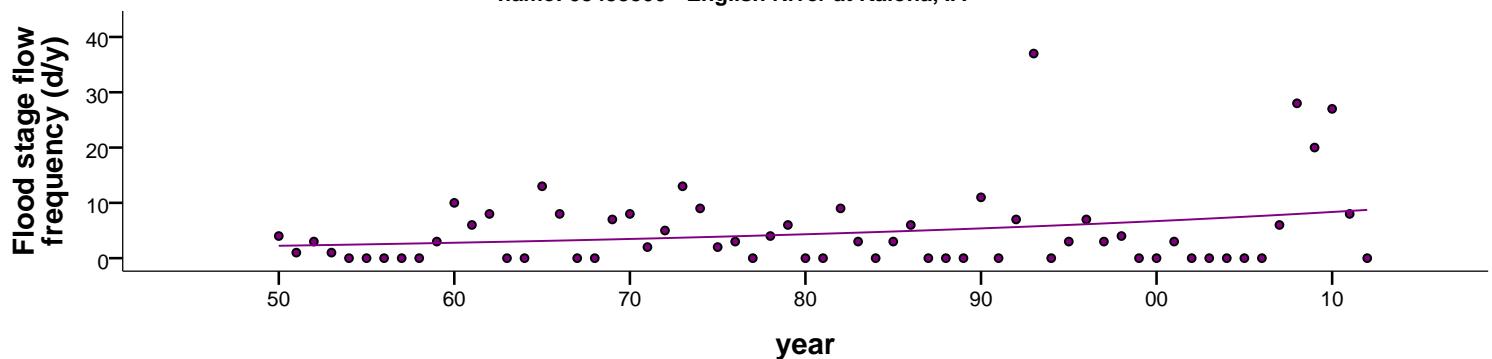
name: 05451900 - Richland Creek near Haven, IA



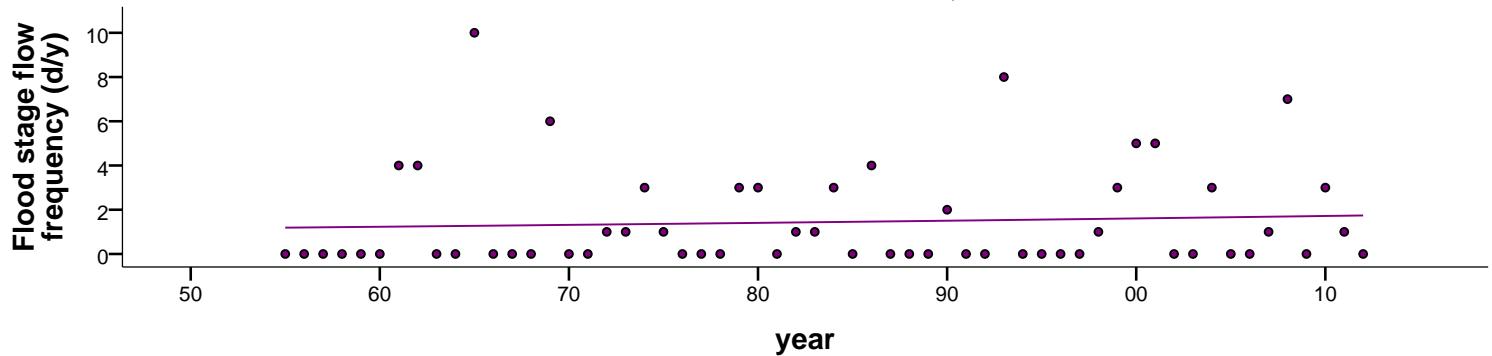
name: 05453100 - Iowa River at Marengo, IA



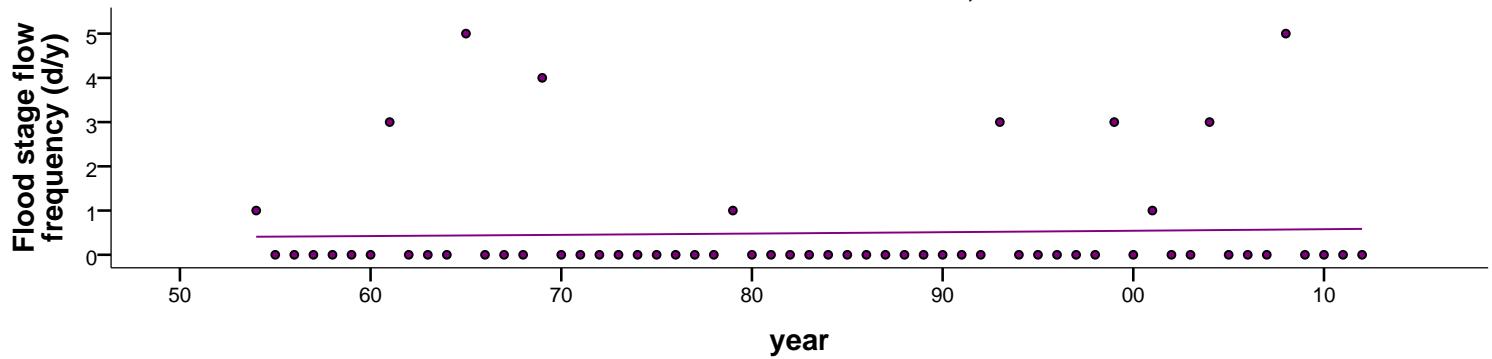
name: 05455500 - English River at Kalona, IA



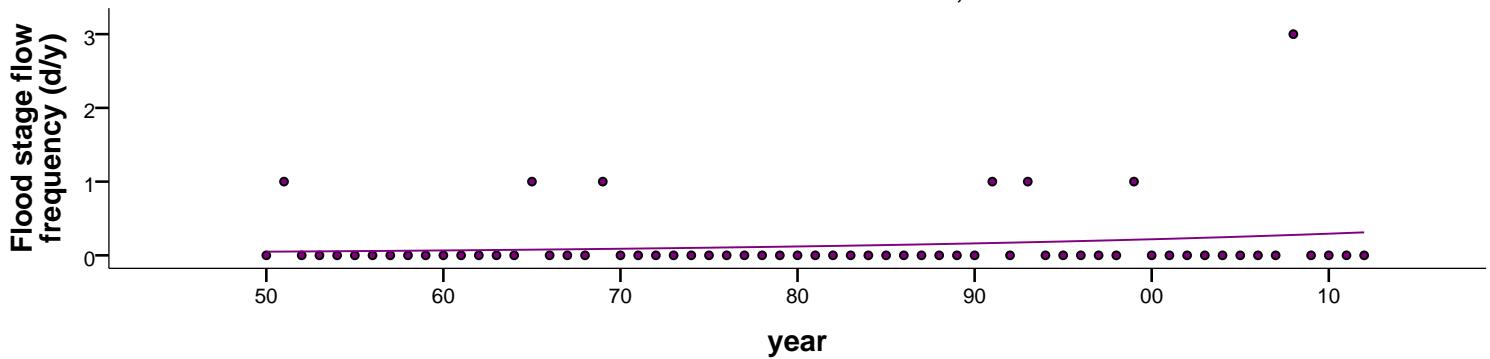
name: 05458000 - Little Cedar River near Ionia, IA



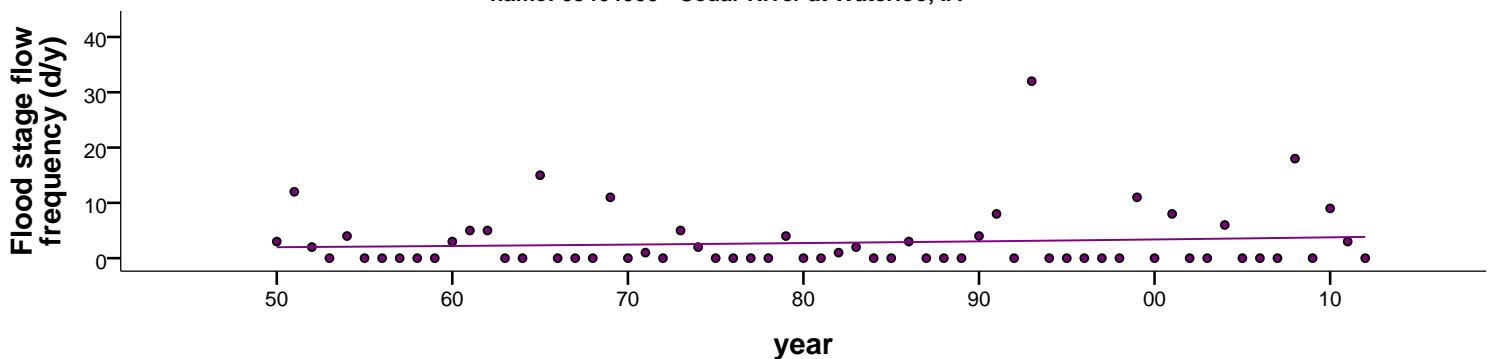
name: 05462000 - Shell Rock River at Shell Rock, IA



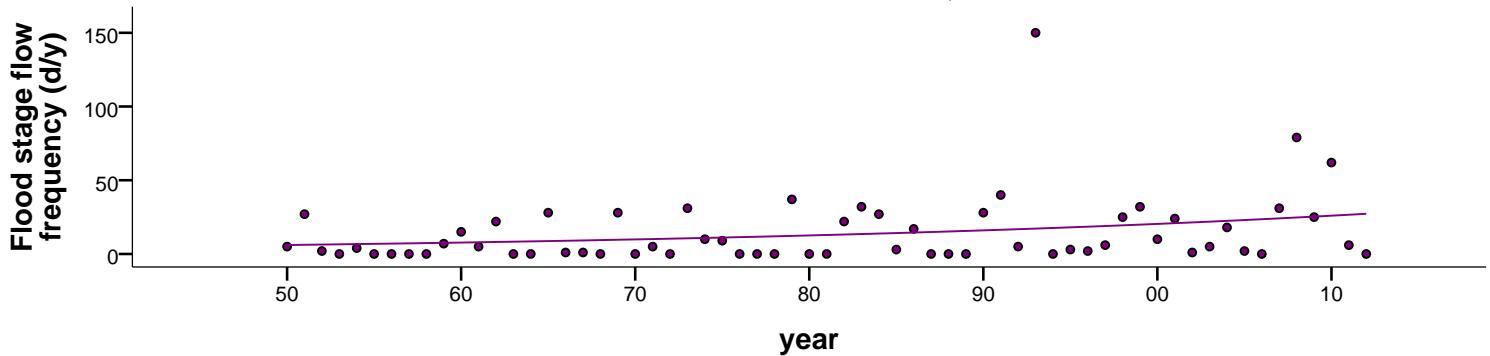
name: 05463000 - Beaver Creek at New Hartford, IA



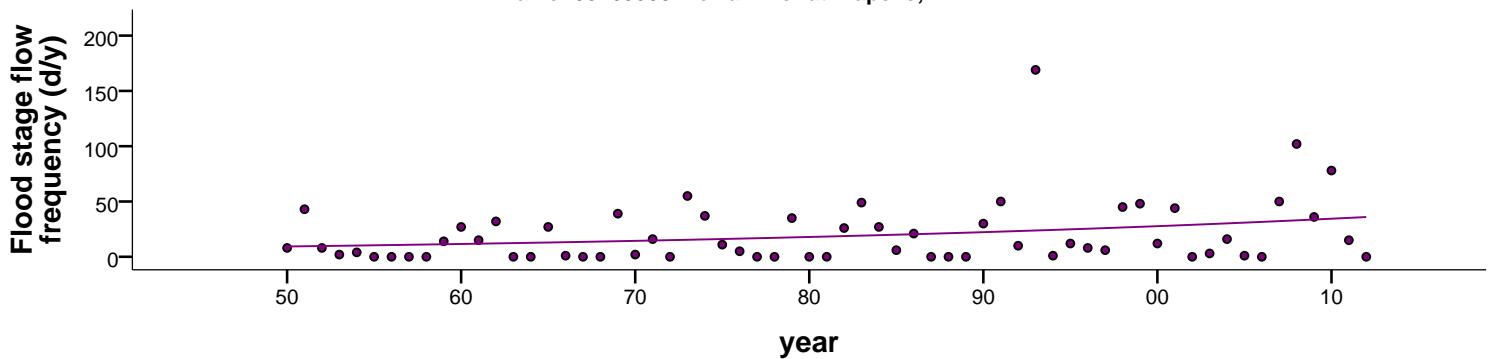
name: 05464000 - Cedar River at Waterloo, IA



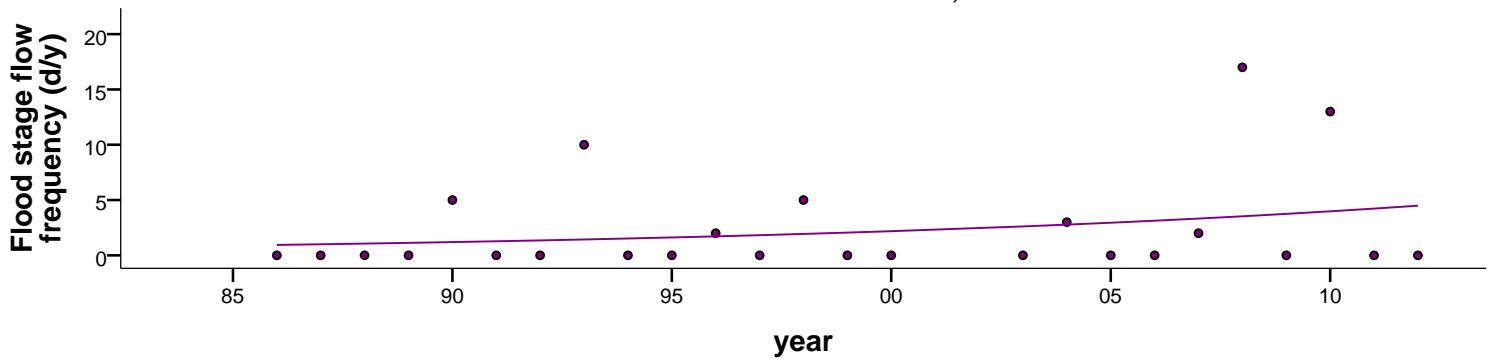
name: 05465000 - Cedar River near Conesville, IA



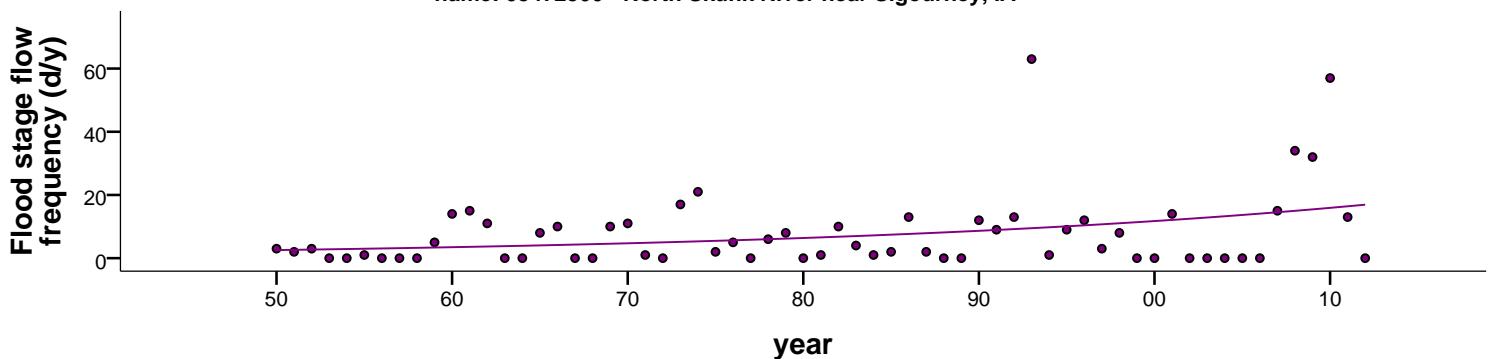
name: 05465500 - Iowa River at Wapello, IA



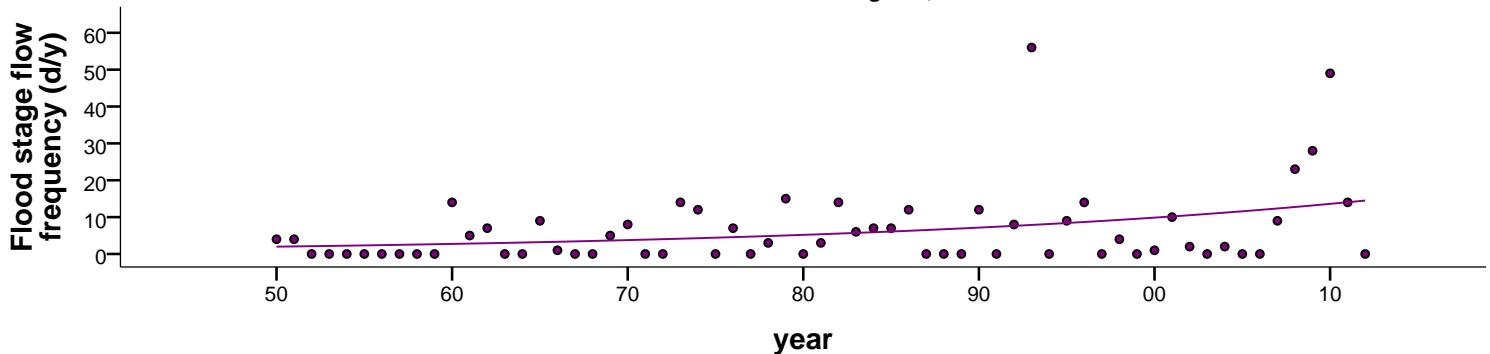
name: 05471050 - South Skunk River at Colfax, IA



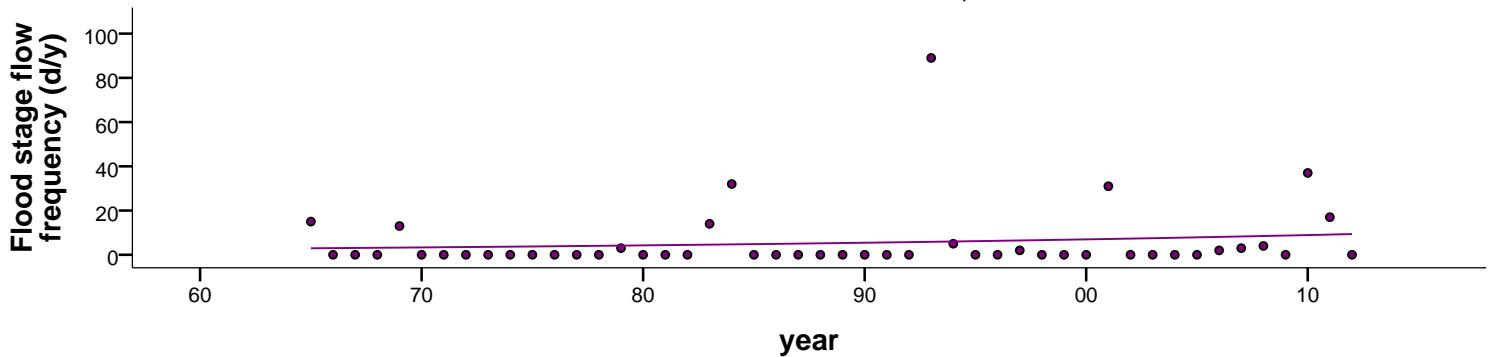
name: 05472500 - North Skunk River near Sigourney, IA



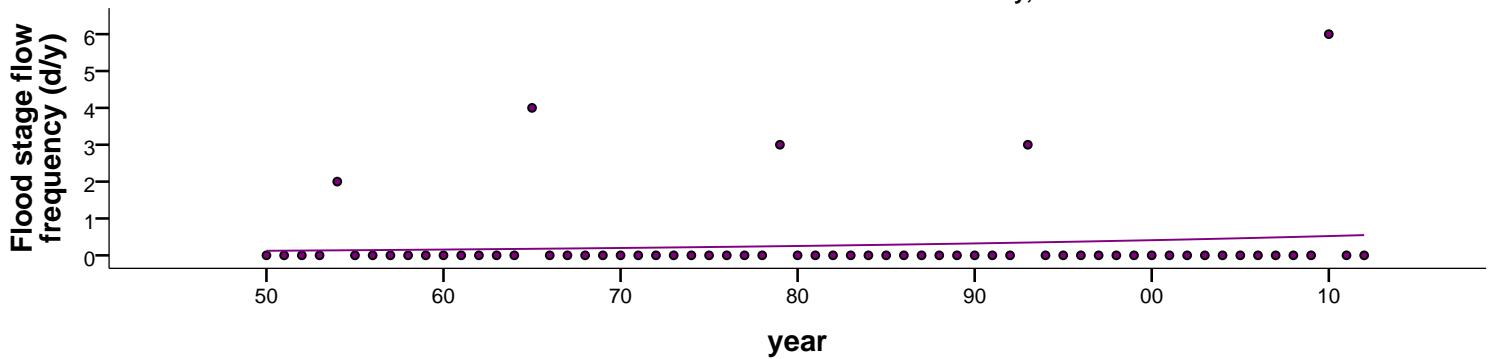
name: 05474000 - Skunk River at Augusta, IA



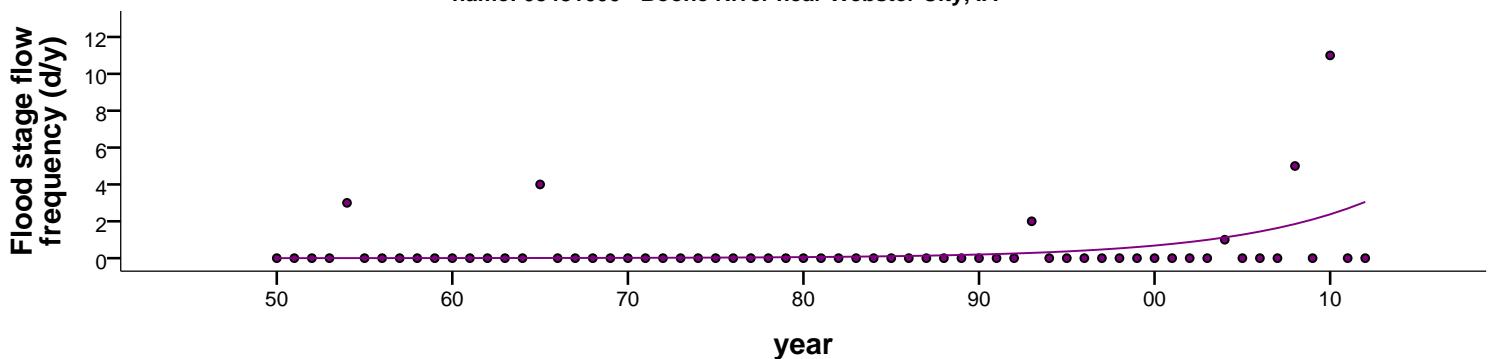
name: 05476750 - Des Moines River at Humboldt, IA



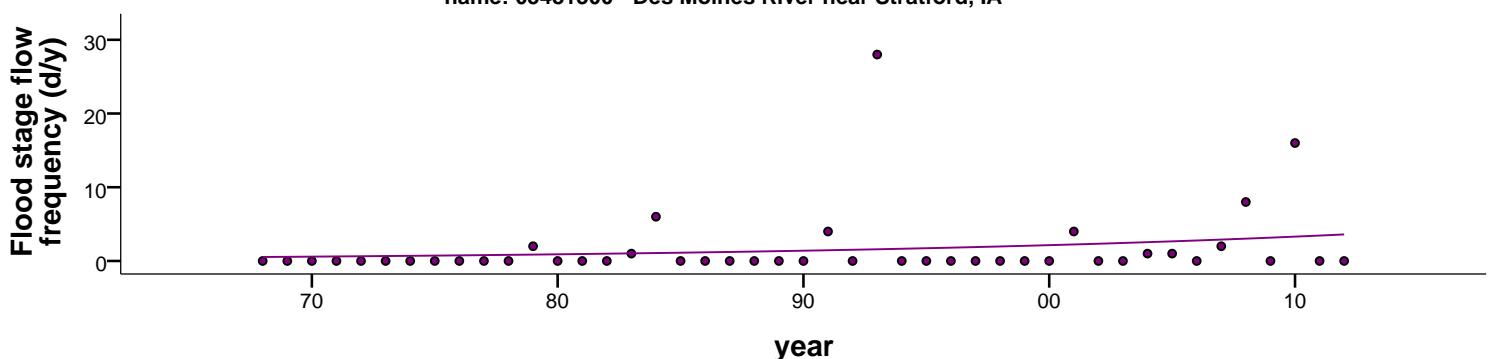
name: 05479000 - East Fork Des Moines River at Dakota City, IA



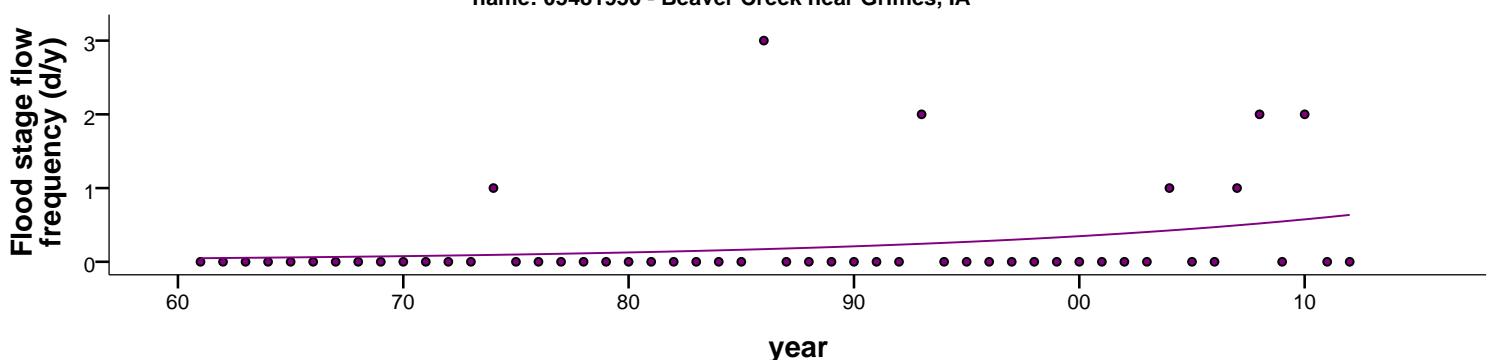
name: 05481000 - Boone River near Webster City, IA



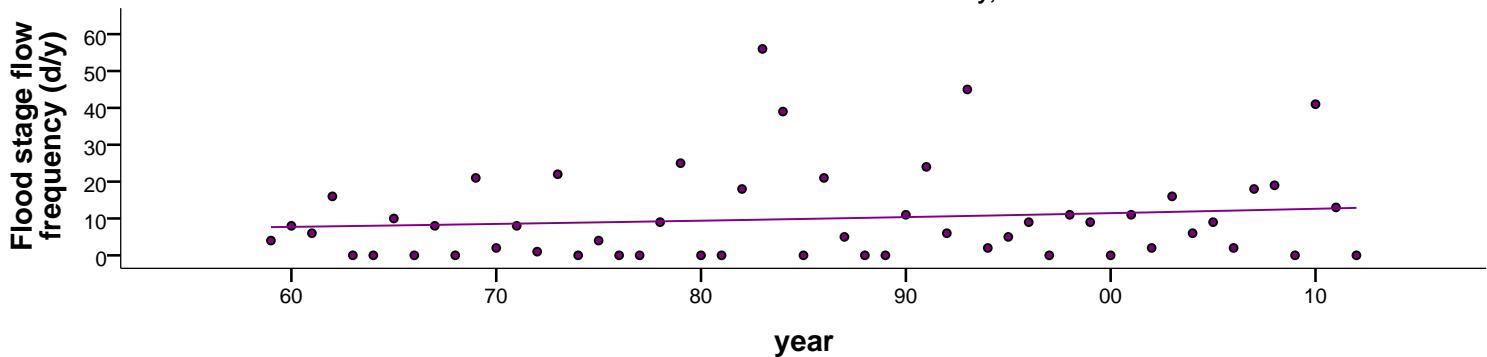
name: 05481300 - Des Moines River near Stratford, IA



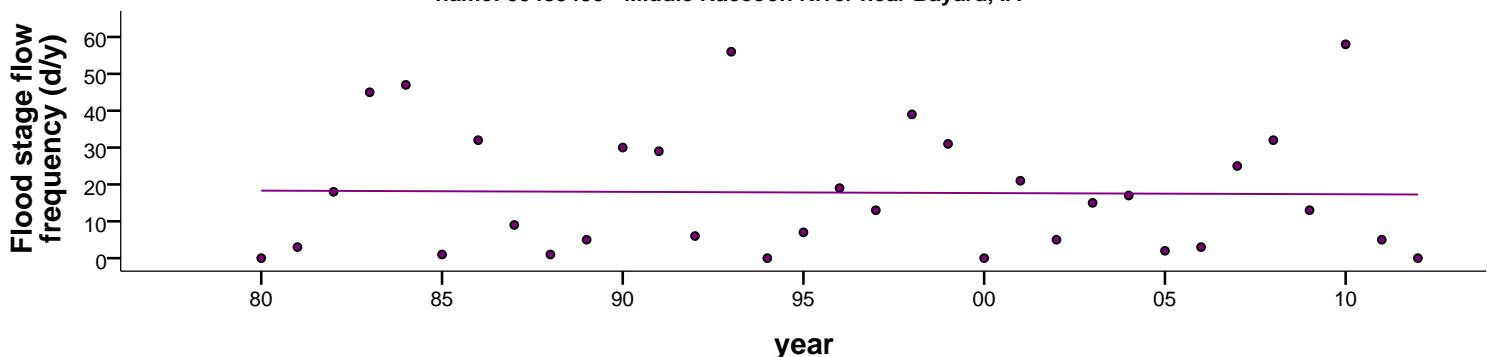
name: 05481950 - Beaver Creek near Grimes, IA



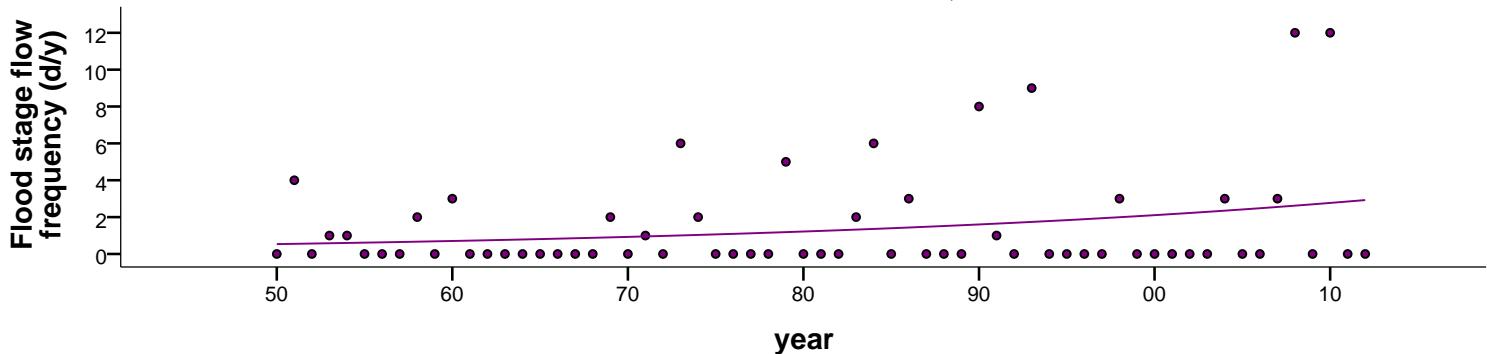
name: 05482300 - North Raccoon River near Sac City, IA



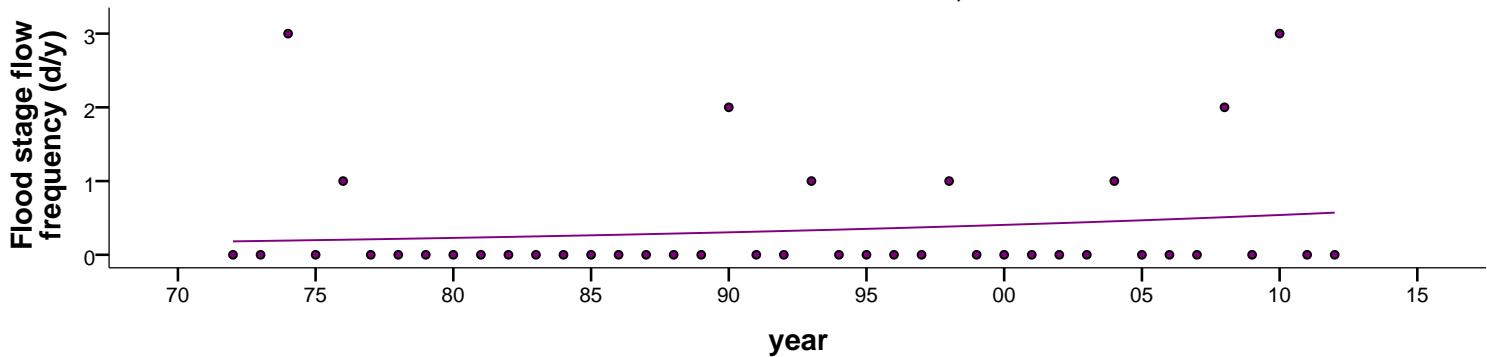
name: 05483450 - Middle Raccoon River near Bayard, IA



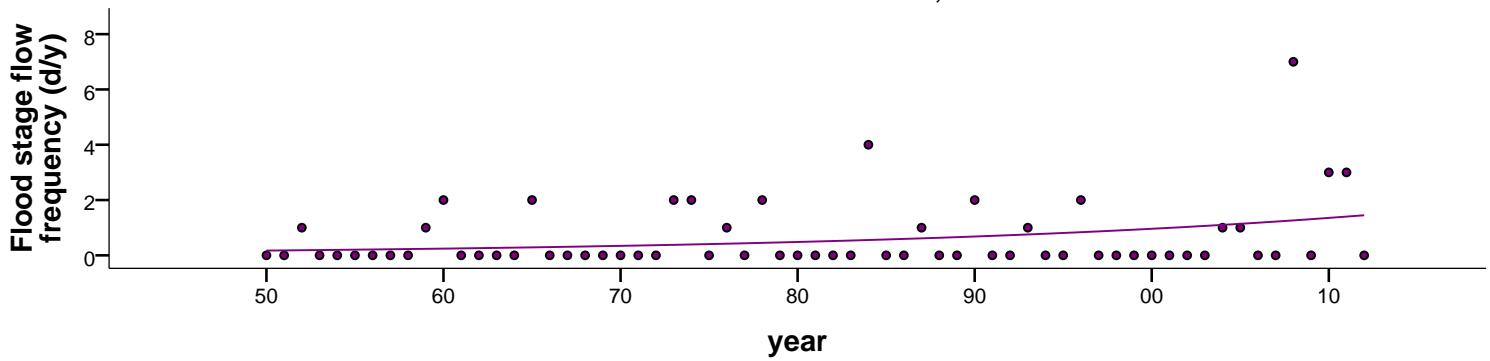
name: 05484500 - Raccoon River at Van Meter, IA



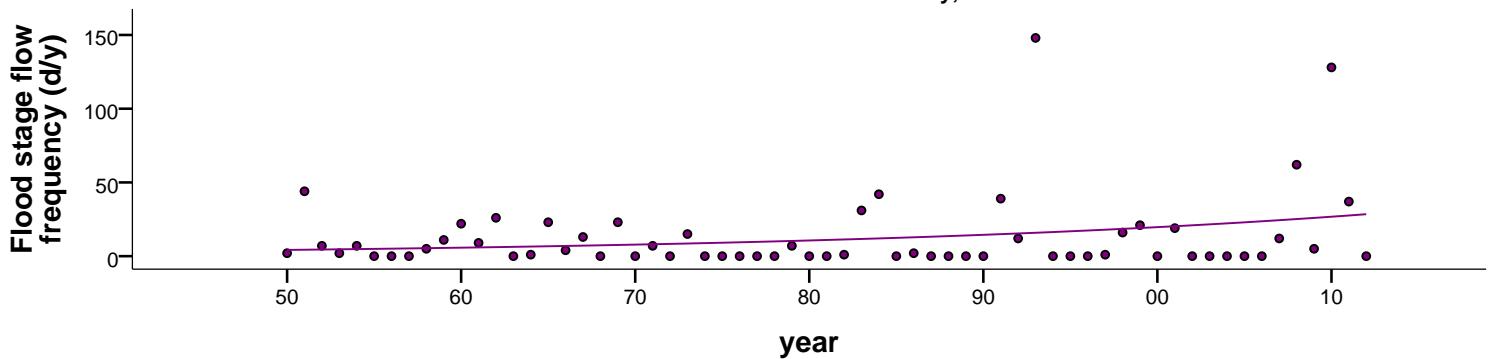
name: 05485640 - Fourmile Creek at Des Moines, IA



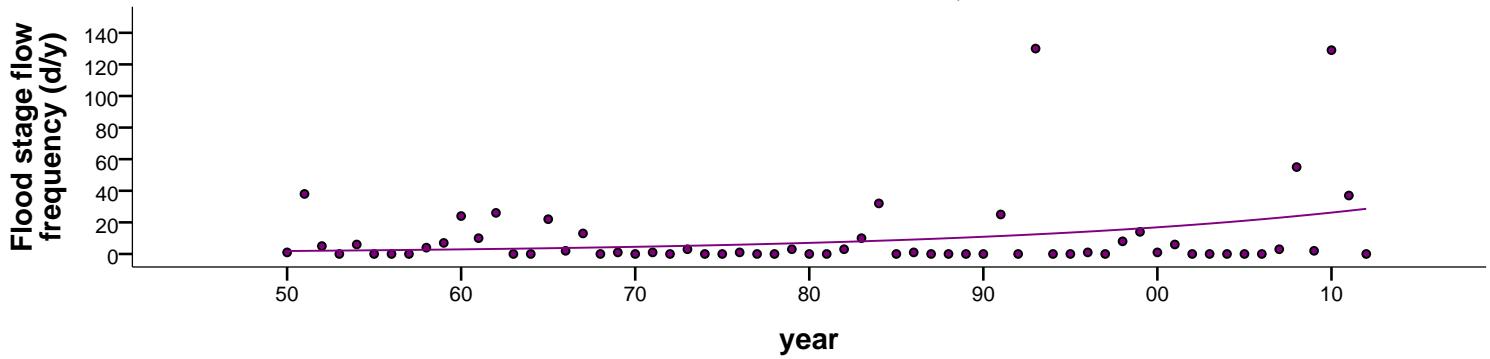
name: 05486000 - North River near Norwalk, IA



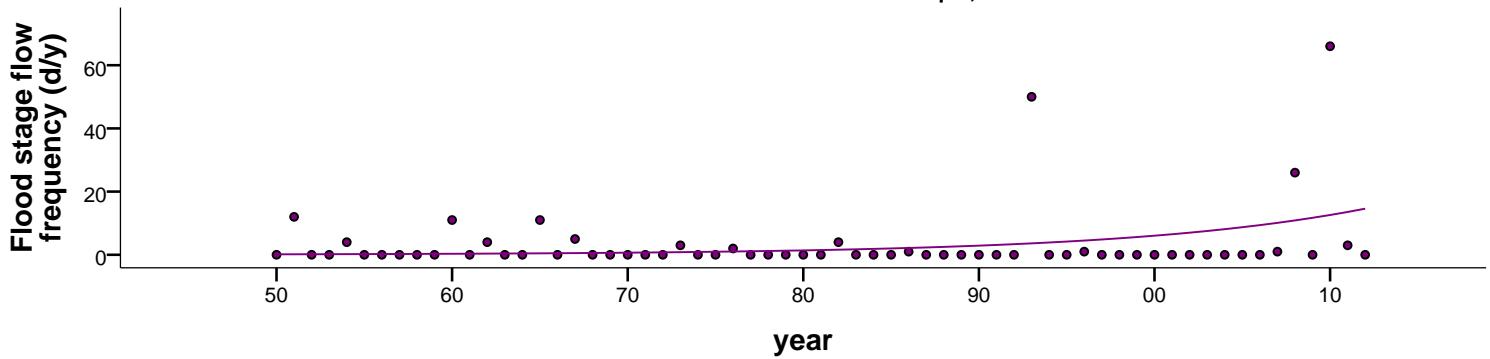
name: 05488500 - Des Moines River near Tracy, IA



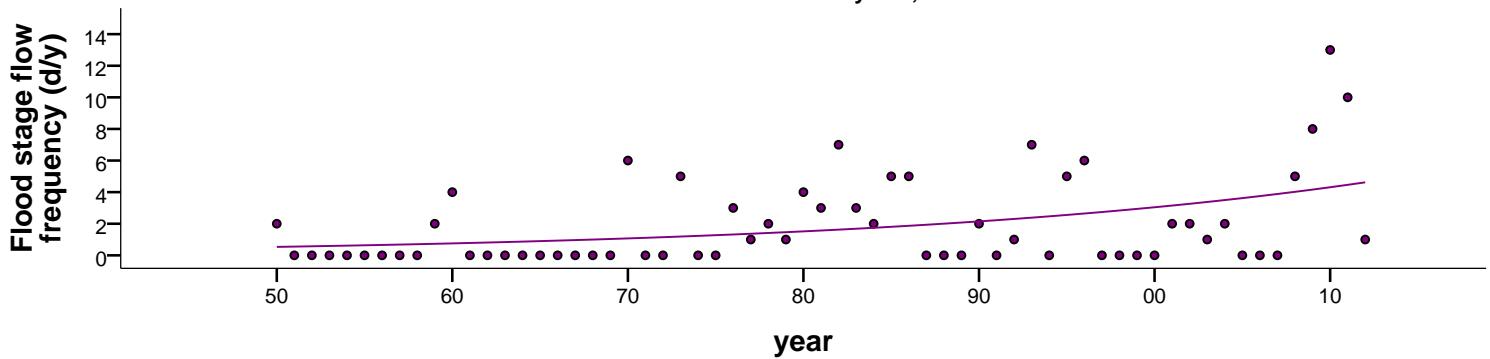
name: 05489500 - Des Moines River at Ottumwa, IA



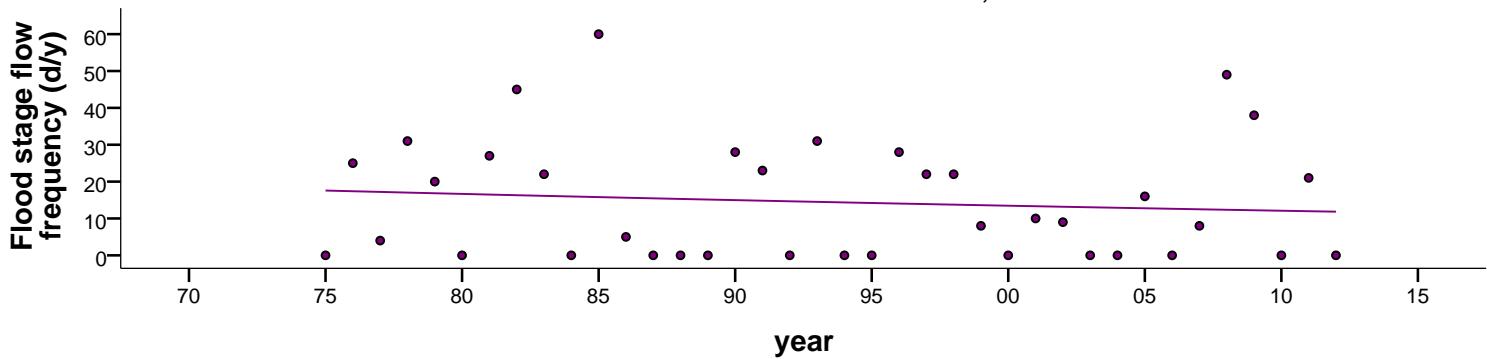
name: 05490500 - Des Moines River at Keosauqua, IA



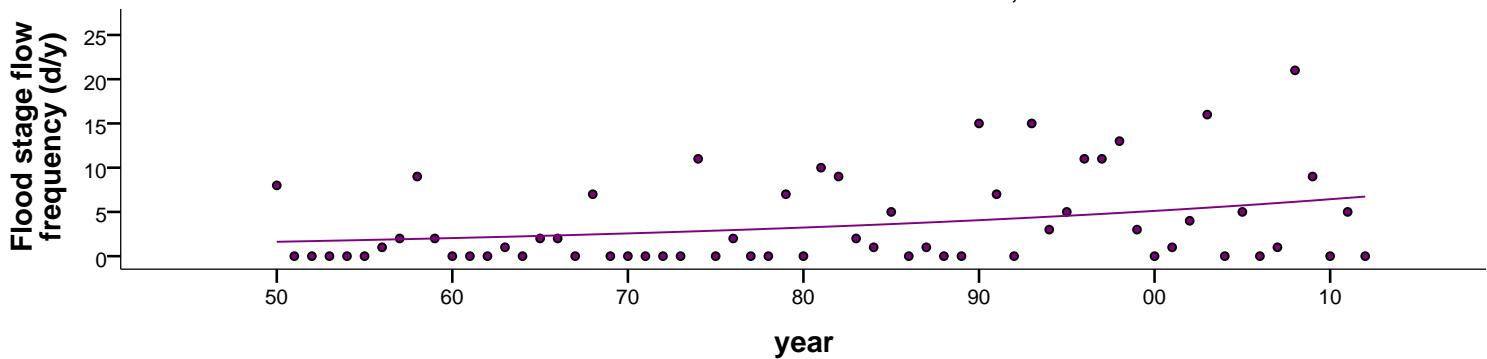
name: 05495000 - Fox River at Wayland, MO



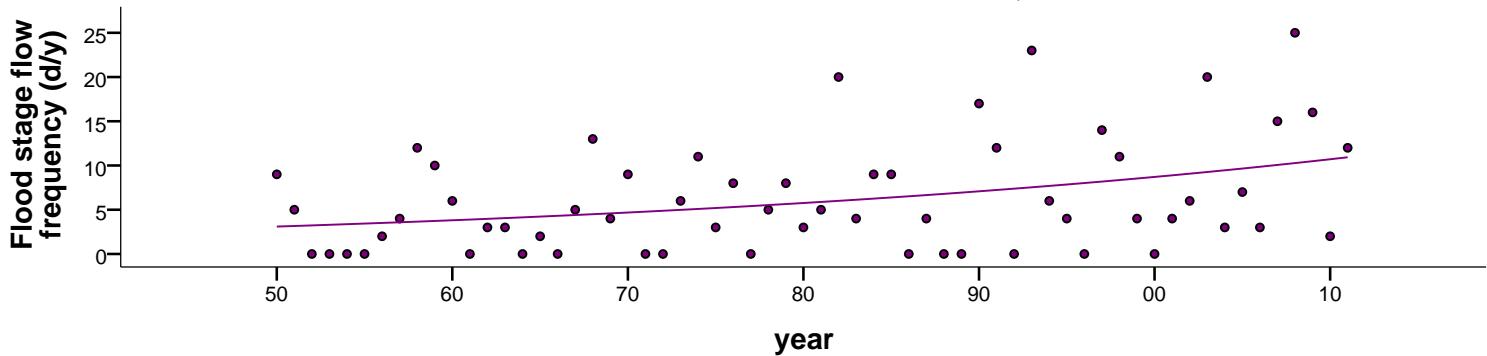
name: 05517530 - KANKAKEE RIVER NR KOUTS, IN



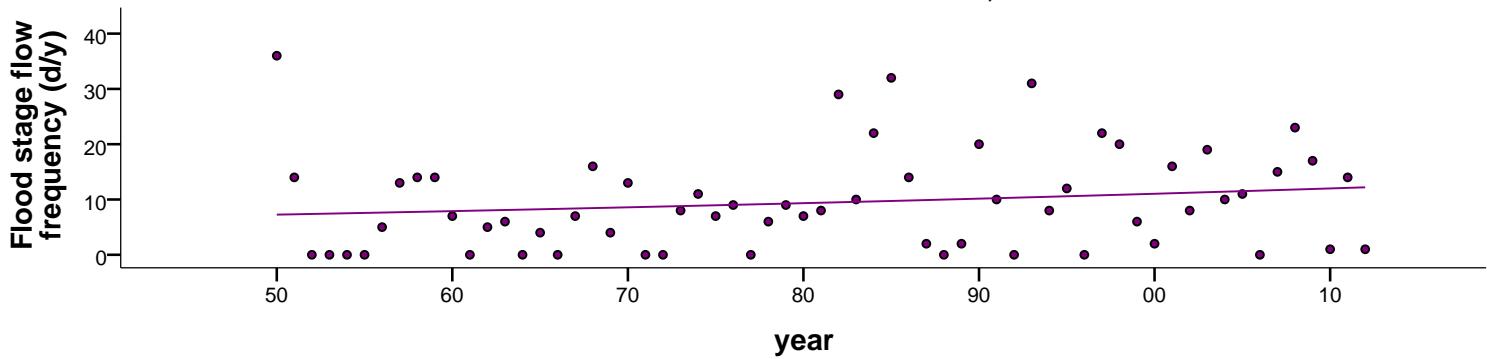
name: 05522500 - IROQUOIS RIVER AT RENSSELAER, IN



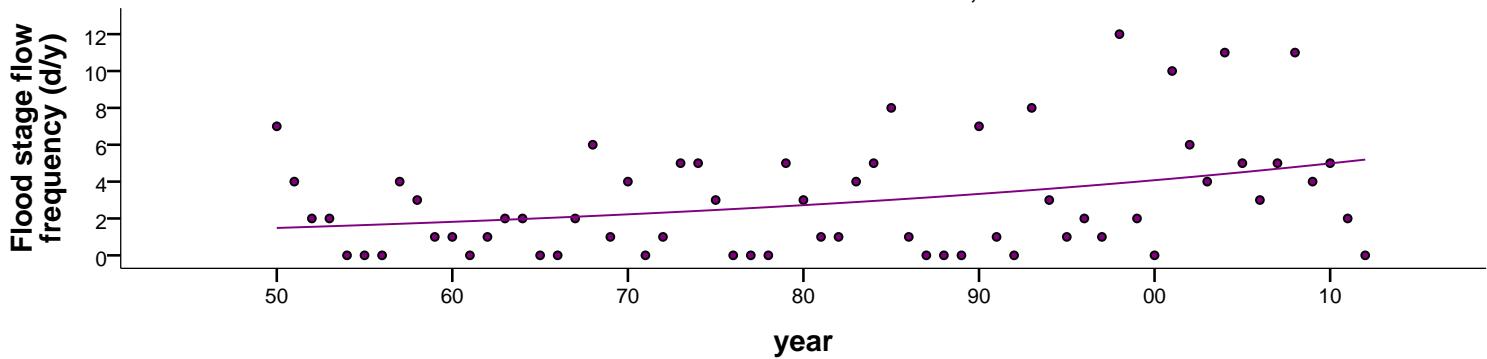
name: 05524500 - IROQUOIS RIVER NEAR FORESMAN, IN



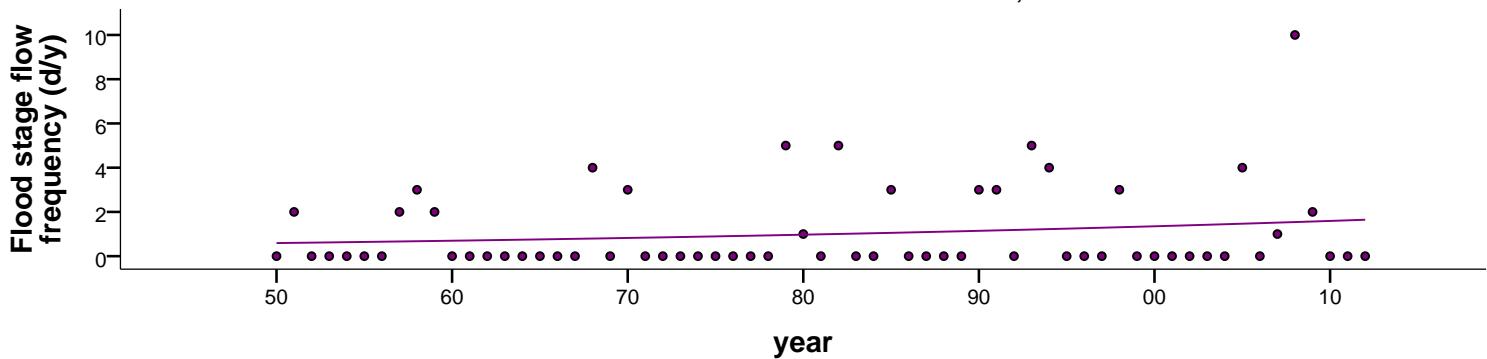
name: 05525000 - IROQUOIS RIVER AT IROQUOIS, IL



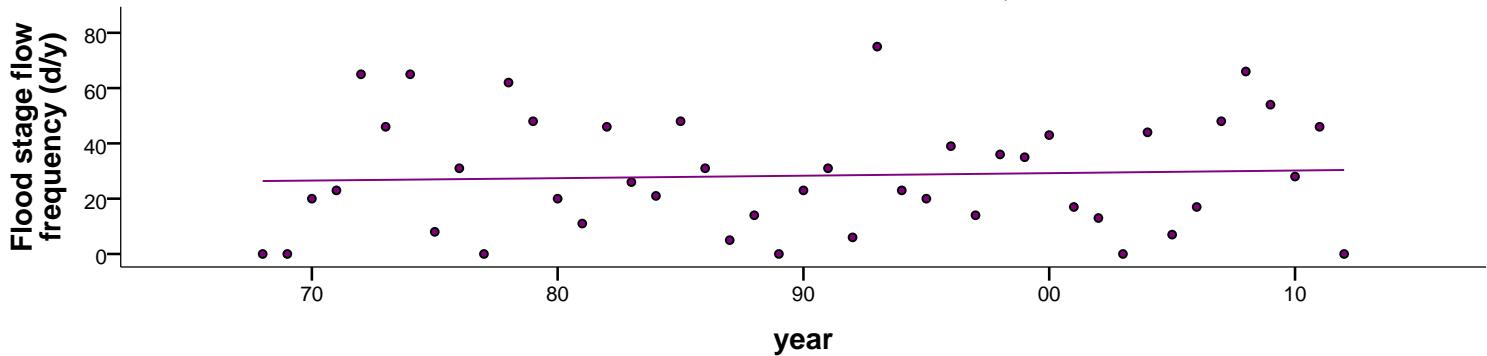
name: 05525500 - SUGAR CREEK AT MILFORD, IL



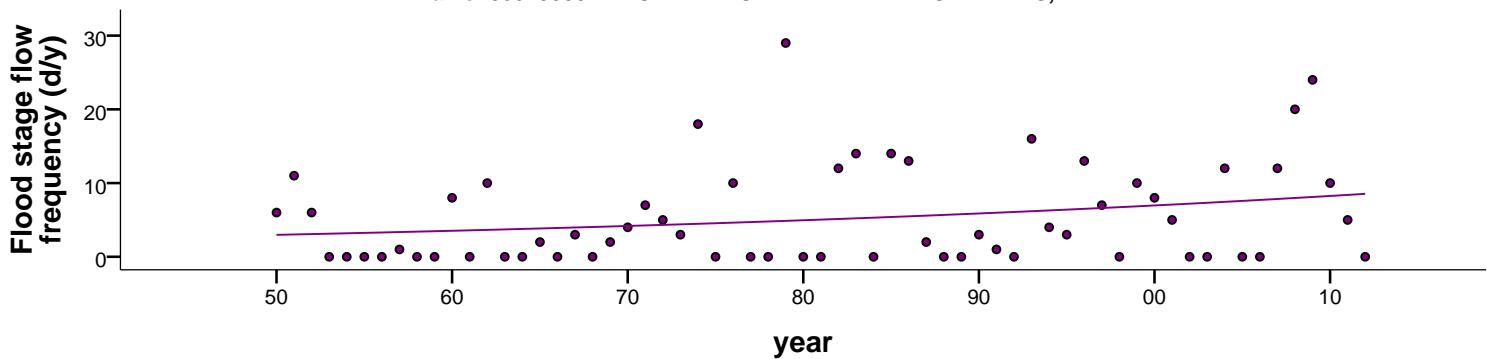
name: 05526000 - IROQUOIS RIVER NEAR CHEBANSE, IL



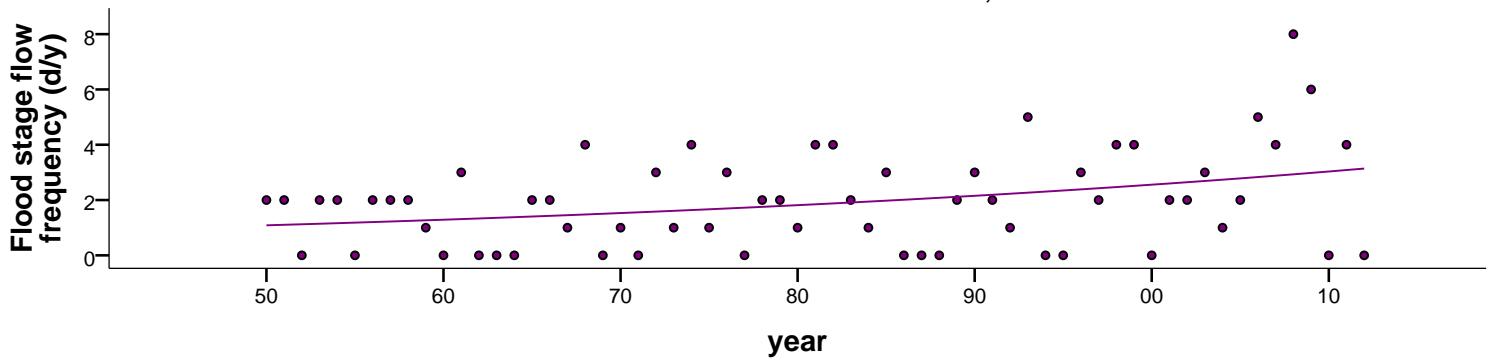
name: 05527800 - DES PLAINES RIVER AT RUSSELL, IL



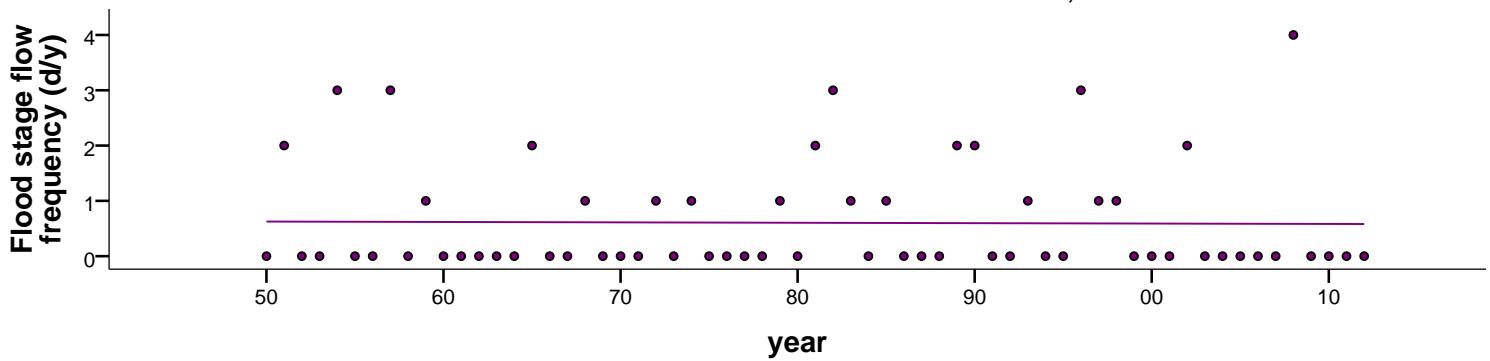
name: 05529000 - DES PLAINES RIVER NEAR DES PLAINES, IL



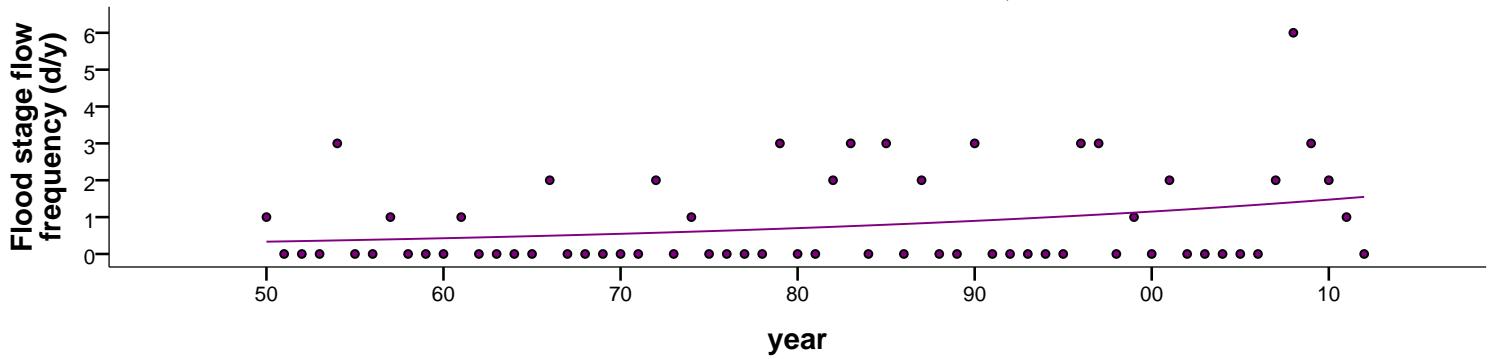
name: 05536275 - THORN CREEK AT THORNTON, IL



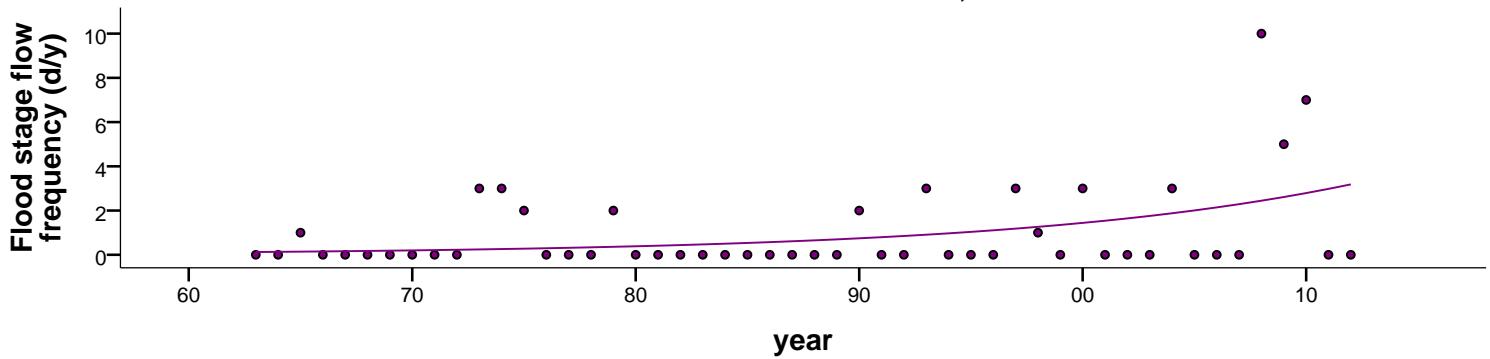
name: 05536290 - LITTLE CALUMET RIVER AT SOUTH HOLLAND, IL



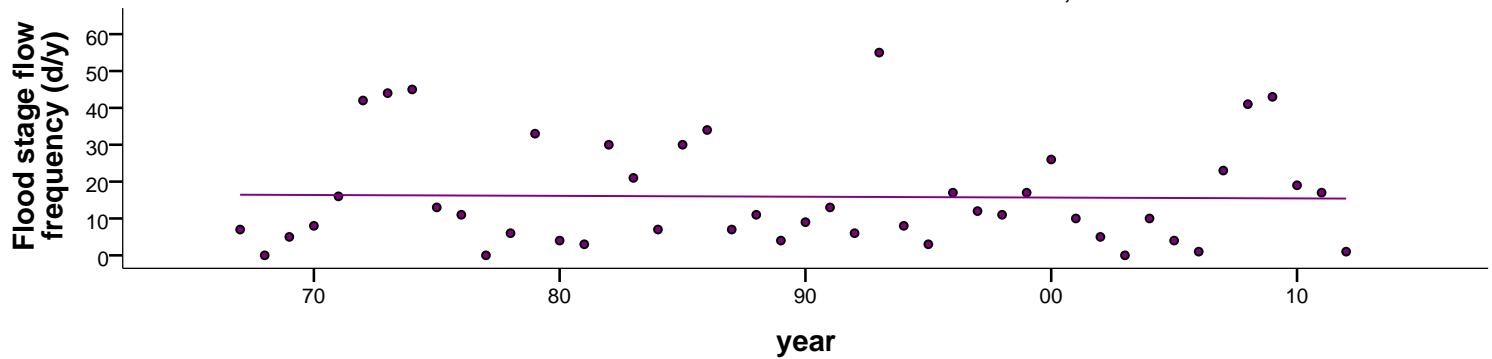
name: 05540500 - DU PAGE RIVER AT SHOREWOOD, IL



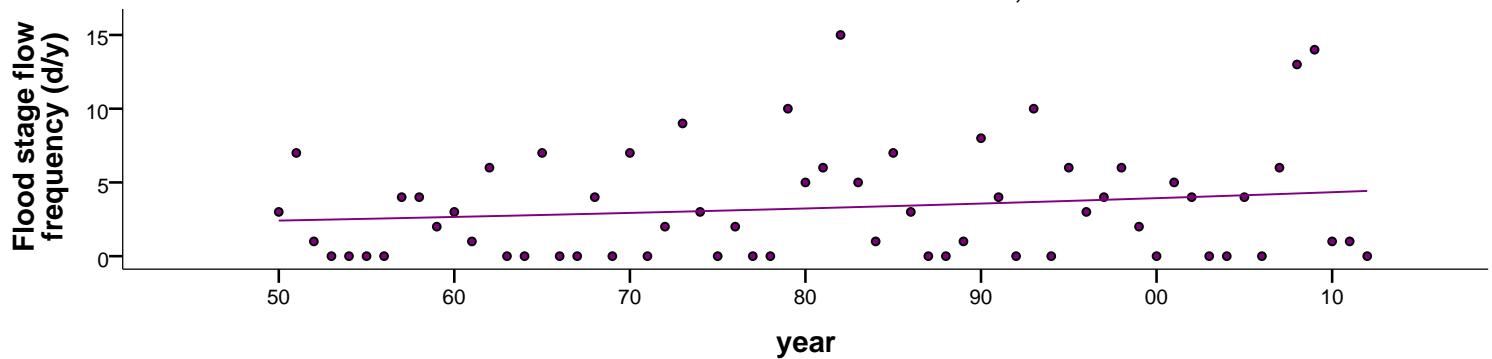
name: 05543830 - FOX RIVER AT WAUKESHA, WI



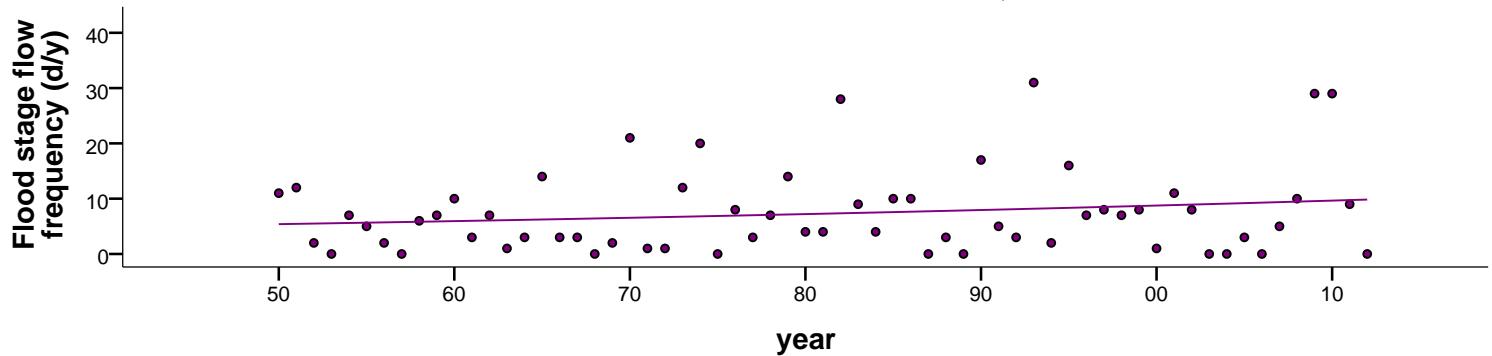
name: 05548280 - NIPPERSINK CREEK NEAR SPRING GROVE, IL



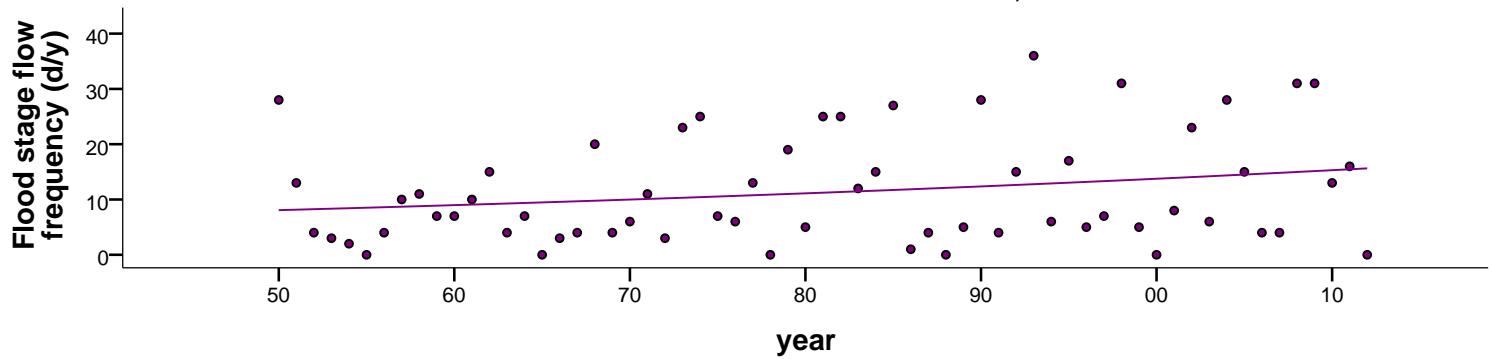
name: 05555300 - VERMILION RIVER NEAR LEONORE, IL



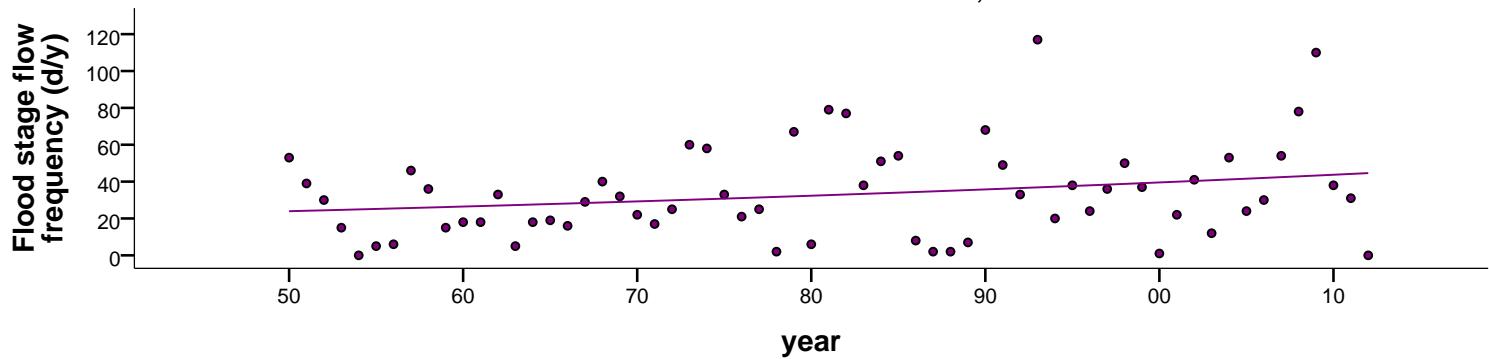
name: 05569500 - SPOON RIVER AT LONDON MILLS, IL



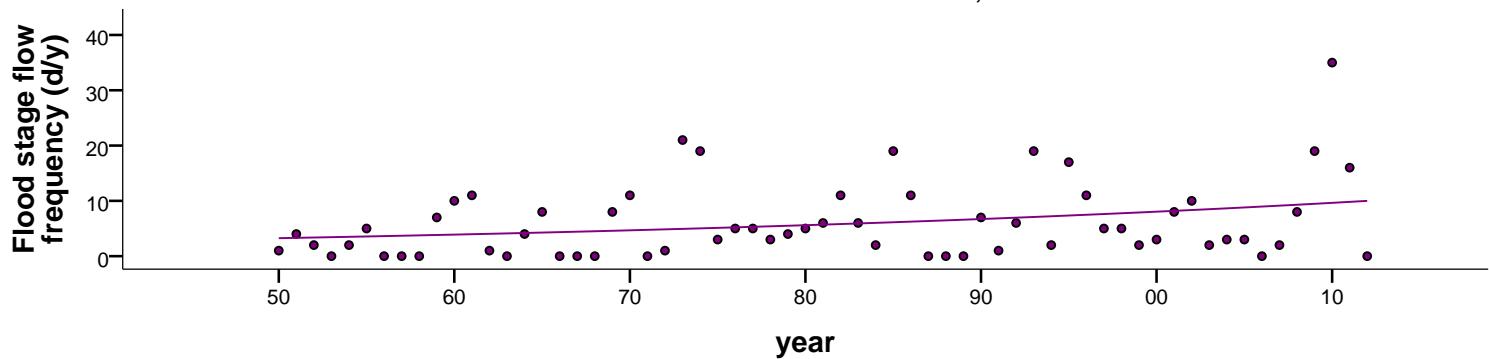
name: 05572000 - SANGAMON RIVER AT MONTICELLO, IL



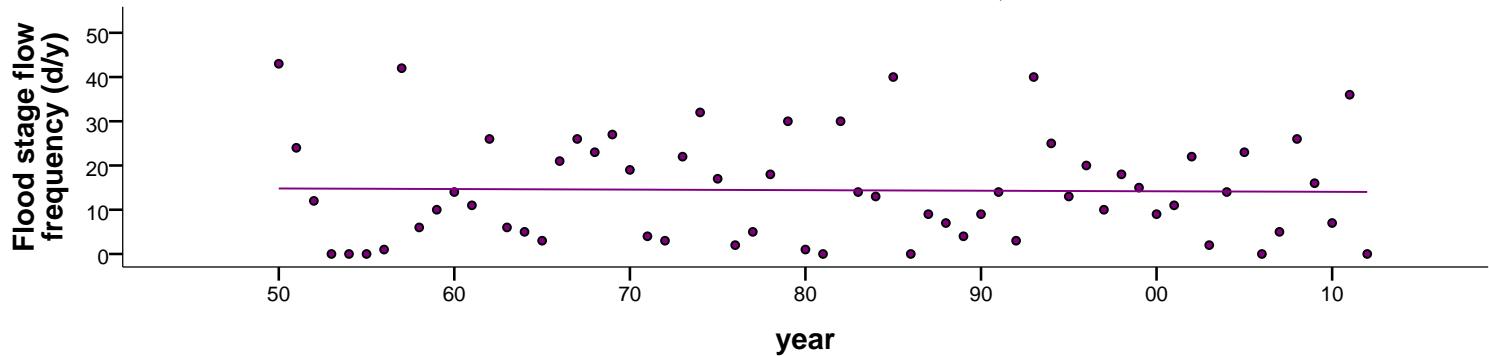
name: 05578500 - SALT CREEK NEAR ROWELL, IL



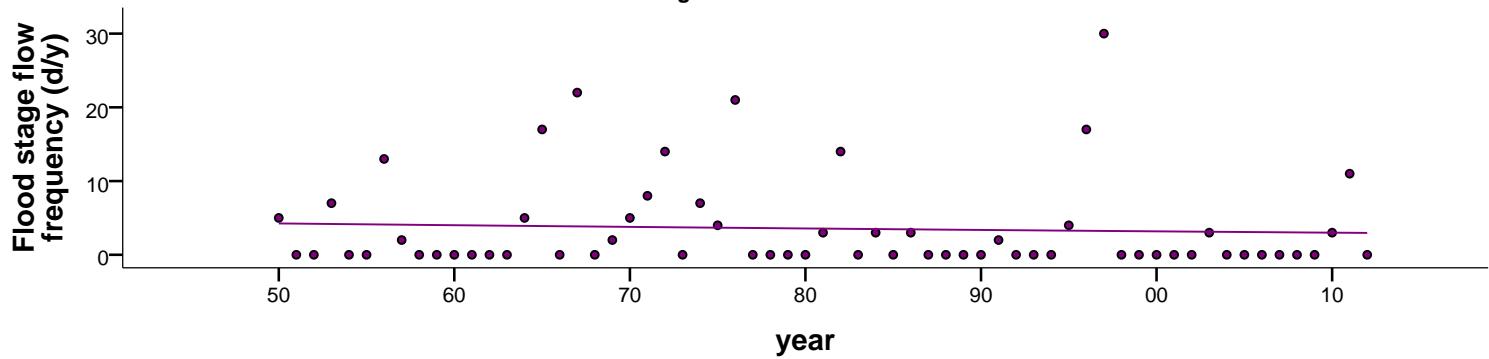
name: 05584500 - LA MOINE RIVER AT COLMAR, IL



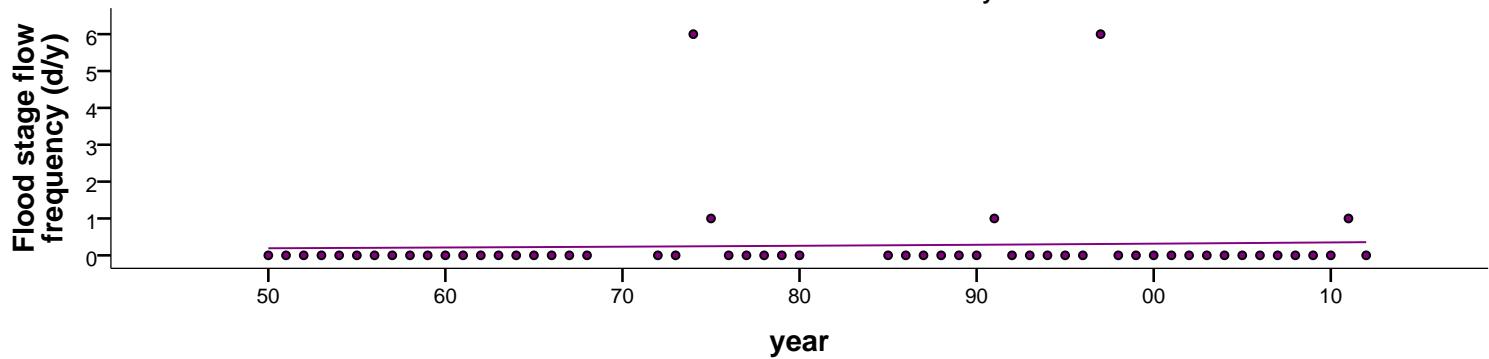
name: 05592500 - KASKASKIA RIVER AT VANDALIA, IL



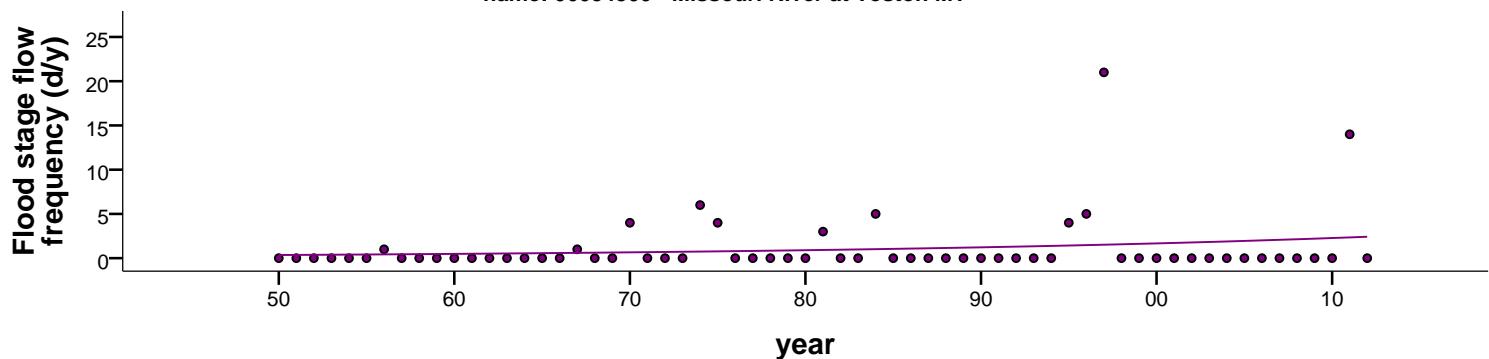
name: 06025500 - Big Hole River near Melrose MT



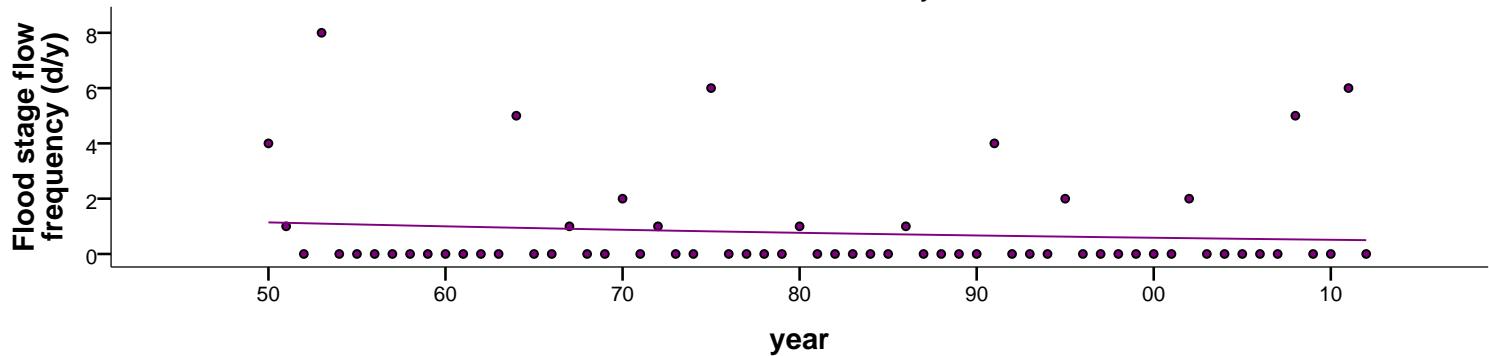
name: 06043500 - Gallatin River near Gallatin Gateway MT



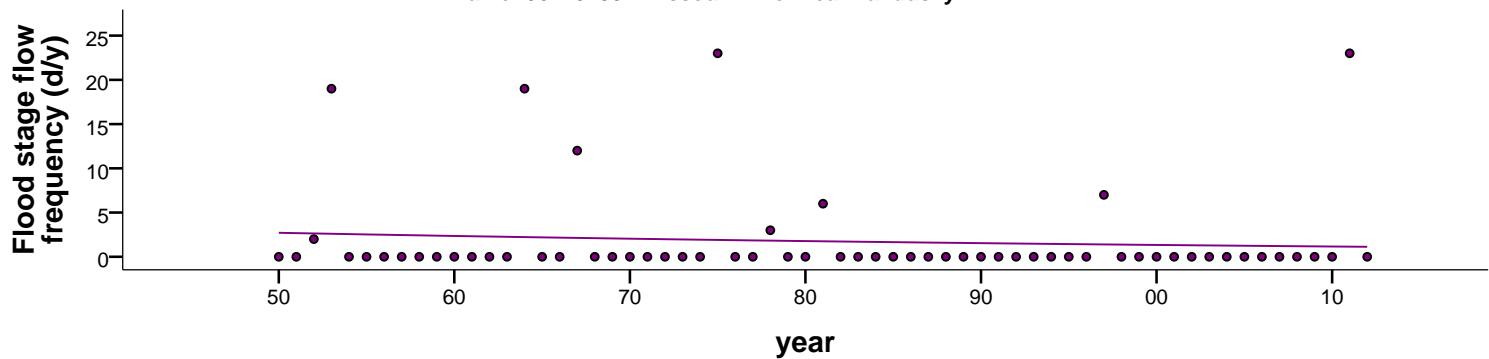
name: 06054500 - Missouri River at Toston MT



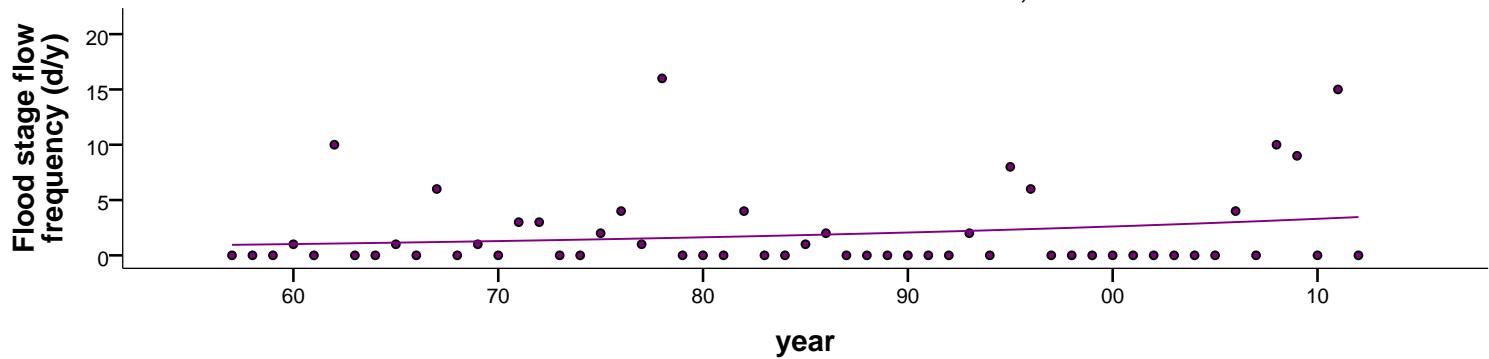
name: 06099500 - Marias River near Shelby MT



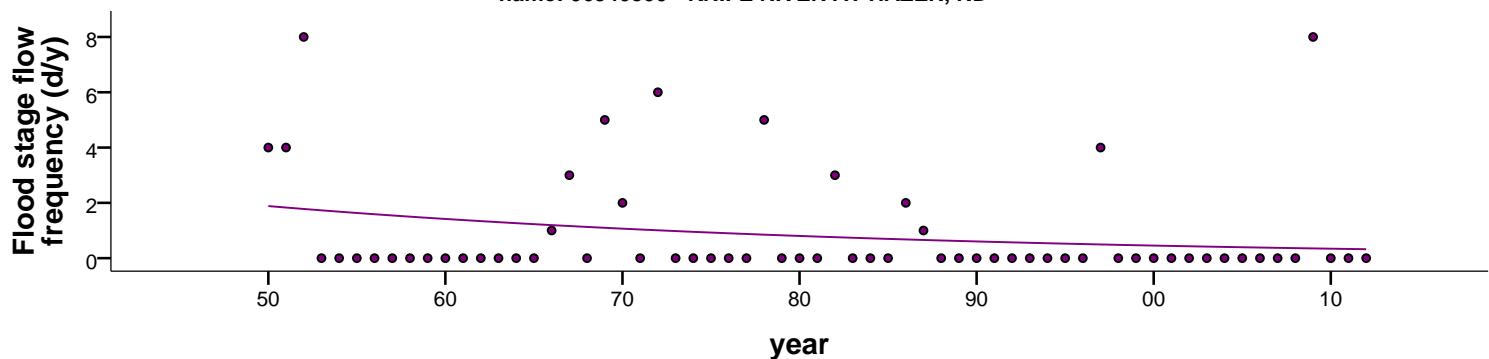
name: 06115200 - Missouri River near Landusky MT



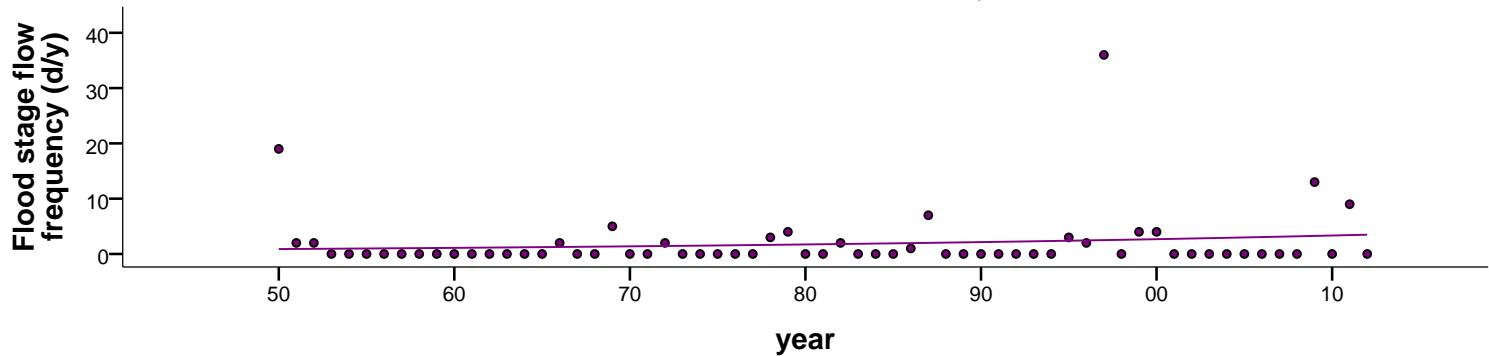
name: 06334500 - LITTLE MISSOURI R AT CAMP CROOK, SD



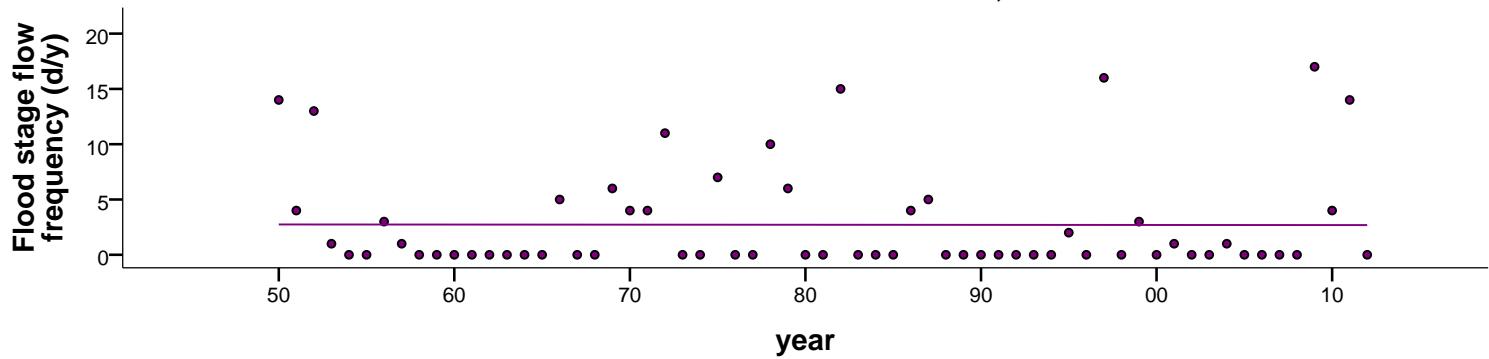
name: 06340500 - KNIFE RIVER AT HAZEN, ND



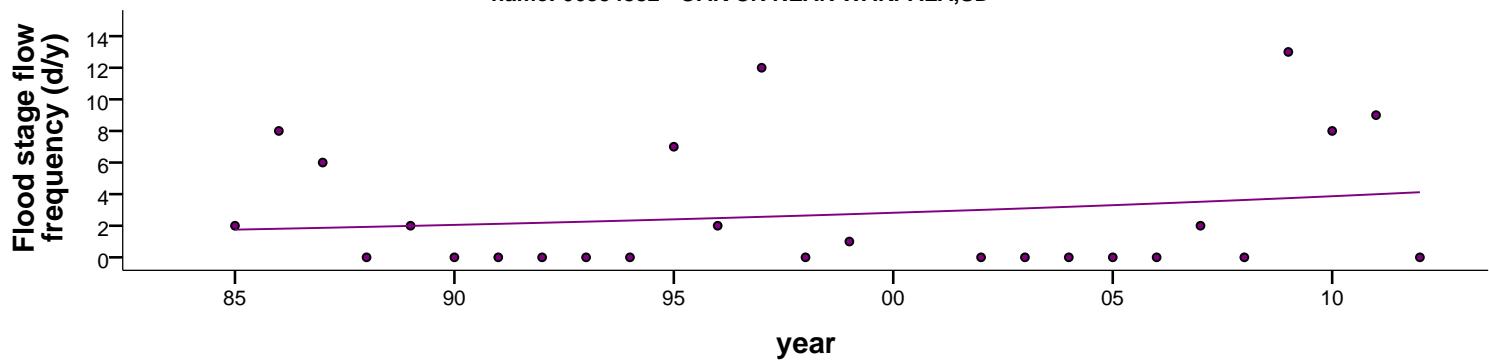
name: 06349500 - APPLE CREEK NR MENOKEN, ND



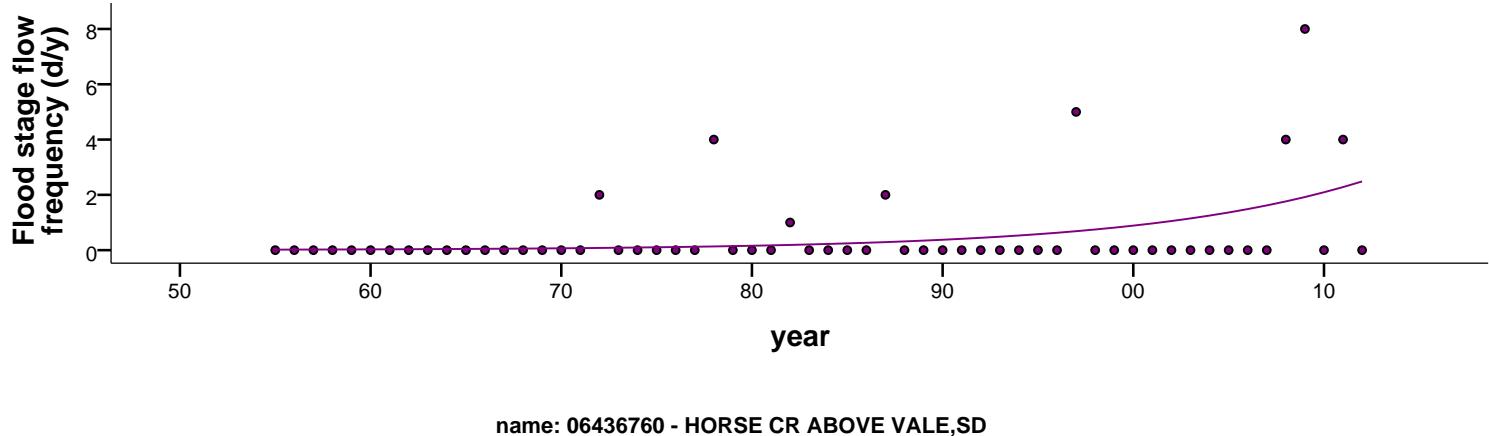
name: 06354000 - CANNONBALL RIVER AT BREIEN, ND



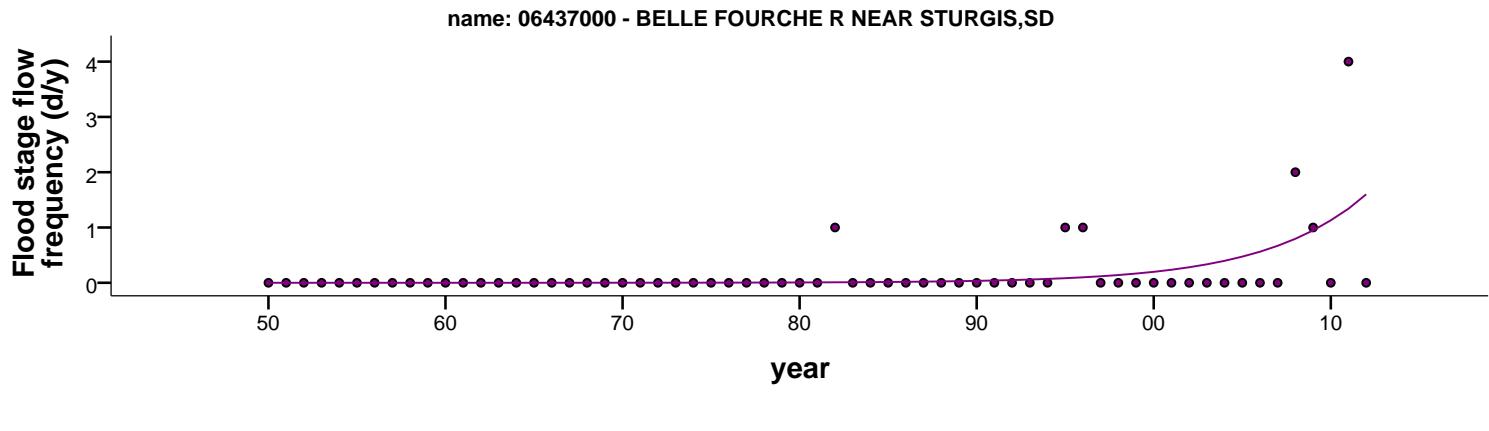
name: 06354882 - OAK CR NEAR WAKPALA,SD



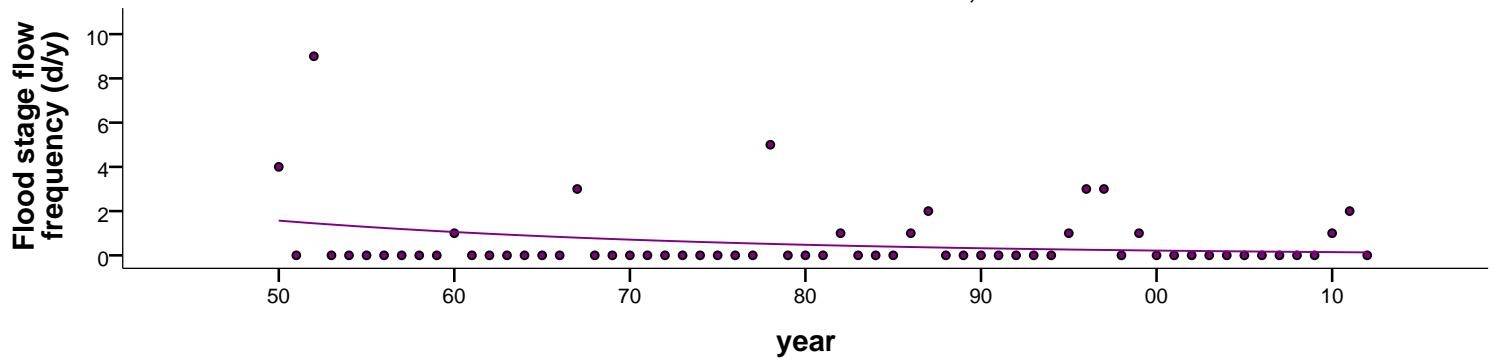
name: 06360500 - MOREAU R NEAR WHITEHORSE,SD



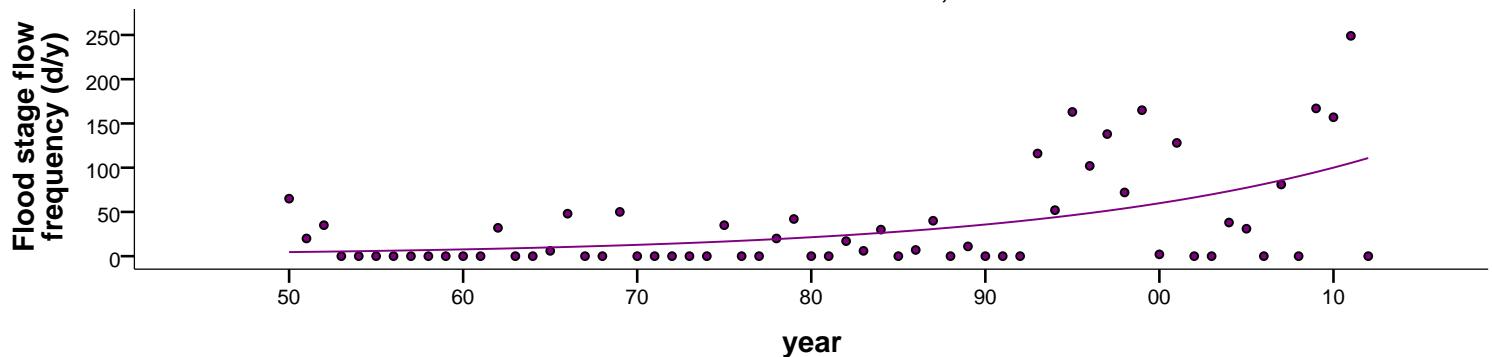
name: 06436760 - HORSE CR ABOVE VALE,SD



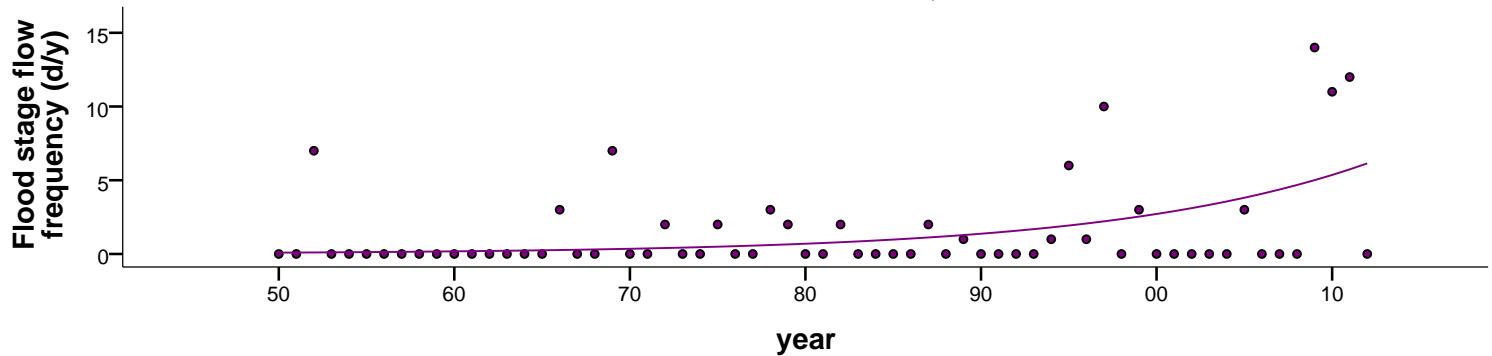
name: 06441500 - BAD R NEAR FORT PIERRE,SD



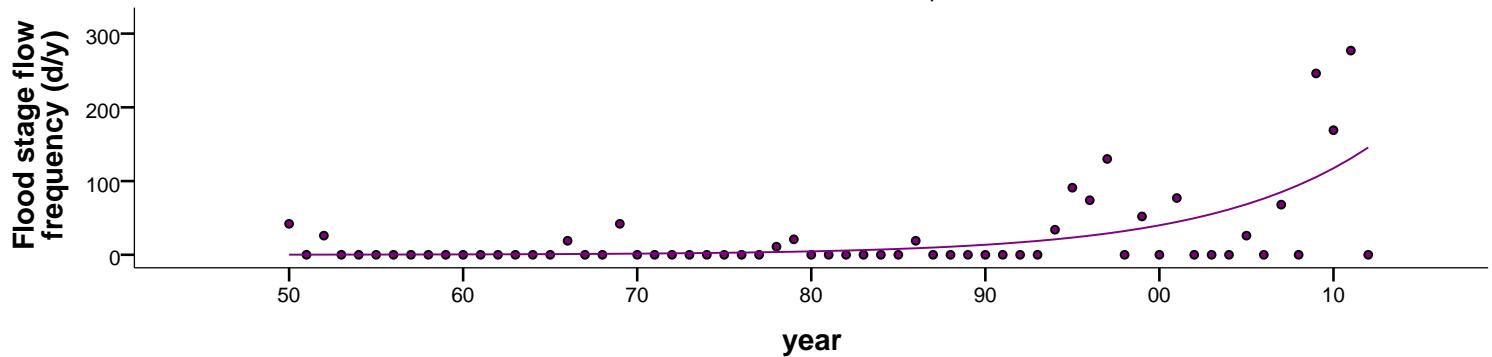
name: 06471000 - JAMES R AT COLUMBIA,SD



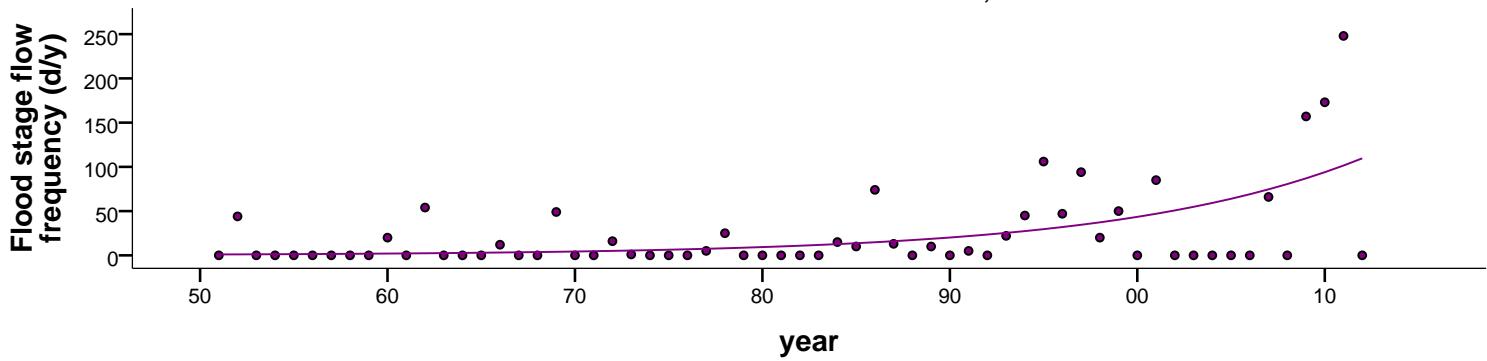
name: 06471500 - ELM R AT WESTPORT,SD



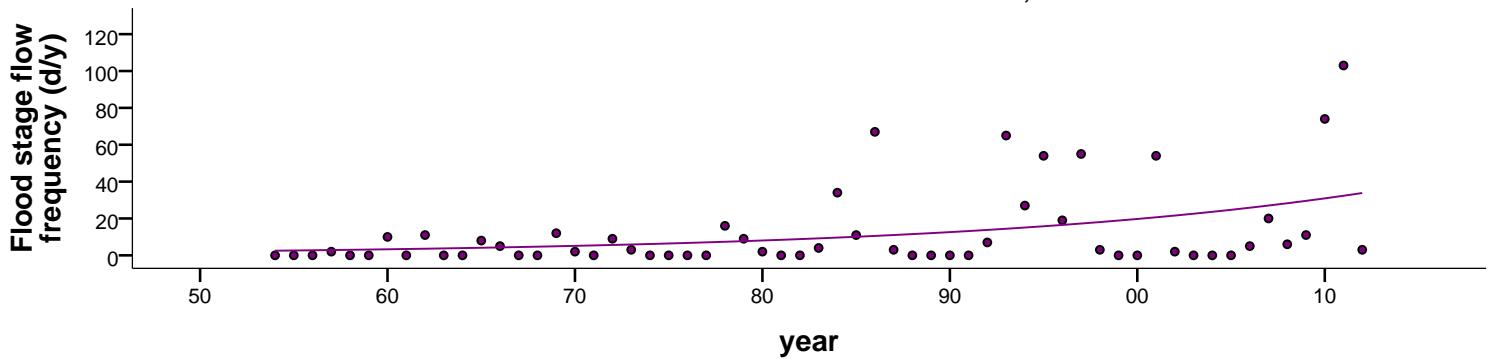
name: 06473000 - JAMES R AT ASHTON,SD



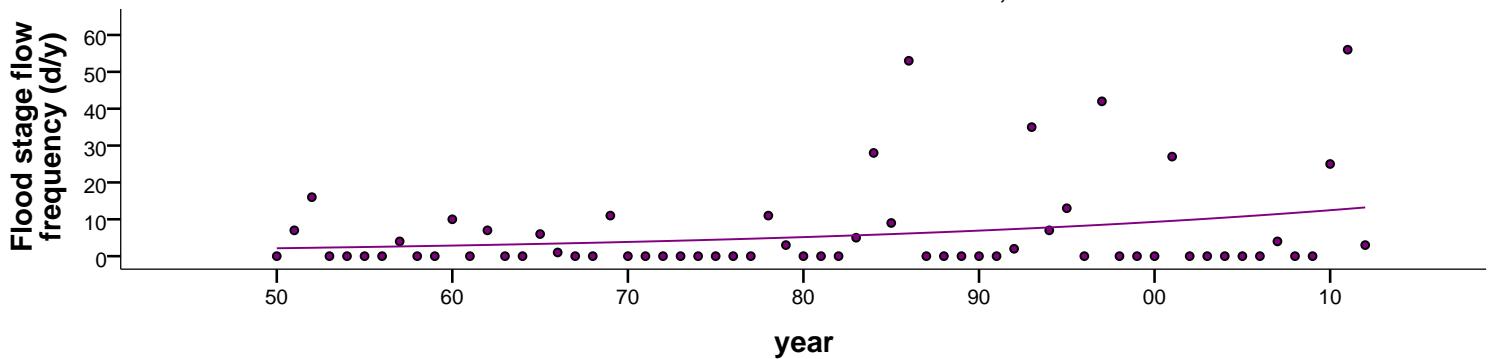
name: 06477000 - JAMES R NEAR FORESTBURG,SD



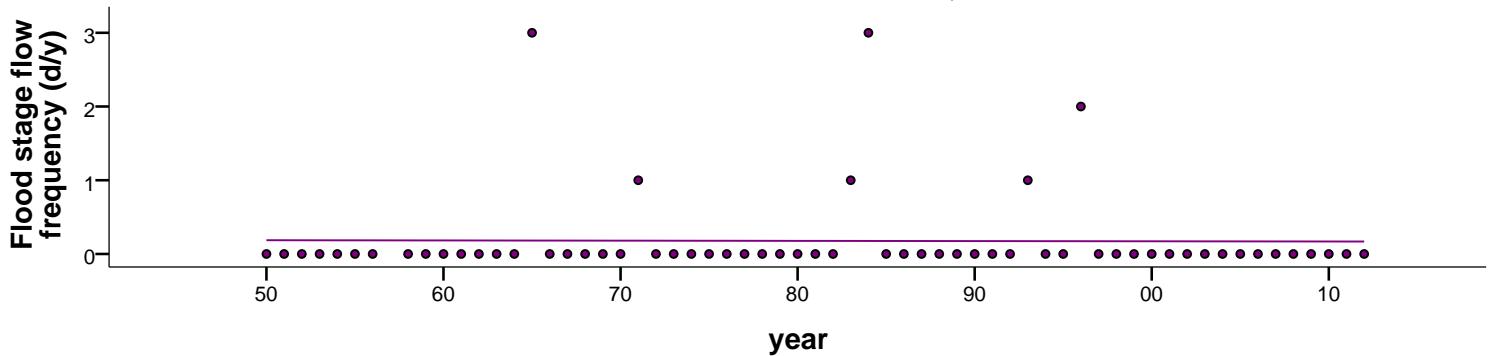
**name: 06480000 - BIG SIOUX RIVER NEAR BROOKINGS,SD**



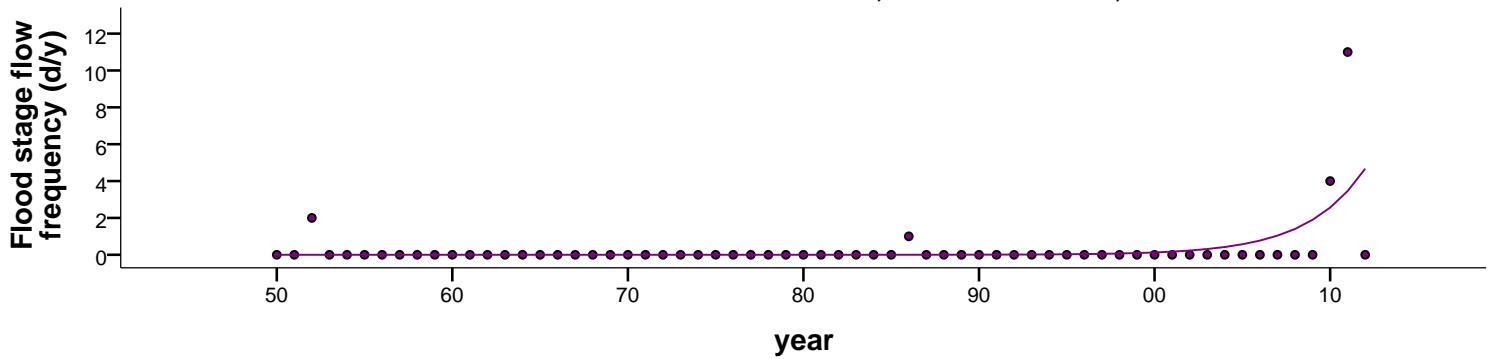
**name: 06481000 - BIG SIOUX R NEAR DELL RAPIDS,SD**



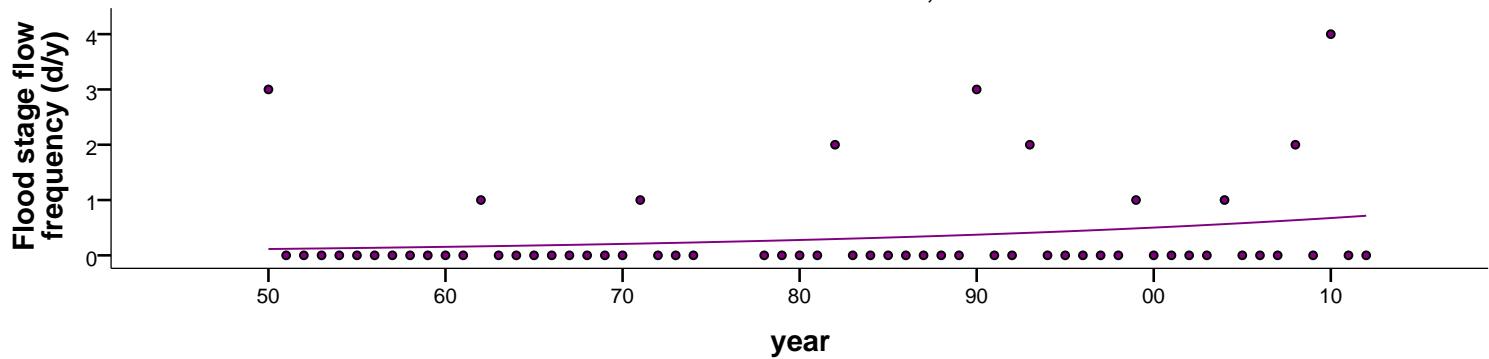
**name: 06607500 - Little Sioux River near Turin, IA**



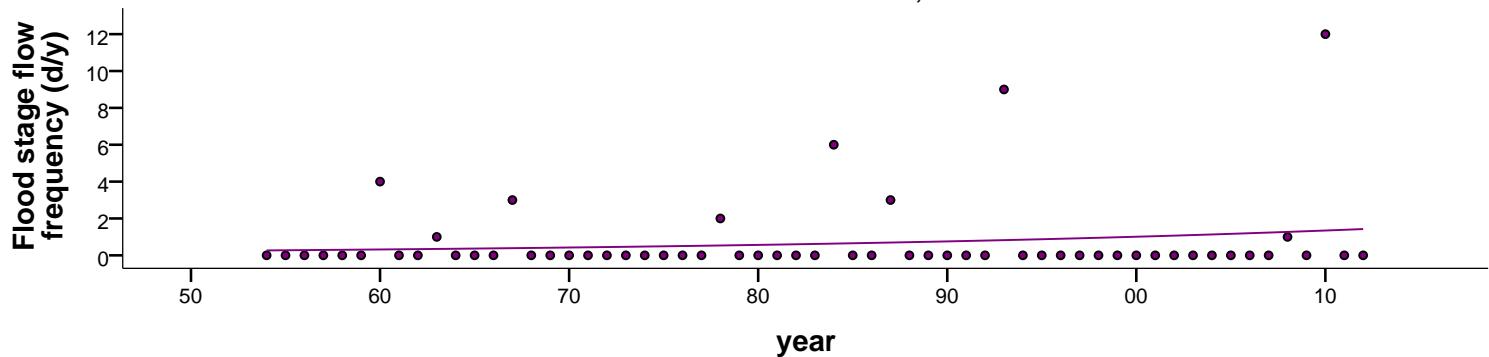
**name: 06625000 - ENCAMPMENT RIVER AT MOUTH, NEAR ENCAMPMENT, WY**



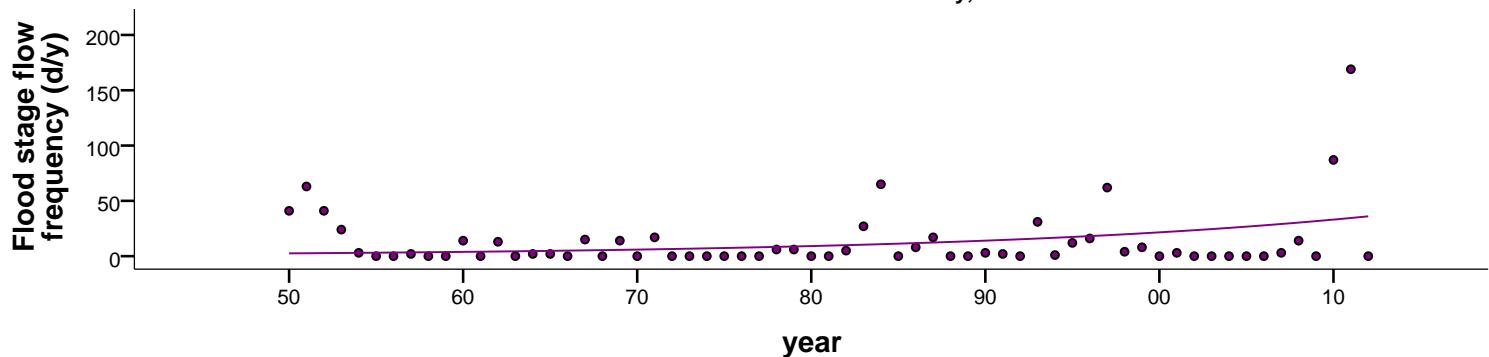
name: 06795500 - Shell Creek near Columbus, Nebr.



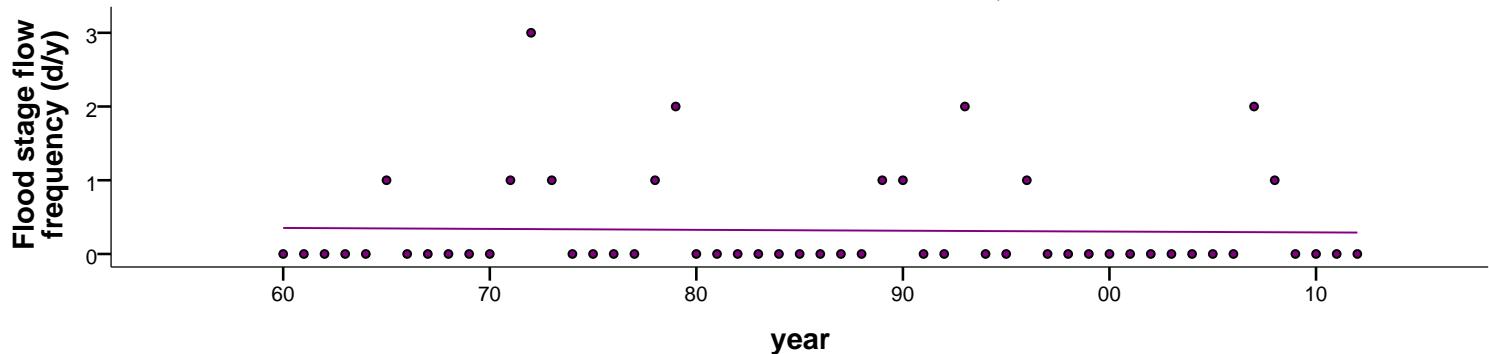
name: 06805500 - Platte River at Louisville, Nebr.



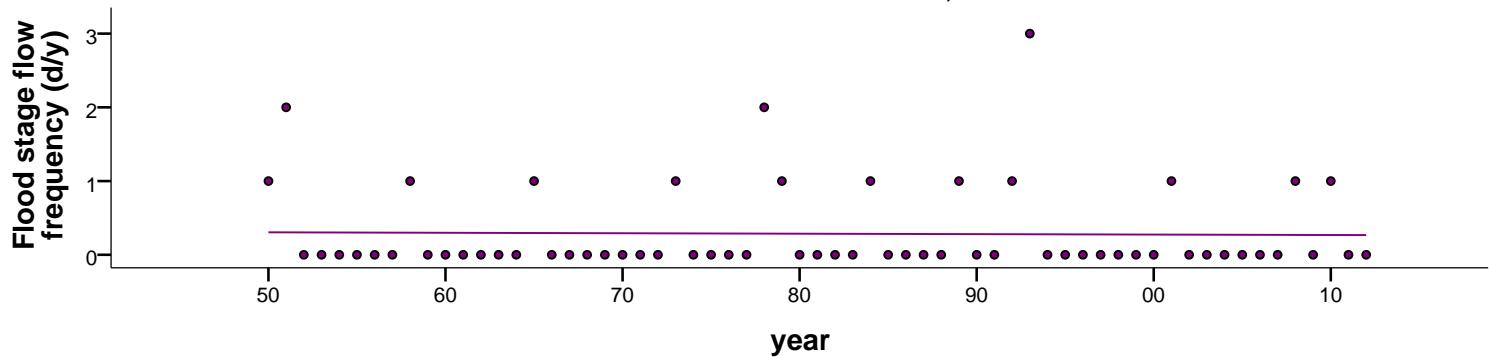
name: 06807000 - Missouri River at Nebraska City, NE



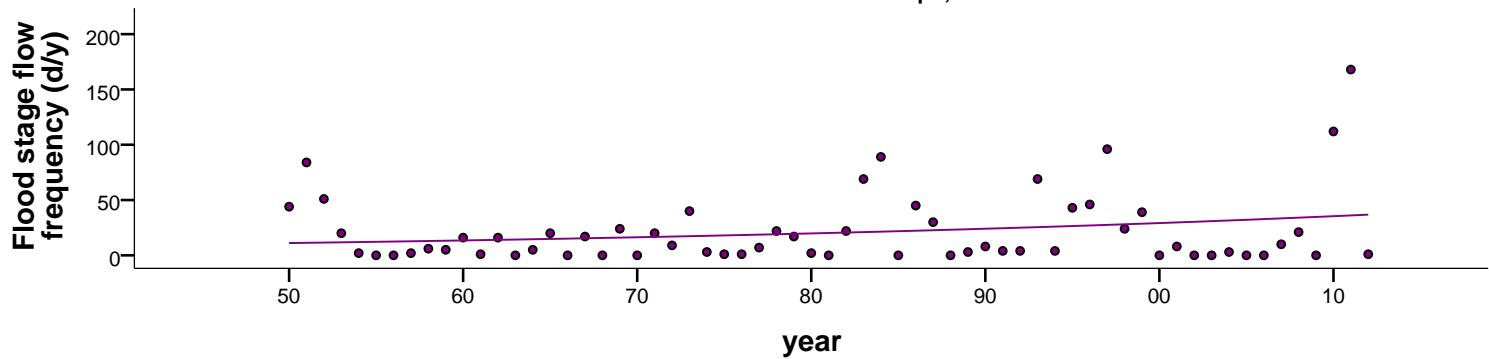
name: 06807410 - West Nishnabotna River at Hancock, IA



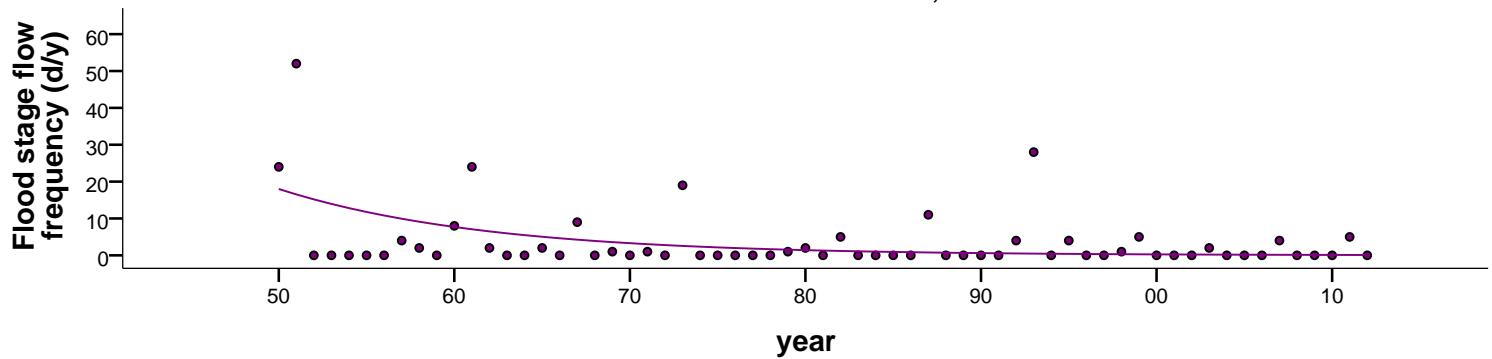
name: 06811500 - Little Nemaha River at Auburn, Nebr.

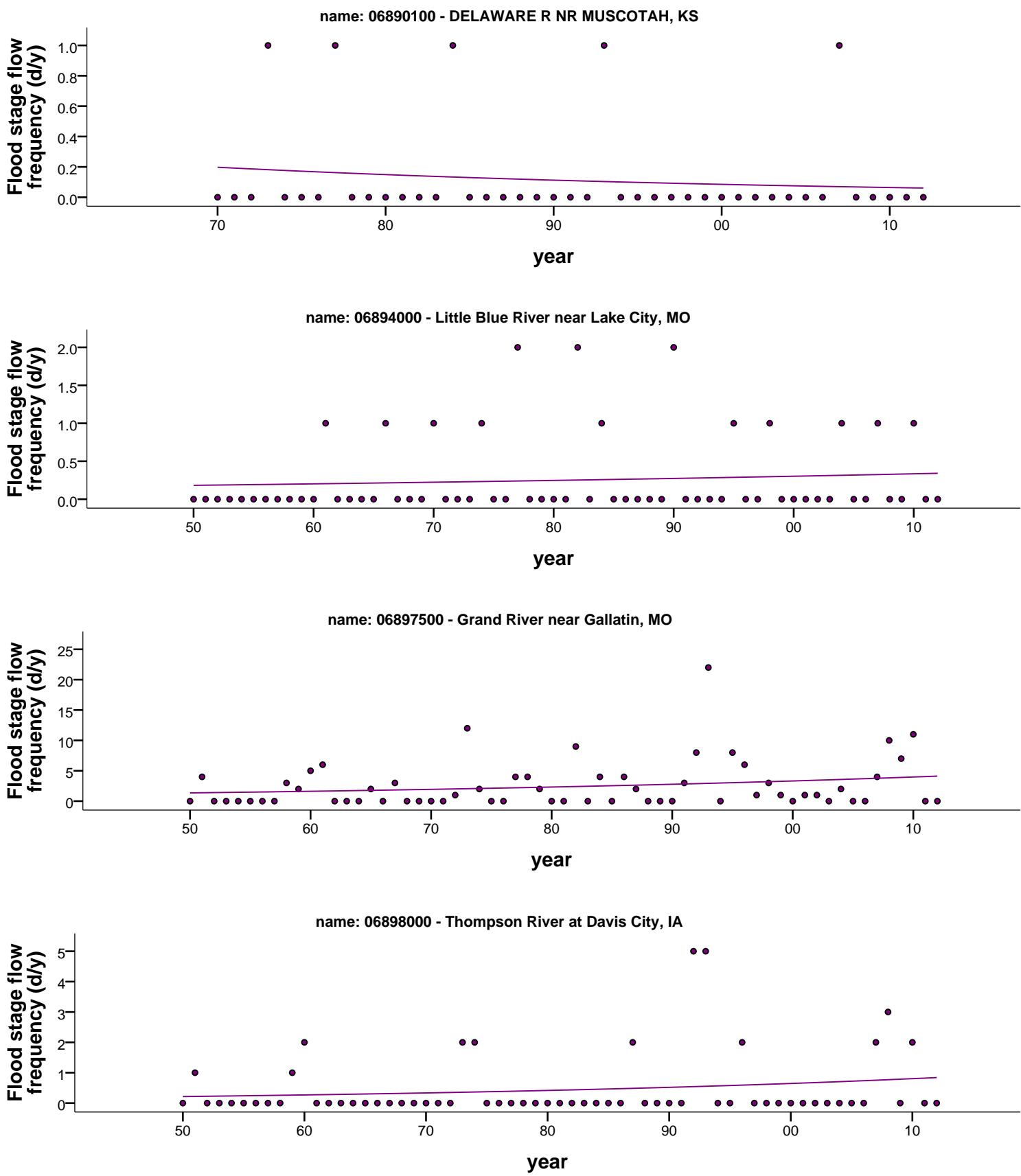


name: 06818000 - Missouri River at St. Joseph, MO

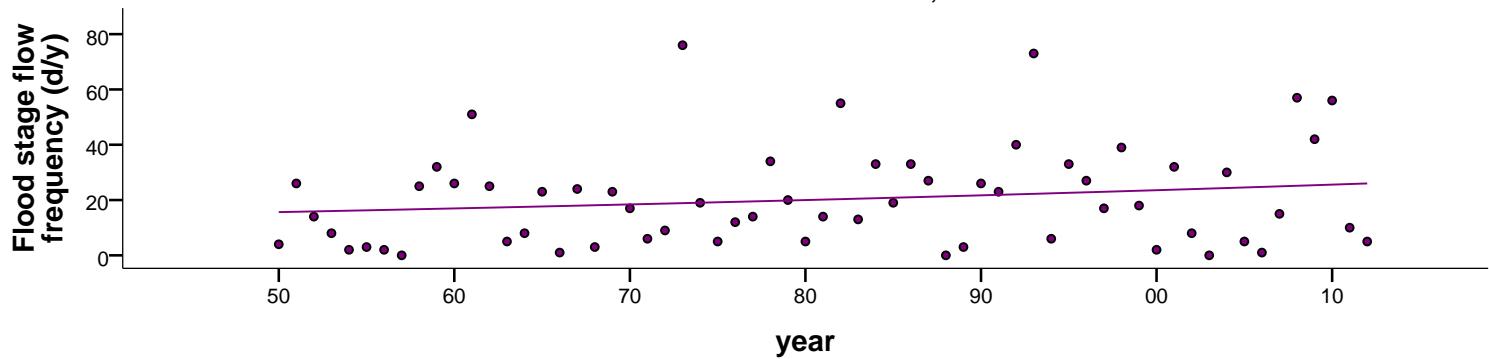


name: 06876900 - SOLOMON R AT NILES, KS

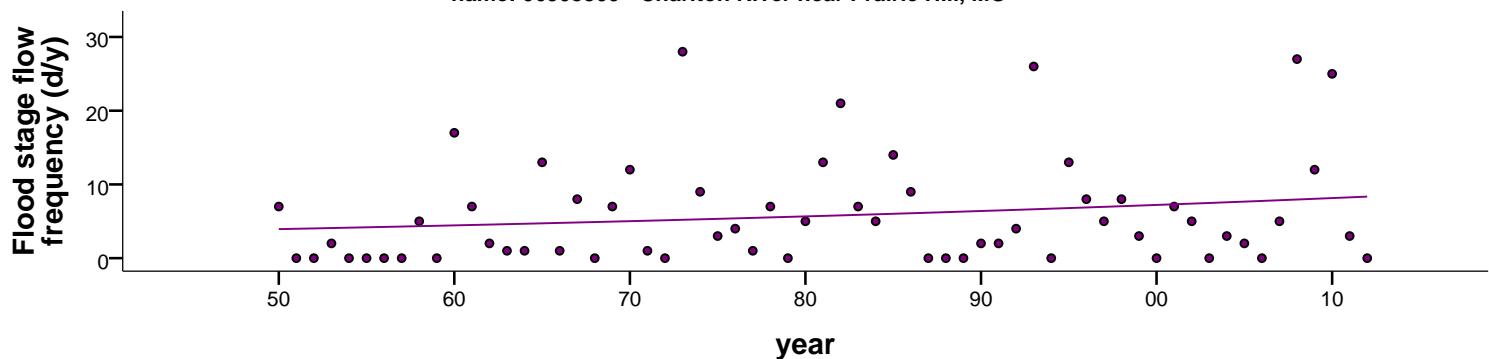




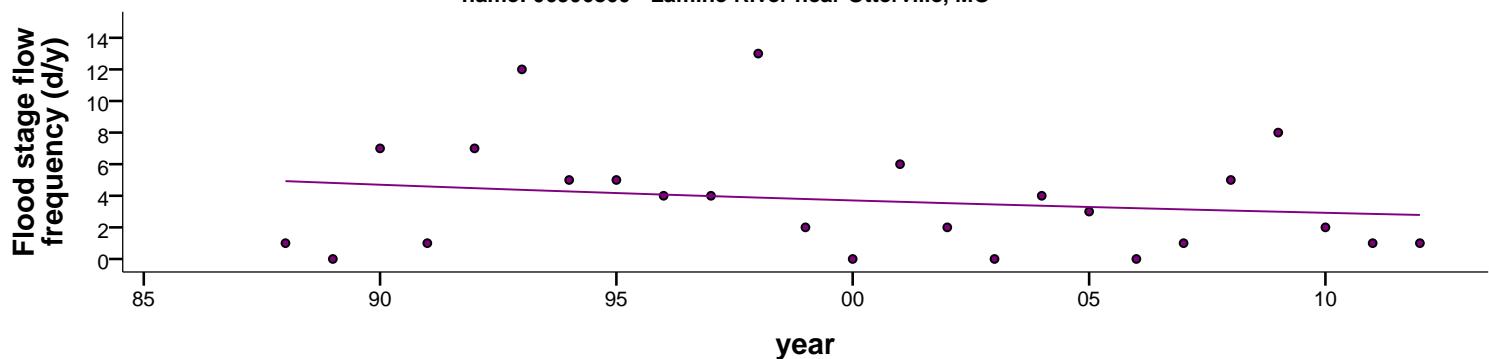
name: 06902000 - Grand River near Sumner, MO



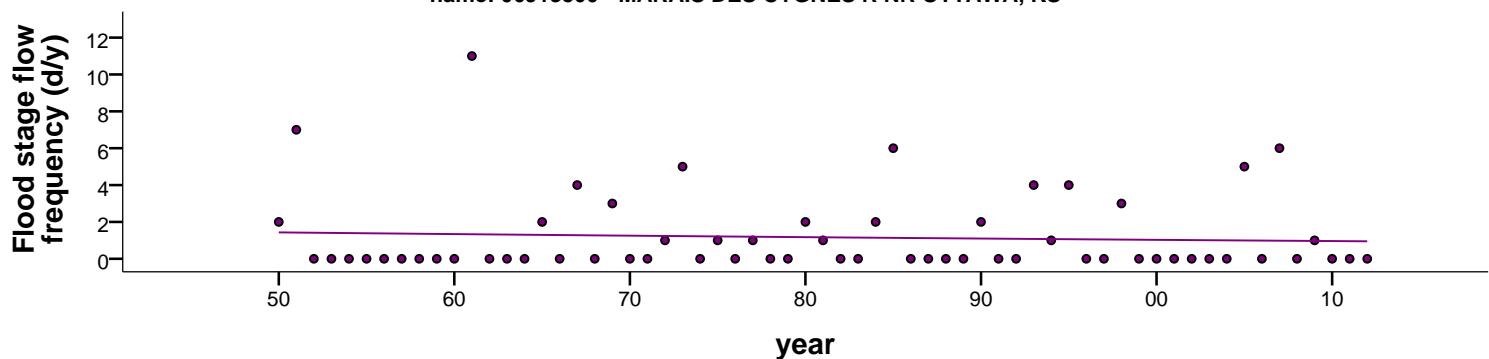
name: 06905500 - Chariton River near Prairie Hill, MO



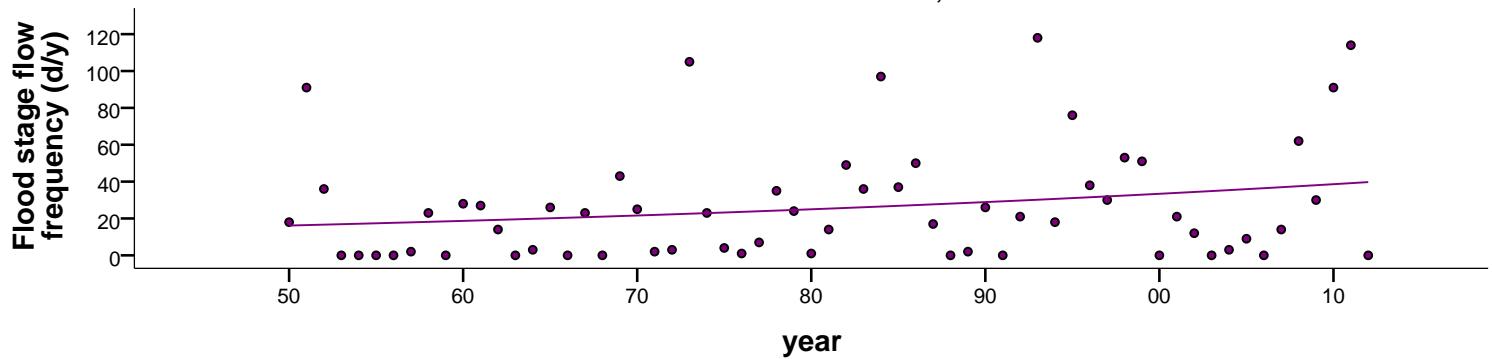
name: 06906800 - Lamine River near Otterville, MO



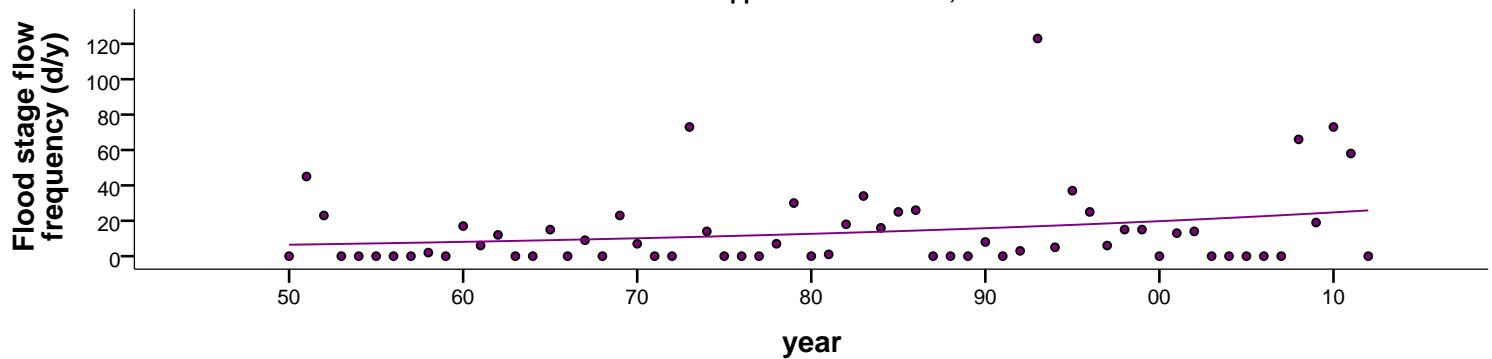
name: 06913500 - MARAIS DES CYGNES R NR OTTAWA, KS



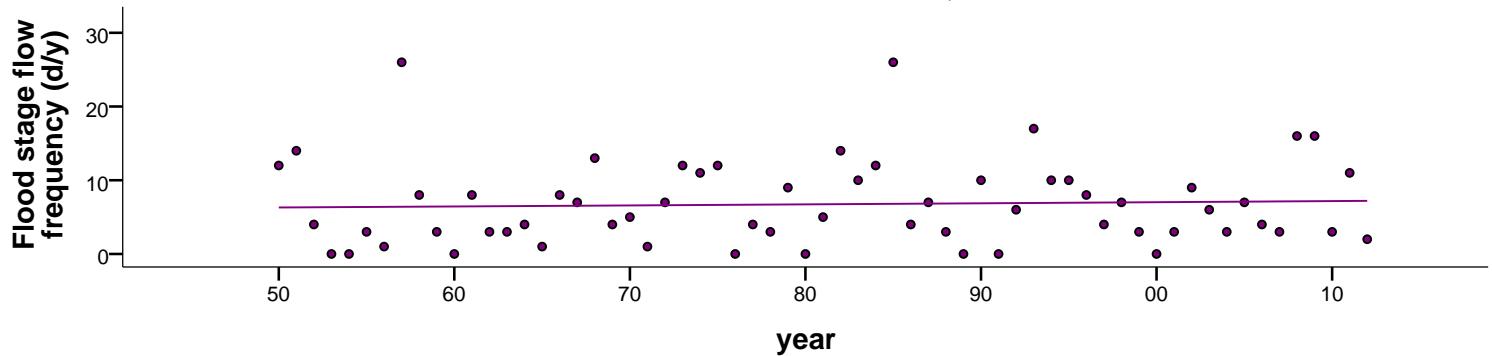
name: 06934500 - Missouri River at Hermann, MO



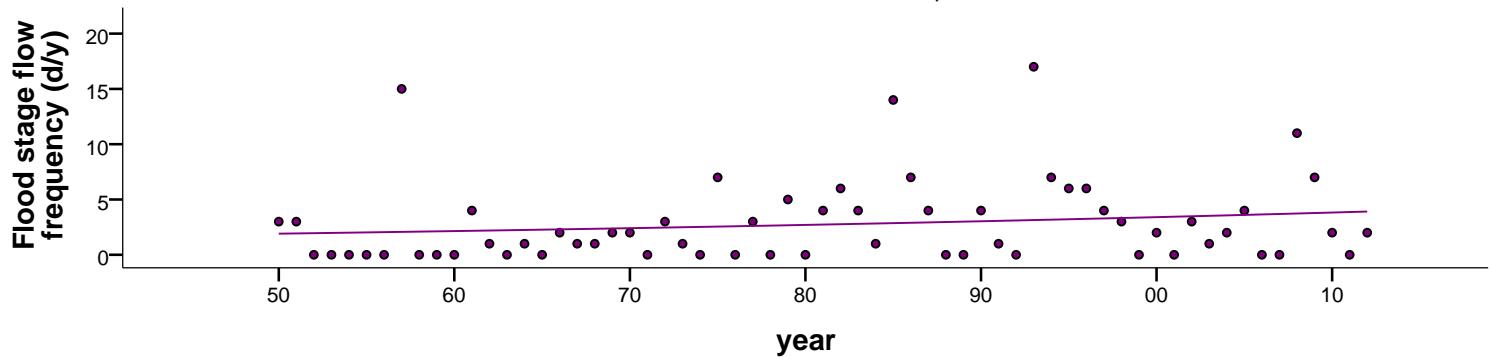
name: 07010000 - Mississippi River at St. Louis, MO



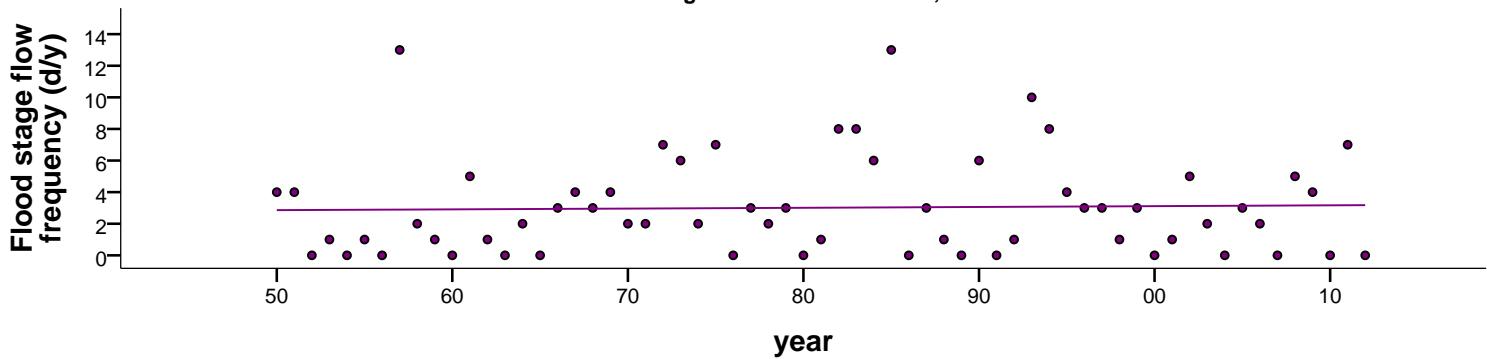
name: 07014500 - Meramec River near Sullivan, MO



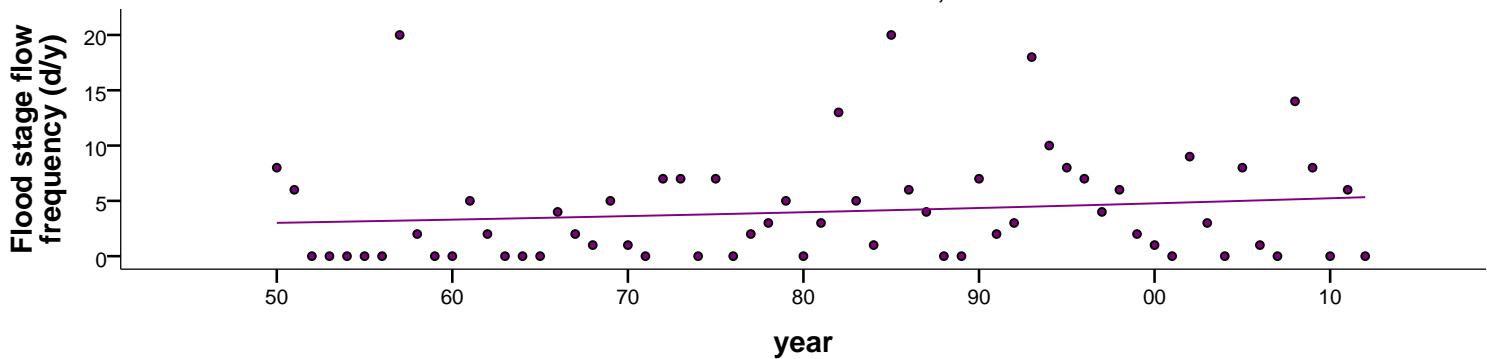
name: 07016500 - Bourbeuse River at Union, MO



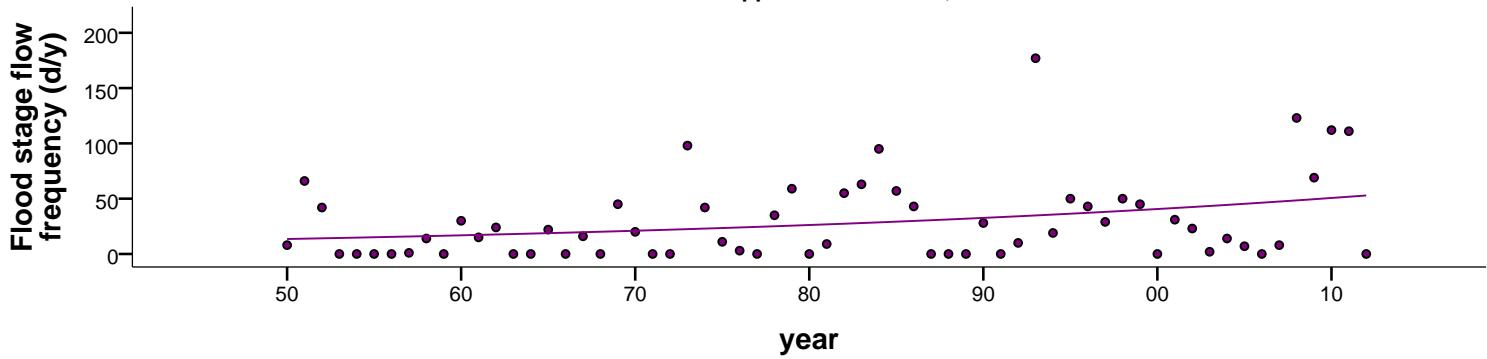
name: 07018100 - Big River near Richwoods, MO



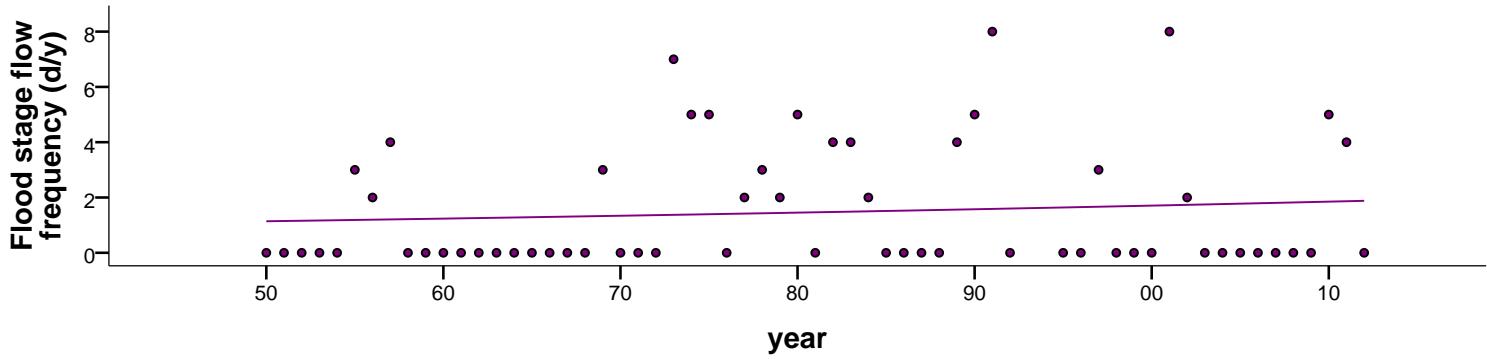
name: 07019000 - Meramec River near Eureka, MO



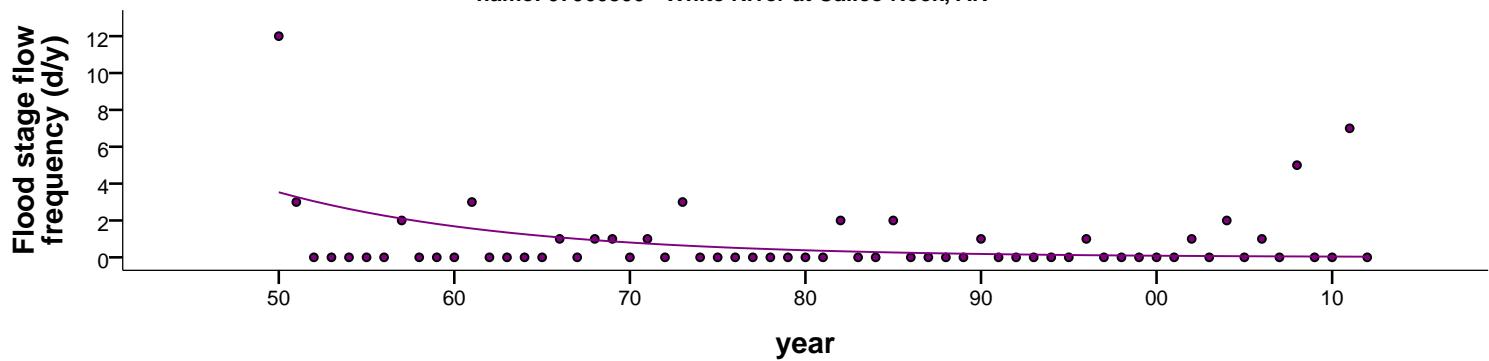
name: 07022000 - Mississippi River at Thebes, IL



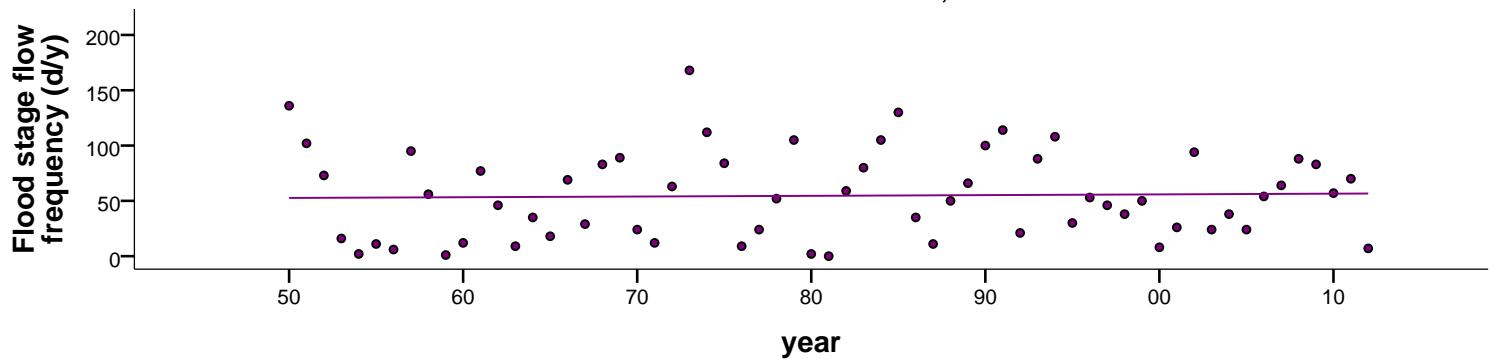
name: 07029500 - HATCHIE RIVER AT BOLIVAR, TN



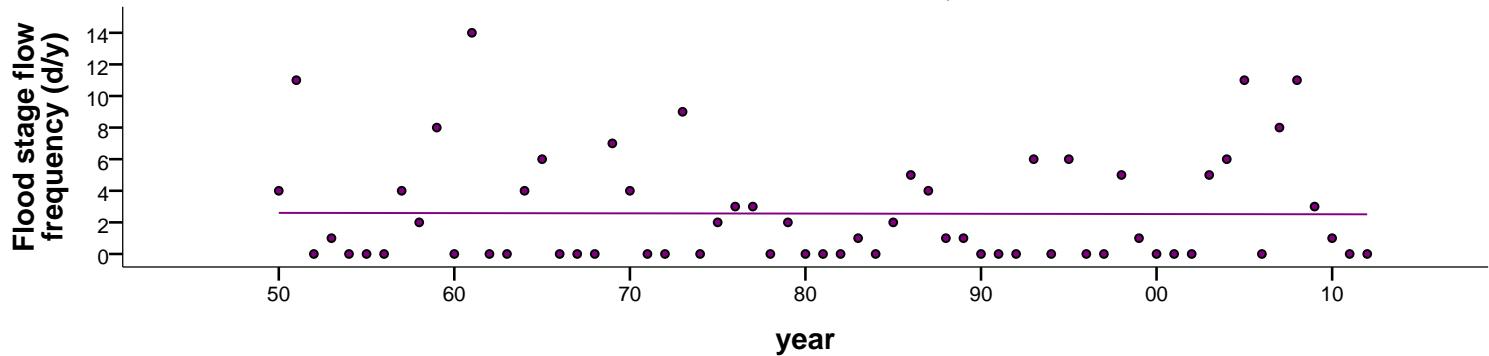
name: 07060500 - White River at Calico Rock, AR



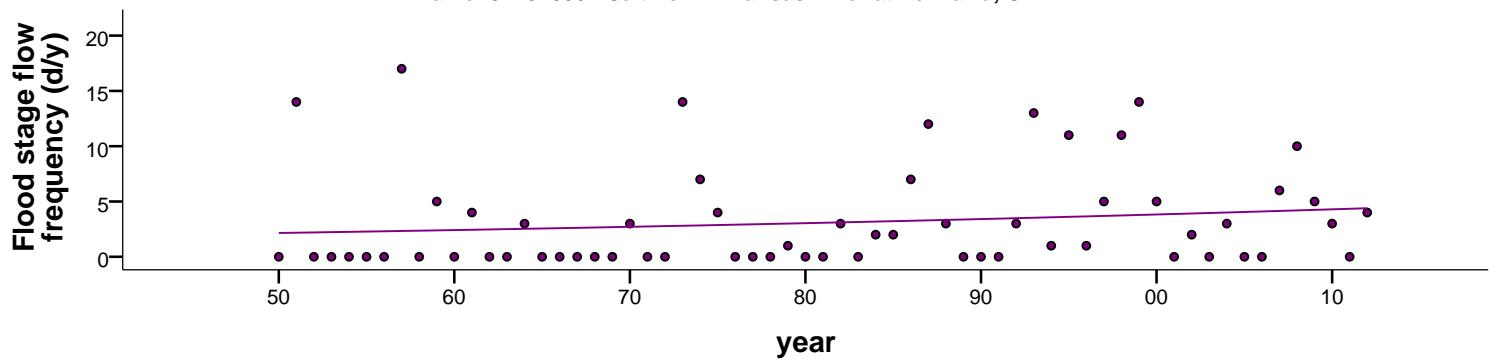
name: 07072500 - Black River at Black Rock, AR



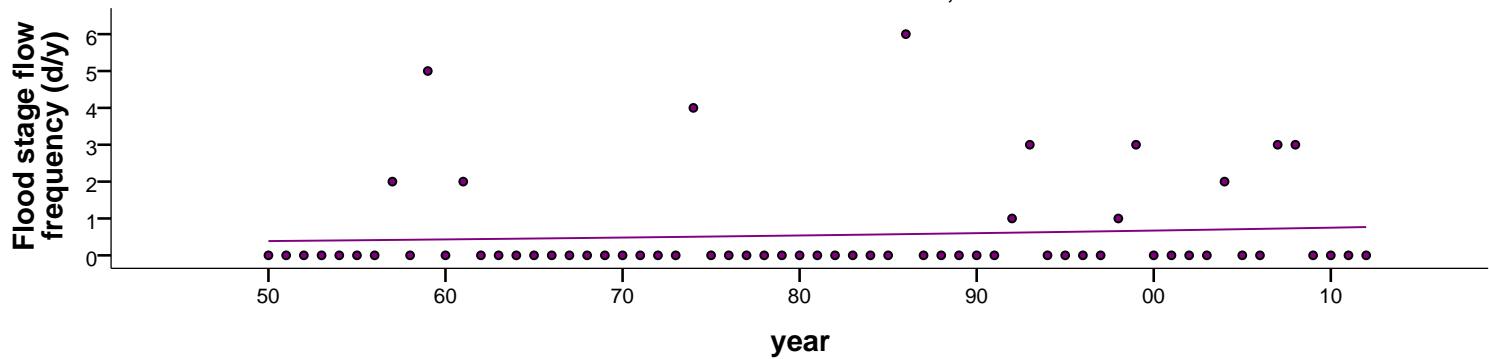
name: 07147800 - WALNUT R AT WINFIELD, KS



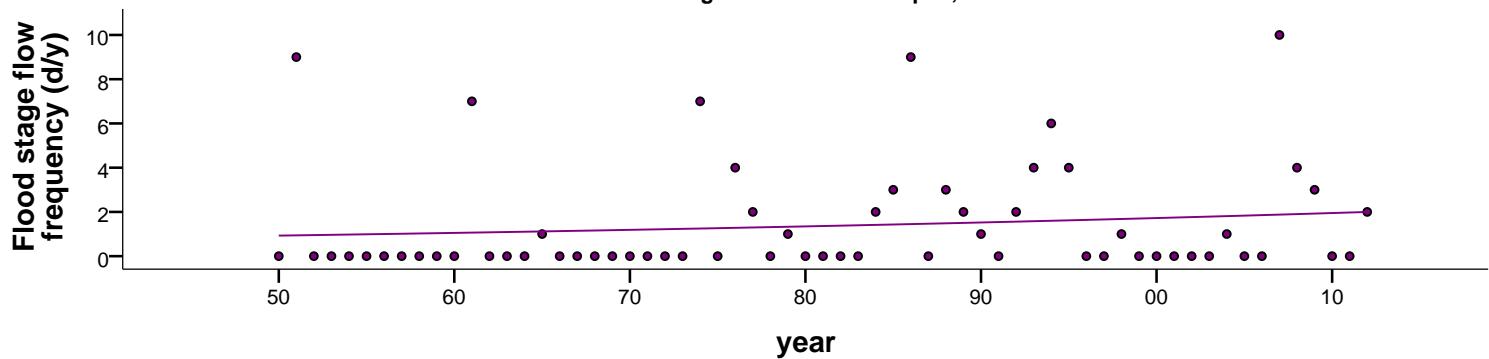
name: 07151000 - Salt Fork Arkansas River at Tonkawa, OK



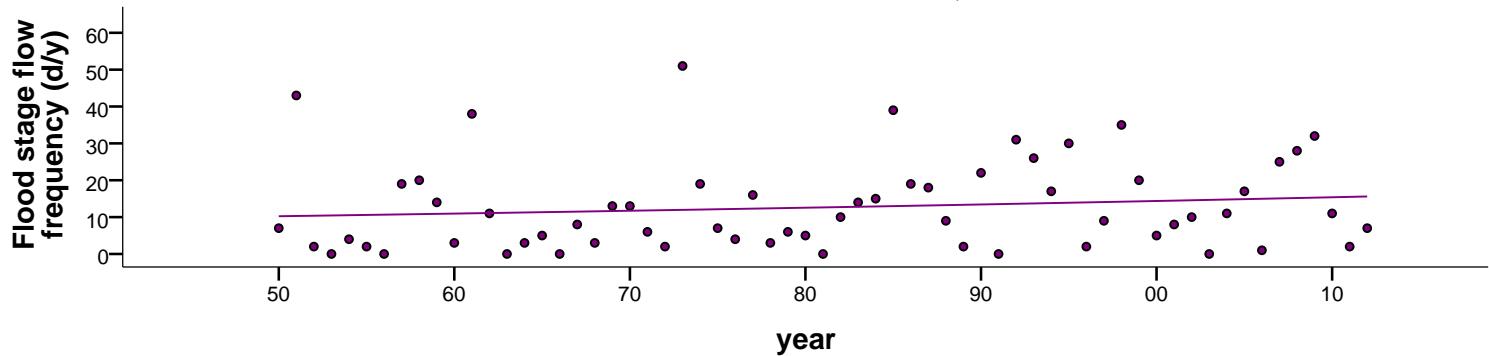
name: 07153000 - Black Bear Creek at Pawnee, OK



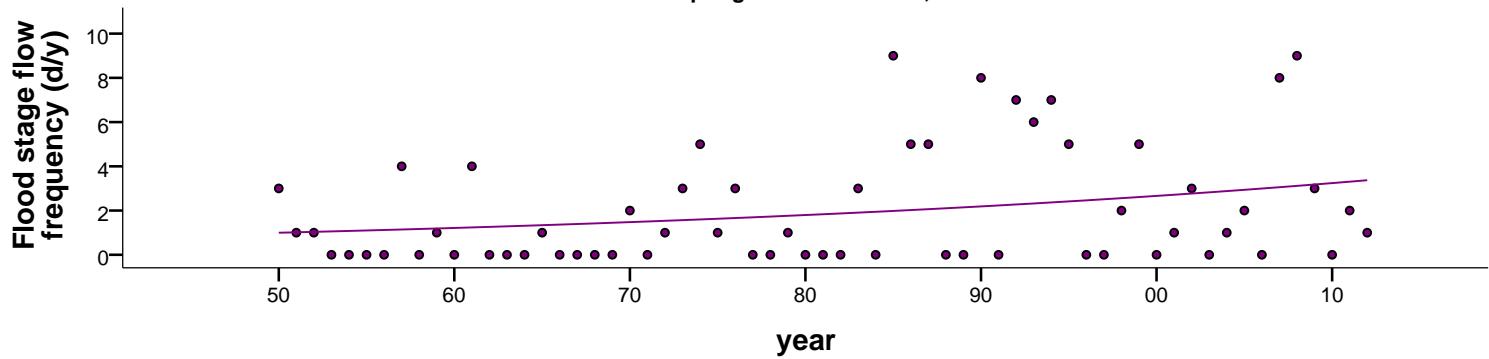
name: 07171000 - Verdigris River near Lenapah, OK



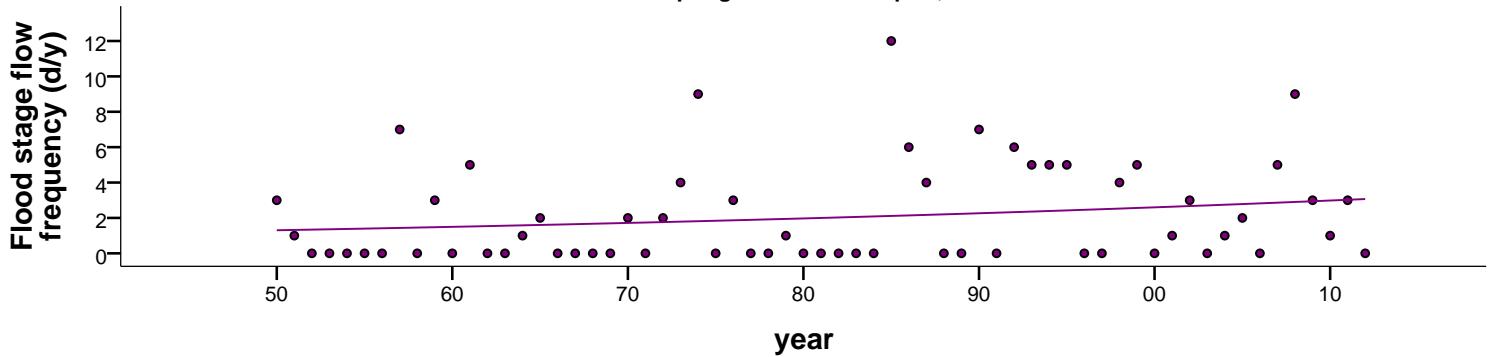
name: 07185000 - Neosho River near Commerce, OK



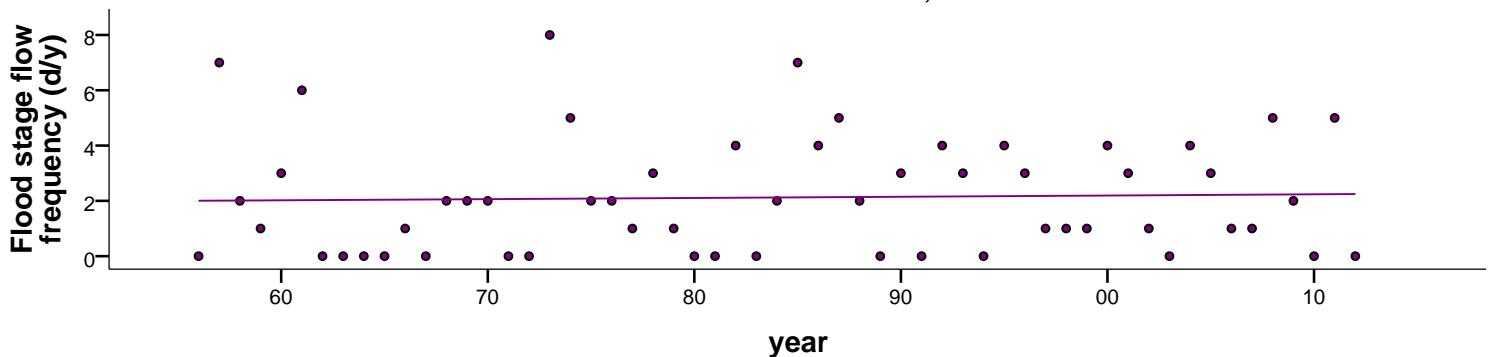
name: 07186000 - Spring River near Waco, MO



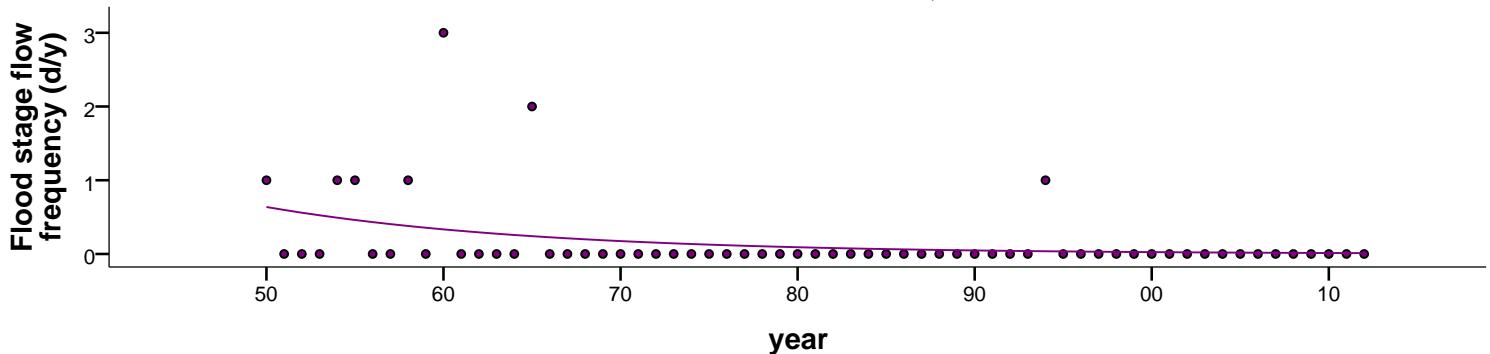
name: 07188000 - Spring River near Quapaw, OK



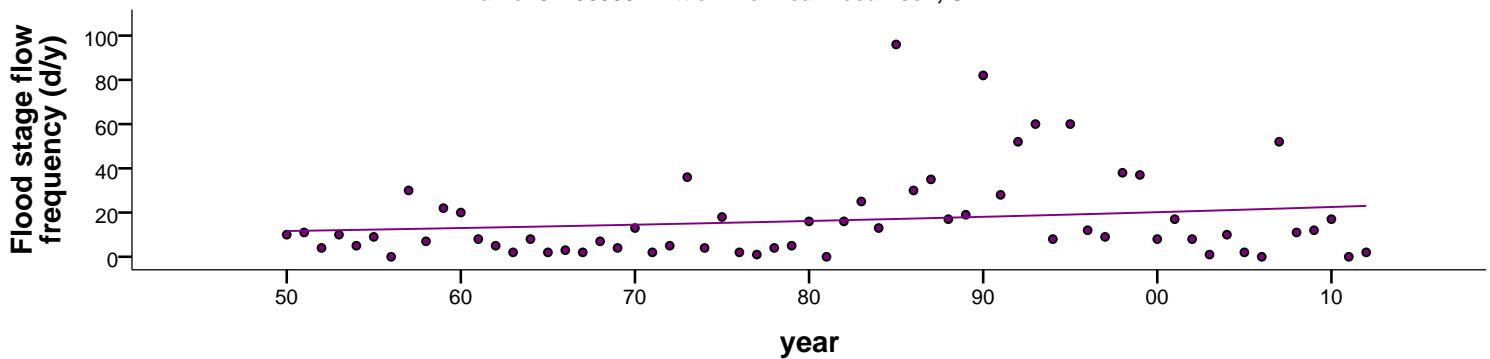
name: 07195500 - Illinois River near Watts, OK



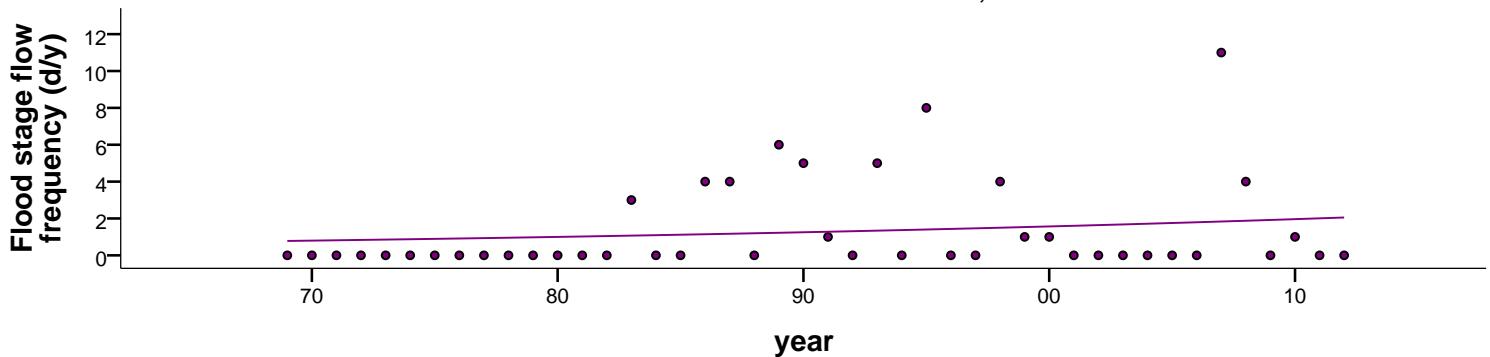
name: 07227500 - Canadian Rv nr Amarillo, TX



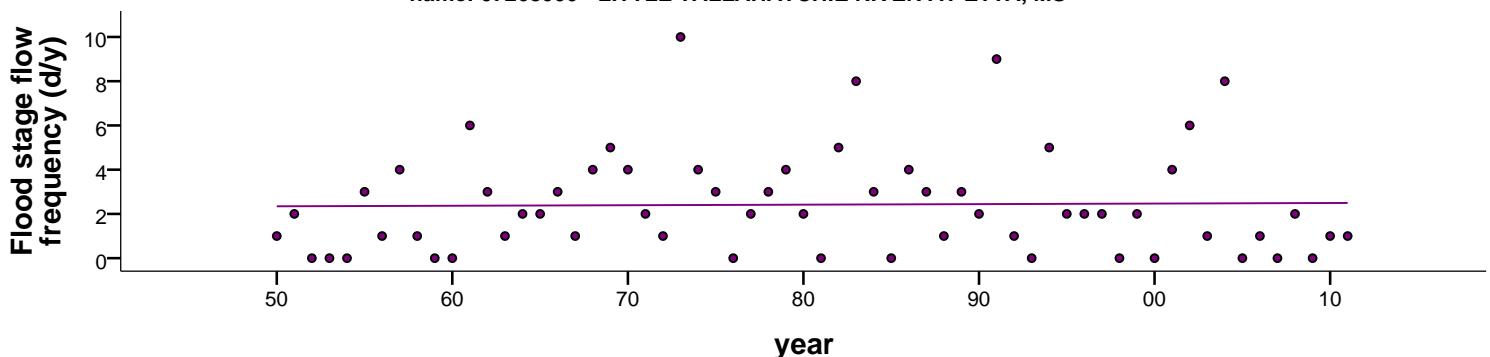
name: 07230500 - Little River near Tecumseh, OK



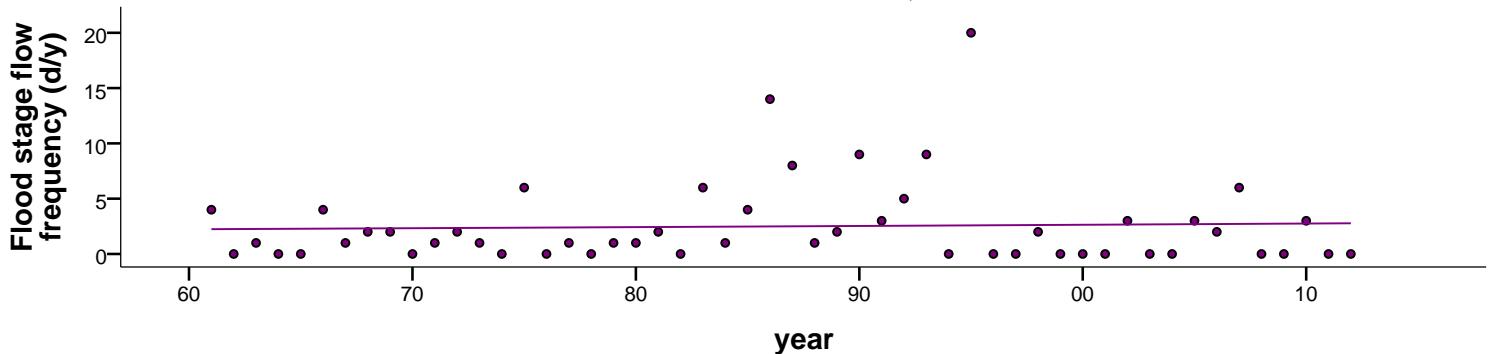
name: 07241550 - North Canadian River near Harrah, OK



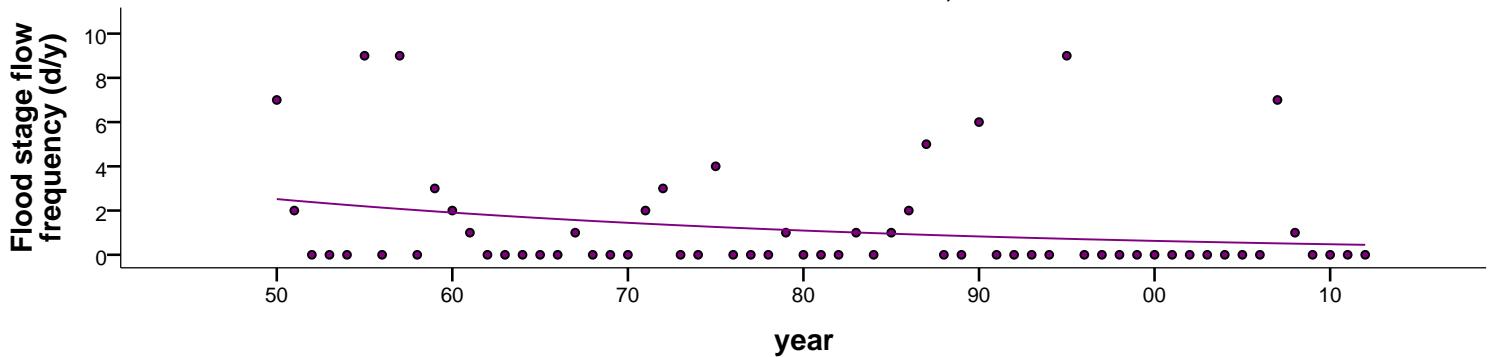
name: 07268000 - LITTLE TALLAHATCHIE RIVER AT ETTA, MS



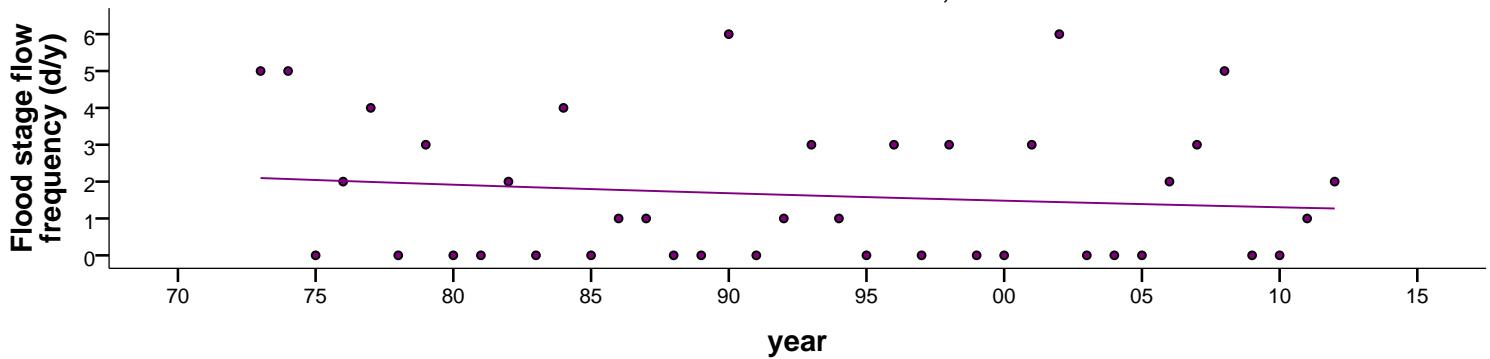
name: 07312200 - Beaver Ck nr Electra, TX



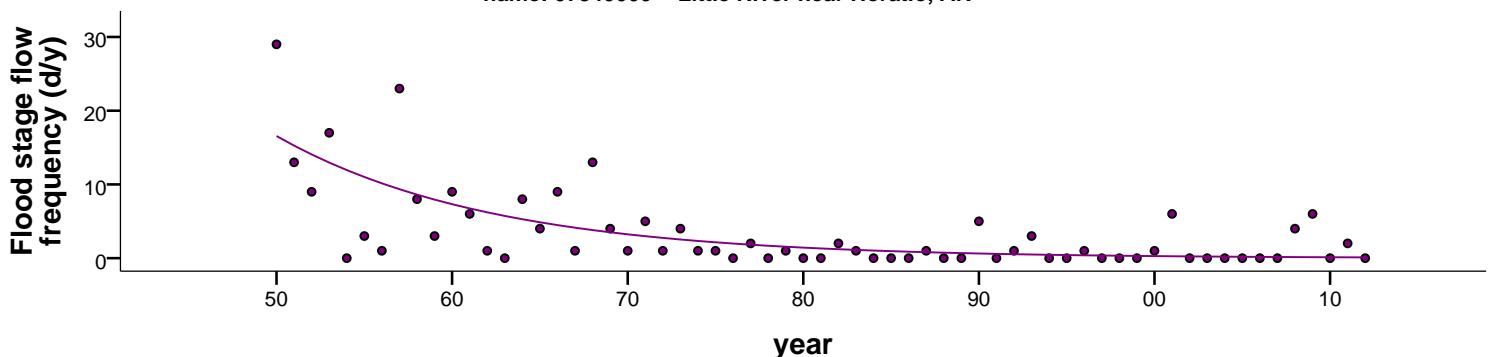
name: 07312500 - Wichita Rv at Wichita Falls, TX



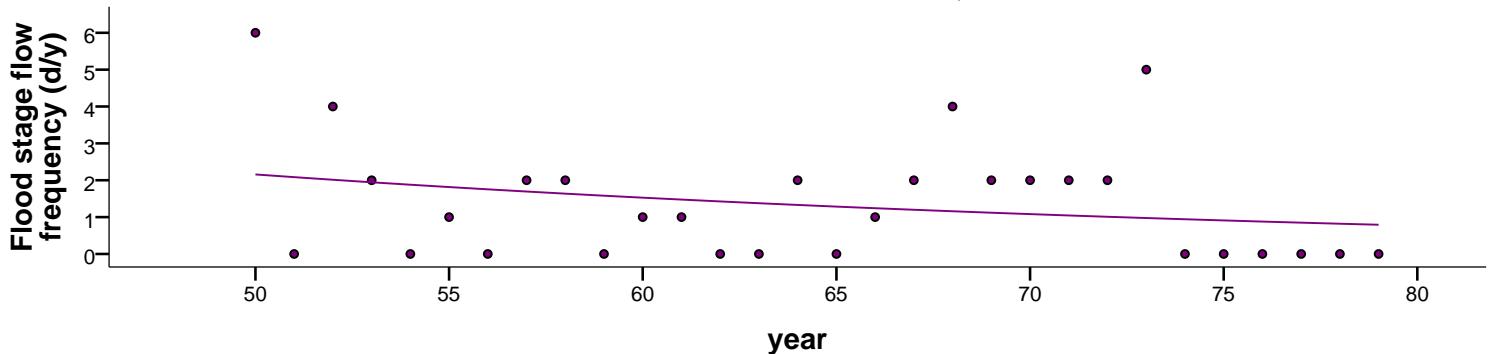
name: 07336200 - Kiamichi River near Antlers, OK



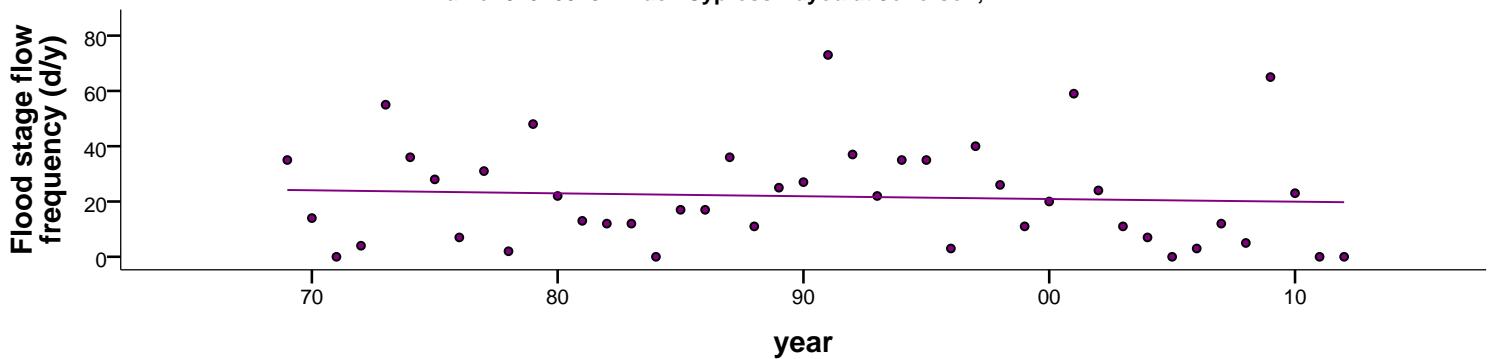
name: 07340000 - Little River near Horatio, AR



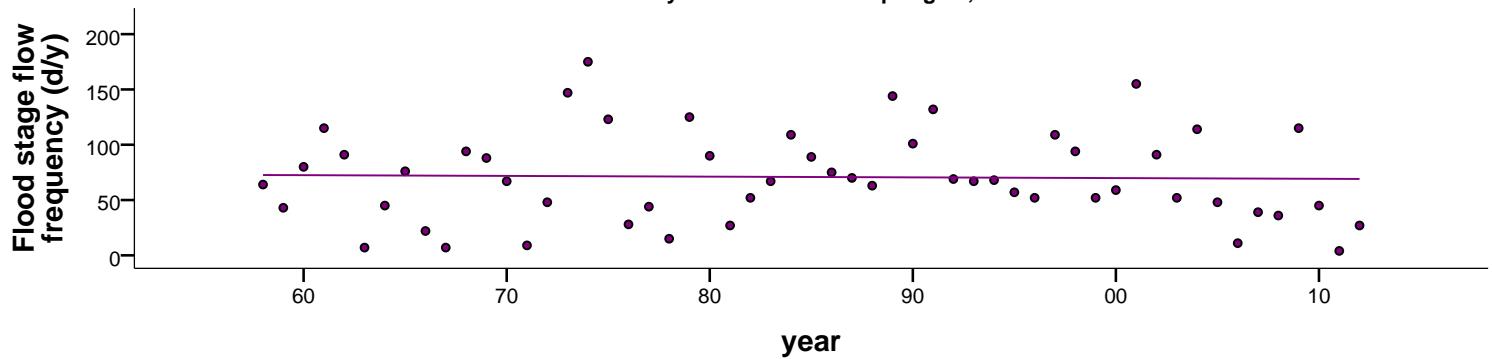
name: 07340500 - Cossatot River near DeQueen, AR



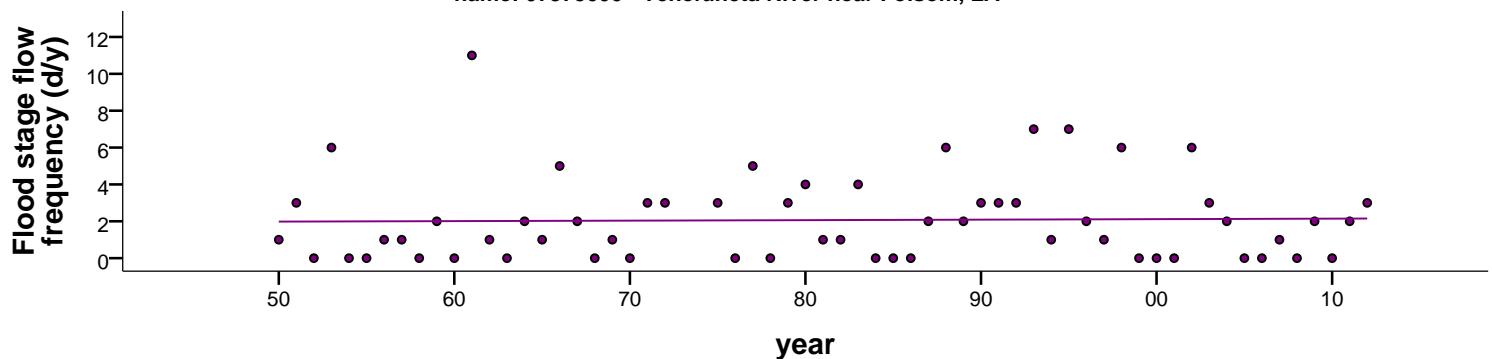
name: 07346045 - Black Cypress Bayou at Jefferson, TX



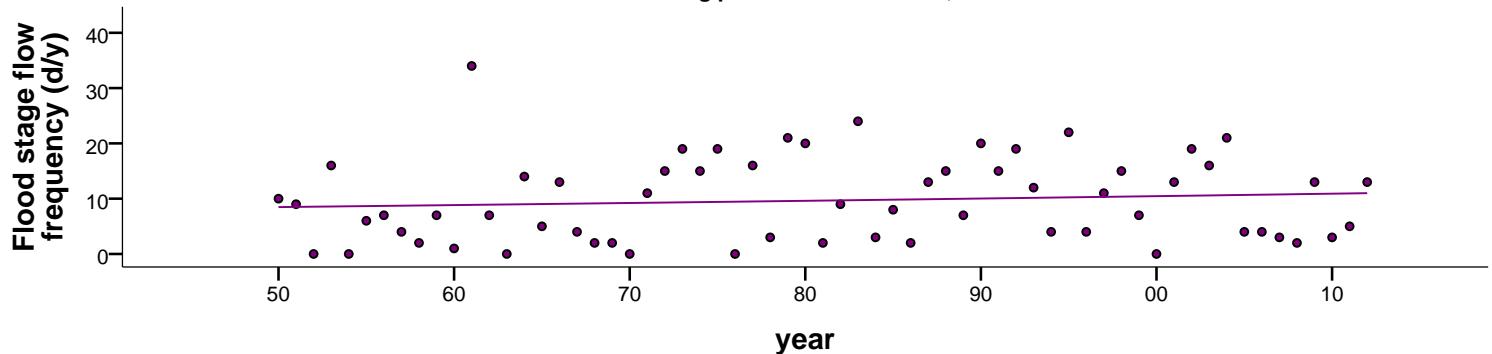
name: 07348700 - Bayou Dorcheat near Springhill, LA



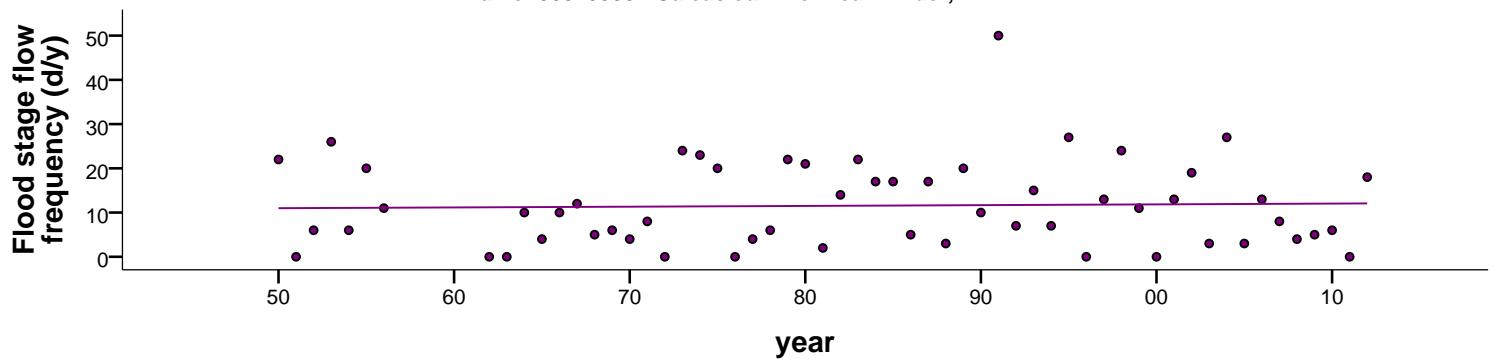
name: 07375000 - Tchefuncte River near Folsom, LA



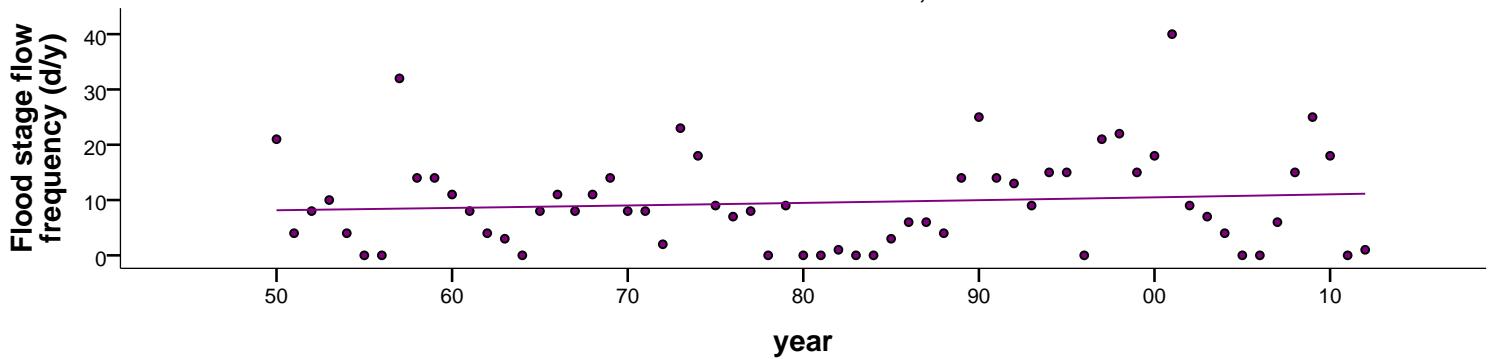
name: 07375500 - Tangipahoa River at Robert, LA



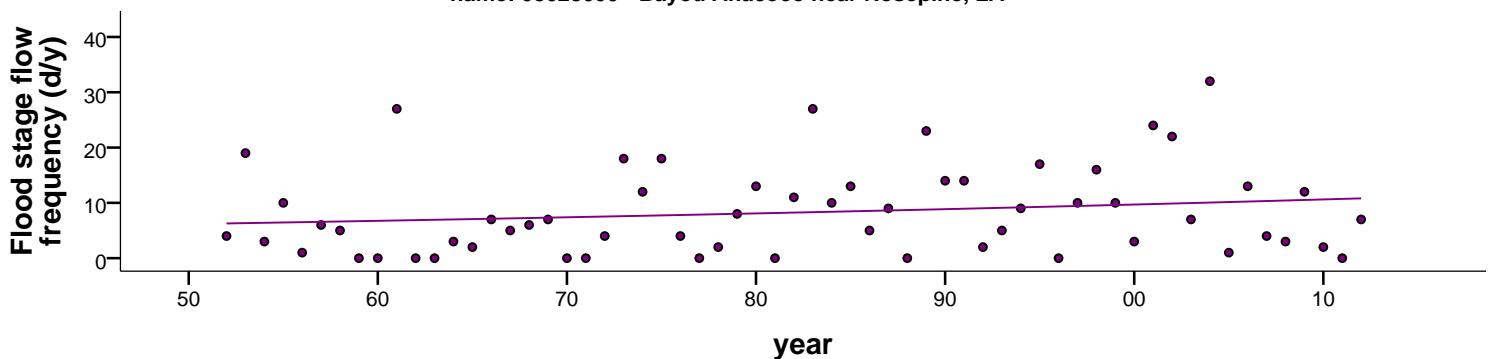
name: 08015500 - Calcasieu River near Kinder, LA



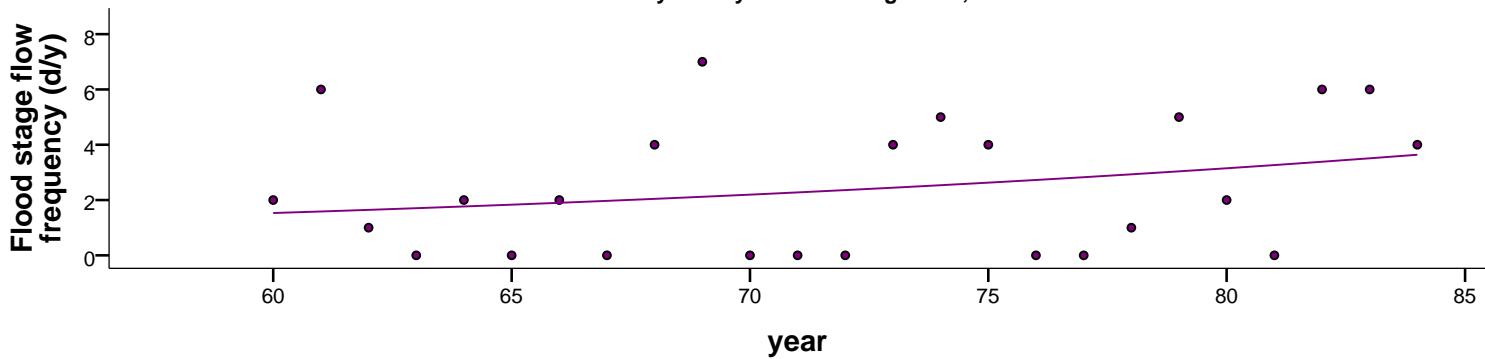
name: 08019000 - Lake Fk Ck nr Quitman, TX



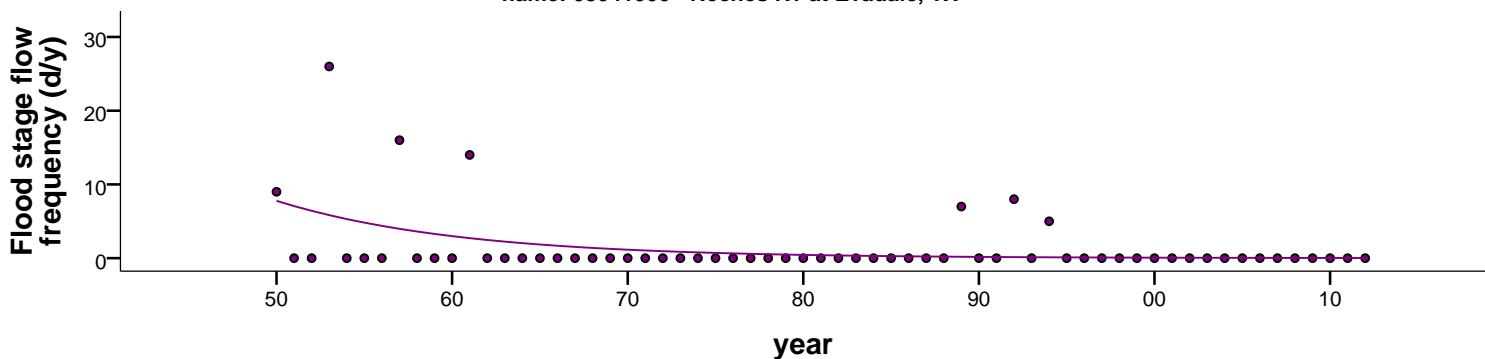
name: 08028000 - Bayou Anacoco near Rosepine, LA



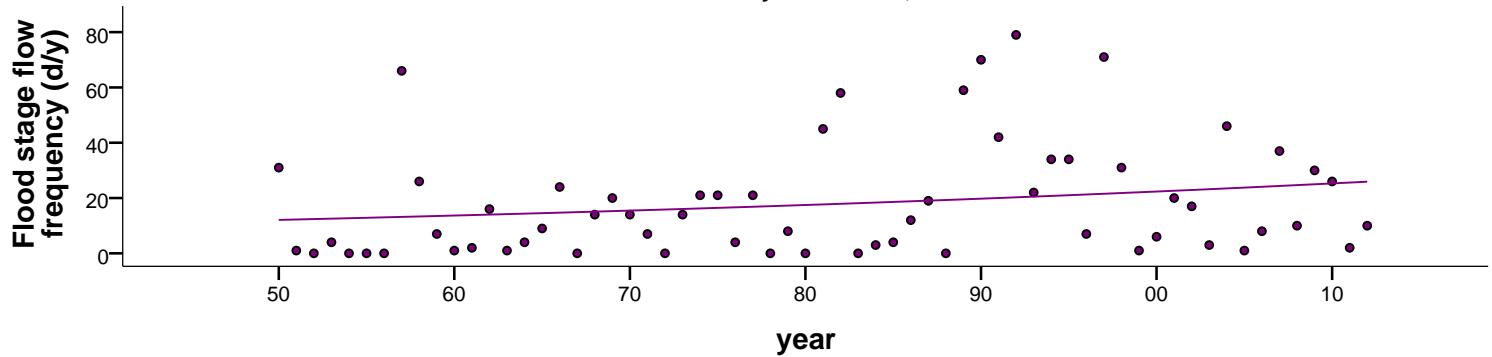
name: 08039100 - Ayish Bayou nr San Augustine, TX



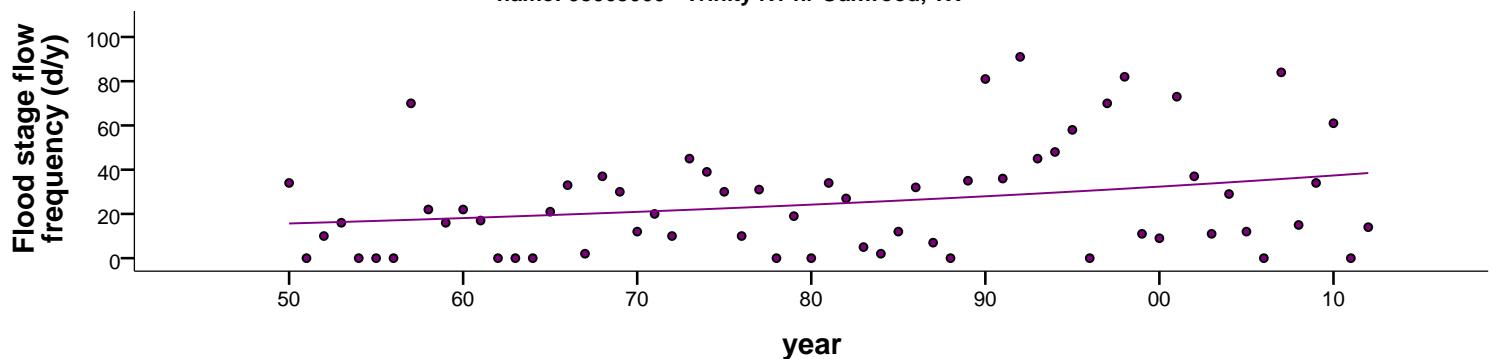
name: 08041000 - Neches Rv at Evadale, TX



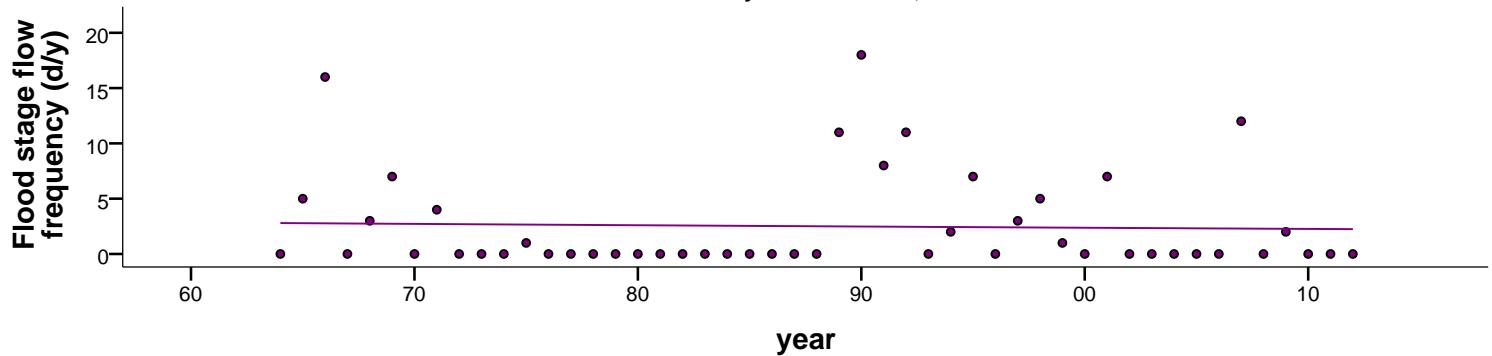
name: 08057000 - Trinity Rv at Dallas, TX



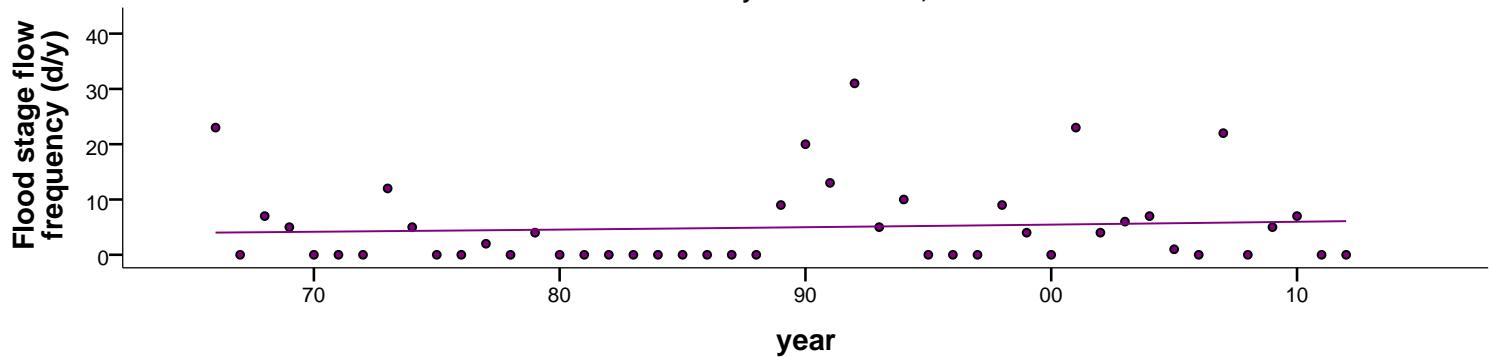
name: 08065000 - Trinity Rv nr Oakwood, TX



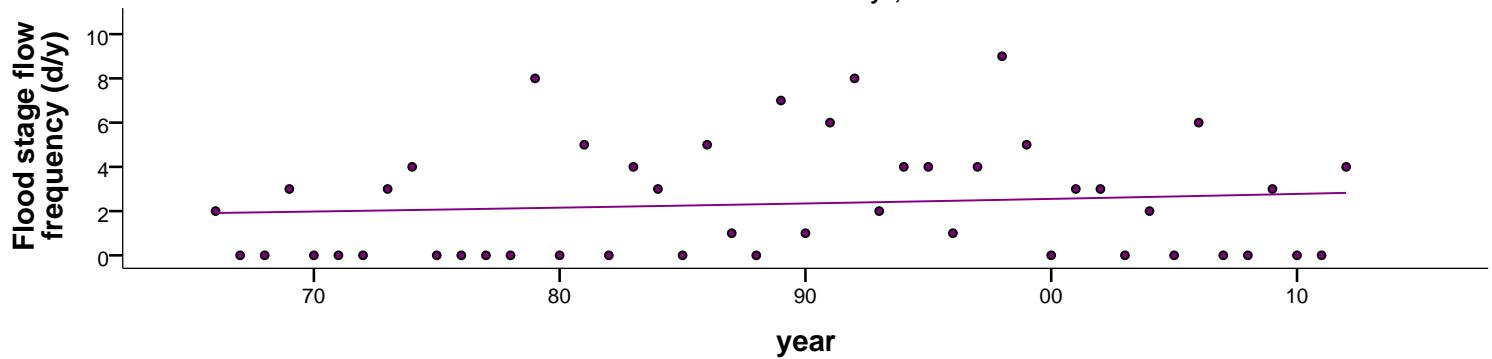
name: 08065350 - Trinity Rv nr Crockett, TX



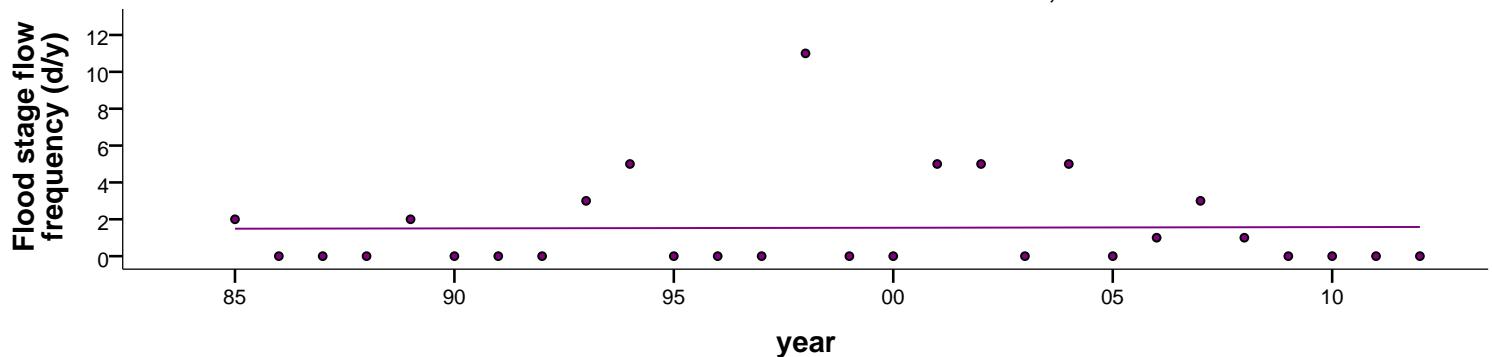
name: 08066250 - Trinity Rv nr Goodrich, TX



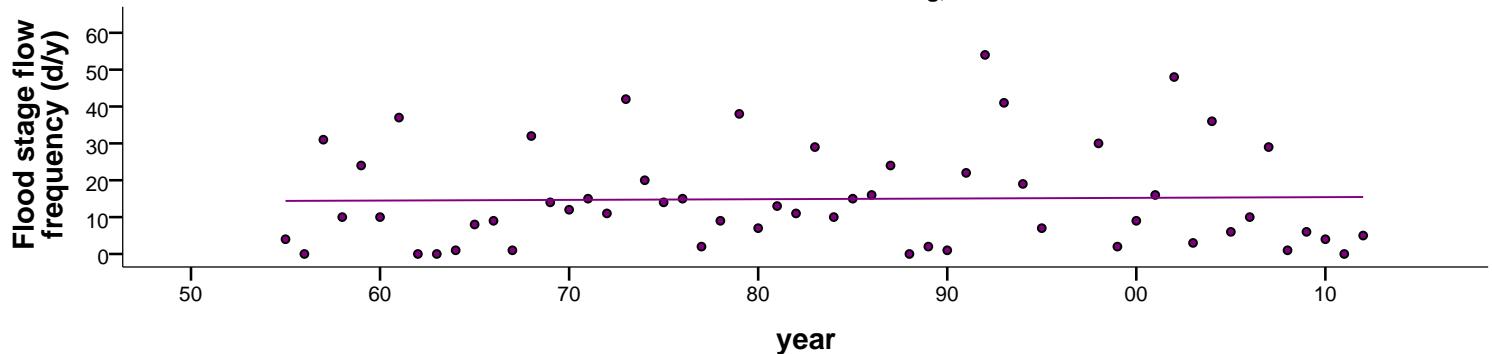
name: 08066300 - Menard Ck nr Rye, TX



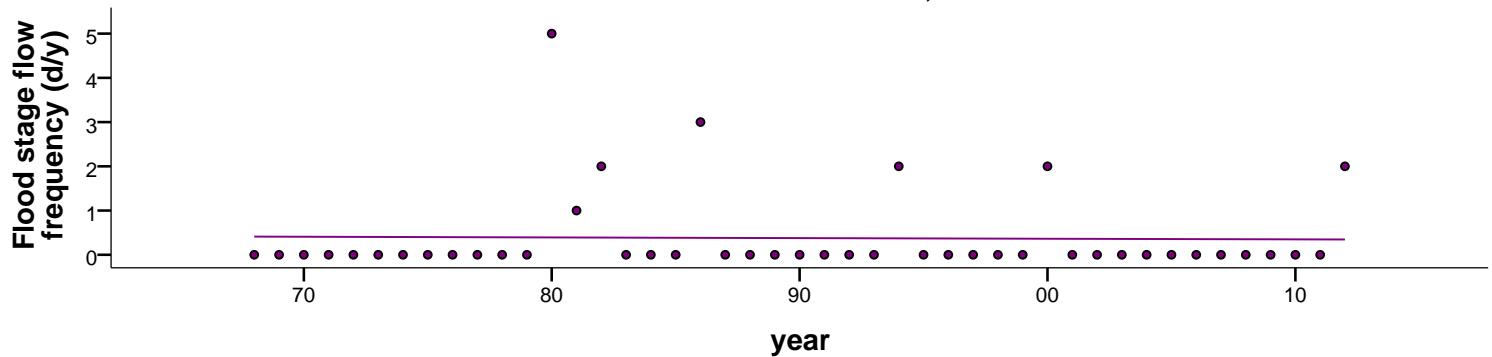
name: 08068090 - W Fk San Jacinto Rv abv Lk Houston nr Porter, TX



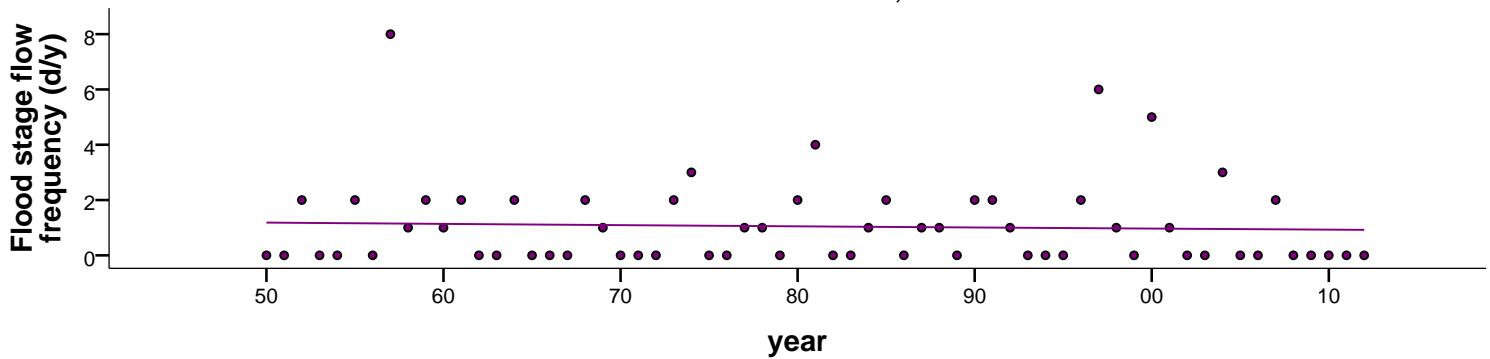
name: 08117500 - San Bernard Rv nr Boling, TX



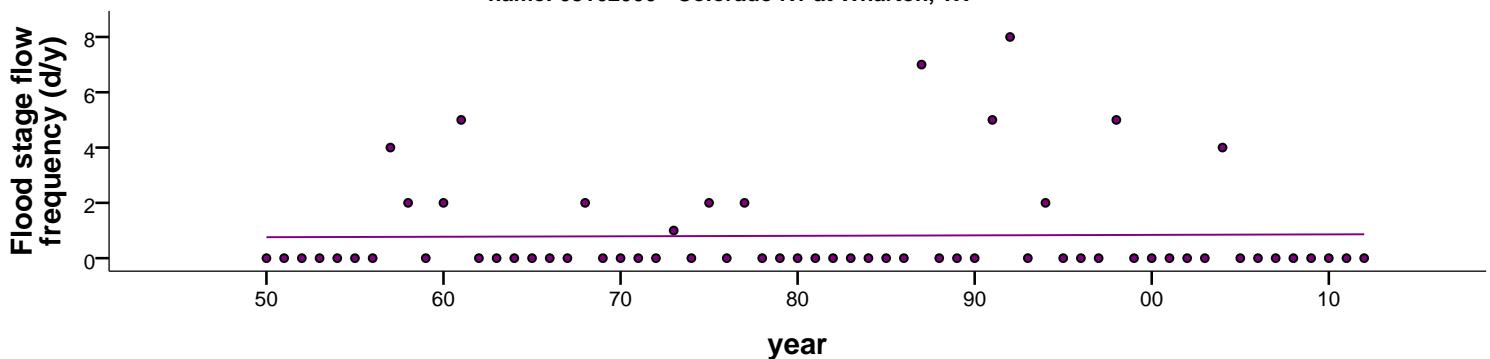
name: 08123850 - Colorado Rv abv Silver, TX



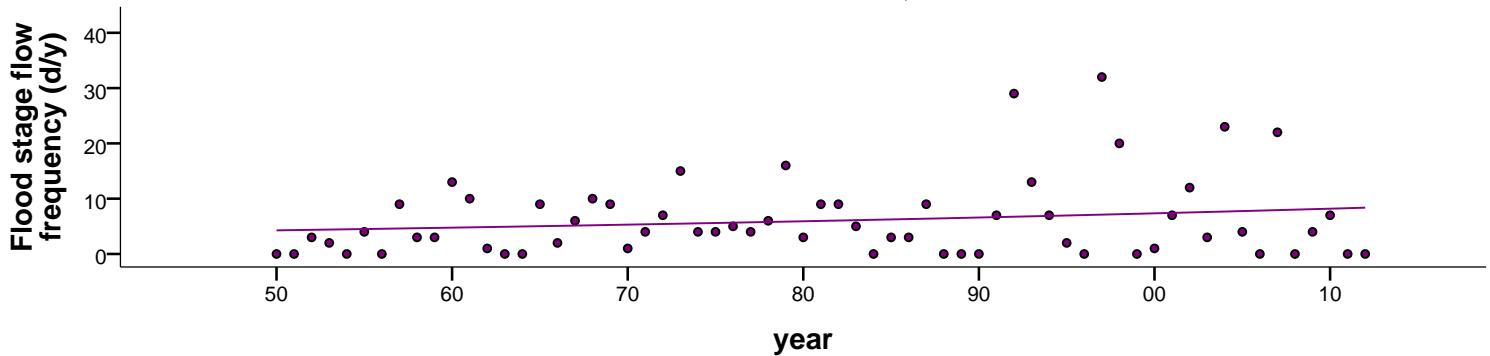
name: 08151500 - Llano Rv at Llano, TX



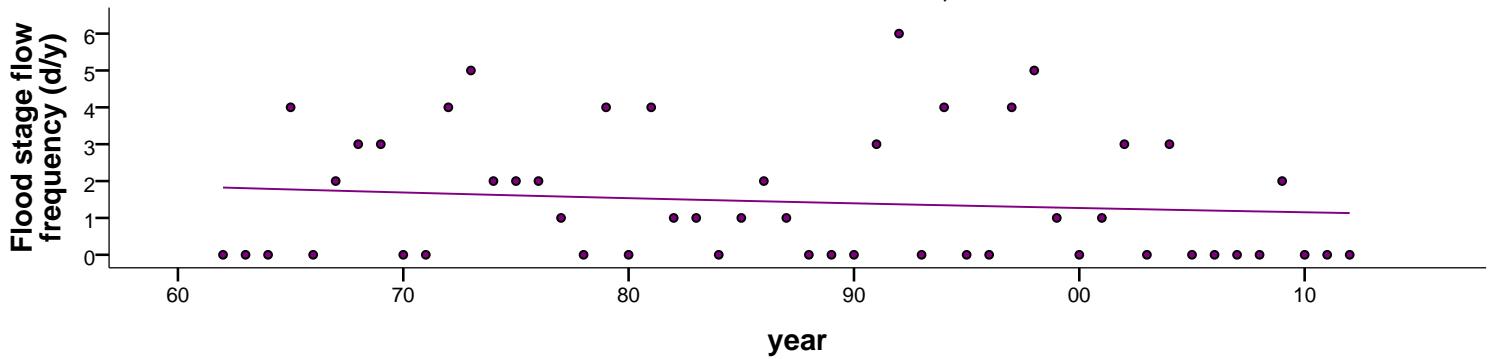
name: 08162000 - Colorado Rv at Wharton, TX



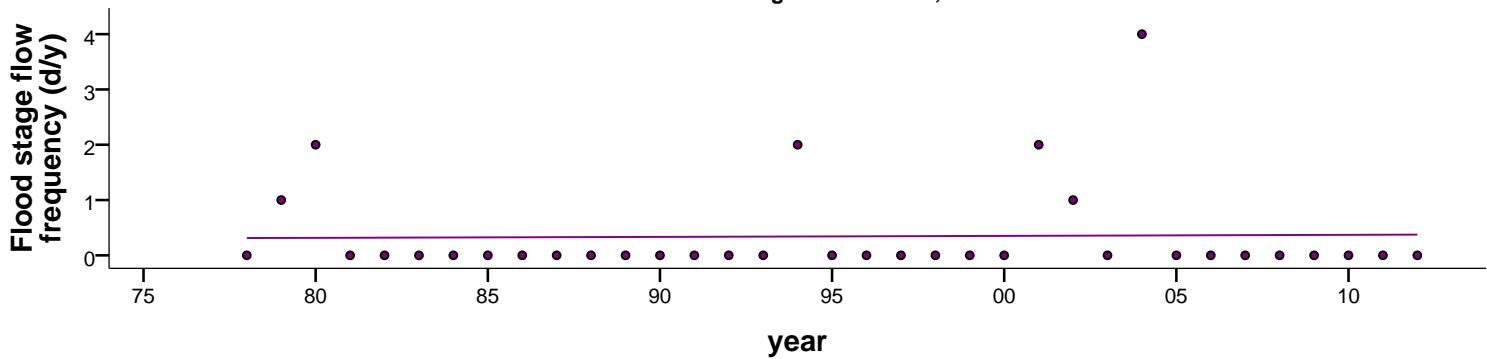
name: 08164000 - Lavaca Rv nr Edna, TX



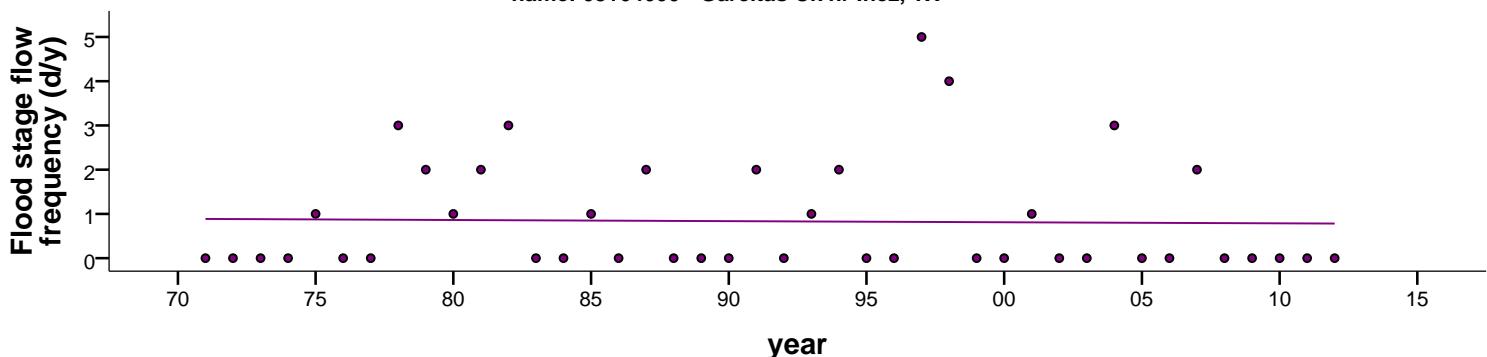
name: 08164300 - Navidad Rv nr Hallettsville, TX



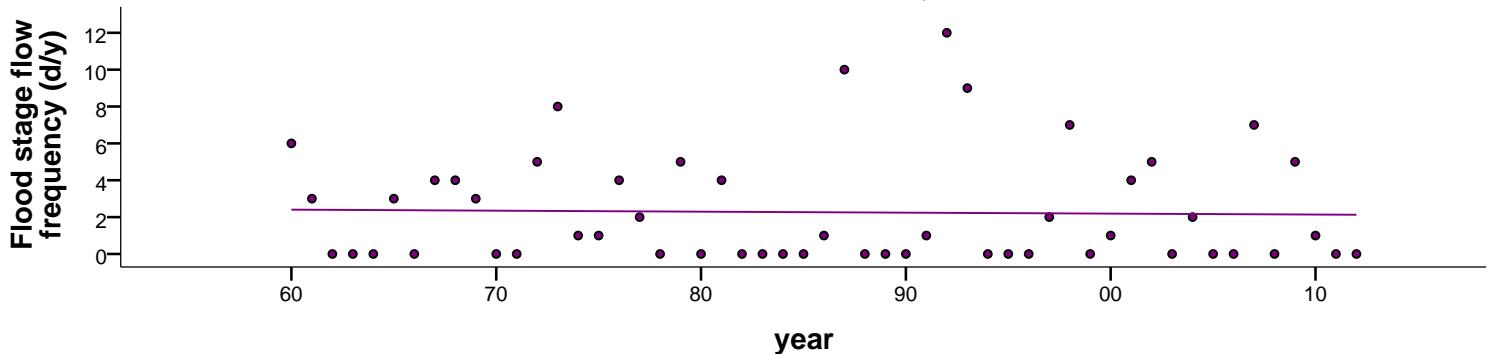
name: 08164503 - W Mustang Ck nr Ganado, TX



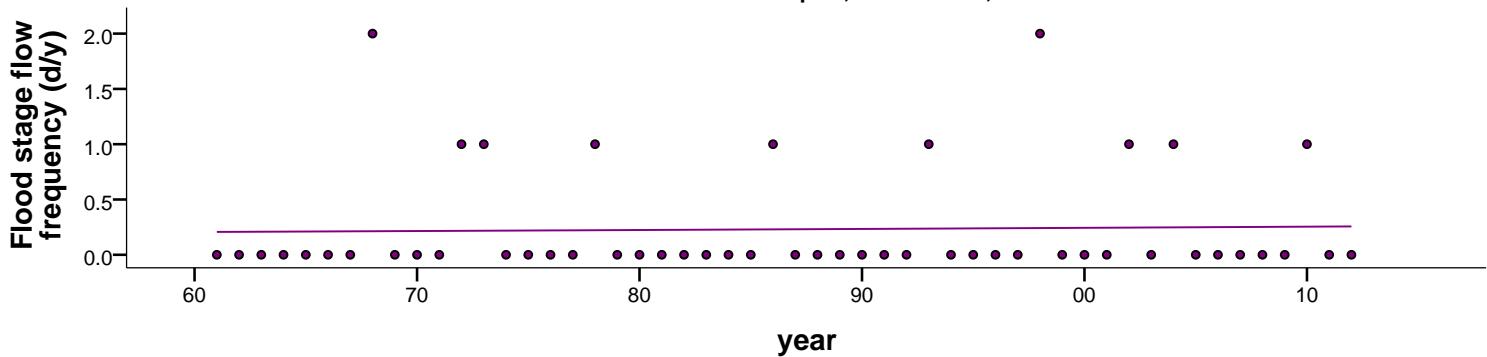
name: 08164600 - Garcitas Ck nr Inez, TX



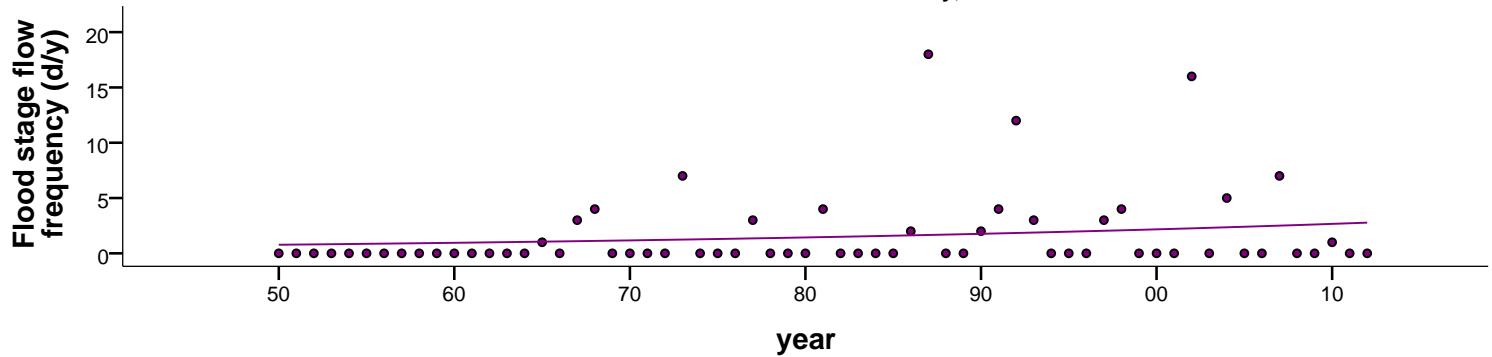
name: 08175000 - Sandies Ck nr Westhoff, TX



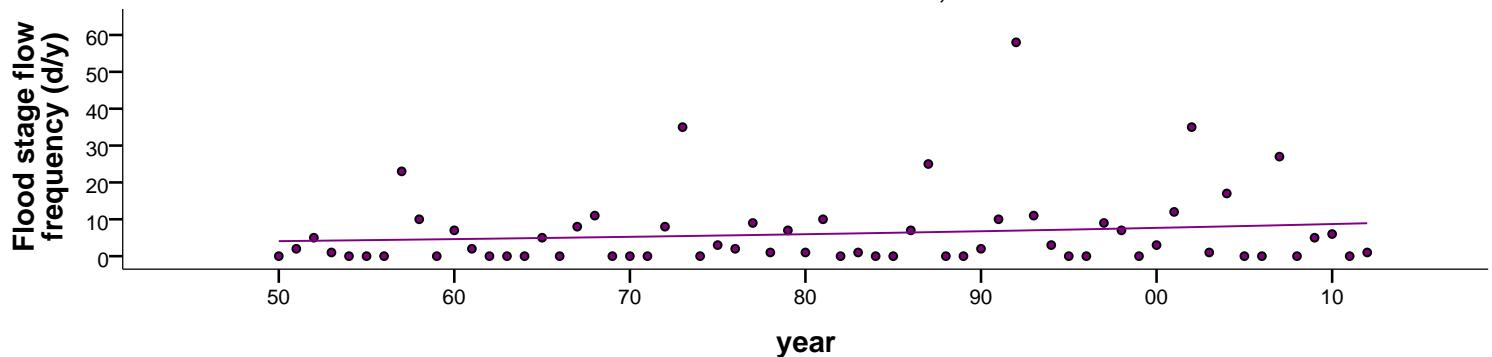
name: 08178800 - Salado Ck at Loop 13, San Antonio, TX



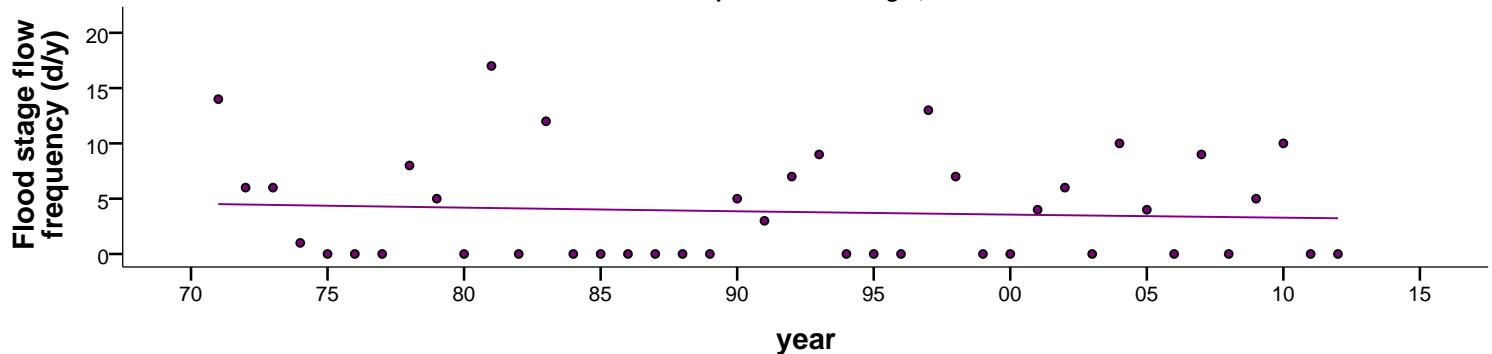
name: 08183500 - San Antonio Rv nr Falls City, TX



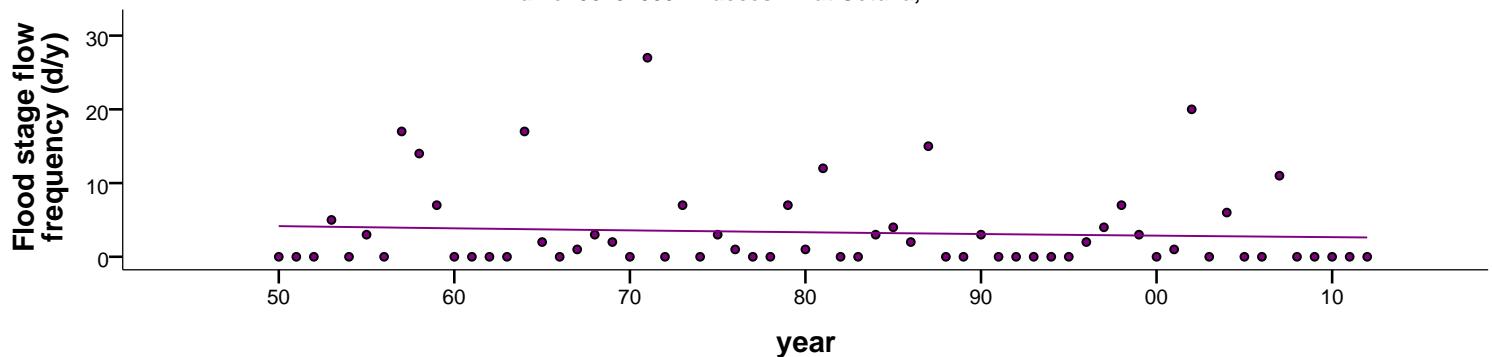
name: 08188500 - San Antonio Rv at Goliad, TX



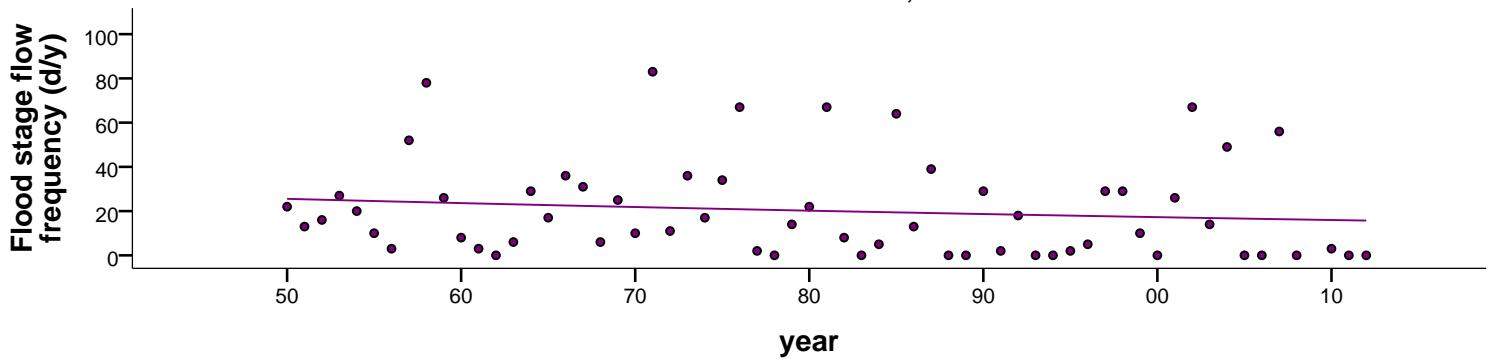
name: 08189200 - Copano Ck nr Refugio, TX



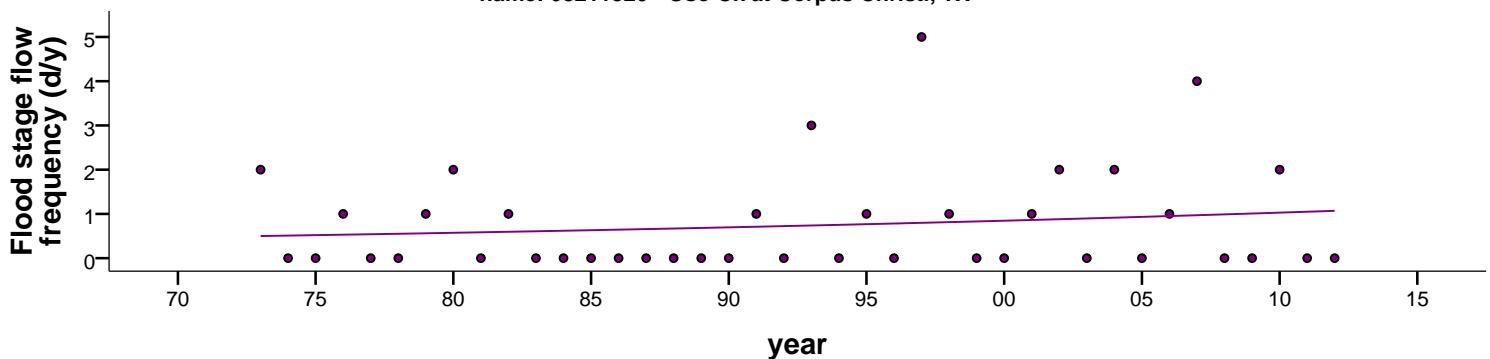
name: 08194000 - Nueces Rv at Cotulla, TX



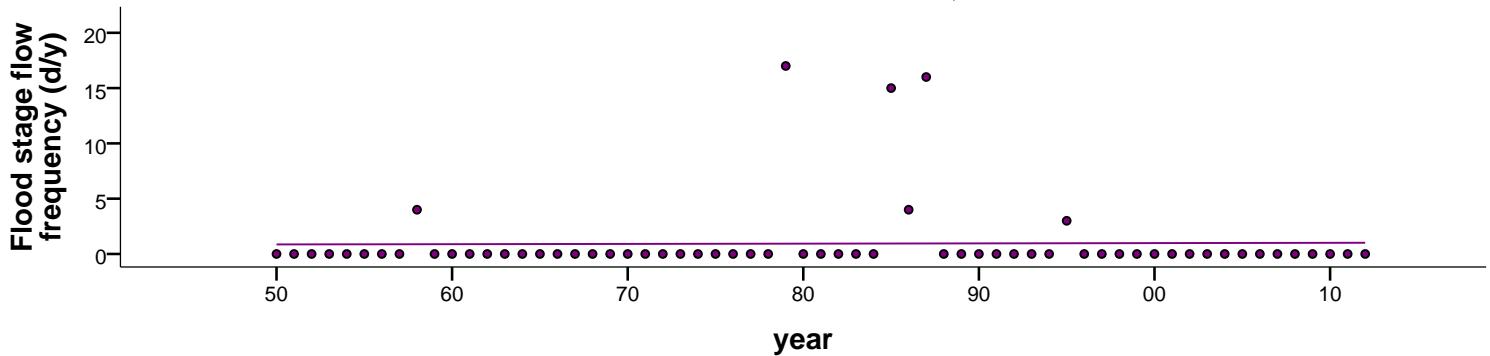
name: 08194500 - Nueces Rv nr Tilden, TX



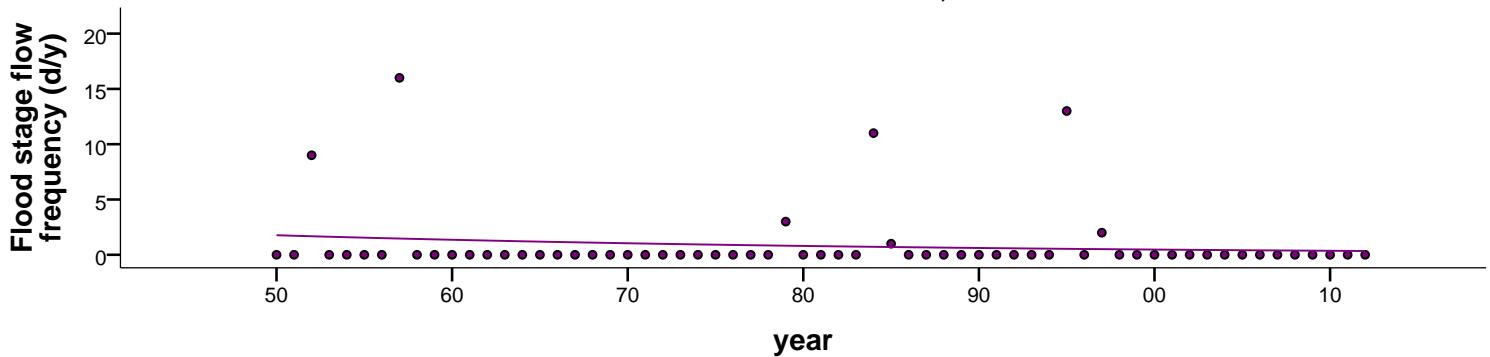
name: 08211520 - Oso Ck at Corpus Christi, TX

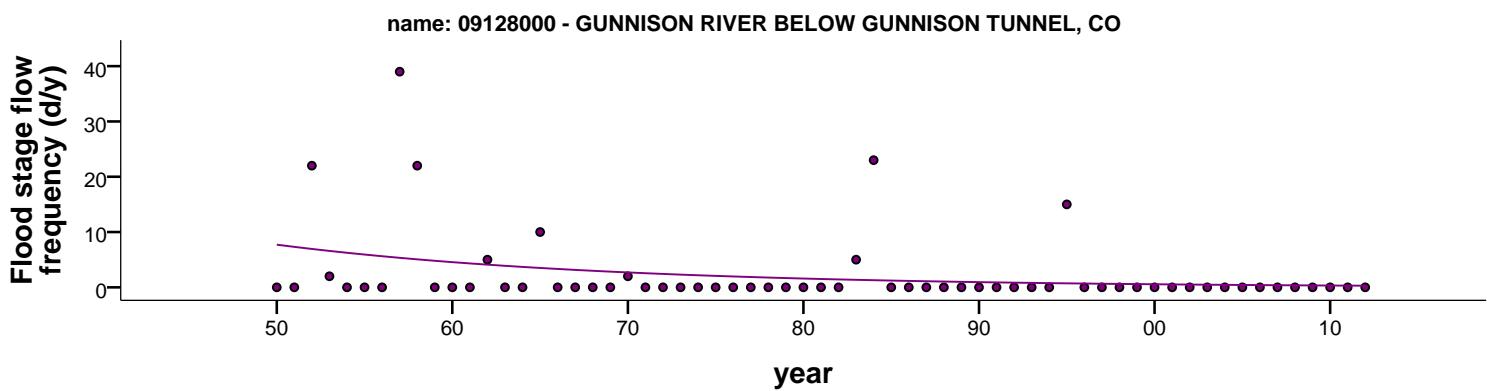


name: 08279500 - RIO GRANDE AT EMBUDO, NM

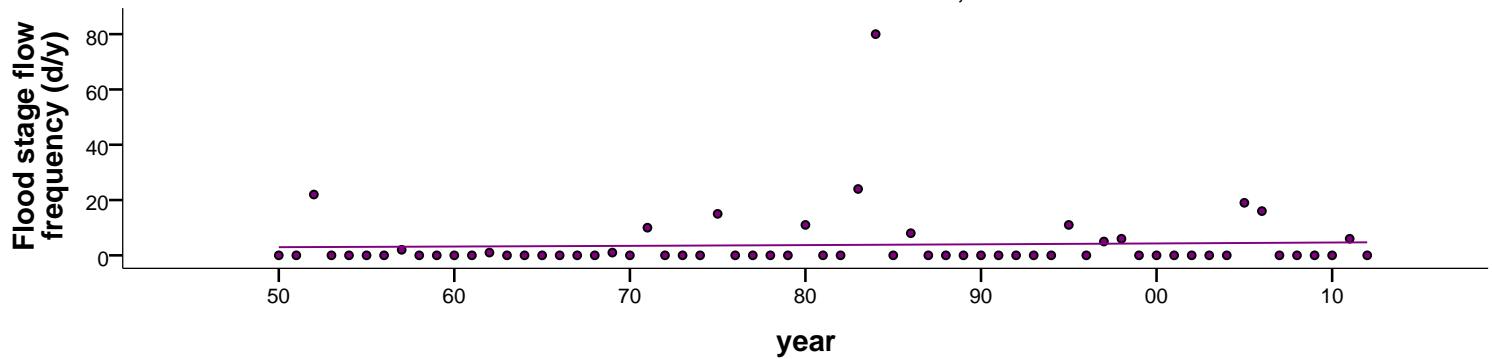


name: 09112500 - EAST RIVER AT ALMONT, CO

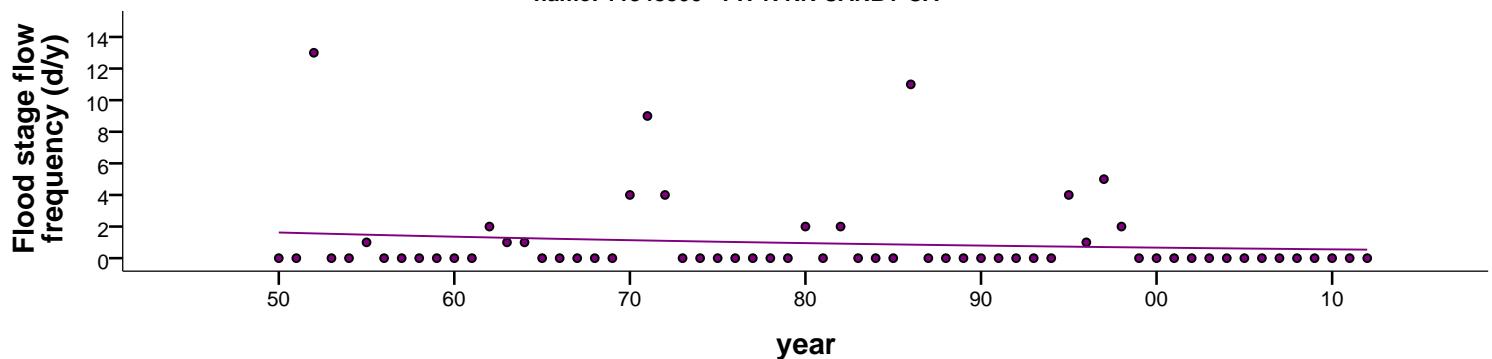




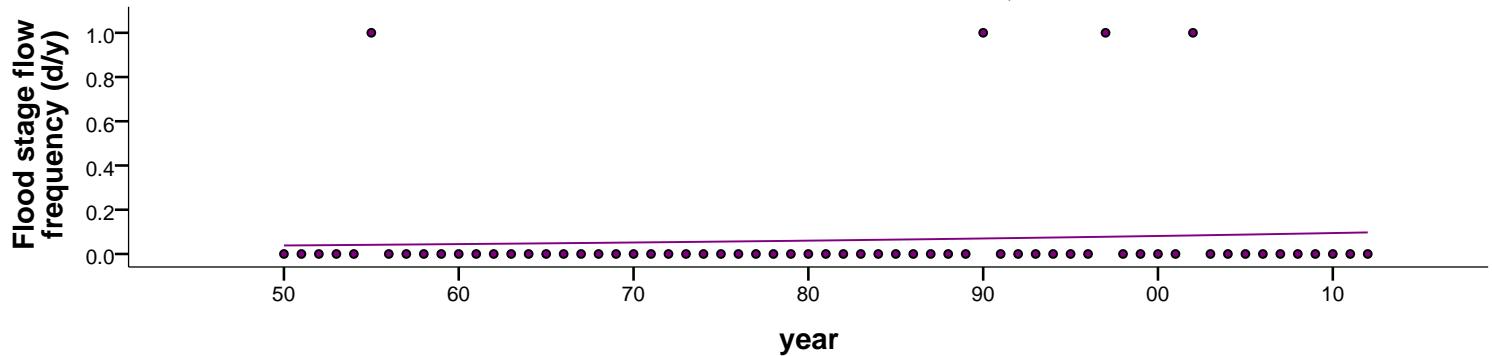
name: 10321000 - HUMBOLDT RV NR CARLIN, NV



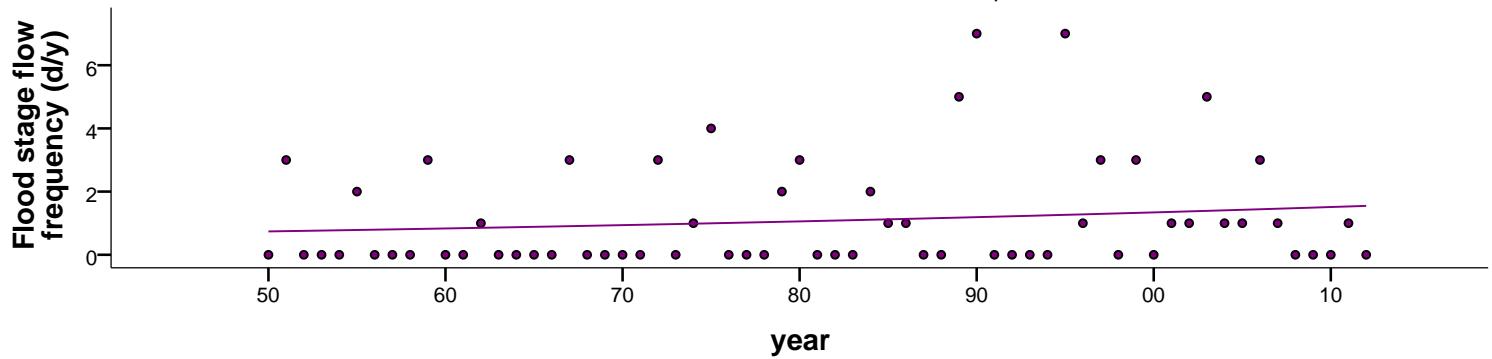
name: 11348500 - PIT R NR CANBY CA



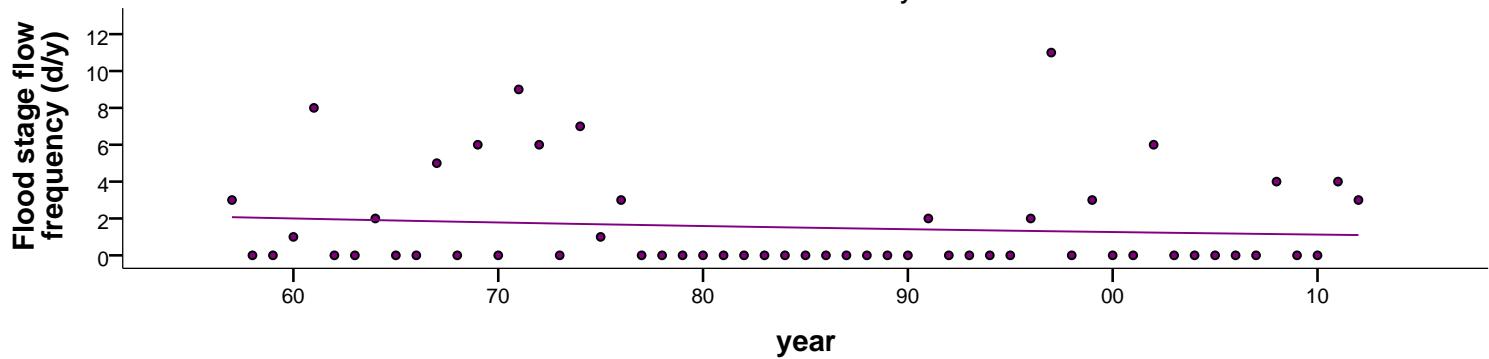
name: 12048000 - DUNGENESS RIVER NEAR SEQUIM, WA



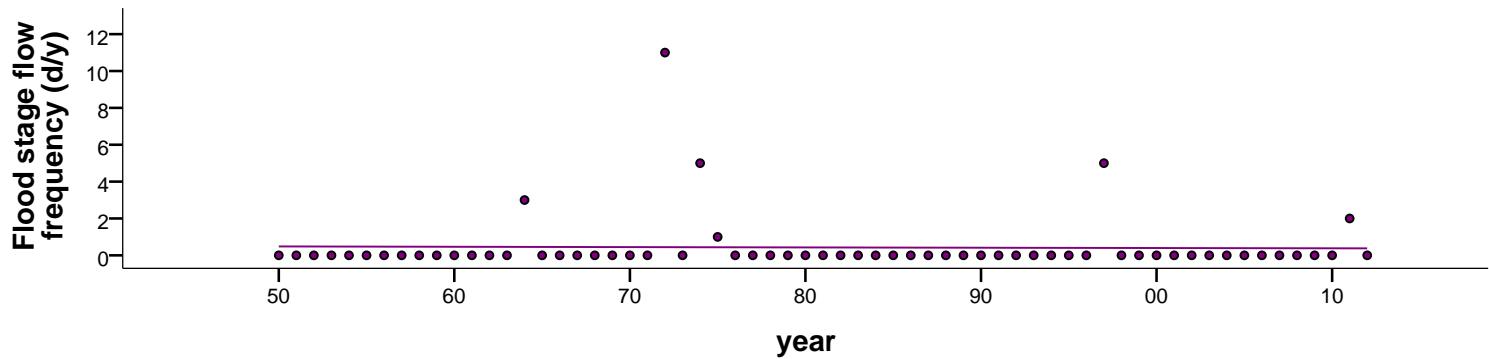
name: 12194000 - SKAGIT RIVER NEAR CONCRETE, WA



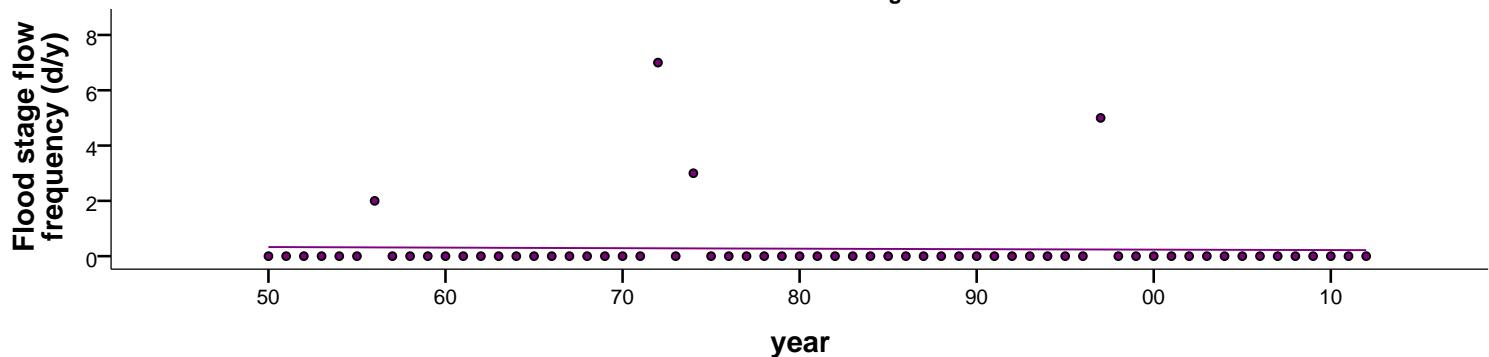
name: 12304500 - Yaak River near Troy MT



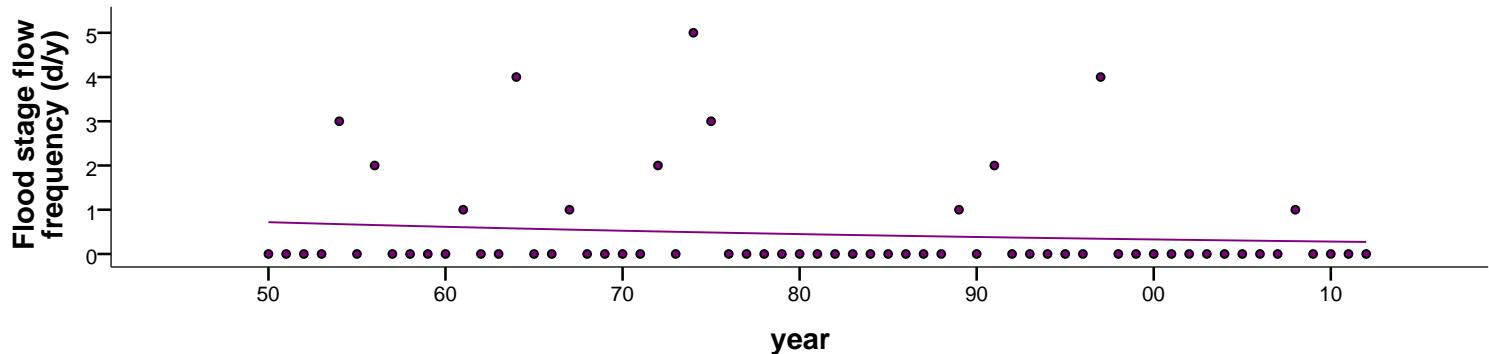
**name: 12353000 - Clark Fork below Missoula MT**



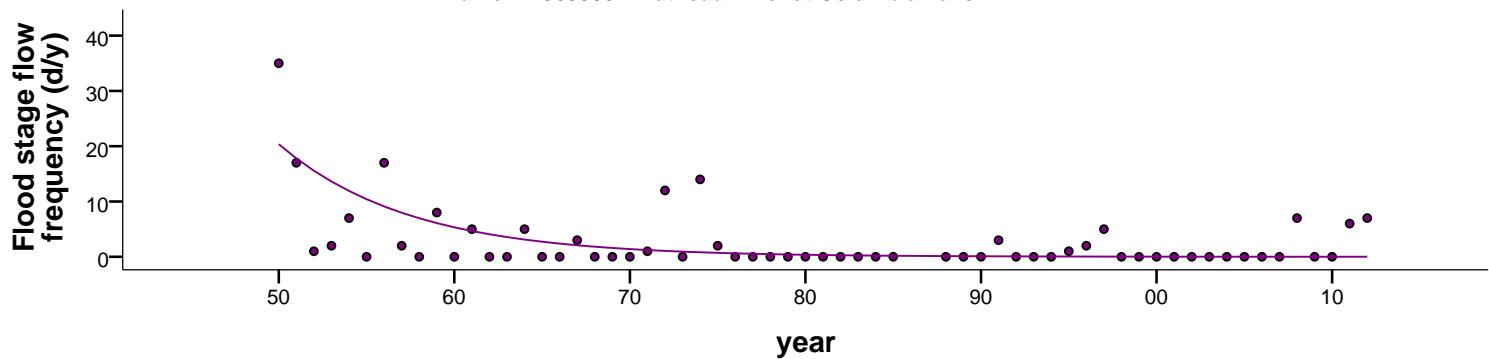
**name: 12354500 - Clark Fork at St. Regis MT**



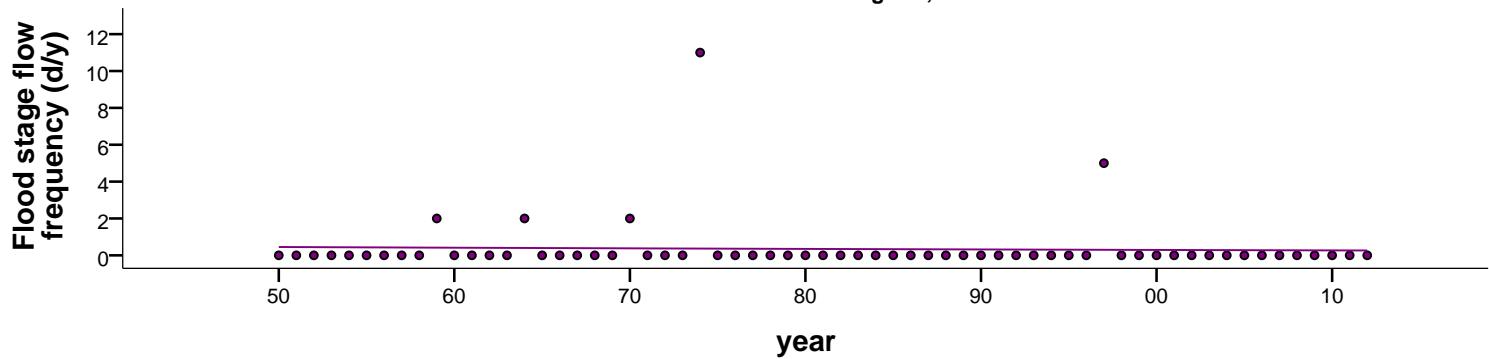
**name: 12358500 - M F Flathead River near West Glacier MT**



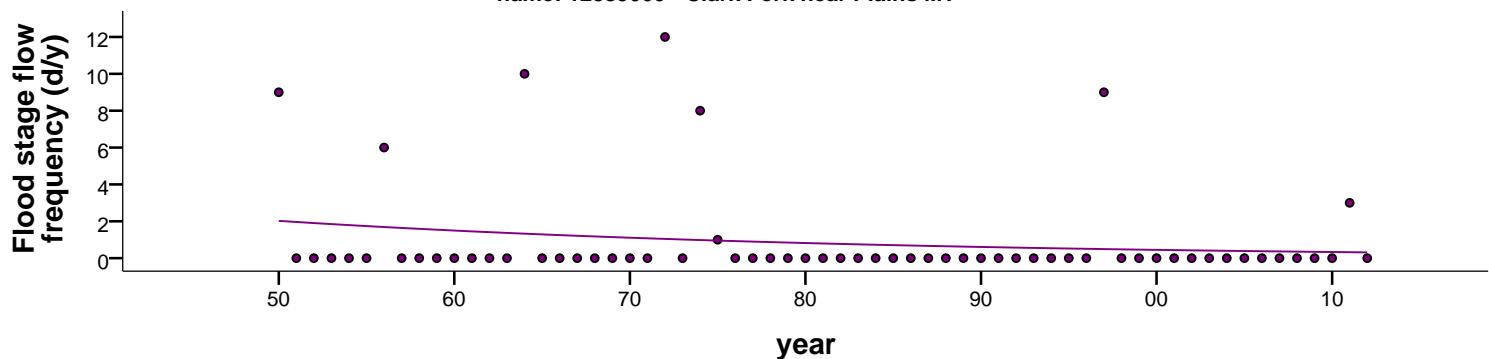
**name: 12363000 - Flathead River at Columbia Falls MT**



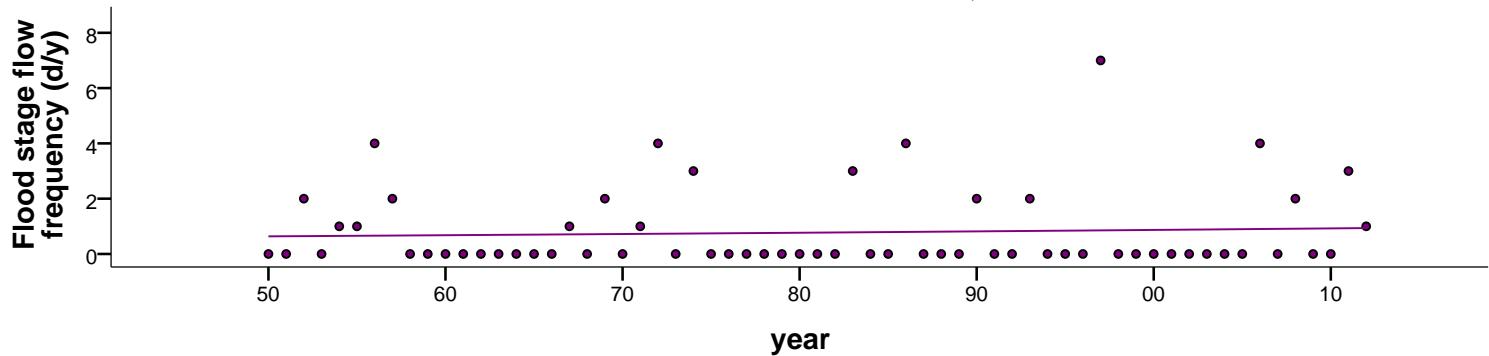
name: 12370000 - Swan River near Bigfork, MT



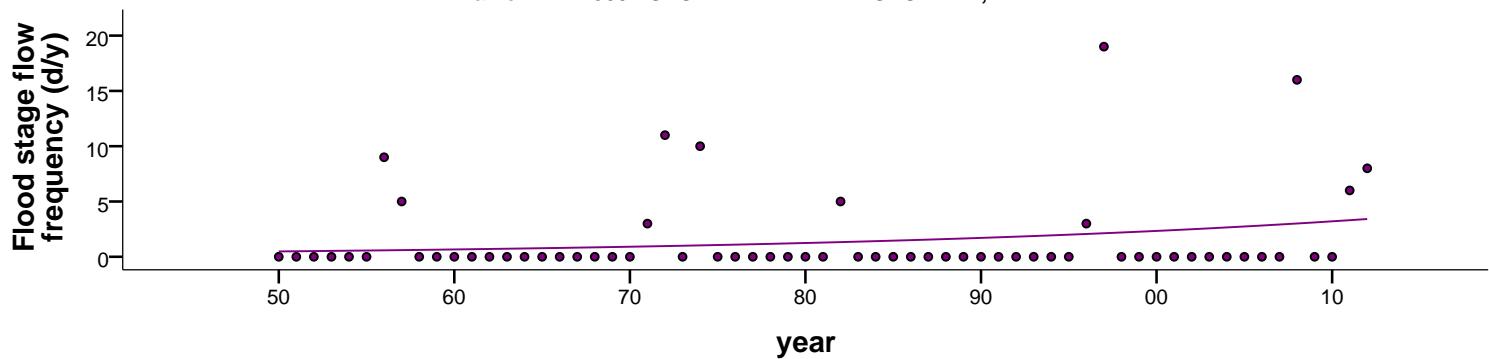
name: 12389000 - Clark Fork near Plains MT



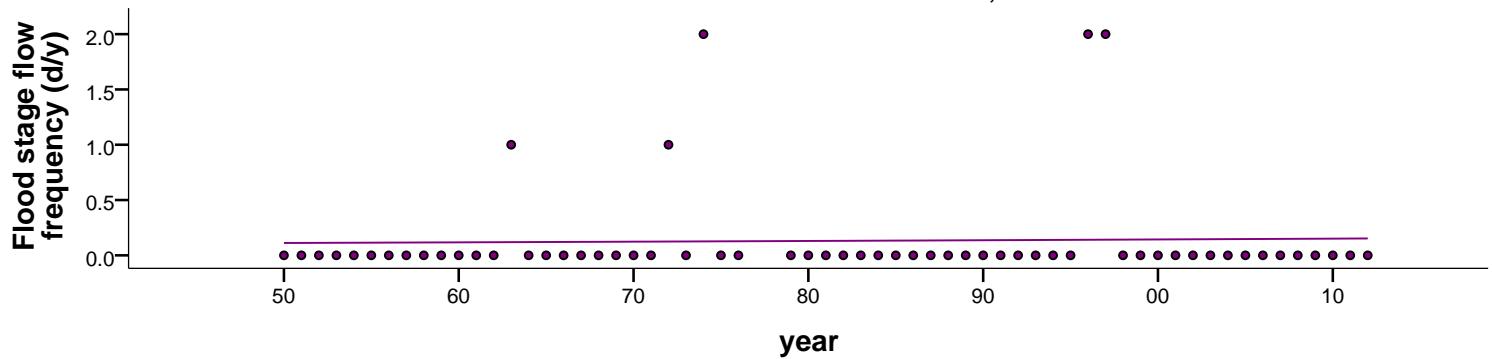
name: 12401500 - KETTLE RIVER NEAR FERRY, WA



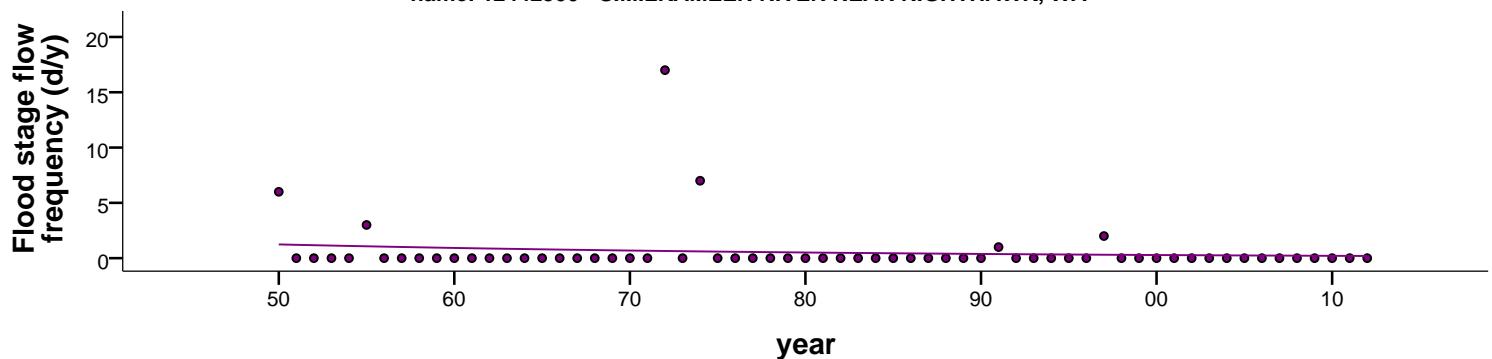
name: 12422500 - SPOKANE RIVER AT SPOKANE, WA



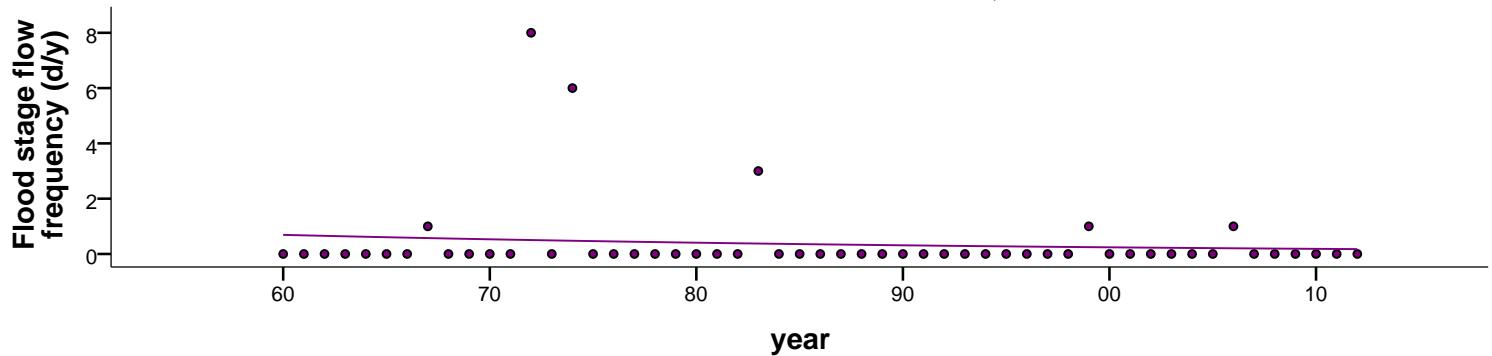
name: 12424000 - HANGMAN CREEK AT SPOKANE, WA



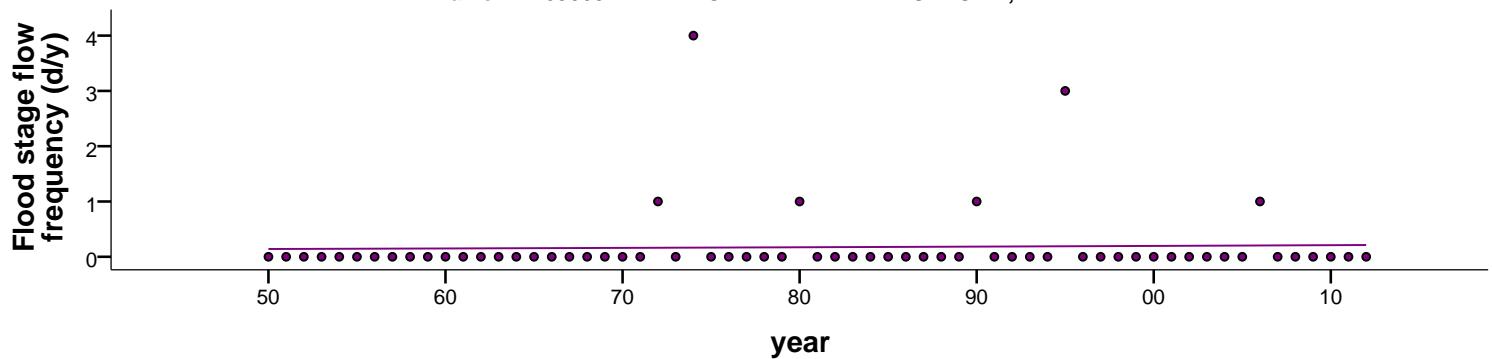
name: 12442500 - SIMILKAMEEN RIVER NEAR NIGHTHAWK, WA

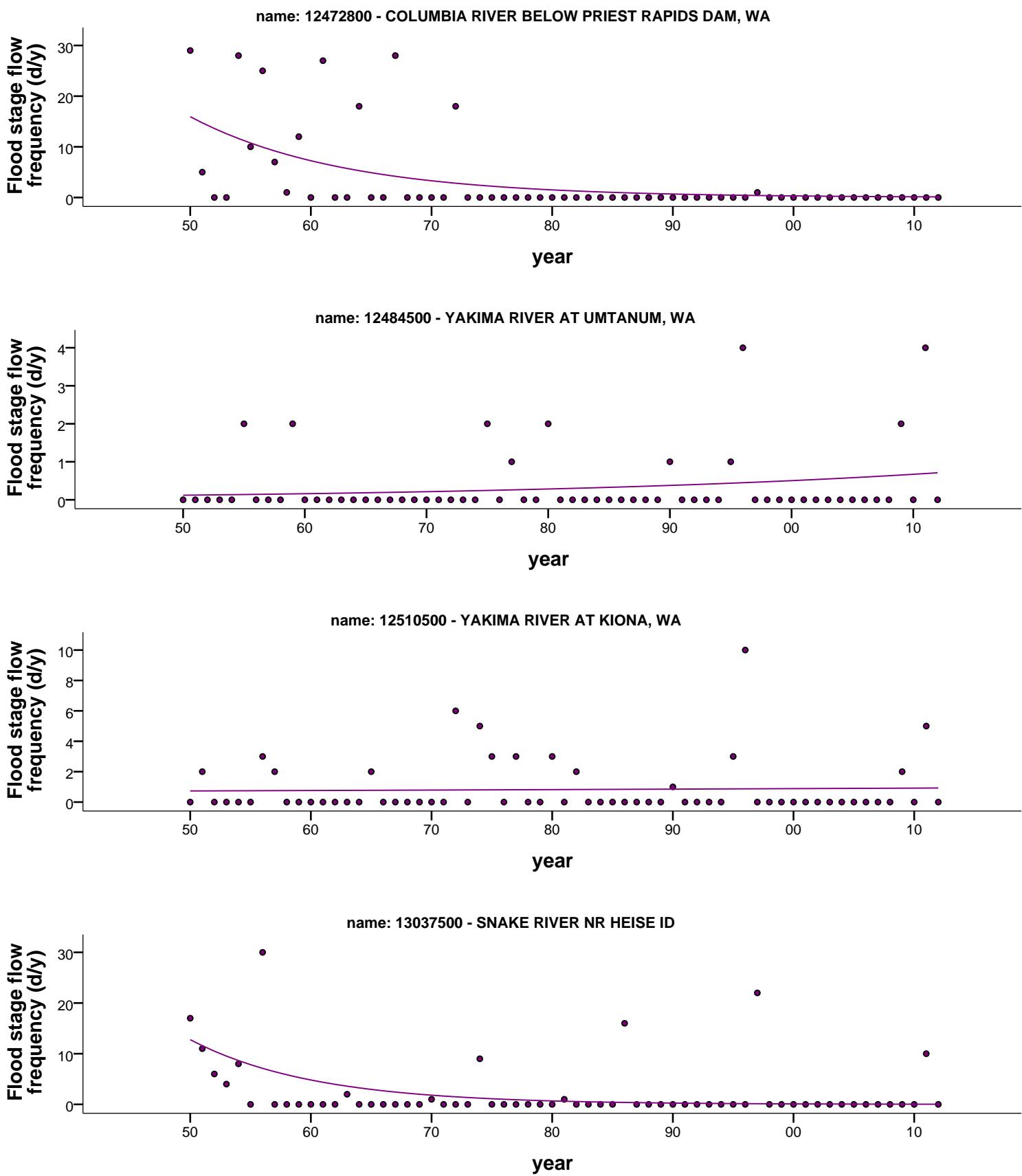


name: 12449950 - METHOW RIVER NEAR PATEROS, WA

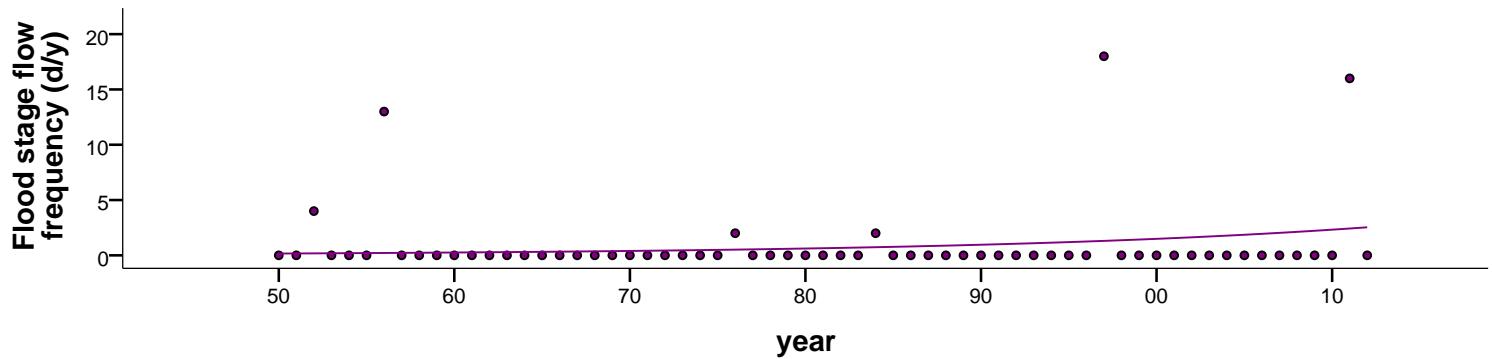


name: 12459000 - WENATCHEE RIVER AT PESHASTIN, WA

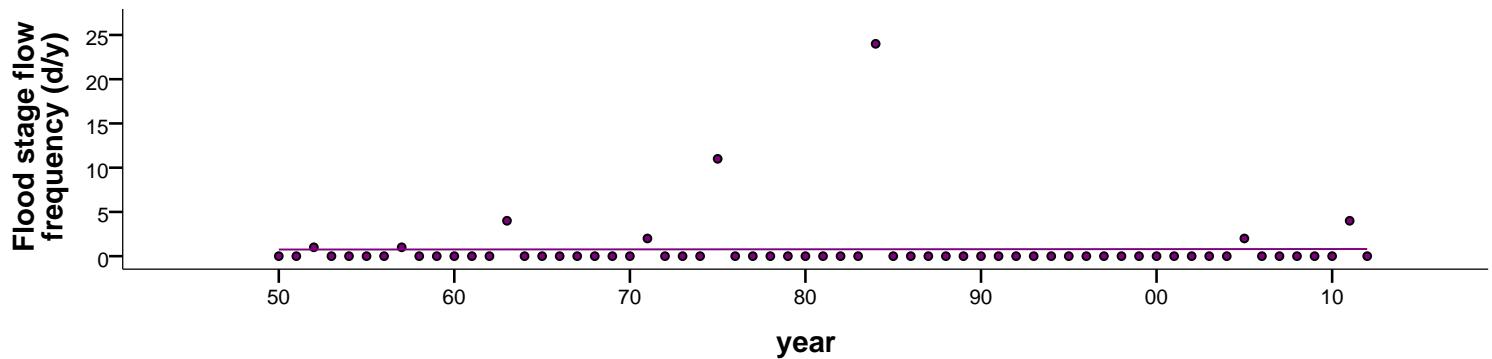




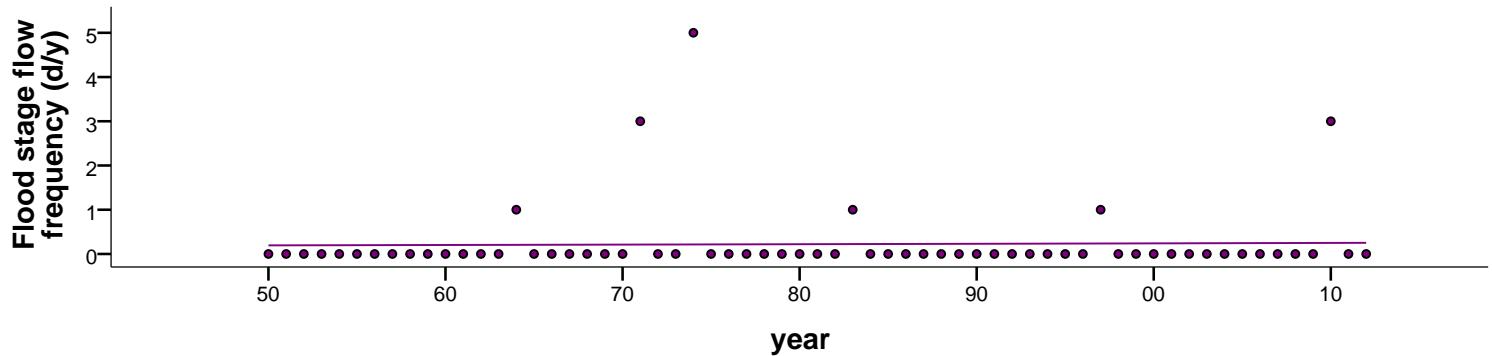
name: 13060000 - SNAKE RIVER NR SHELLEY ID



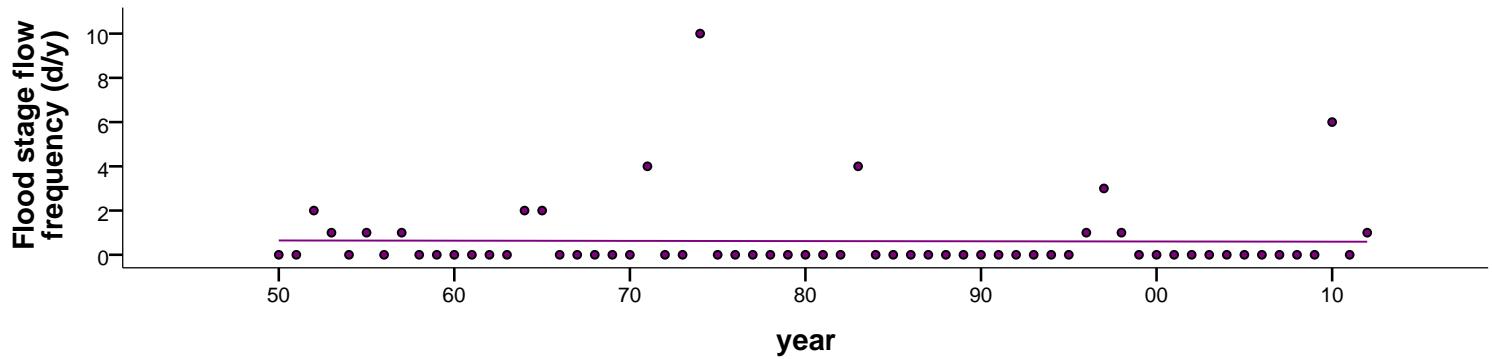
name: 13168500 - BRUNEAU RIVER NR HOT SPRING ID



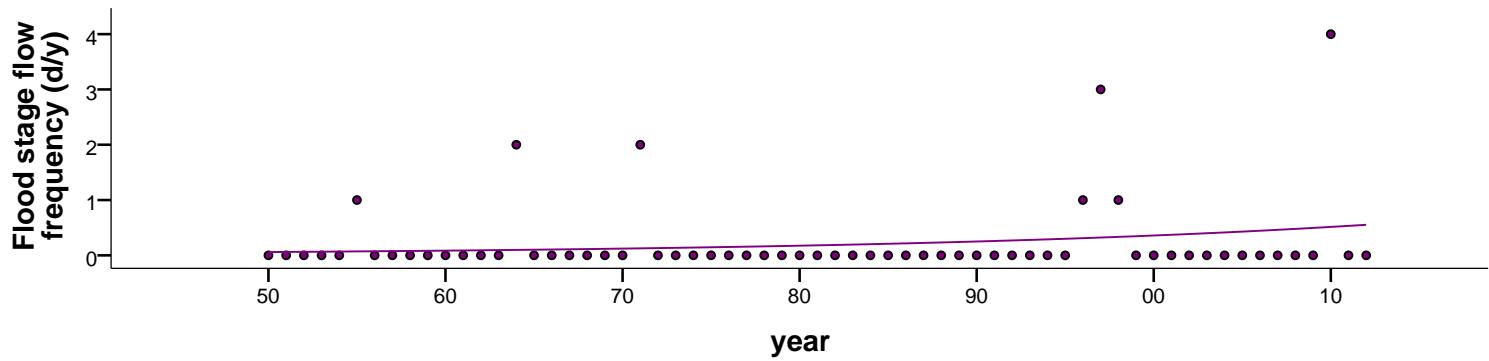
name: 13247500 - PAYETTE RIVER NR HORSeshoe BEND ID



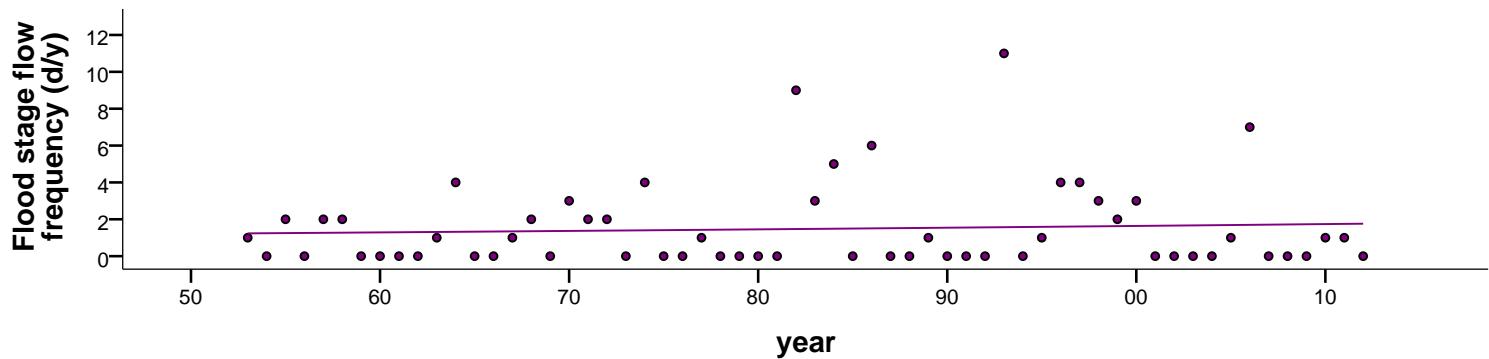
name: 13249500 - PAYETTE RIVER NR EMMETT ID



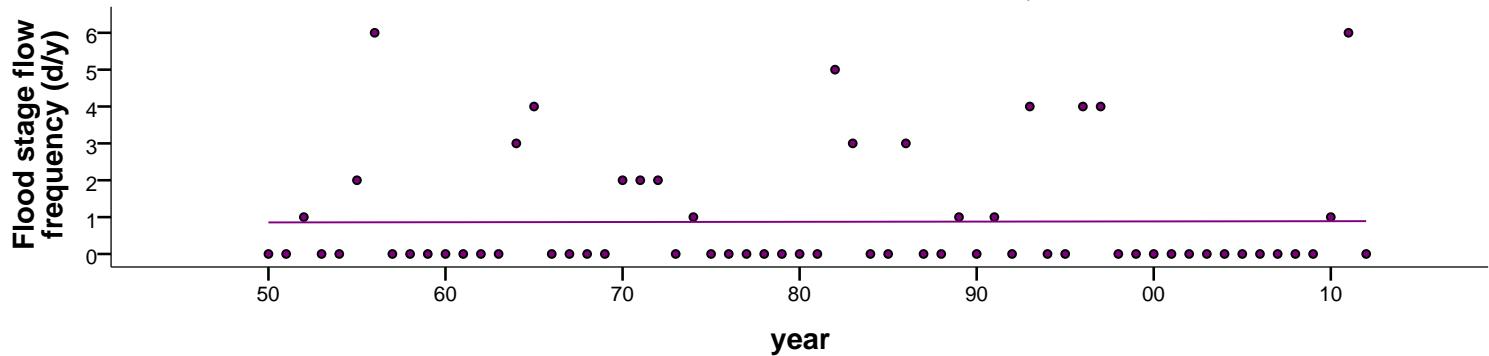
name: 13251000 - PAYETTE RIVER NR PAYETTE ID



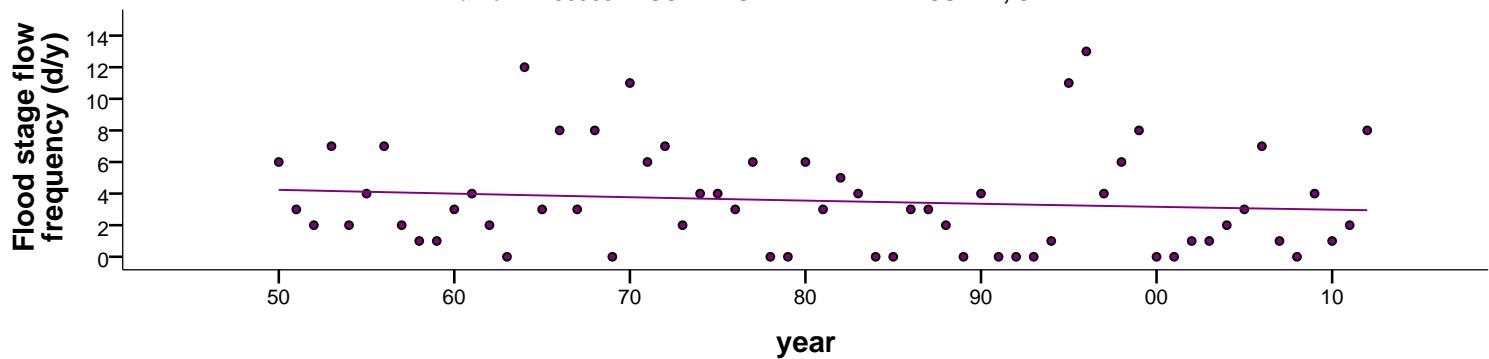
name: 13266000 - WEISER RIVER NR WEISER ID



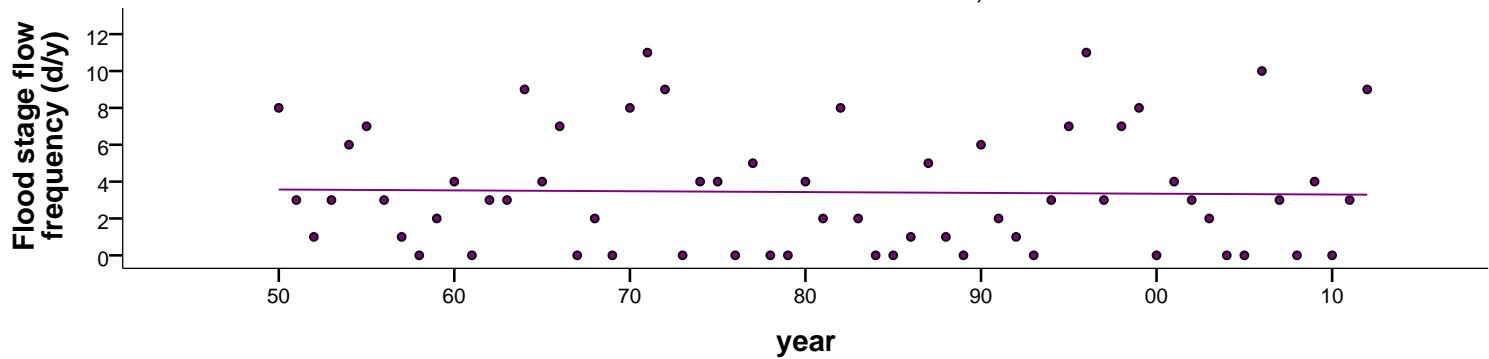
name: 14046500 - JOHN DAY RIVER AT SERVICE CREEK, OR



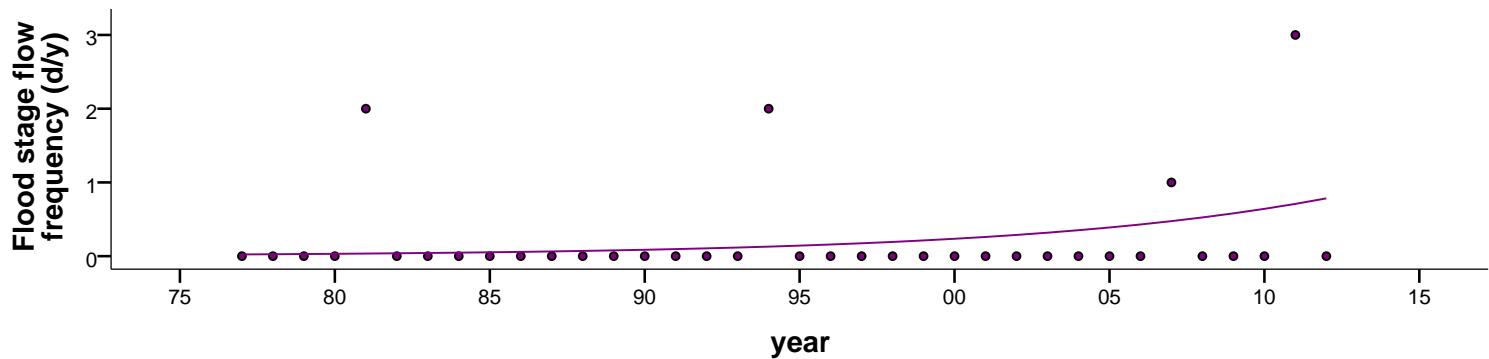
name: 14190500 - LUCKIAMUTE RIVER NEAR SUVER, OR



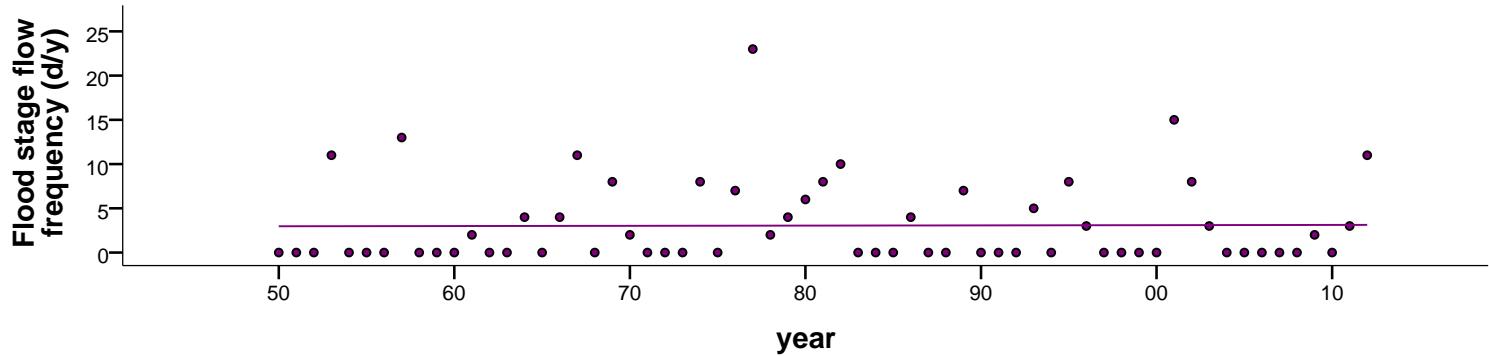
name: 14301000 - NEHALEM RIVER NEAR FOSS, OR



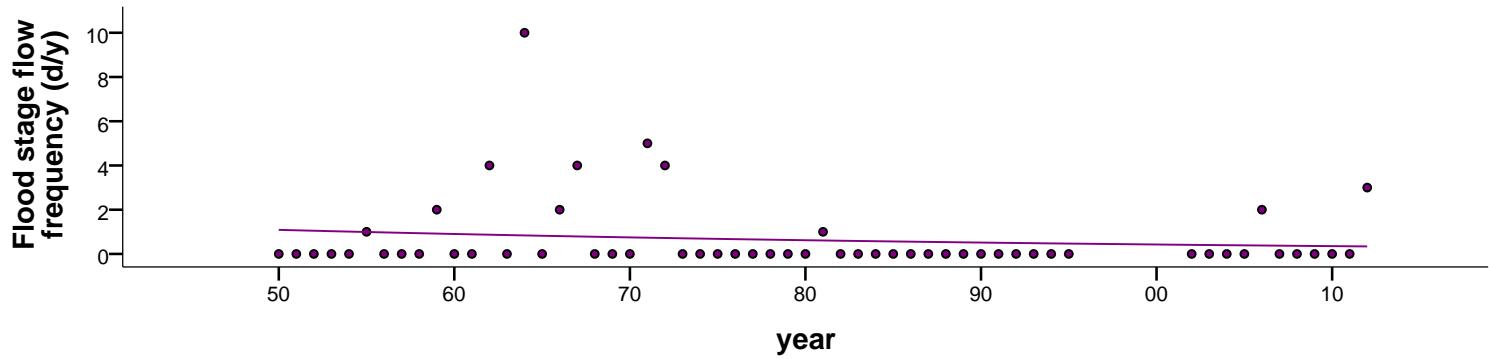
name: 15024800 - STIKINE R NR WRANGELL AK



name: 15258000 - KENAI R AT COOPER LANDING AK



name: 15292000 - SUSITNA R AT GOLD CREEK AK



name: 0208111310 - CASHIE RIVER AT SR1257 NEAR WINDSOR, NC

