

A solid dark red vertical bar is positioned on the left side of the slide, extending from the bottom edge towards the top.

Climate Change Evaluation

Stationarity Analysis for Merced basin

- Assessed long-term streamflow, snow water equivalent (SWE), precipitation and temperature records for trends
- Used “Annual Maximum Series” approach for all hydrological variables
- Results:

Variable	Trend	Confidence
Streamflow	Decrease	Low
Peak SWE	None	---
Date of peak SWE	None	---
24, 48, 72-hr precipitation	None	---
Days w/high temperature > 90F	Increase (warming)	Low
Days w/low temperature < 32F	Decrease (warming)	Very High

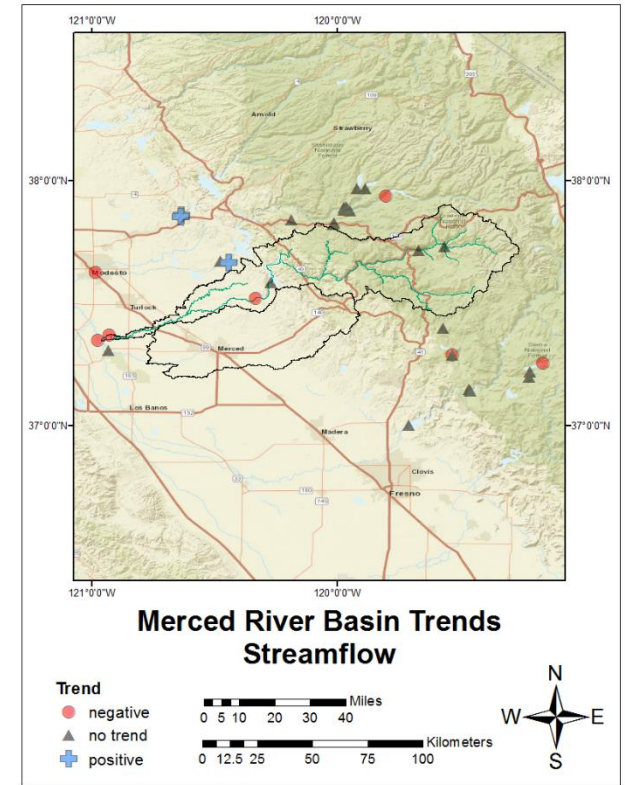
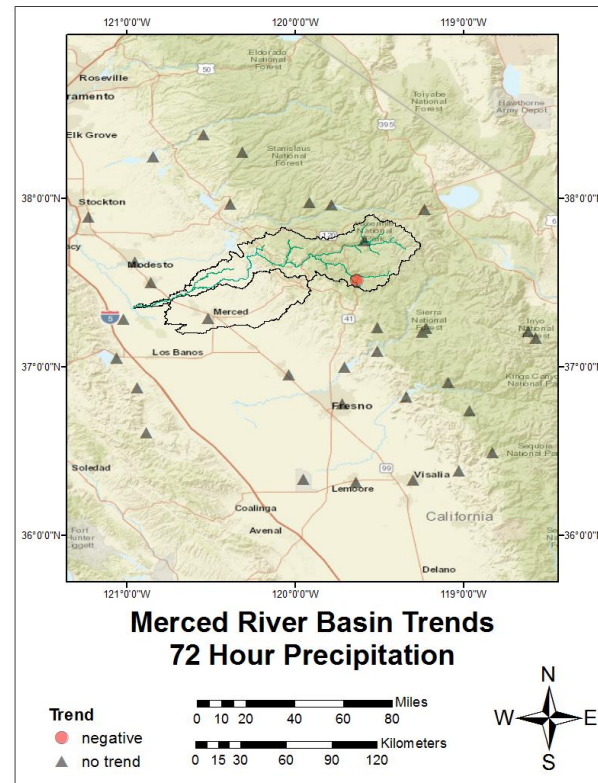
Method

1. Gather station time series data from GHCN, CDEC, MID.
2. Quality control
 - Remove years with more than 10 missing days
 - Remove stations with less than 40 qualifying years
 - Last qualifying year must be 2000 or later
3. Perform linear trend analysis
 - A trend was considered significant if Spearman correlation between year and time series had confidence exceeding 90%
 - Alternately, performed linear trend fit and found similar results as correlation

Results: Hydrology Related Trends

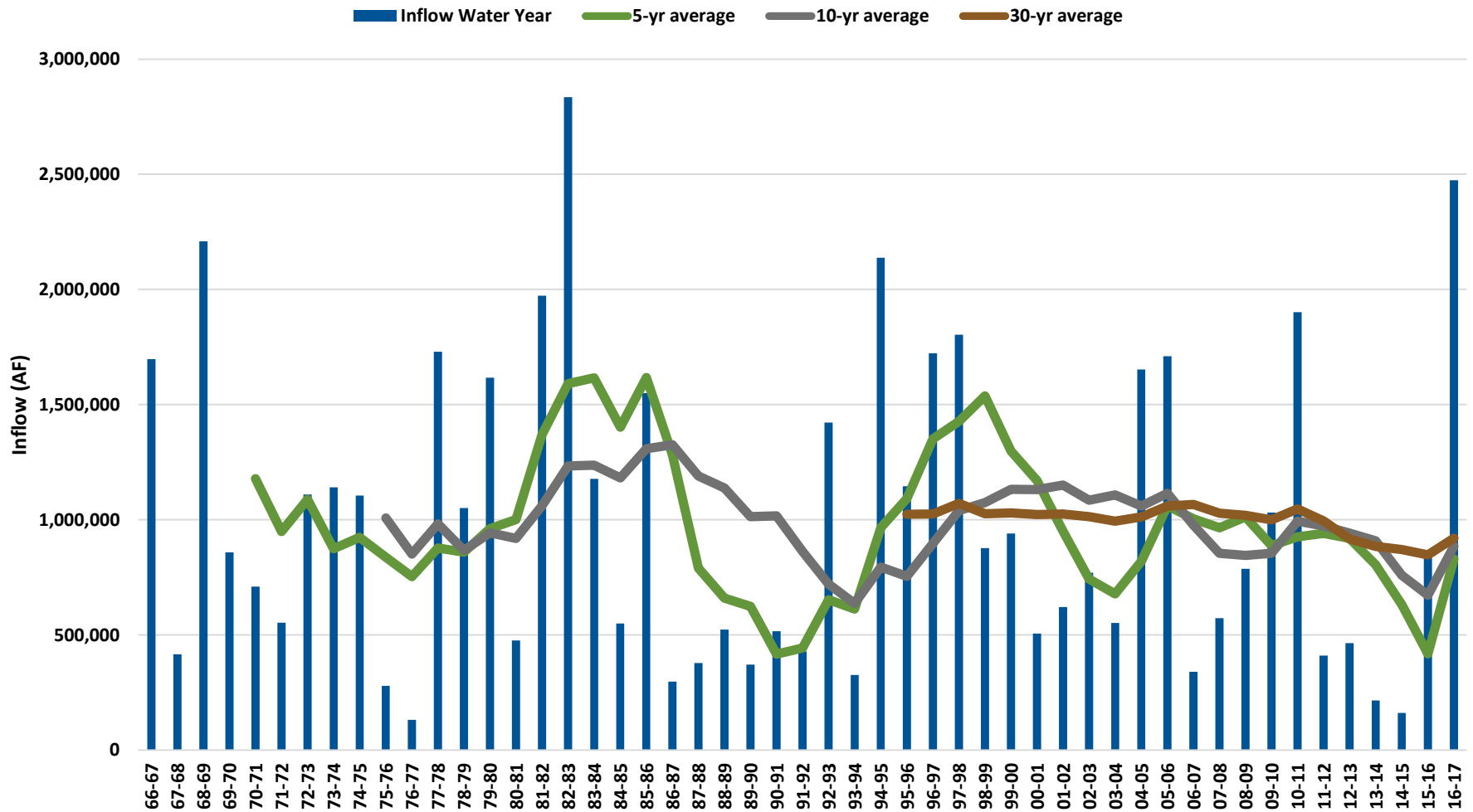
Trend	72hr Precipitation	Peak Flow*
Positive	0	2
None	31	24
Negative	1	7

*caution must be used when applying trends to streamflow



Inflow to New Exchequer (1966-2017)

Inflow (Water year) to New Exchequer



Temperature

Trend	Days > 90F	Days < 32F
Positive	8	1
None	8	8
Negative	7	15

