



HISTORIC TRENDS OF STREAMFLOW ON THE CARSON RIVER



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Background

- Carson Water Sub-Conservancy District
- Desert Research Institute
 - Patterns of variability
 - Timing of spring runoff
 - Climate trends

Other Studies

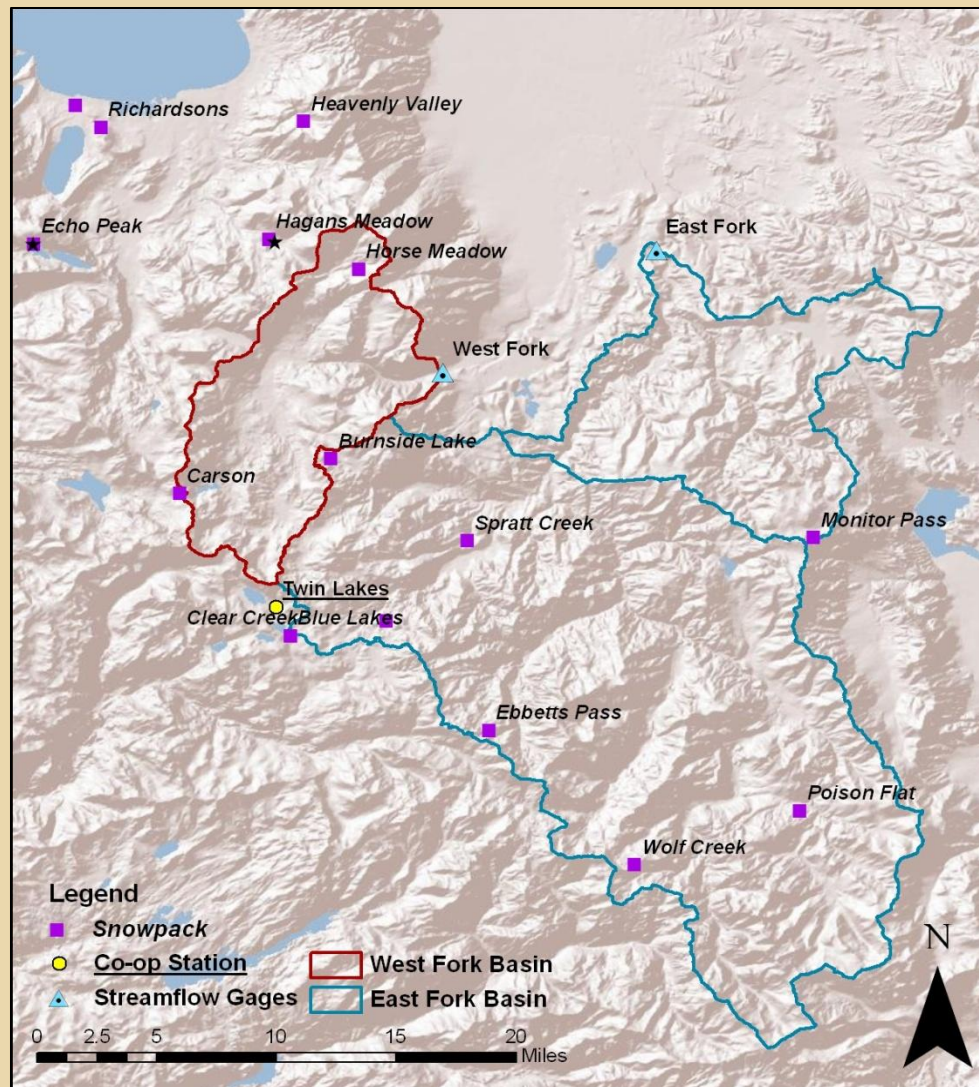
□ Regional

- Increase of spring temperature
- Lilacs and Honeysuckle blooming earlier
- Snow water equivalent decline

□ Local

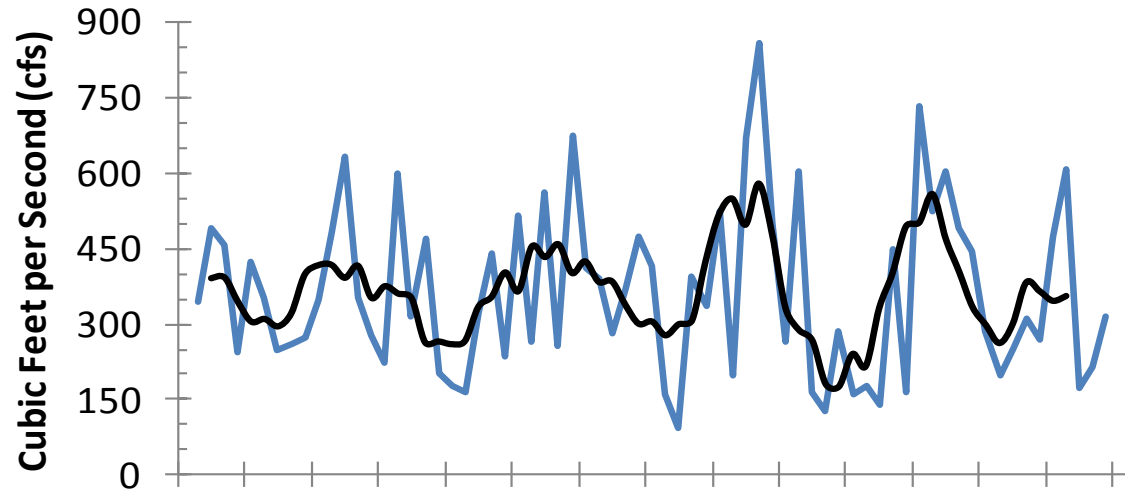
- Changes of spring runoff
- No significant changes

Study Area

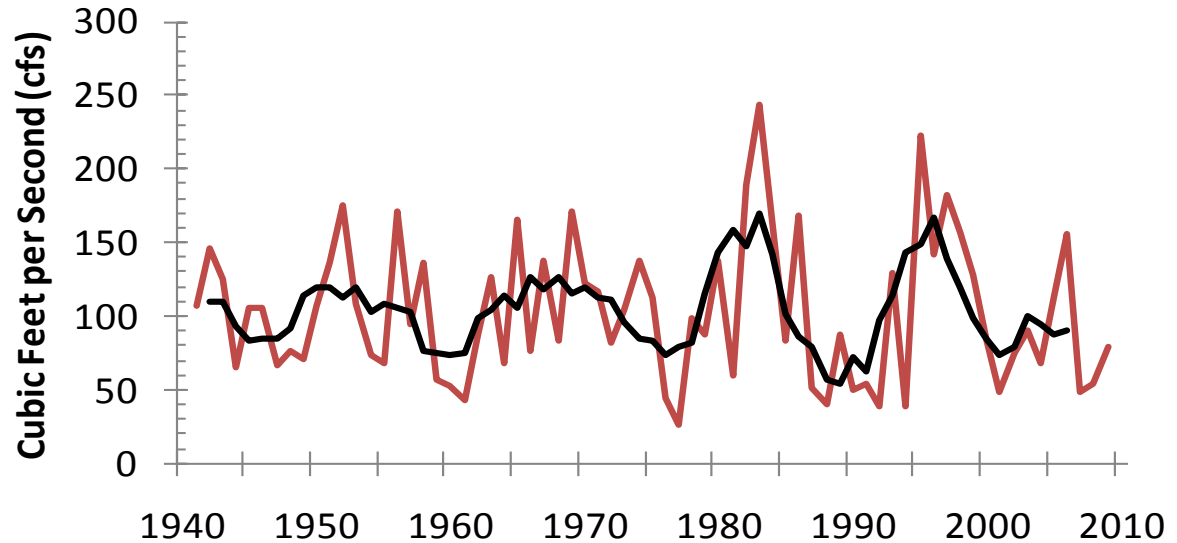


Mean Annual Streamflow

East Fork

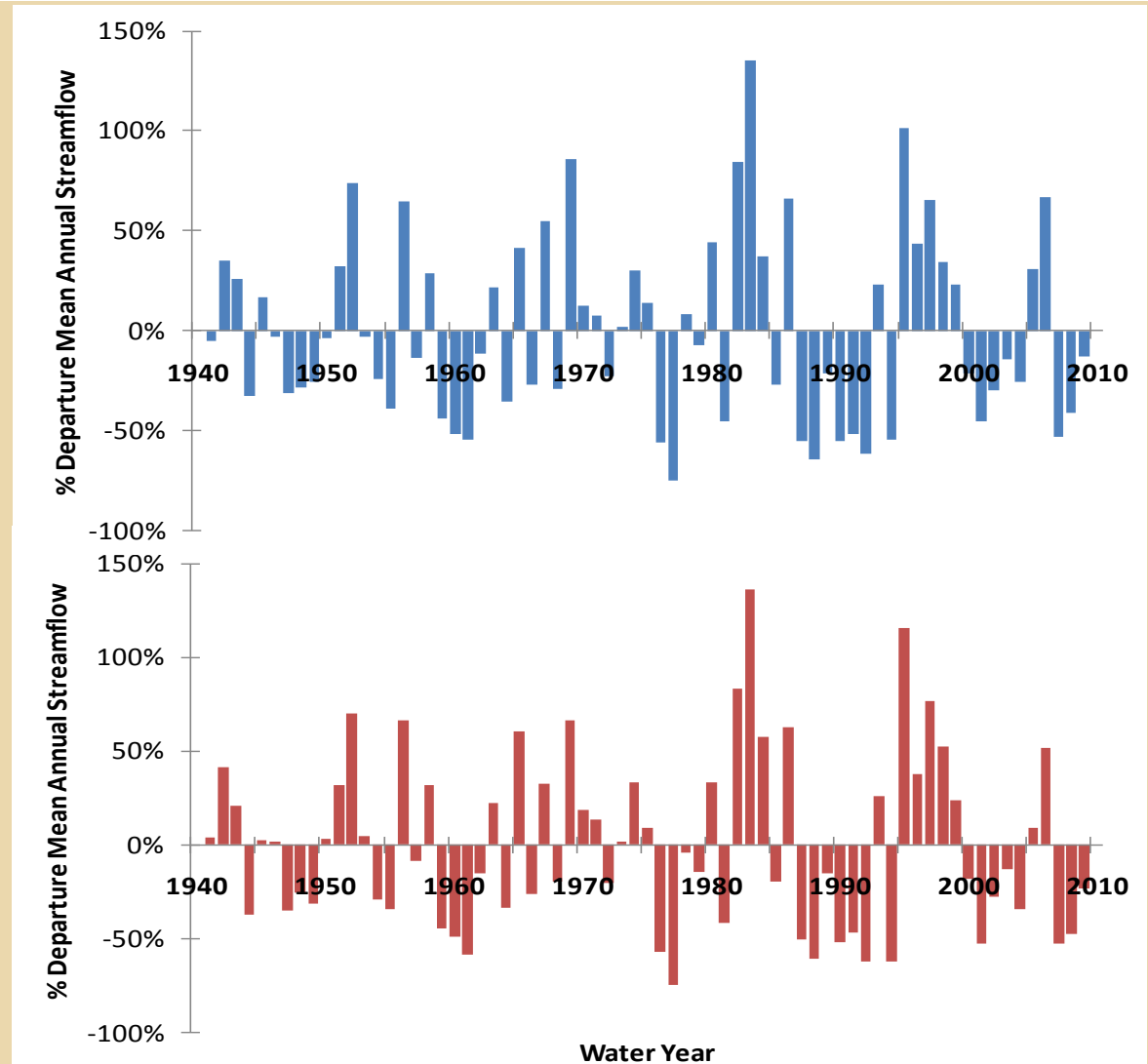


West Fork



% Departure of Mean Annual

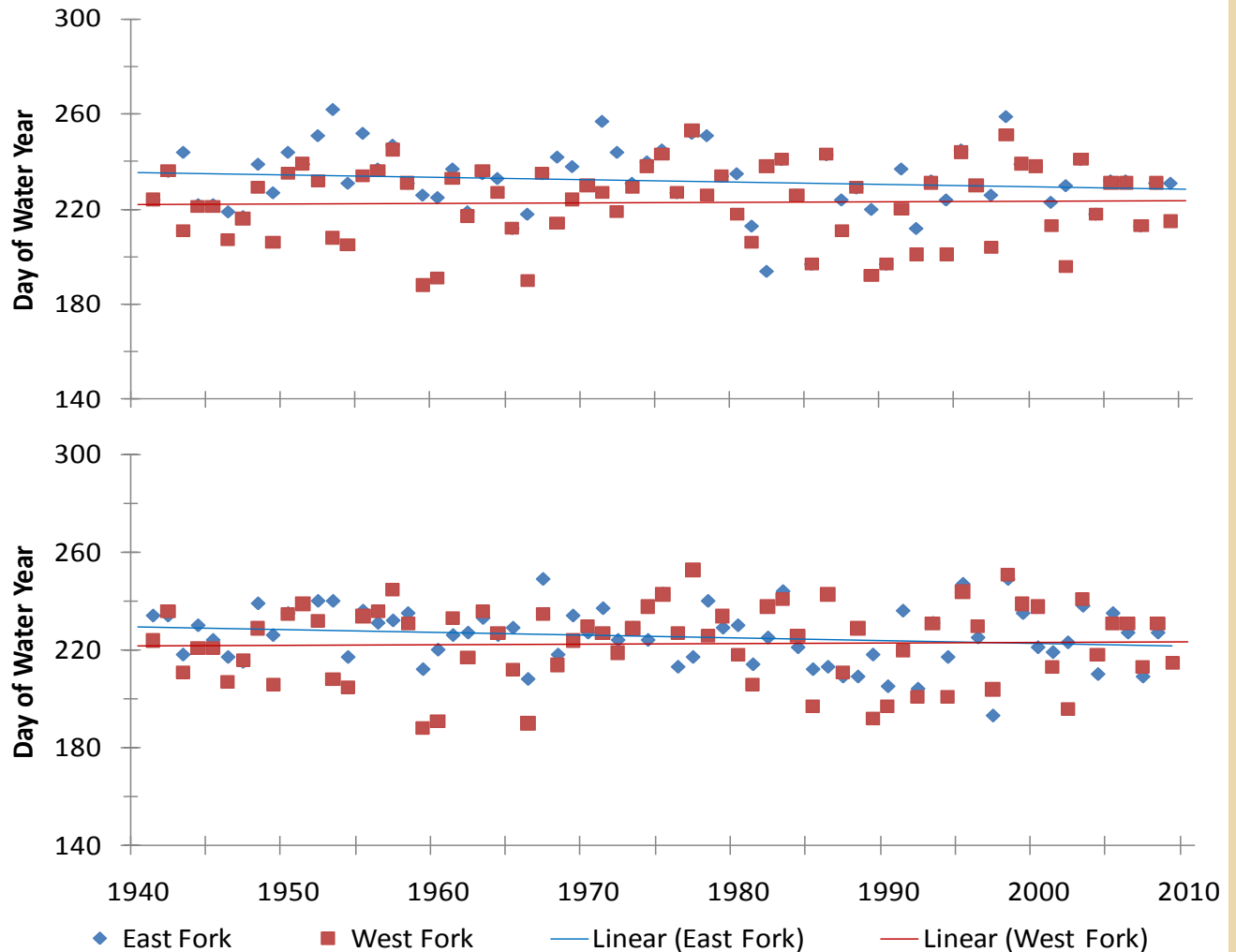
East Fork



West Fork

Timing of Spring Runoff

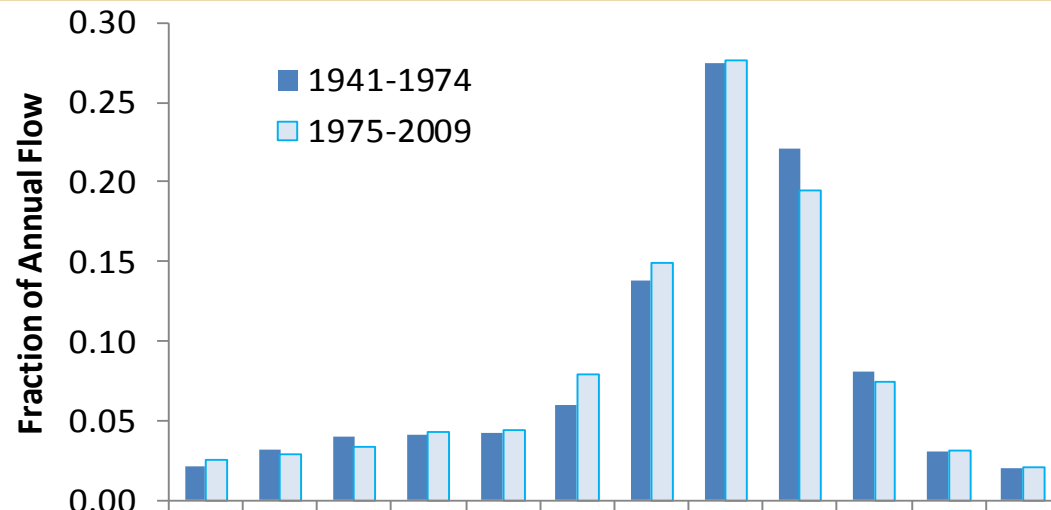
Peak
Day



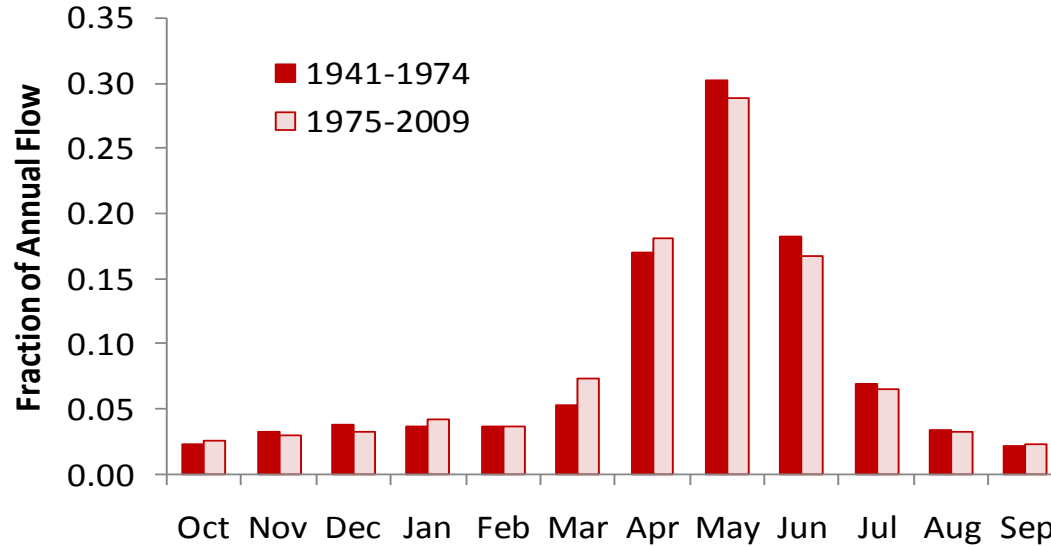
Center of
Mass

Monthly Streamflow

East Fork



West Fork



Monthly Streamflow

Kendall's τ –

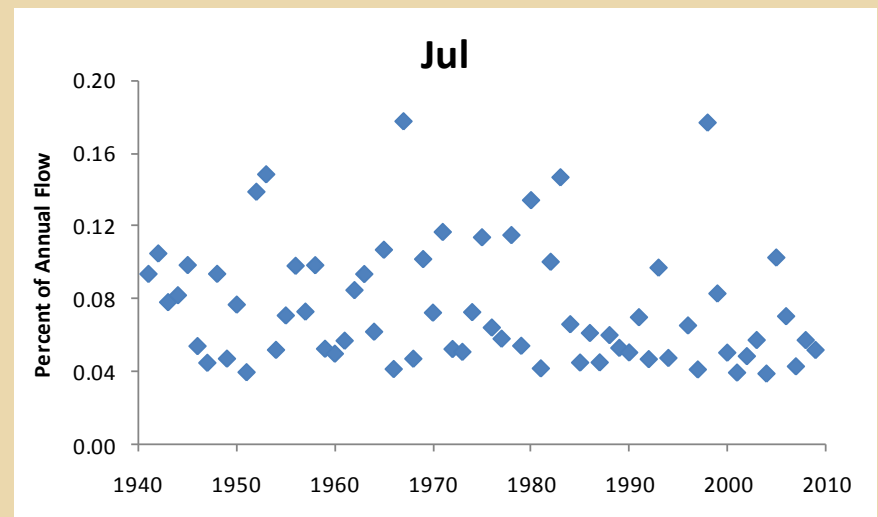
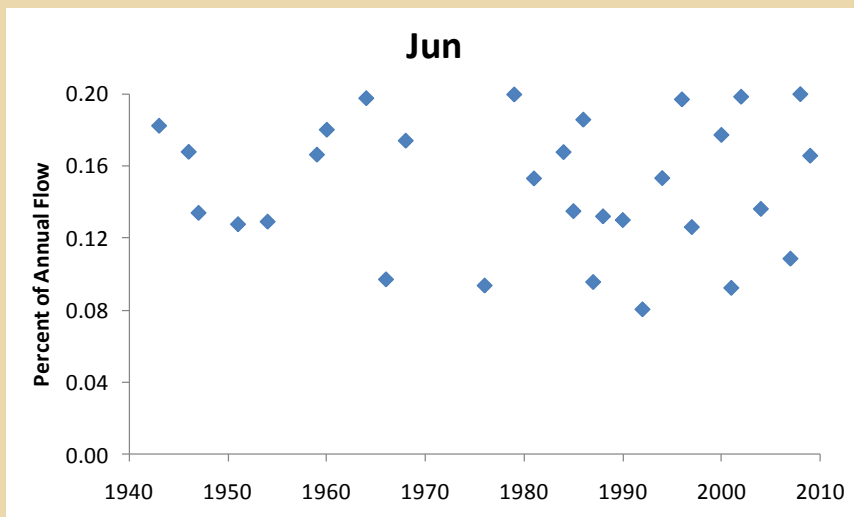
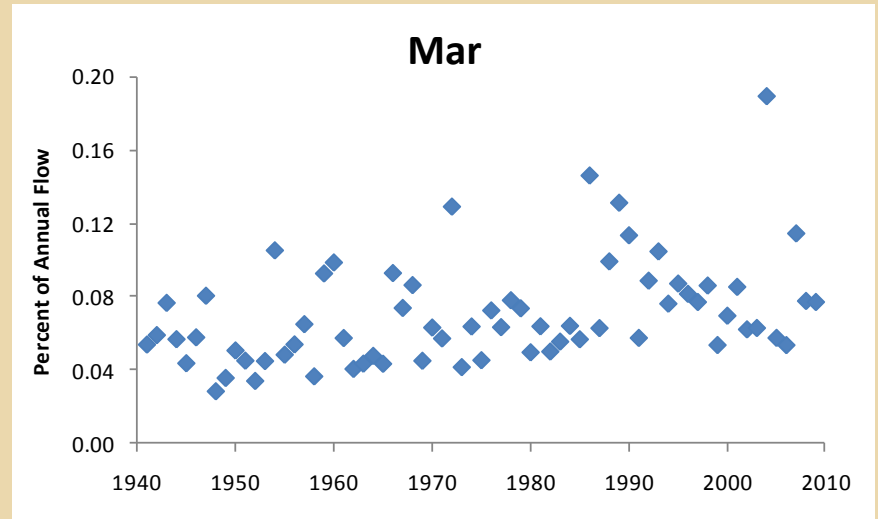
East Fork

Significant:

-March

-June

-July



Monthly Streamflow

Kendall's τ –

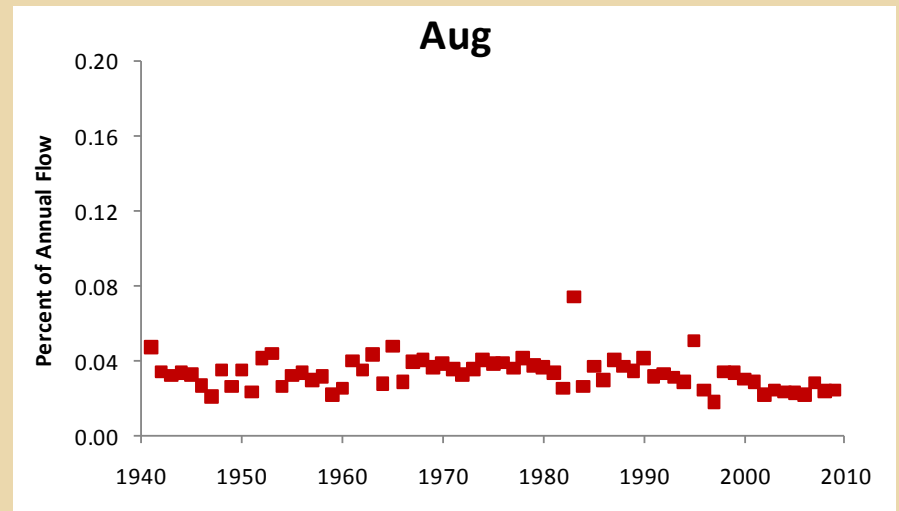
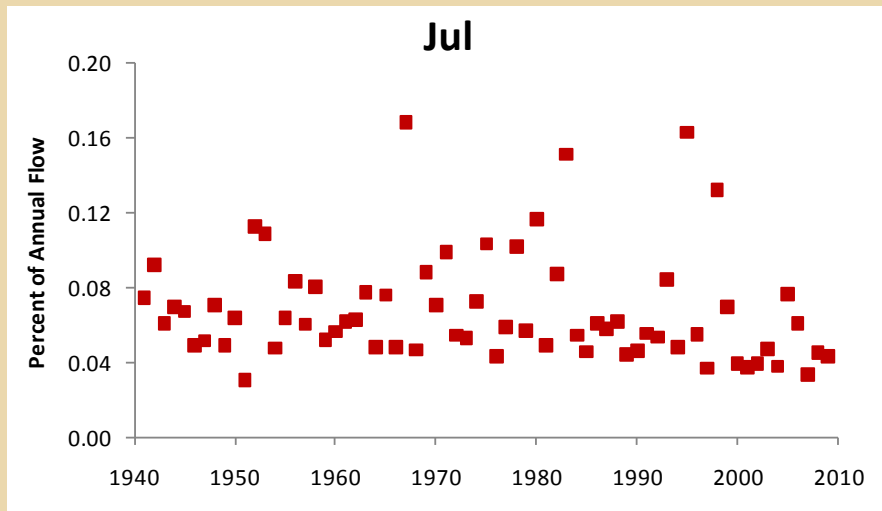
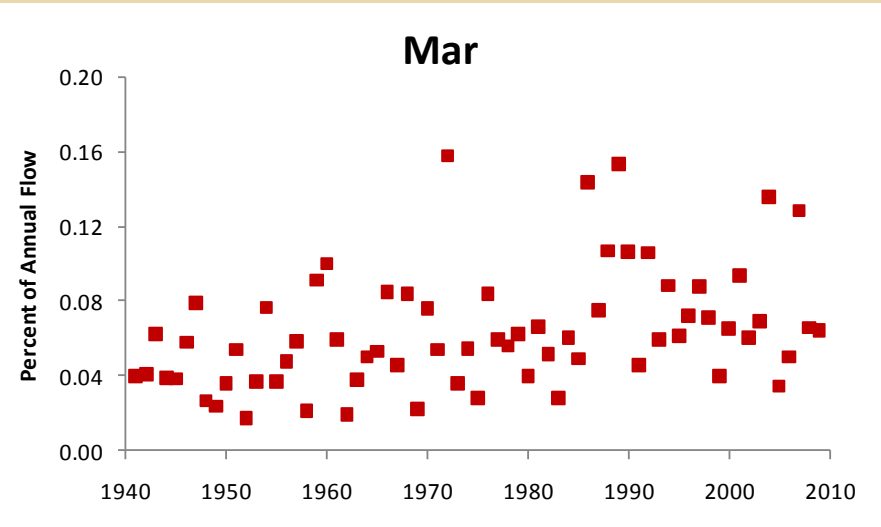
West Fork

Significant:

-March

-July

-August



Temperature

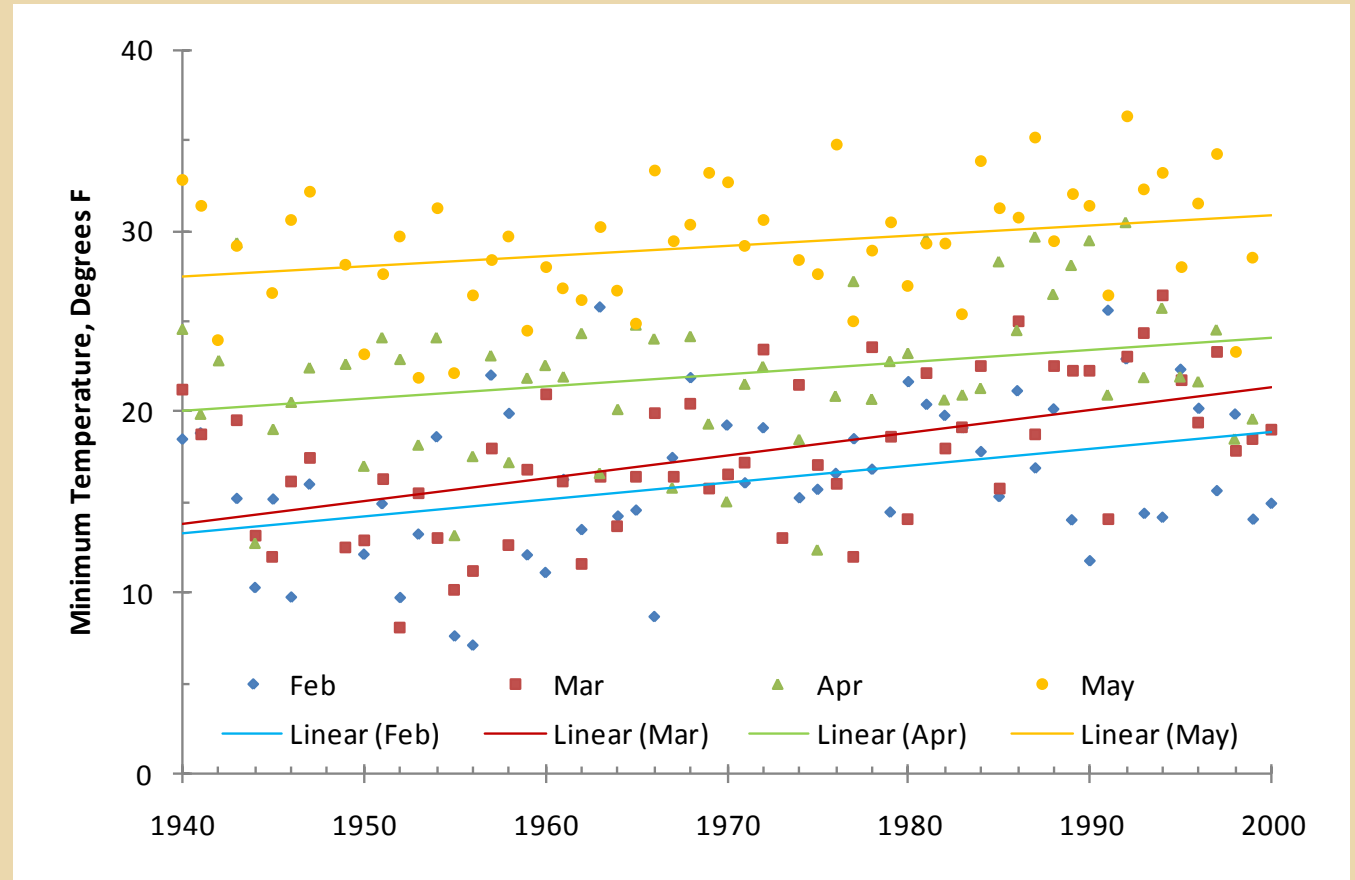
Twin Lakes

1940-2000

Mean Monthly
Temperature

Kendall's τ
significant

Feb, Mar, Apr,
May



Snow Water Equivalent

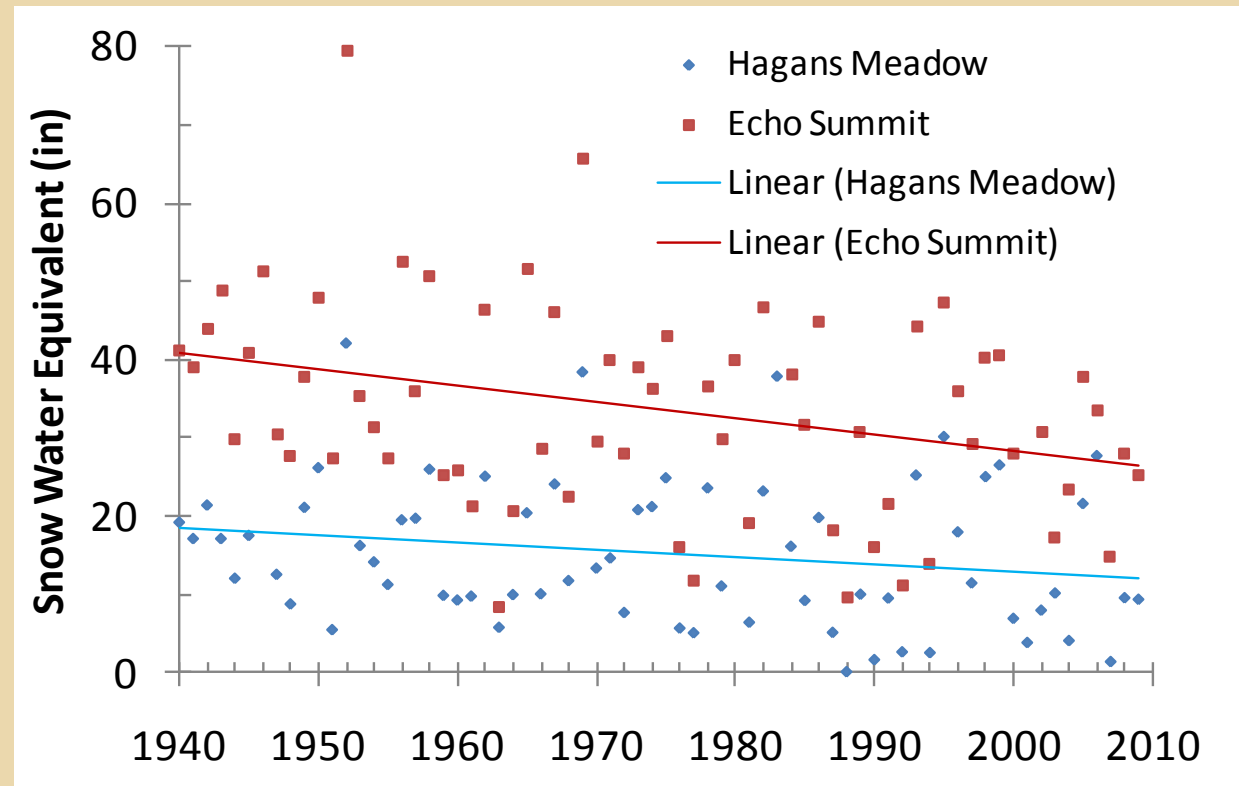
Hagans
Meadow and
Echo Summit

1940-2000

Mean Monthly
Temperature

Kendall's τ
significant

Feb, Mar, Apr,
May



Looking Forward

□ Predictions

- Increase of spring temperature 1 to 5°
- Increased variability
- Tahoe - increase of air and water temperature
- Eastern Nevada - increase of precipitation and temperature
- Carson River – increase variability, no change precipitation, increase temperature