

(a) Water balance

$$Q = P - ET - \Delta S$$

(b) Research questions

How can changes in Q be explained by changes in P , ET , or ΔS ?

(c)

Hypotheses

Precipitation

Evapotranspiration

Permanent storage

Seasonal storage

1. Total P

2. Seasonal P

3. Storm properties

4. Climate warming

5. Land use change

6. Glaciers

7. Permafrost

8. Snow

10. Surface water

9. Groundwater

(d) Data

Gauged P

Satellite P

Gauged T

Satellite NDVI and land use

Remote sensing products

Gauged Q

(e) Analyses

Spatial interpolation

Binned event sizes

FAO + Hargreaves ET model

Area, Volume

Baseflow analysis

(f) Inference

Infer relationships among changing hydrological processes