



HELIOS

Extreme drought, heat and wildfire impacts on coastal water relations

DOE ECRP 2020

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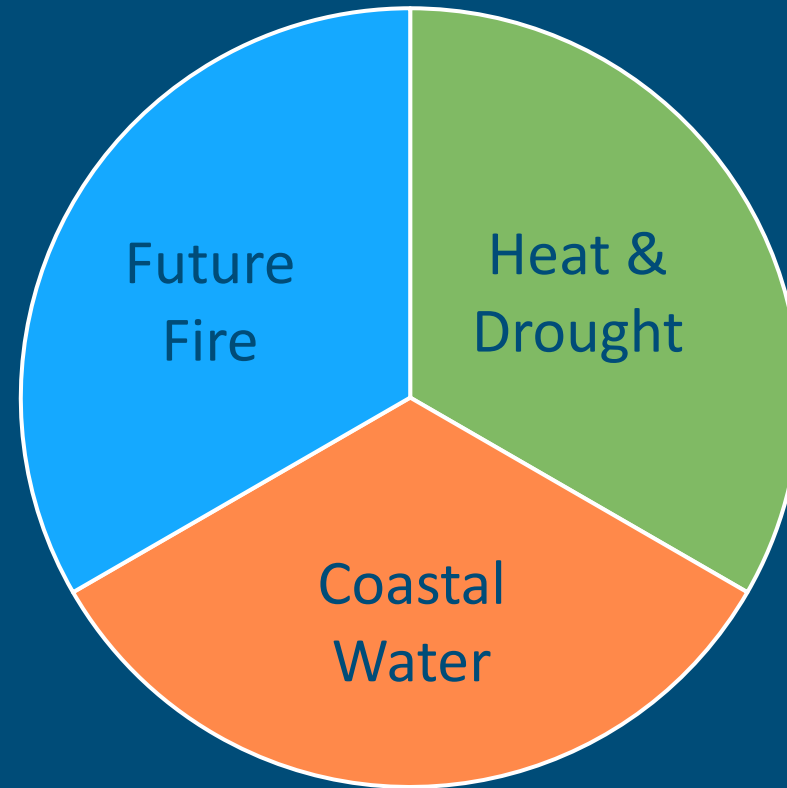


HELIOS Overview:



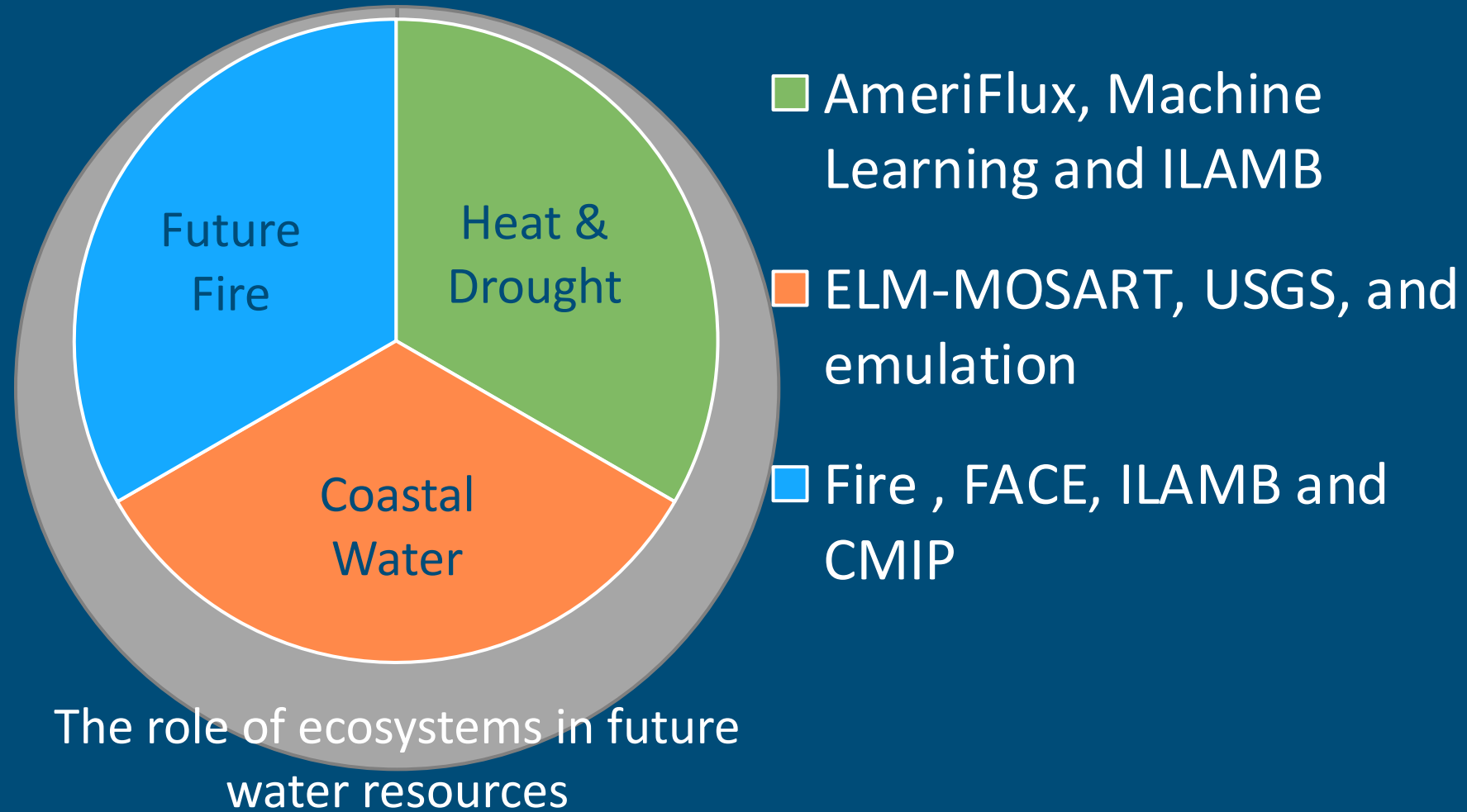
- Ecosystem responses to Heat & Drought
- Changing ecosystem-streamflow relations
- Fire and long-term hydrological changes

HELIOS Overview:

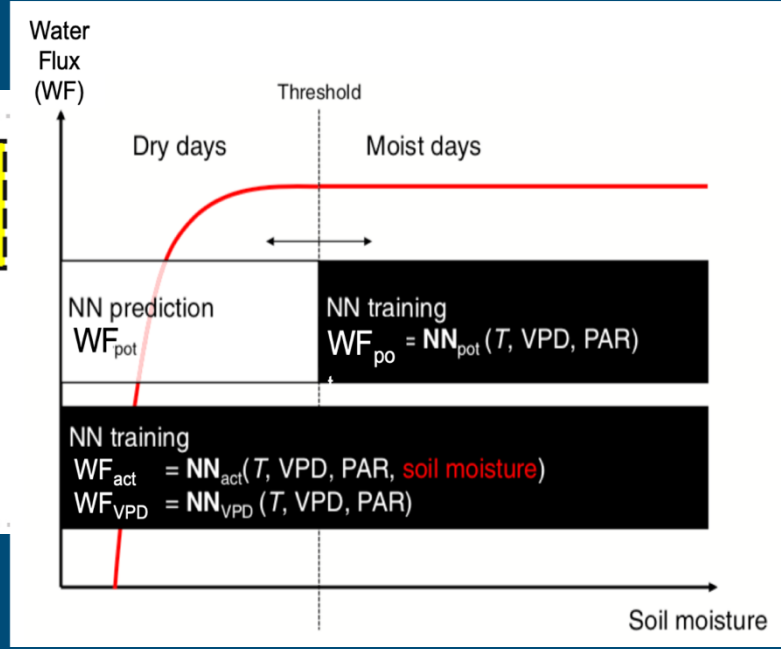
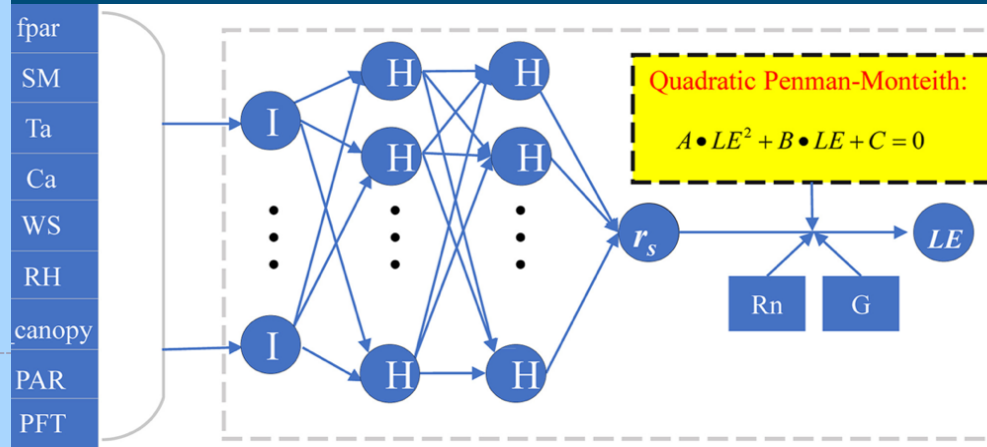


- AmeriFlux, Machine Learning and ILAMB
- ELM-MOSART, USGS, and emulation
- Fire , FACE, ILAMB and CMIP

HELIOS Overview:

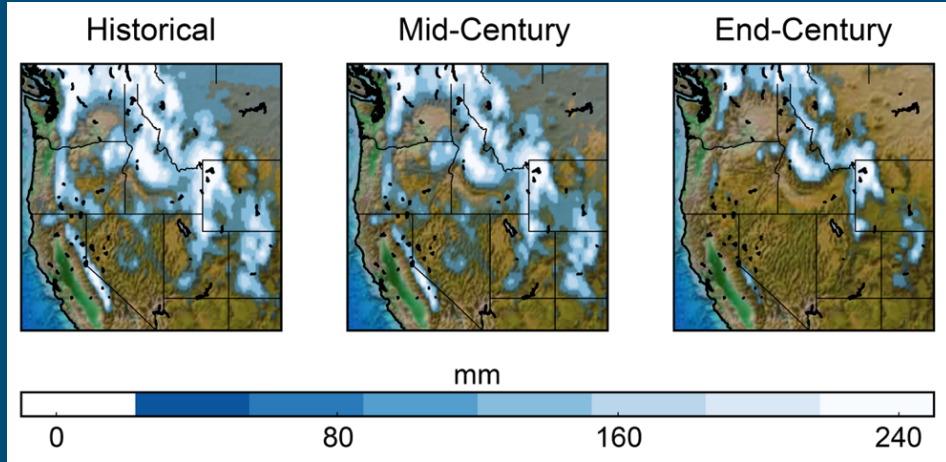


Understanding plant controls on ecosystem hydrology during multi-factor extremes across the coastal western US



Use machine learning to quantify the response of ET and T to changes in the environment -> ILAMB

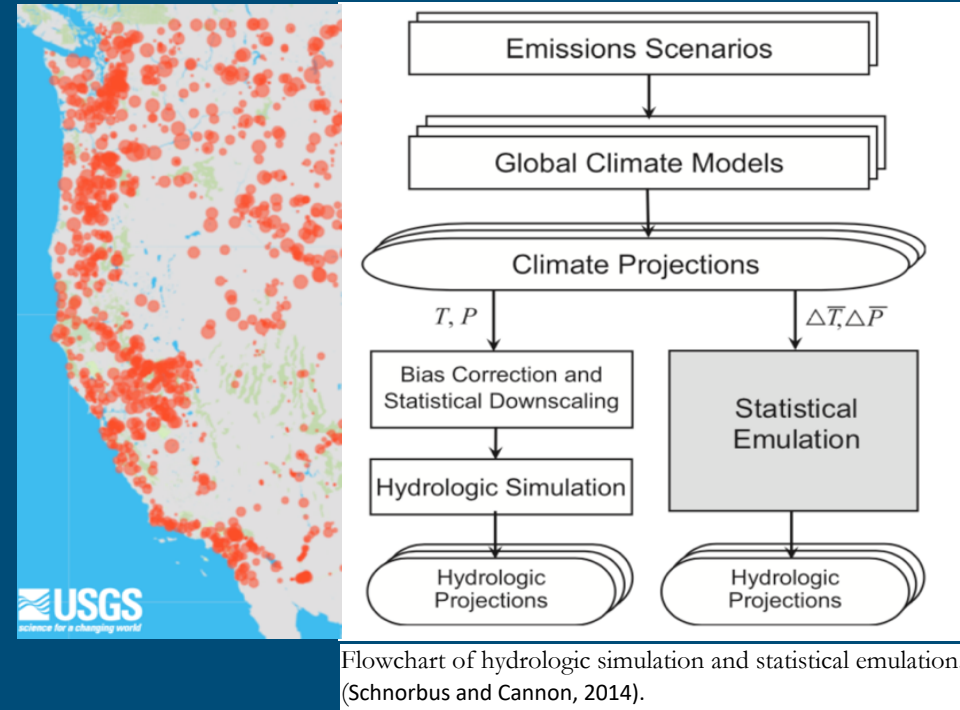
Projected snow water declines



Projected changes in winter snow water equivalent at the middle and end of this century under scenario RCP8.5 from a high-resolution version of the Community Atmospheric Model, CAM5. Adapted from Rhoades et al. (2017), H. Krishnan, LBNL

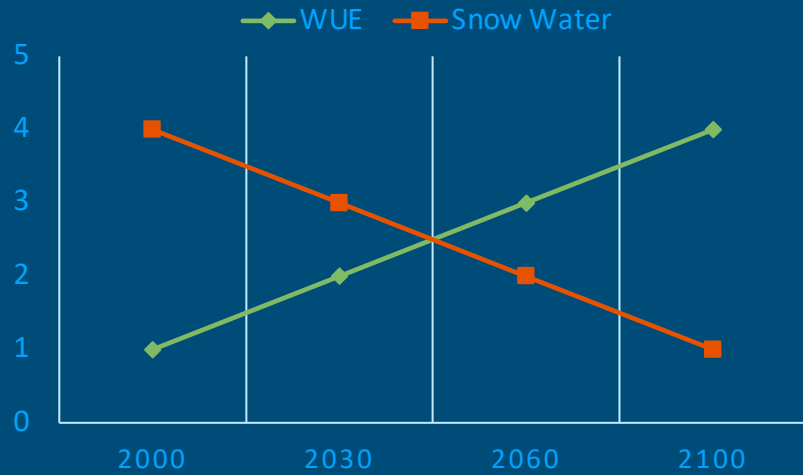
Quantify the changing role of ecosystems in streamflow and coastal water resources.

AmeriFlux – ELM-MOSART - USGS



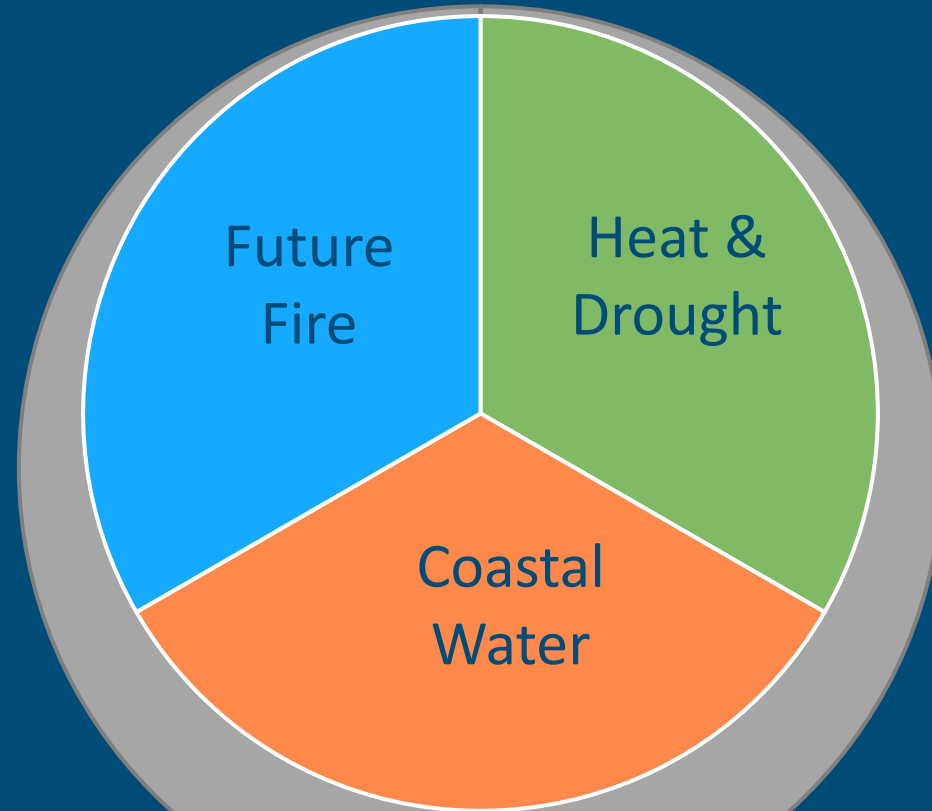
Develop emulators to port to CMIP models

Linking changing ecosystems to changing fire and water use



What happens to a coastal system under declining snow water but increasing water use efficiency?

HELIOS:



The role of ecosystems in future
water resources



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I'm looking for a postdoc!
Coastal streamflow / machine learning / E3SM





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Thank you!

