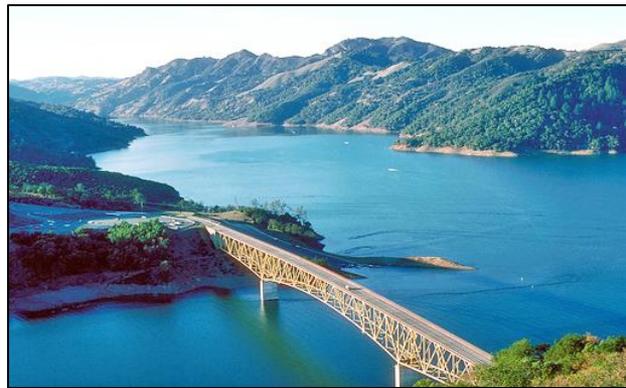




NOAA's Habitat Blueprint

RUSSIAN RIVER HABITAT FOCUS AREA

"SUMMIT TO SEA"

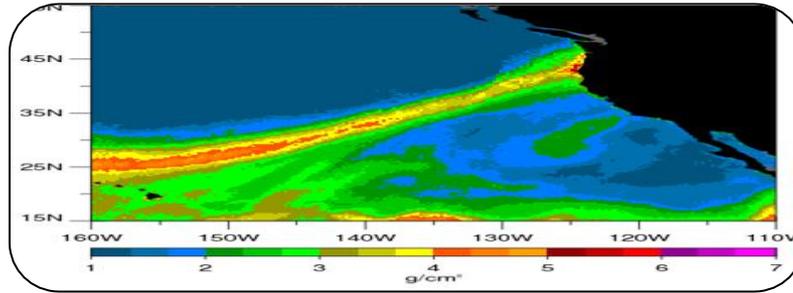


Joshua Fuller
NOAA's National Marine Fisheries Service
Water Education Foundation
Russian River Tour
October 2014



OBJECTIVES: RUSSIAN RIVER HABITAT FOCUS AREA

- Rebuilding endangered coho salmon and threatened Chinook salmon and steelhead stocks to sustainable levels through habitat protection and restoration.
- Improving frost, rainfall, and river forecasts in the Russian River watershed through improved data collection and modeling.
- Increasing community and ecosystem resiliency to flooding and drought through improved planning and water management strategies.



CCC Coho Salmon



CC Chinook Salmon



CCC Steelhead Trout

NOAA LINE OFFICES INVOLVED

Office of Atmospheric Research (OAR)



Climate Adaptation and Mitigation

An informed society anticipating and responding to climate and its impacts

National Weather Service (NWS)



Weather Ready Nation

Society is prepared for and responds to weather-related events

National Marine Fisheries Service (NMFS)



Healthy Habitats and Fisheries

Marine fisheries, habitats, and biodiversity sustained within healthy and productive ecosystems

National Ocean Service (NOS)



Resilient Coastal Communities and Economies

Coastal and Great Lakes communities that are environmentally and economically sustainable

Program Planning and Integration (PPI)



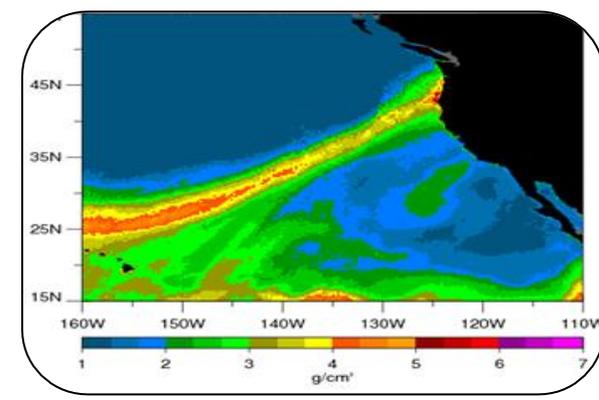
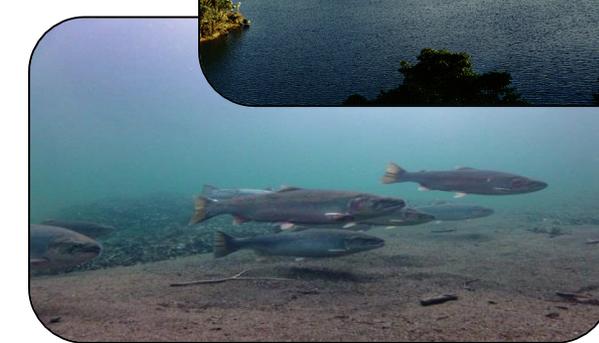
Social Science and Strategy

Strategic planning, social and economic impacts, stakeholders and environmental policy

NOAA COLLABORATIVE PROJECTS: Improve Precipitation and River Flow Forecasting to Maximize Water Capture for Reservoirs and Fisheries

Collaborators: NOAA (OAR, NWS, NMFS), SCWA, USACE, Scripps, USGS, DWR, Mendocino Flood & Water, IRWSS

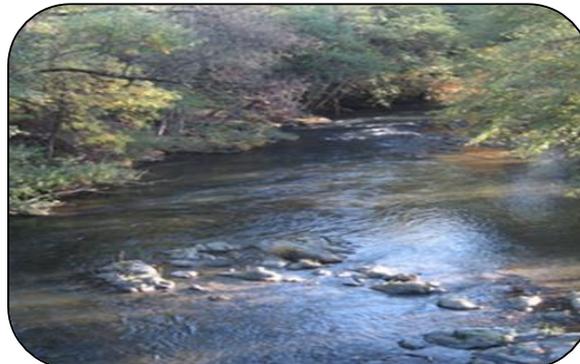
Objective: Apply advanced forecasting techniques to atmospheric rivers- a long line of rain storms that stream in from the Pacific Ocean that often causes flooding. These advanced techniques will potentially support forecast informed reservoir operations and allow for improved water management. The project also aims to provide better flood control and water storage reliability that supports stream flow for Russian River salmonid populations.



NOAA COLLABORATIVE PROJECTS: Russian River Tributary Hydrologic Study – High Resolution Characterization of Historical, Current and Future Conditions

Collaborators: NOAA (OAR, NMFS, SeaGrant), USGS, SCWA, local stakeholders, etc.

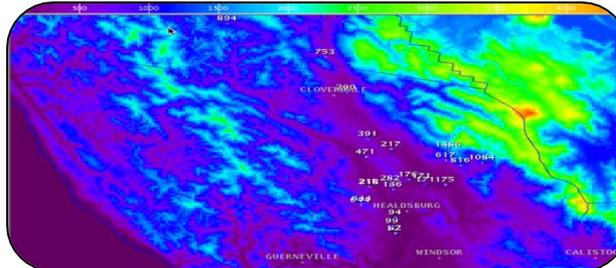
***Objective:** Investigate and understand the complexities of Russian River tributary stream flow patterns from a historical, current, and future stream perspective; including, associated water demands and availability, and the needs of salmonids at various life stages during critical flow periods. Ultimately, we hope to improve water management by reducing uncertainties in water availability, identify high priority restoration stream reaches, and develop progressive solutions while assisting with salmon and steelhead recovery.*



NOAA COLLABORATIVE PROJECTS: Improving Frost Predictions and Protection Methods for vineyards

Collaborators: NOAA (NMFS, OAR, SeaGrant), NRCS, RCDs, Farm Bureaus, SCWA, Farm Ecology, stakeholders, etc.

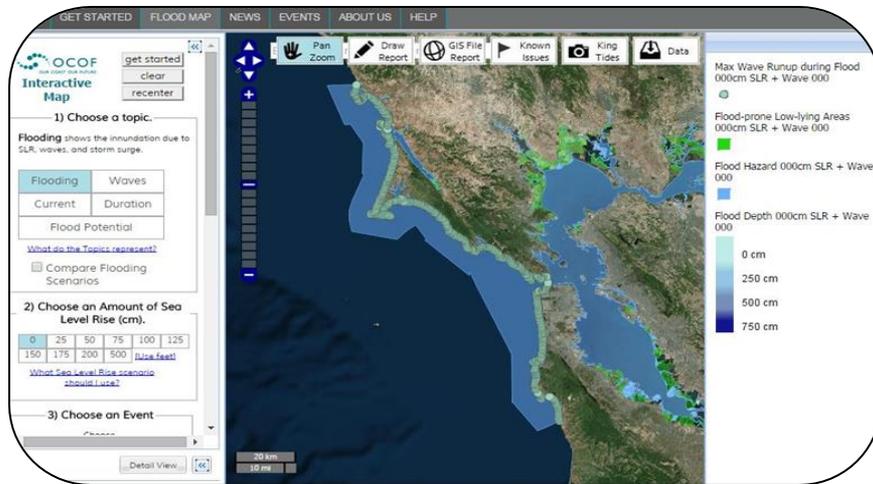
Objective: Improve frost forecasting using digital systems and augmenting the number of temperature inversion towers with real time data accessible to vineyard managers. With advanced notice, growers will be able to adequately predict the timing of frost events and use less water or rely on other methods, such as fans, to combat frost.



NOAA COLLABORATIVE PROJECTS: Russian River Estuary – Climate Change and Sea Level Rise

Collaborators: NOAA (NOS, NWS, NMFS), SCWA, Sonoma County PRM, USGS

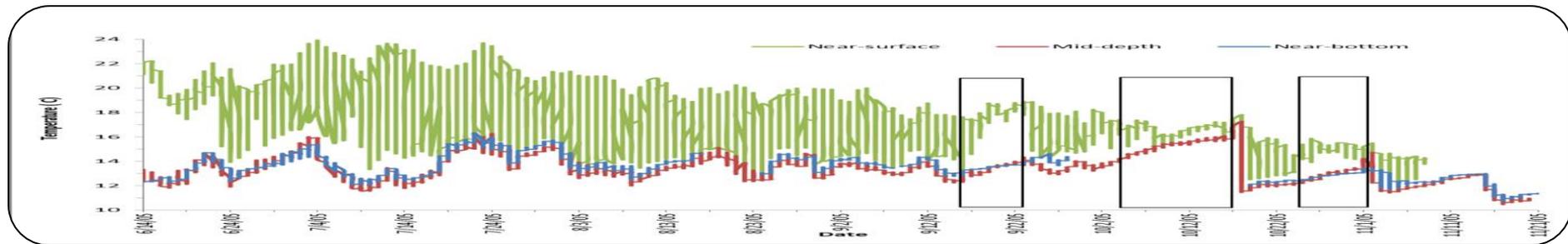
Objective: Develop a high resolution estuary model leverage existing data and models on sea level rise projections, future wave climatology, barrier beach and river mouth sedimentations regimes, and Russian River main stem and tributary flows into an integrated model to increase our understanding of the connection between coastal and watershed processes. This integrated model and associated data will be useful for management of estuary resources, guide habitat restoration and inform coastal planning.



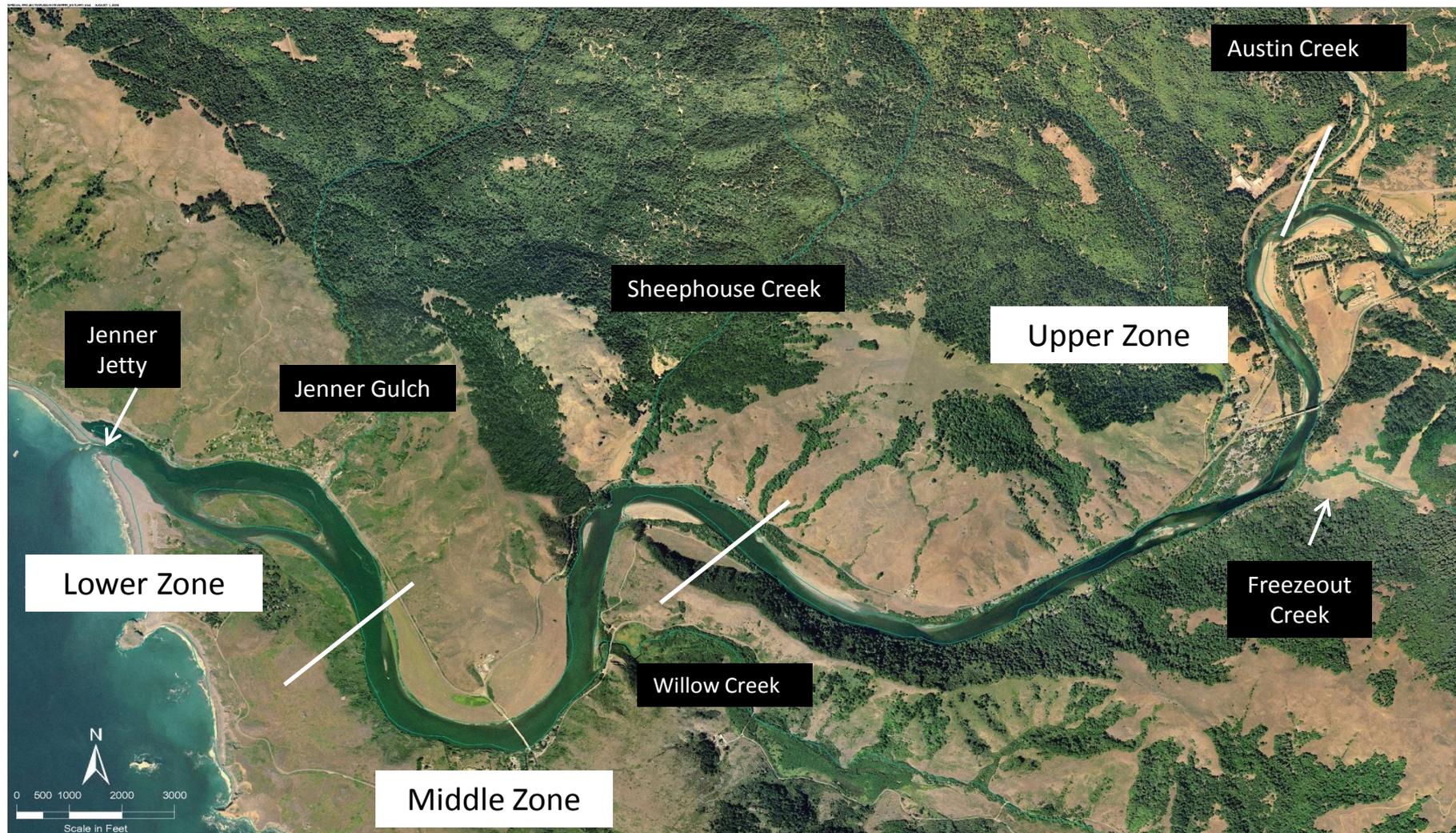
NOAA COLLABORATIVE PROJECTS: Russian River Water Quality Modeling to Inform Time-Dependent Availability of Estuarine Habitat for Salmonids

Collaborators: NOAA (NMFS, SeaGrant, OAR, NOS), SCWA, PWA, BBML

Objective: Estuaries are recognized as critical juvenile rearing habitat for many species of salmonids. Estuaries exhibit a high degree of variability, in both abiotic parameters and food availability – responding to natural seasonal changes as well as anthropogenic effects and management. A quantitative measure of time-dependent habitat availability is needed to identify key factors and desirable management options. This habitat metric can be used as a management decision-support tool for the assessment of past conditions, and as a basis for future management scenarios.



Russian River Estuary

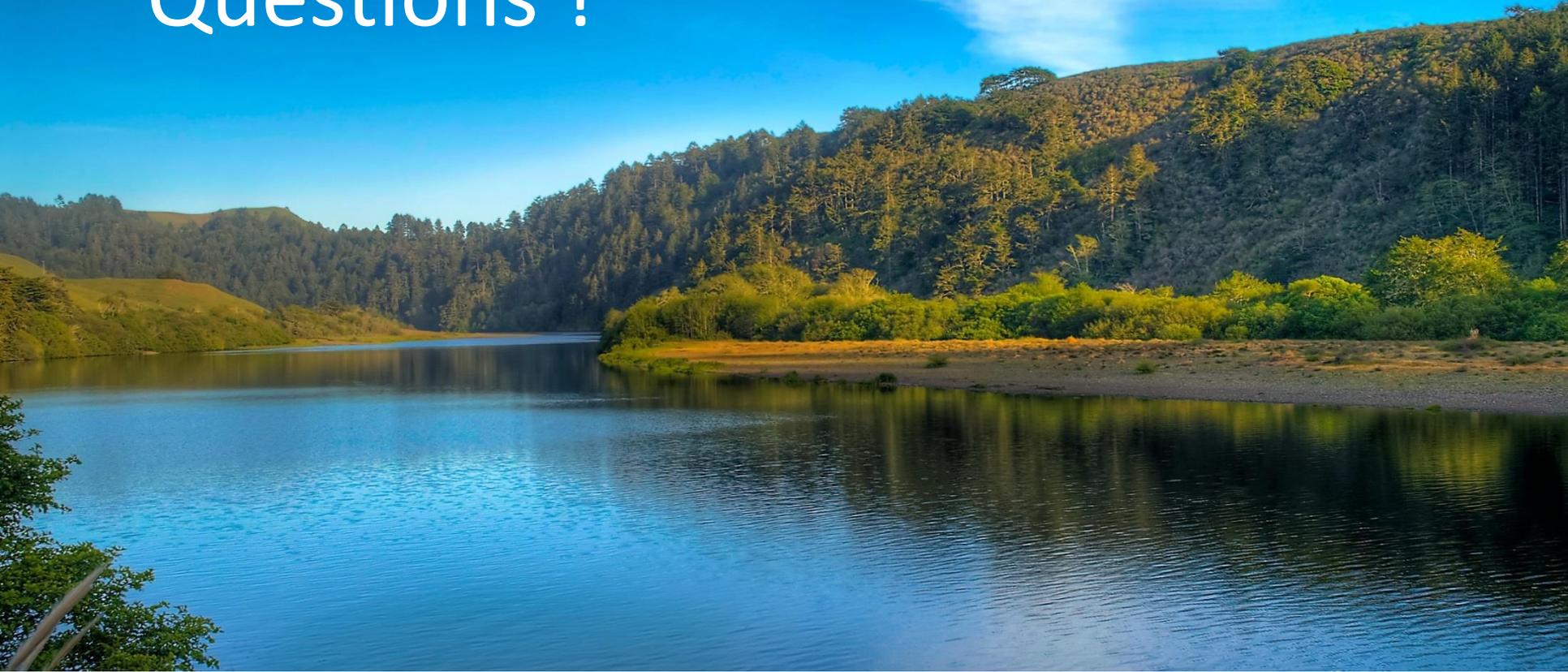


Why is Russian River Estuary/Lagoon Important to Salmonids?

1. *Highly productive ecosystem - offers exceptional growth and rearing opportunities*
2. *Transitional area from freshwater to saltwater*
3. *Harbors all three ESA-listed species (Chinook, steelhead, coho)*



Questions ?



Comments: NOAARussianRiver.Blueprint@noaa.gov

www.noaa.gov/habitatblueprint.html