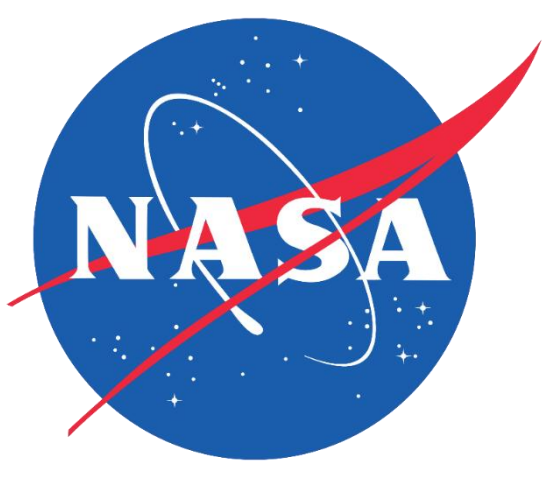




# South Slough Water Resources

## Monitoring Changes in Water Quality to Identify Stressors in Eelgrass Extent Throughout the Coos Estuary



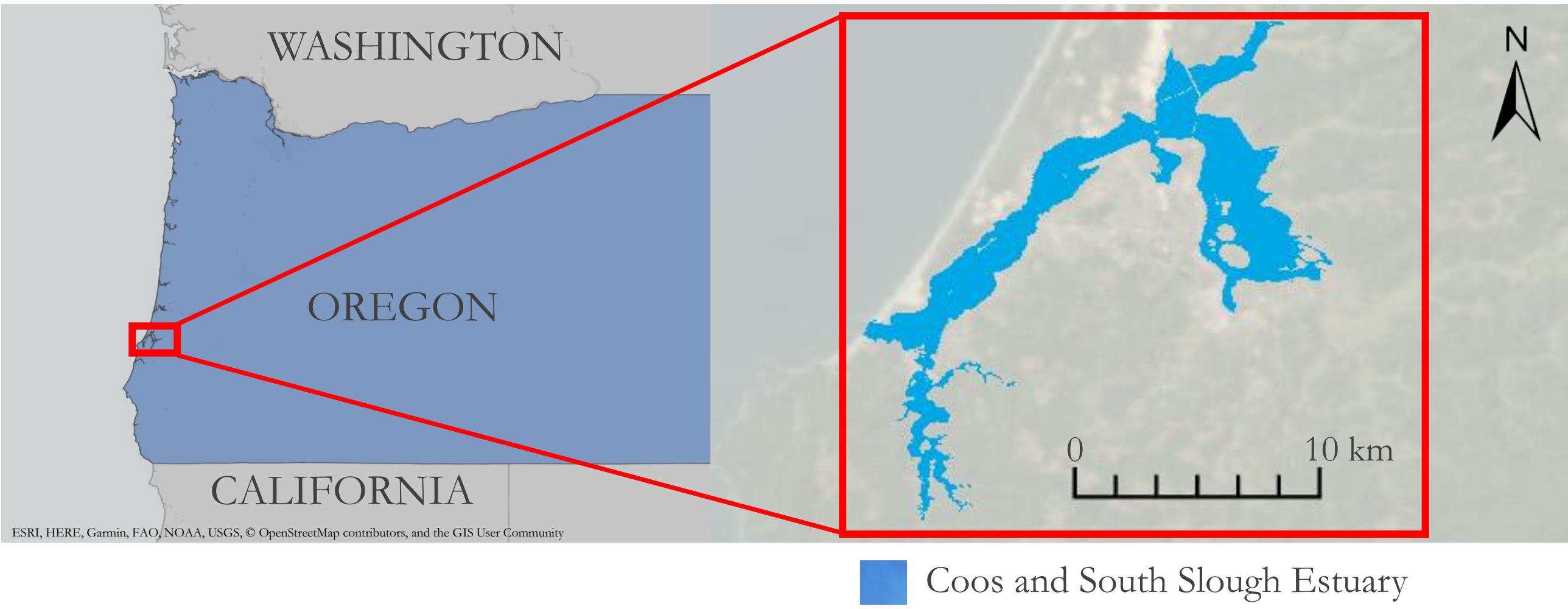
### Project Synopsis

In Oregon’s Coos Estuary, the extent of eelgrass (*Zostera marina*) meadows has decreased substantially since 2005. The project team used remote sensing data to map water quality and eelgrass extent between the years 2016 and 2023 to better understand the conditions driving eelgrass decline. The team found that remote sensing techniques are viable for visualizing broad water quality trends, but feasibility of remote eelgrass mapping is limited in the Coos Estuary.

### Objectives

- **Develop** remote sensing and spatial mapping methods to enhance water quality data collection and better understand the drivers of eelgrass decline
- **Generate** a time series analysis of turbidity, chlorophyll-a, and eelgrass extent
- **Map** water quality and eelgrass distributions in the Coos Estuary between 2016 and 2023

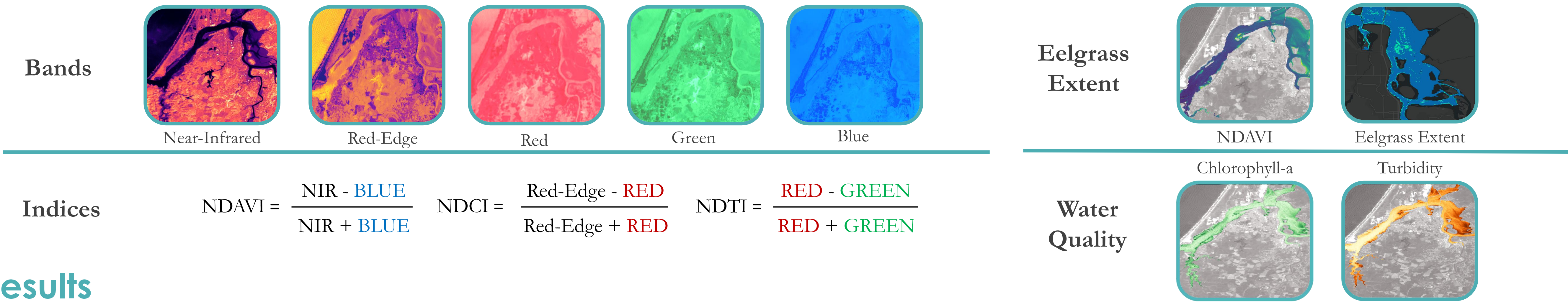
### Study Area



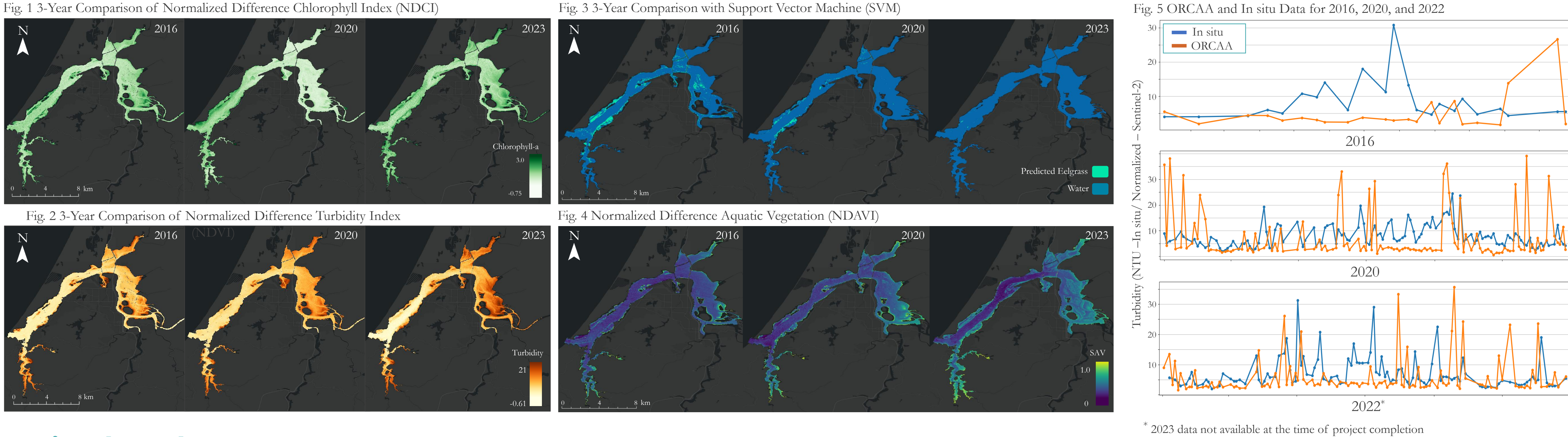
### Earth Observations



### Methodology



### Results



### Project Partners

South Slough National Estuarine Research Reserve  
Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians’ Department of Natural Resources

### Team Members



### Conclusions

- Remote sensing using satellite data offers the potential to **visualize broad water quality trends in the South Slough**
- Indices such as NDAVI are **useful to the partners for exploratory investigations** into potential eelgrass meadows
- **In-situ measurements are highly recommended** and can improve eelgrass identification and classification from satellite data in the study area

### Acknowledgements

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