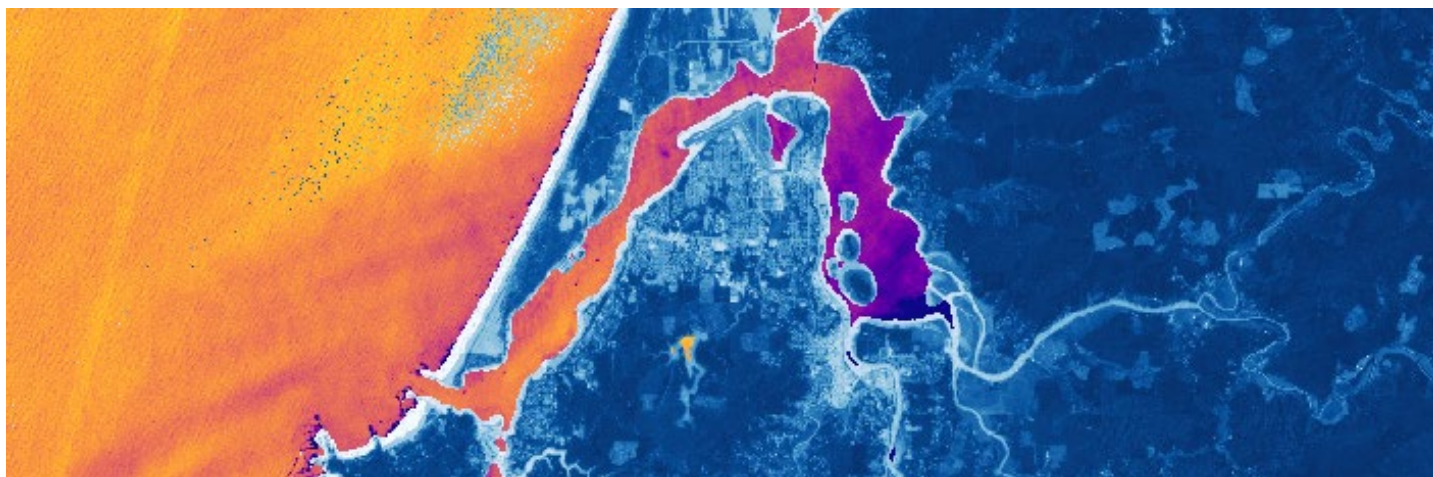


DEVELOP



South Slough Water Resources

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

The Coos estuary in Southern Oregon supports a variety of habitats, including eelgrass (*Zostera marina*) meadows. Eelgrass meadows provide habitat to local and migratory wildlife, such as commercially important fishes, and cultural resources to local and indigenous communities. However, the extent and density of Coos' eelgrass meadows have declined substantially since 2016 due to water temperature increase, algal blooms, and higher turbidity levels. This study utilized Landsat 8 OLI, Landsat 9 OLI-2, and Sentinel-2 MSI to generate time-series maps of the water quality conditions (Chlorophyll-a, turbidity) and eelgrass extent in the Coos estuary from 2016 to 2023 to better understand the conditions driving eelgrass decline. We partnered with the South Slough National Estuarine Research Reserve (SSNERR) and Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians' Department of Natural Resources to help them determine whether remote sensing data can be used to quantify eelgrass and monitor water quality parameters.

Part of NASA's Applied Sciences Program, DEVELOP conducts feasibility studies that bridge the gap between Earth science information and society. DEVELOP works with communities and organizations to address environmental and policy concerns through 10-week projects that help both participants and partners learn more about using geospatial information.

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