

Kelp Mappers Meeting

Hosted by: Hakai Institute & The Nature Conservancy California

April 1 - April 2, *remote meeting*

Research community updates and synthesis manuscript draft

Kelp forests are one of the defining features of Pacific coastline of North America and form the foundation of the nearshore ocean ecosystem. Off the Pacific Coast, we are witnessing loss of kelp forest to varying degrees, and in some cases catastrophic. Collaboration and communication throughout the science, research, and resource management communities along the Pacific Coast is critical to advancing our understanding of the status of kelp forest health and distribution. Improving the quality and accessibility of remote sensing data and data products, as well as creating awareness for the suite of available tools for the most complete understanding of kelp ecosystems is a critical first-step in improving how we conserve and manage these systems. The Nature Conservancy California, along with the Hakai Institute, is working to bring knowledge holders together to discuss the current state of kelp data, remote sensing applications, trends and drivers. The first meeting was hosted at the TNC office in San Francisco in April of 2019.

On April 1st, 2020, Hakai Institute co-hosted a meeting with The Nature Conservancy California with a working group of researchers and managers involved with kelp remote sensing (RS) (satellites, aerial platforms and drones). Almost 50 participants joined the call and presenters provided updates on ongoing kelp RS work in their respective regions, spanning from Alaska to Baja, Mexico. The focus of presentations was a review

of mapping goals and research questions, work in the near-term (6 - 8 months) and highlighting areas where there is a desire to collaborate. During the presentations it was realized that there are many research groups involved in using drones for kelp mapping and therefore a followup meeting to discuss best practices (hardware, software and processing of kelp drone data) will be organized.

On April 2nd, 2020, a subset of the participants from Day 1 joined in a call led by Kyle Cavanaugh (associate professor, UCLA) to discuss writing a paper exploring the challenges and opportunities for remote sensing of kelp along the west coast of North America. Presenters provided a review of studies and datasets for their respective regions (Baja, Southern California, Central California, Northern California, Oregon, Washington, British Columbia and Alaska) as well as a summary of the physical and biological characteristics of the region that are relevant to remote sensing. The outcome of this meeting was a draft outlining the structure and focus of the manuscript and a discussion of the timing for next steps.