ICARP

INTEGRATED CLIMATE ADAPTATION & RESILIENCY PROGRAM

Technical Advisory Council

Item 6: Adaptation Clearinghouse and Cal-Adapt User Needs Assessments

June 30, 2023

Cal-Adapt and Adaptation Clearinghouse Background

Cal-Adapt is California's open-source web platform for accessing high-quality, peer-reviewed, downscaled climate data and visualizations from California's Fourth Climate Change Assessment. Current tools provide projection information for sea level rise, wildfire, temperature, precipitation, snowpack, and more. Cal-Adapt was developed by the California Energy Commission (CEC) to serve energy sector users for climate adaptation decision support and planning. The Strategic Growth Council (SGC) recently funded a Cal-Adapt update to increase its accessibility and expand its tools and features to diversify the user base that Cal-Adapt serves. Cal-Adapt users include energy and utility entities, infrastructure managers, municipal planners, community-based organizations, state agencies, scientists and climate experts, educators, and the general public.

The CEC and OPR are now expanding Cal-Adapt into the Cal-Adapt Enterprise with climate data from California's Fifth Climate Change Assessment that includes features for a broader range of users who need easily accessible data visualizations and tools while also providing a more powerful analytics engine to serve highly technical, data intensive needs. In coordination with the CEC, OPR will update, develop, and maintain the non-energy sector focused interactive visualizations and tools beginning in 2023.

California's Adaptation Clearinghouse, produced by ICARP pursuant to its authorizing statute (SB 246, Wieckowski, 2015), is a comprehensive online library of resources for local, regional, and statewide climate adaptation planning and decision-making. The database provides relevant and up to date climate adaptation and resilience resources that guide and serve decisionmakers when planning and implementing climate adaptation projects. The primary user base of the Clearinghouse includes diverse public entities, especially local and state agencies, that work across a variety of sectors and professional disciplines. Another Section

User Needs Assessment

ICARP Climate Services contracted Exygy, Inc. to conduct an Adaptation Clearinghouse and Cal-Adapt user needs assessment from September 2022 – June 2023 to identify short-, mid-, and long-term needs and priorities for future web development.

The Assessment objectives were to:

1. Characterize the current audience, the nature of user needs, and whether user needs are being met on the Adaptation Clearinghouse and Cal-Adapt.
2. Identify design and functionality improvements to ensure the Adaptation Clearinghouse website and resources are useful, usable, and used by decisionmakers across the state for their climate adaptation planning, project, and decision-making efforts.
3. Identify current Cal-Adapt web-application challenges and opportunities.
4. Collect needs, use cases, and feedback from site users on climate science, data visualization tools, and climate adaptation planning.
5. Identify opportunities to improve access to Climate Assessment data and research, and to inform development priorities for visual applications and analytics in Cal-Adapt.

To assess Clearinghouse user needs, Exygy Inc conducted a user survey, an active on-site poll, state partner interviews, user interviews, and prototype testing. Exygy also conducted a metrics, user experience, and accessibility audit, as well as an information architecture study.

To assess Cal-Adapt user needs, Exygy Inc conducted an experience assessment and comparative analysis of similar sites, a user experience and accessibility audit, state partner interviews, user interviews, and prototype testing.

Preliminary Findings and Recommendations

Exygy will provide final results and a guidebook for future and ongoing user assessments to the ICARP Climate Services team in early July. Preliminary findings and next steps below give an overview of how these results will be used in an initial round of updates and revisions, and as an ongoing tool to enhance the use and accessibility of adaptation resources, including technical assistance programming, developed or curated by ICARP. The user assessment and guidebook will also help inform the tools and resources portion of the upcoming OPR Strategic Plan.

- **Adaptation Clearinghouse:** Funding information and technical assistance are highly desired features across user groups. High-capacity users that operate statewide and are responsible for planning and implementation activities at their organization are most likely to use the Adaptation Clearinghouse, and the current design and experience could better serve low-capacity local agencies and other entities.
  - **Next steps include revising the information architecture to better support the various types of user groups interacting with the site, and updating the home page and other navigational features to provide better orientation, information flows, and support for users. The Search engine also needs updates to improve the relevance of results.**

- **Cal-Adapt:** There is a barrier to entry that may leave some user groups underserved by the site or unsure where to start or how to proceed. There are opportunities to better integrate different data sources, supporting information and resources, and missing data and functionalities for more holistic analysis. The assessment also identified a lack of consistency and standardization of tool features. There are additional opportunities for contextualized guidance and curated information that support appropriate uses of data, reduce decision fatigue, and better communicate the limitations, uncertainties, and methodologies behind the various tools and data. There are also opportunities to better link across the adaptation resources portfolio to help users connect to data and decision tools for their local context and associated impacts.
    - **Next steps include: 1. using the assessment report and guidebook to inform the development of an RFP for the Cal-Adapt Visualization platform, 2. applying principles for accessible data and streamlined user experience to prioritize development of a small suite of well supported decision support tools, and 3. improving connections between these data and tools and other adaptation resources, such as the Adaptation Clearinghouse and the Vulnerable Communities Platform.**