

Highlights from the 2016 California Coastal Adaptation Needs Assessment

Growing Effort, Growing Challenge: The third coastal adaptation needs assessment, administered in 2016, provides a snapshot of the current state of coastal adaptation in California, and an assessment of the changing needs of coastal professionals since 2006. The study aimed to (1) understand the state and context of coastal adaptation and understand how to move it forward; (2) identify information, training, technical assistance, financial and other support needs; and in so doing, (3) assess what difference past technical and financial assistance have made in advancing coastal adaptation. This report is included in California's Fourth Climate Change Assessment report, released in August, 2018. Download for free at <http://bit.ly/2Pav4Ly>.

Overarching findings for coastal California



Sea-level rise has emerged as the dominant present-day coastal management concern (along with coastal flooding and erosion) across California. This is a notable shift among all types of survey respondents compared to 2011 survey results, when sea-level rise was mostly seen as a future coastal management challenge.



Coastal adaptation is further advanced now compared to 2011 across California, but coastal professionals continue to face significant hurdles in moving from understanding coastal risks to planning and implementing actions. While the leading barriers are the same as in 2011 (lack of funding, limited staff capacity and pressing other issues competing for coastal managers' attention), 8 (or 42%) of 19 barriers are now rated as bigger hurdles than they were rated in 2011.



The biggest hurdle is lack of funding for implementation of adaptation actions. While this is unchanged from 2011, the 2016 survey – for the first time – quantified past adaptation expenditures and future funding needs. Findings suggest that expected coastal adaptation funding needs for implementation over the next five years are several orders of magnitude greater than expenditures to date.



Coastal managers, generally a highly educated group of professionals, feel better informed about climate change risks now than in 2011. Formal training in adaptation, however, remains extremely limited among respondents; they have largely learned about adaptation “on the job” and the need for trainings persists.



Technical assistance and investment in actionable scientific information have paid off in coastal California. “Lack of technical assistance” and “lack of access to relevant information and data” is now perceived as less of a hurdle to adaptation than it was in 2011. Moreover, there is a notable shift in information needs: while coastal professionals' dominant information needs focused on becoming more familiar with sea-level rise-related coastal risks in 2011, the greatest needs now concern solution options and how to implement them (e.g., costs, trade-offs).



Equity and justice – a new aspect in the 2016 survey in response to state-level policy direction – is one of many motivations to begin adaptation; data on social equity are also of interest to coastal professionals now.

Regionally Differentiated Findings



Currently pressing coastal management concerns vary across coastal regions, with sea-level change ranking highest in Northern California and the Bay Area; coastal and shoreline erosion being of greatest concern along the Central and San Diego coasts; and water quality concerns being seen as the greatest current challenge in Southern California.



While most respondents felt the severity of these challenges had increased over the past five years, the severity of the most pressing current management challenge was perceived to have increased the most in Northern California (where 93% of respondents saw an increase), followed by respondents in San Diego (where more than 71% of respondents felt their top management concern had increased in severity).



Southern California and Bay Area respondents indicated that they are furthest along with coastal adaptation (in the planning or implementation stage), while Central and Northern California respondents are still mostly in the early stage (either not begun or just beginning to assess the risks). San Diego falls in the middle of the range.



As for regional differences in the barriers to adaptation, the top four barriers seen at the state level are also closely reflected regionally, with lack of funding for implementation of adaptation options being the top barrier in all regions except in San Diego, where lack of staff capacity ranks at the top. Lack of leadership from elected officials ranks among the top five biggest hurdles in San Diego and Northern California, whereas lack of public demand to launch adaptation planning figures highly in Southern California and lack of technical assistance is among the top five barriers for respondents in the Bay/Delta Region and Northern California.



As for information needs, Northern California counties are distinguishable from all the other counties in their interest in changes in tidal range and changes in groundwater elevation, which were identified by >80% as “very useful” information. Similarly, information about the spread of invasive species was classified as “very useful” in the north (~70%) but ranged last or second to last in all other counties.



All the regions need more formal training on climate adaptation. The San Diego region was the only region to have more of its respondents indicate that they had received some sort of formal training, only slightly ahead of other regions. In the Northern and Central coast counties, a majority of respondents indicated that they had not received any formal training (72% and 60% respectively).



In summary, while regional representation in the survey was uneven (reflecting limits in existing lists of coastal professionals to whom the survey could be distributed), the emerging picture from all responses suggests that the urbanized areas are farther along with adaptation, thus relatively greater attention needs to be given in the future to the less densely populated, rural coastal regions with additional technical assistance and other support (trainings, outreach, backing of political leaders etc.). Such unevenness in capacity can magnify the challenges that all regions report, namely lack of funding for planning and implementation, and staff capacity constraints in light of concurrent other pressing issues.