Is California Preparing for Climate Change?
Results from new climate adaptation survey

Contact: Juliette Finzi Hart, 310-801-3435 (cell)
Susanne Moser, 831-234-8219 (cell)
Phyllis Grifman, 310-729-0912 (cell)

By: Christina S. Johnson, California Sea Grant

SAN DIEGO, LOS ANGELES and MONTEREY – A majority of California's coastal planners and resource managers now view the threats from climate change as sufficiently likely that practical steps on the ground need to be taken to protect against growing threats, according to results from a new survey.

Survey respondents acknowledge the need to prepare for changes along the coast that might result from rising sea levels and other impacts, such as more floods, loss of beach access, coastal erosion and potential damage to transportation infrastructure, including highways, roads and ports.

The new survey – an update on a similar one conducted six years ago – shows a strong uptick in California coastal professionals’ attention to preparing and planning for climate change. Results reveal that managers are ready and willing to develop adaptation strategies, despite tighter belts in most local and state agencies in recent years. But lack of money to prepare and implement plans, insufficient staff and lack of technical know-how are significant challenges.

“Communities are willing to adapt to the reality of climate change, but they are struggling. This is a story that needs to be told when billions of dollars in assets are at risk,” said Susanne Moser, Director of Susanne Moser Research & Consulting in Santa Cruz and a Research Associate of Stanford University’s Center for Ocean Solutions (COS). She worked with colleagues at University of Southern California Sea Grant, California Sea Grant and the University of California, Berkeley, and an unprecedented collaborative of 10 other coastal organizations in California to systematically probe coastal professionals’ knowledge and attitudes toward global warming, their level of preparedness for the future, and the challenges they face in taking action.

The survey shows that 40 percent of coastal professionals who are responsible for protecting natural resources, property and human safety have begun trying to understand the risks they face, and another 40 percent are actively planning for climate change impacts, such as sea level rise, coastal flooding and erosion. Yet, only about 10 percent are actually doing things on the ground that may reduce the full brunt of climate change.
"The big take-away from the survey is that coastal managers are knowledgeable and understand the importance of preparing for climate change," said USC Sea Grant Associate Director Phyllis Grifman, a co-author of the survey report, *Rising to the Challenge: Results of the 2011 California Coastal Adaptation Needs Assessment*. “And they are doing what they can even before there is a mandate to develop adaptation plans. They know it is important, and they are concerned, both personally and at work, but they need help.”

Most of the nearly 600 coastal professionals who responded to the survey describe a work environment that is already consumed by other pressing issues and constrained by limited fiscal and staff resources. More than 70 percent also indicate that they believe the severity of their leading management challenges, such as protecting water quality and wetland habitats, will further intensify in the next five years, creating yet higher hurdles in meeting the state’s call to prepare and plan for rising sea levels.

The survey also allowed coastal managers to identify the information, training needs and tools that would make their work more effective. According to Juliette Finzi Hart, Regional Research and Planning Specialist at USC Sea Grant and lead author of the survey report, “The organizations that worked together on this survey have an opportunity – and a responsibility – to help California coastal managers meet the challenge of climate change. Information alone won’t solve the problem, but we can help build coastal professionals’ capacity to make our coasts a safer place to live and work.”

Today at the **Headwaters to Oceans (H2O) Conference** in San Diego, Grifman will moderate a discussion of the survey results at a session on climate adaptation and coastal management. Panelists include Hart and co-authors Monique Myers of California Sea Grant, and Julia Ekstrom, a postdoctoral researcher at UC Berkeley.

In a second panel today, co-author Adina Abeles of COS will moderate a session of several survey partners addressing what California coastal managers need, in terms of information, training and tools, to deal with sea level rise and other climate change impacts, and how these organizations are helping to provide this technical assistance.

The current survey revealed a strong increase in adaptation activity compared to the very low level observed at the time of the first coastal adaptation survey conducted in 2005/2006. That survey – conducted by researchers at the National Center for Atmospheric Research, including Moser – found that among the local governments in coastal areas that were surveyed, only two counties at that time had begun considering climate change in their planning efforts, and another six cities and four counties were in the process. Five years later a marked shift is evident: today 93 percent of all survey respondents (including representatives from local, regional, state and federal entities) say they are in the process of understanding their climate change risks, assessing their adaptation options, or implementing a strategy.

“The survey results are timed perfectly with ongoing state efforts to update the 2012 California Climate Adaptation Strategy,” said Abe Doherty, a project specialist at the Ocean Protection Council, one of the 15 organizations that collaborated on the survey.
Others include the California Coastal Commission, NOAA Coastal Services Center and Southern California Coastal Ocean Observing System.

"It is important to get feedback on what coastal managers are using for information and what they need for technical assistance and training," said Doherty, who is currently drafting the ocean and coastal resources portion of the climate adaptation strategy. "The barriers are mostly fiscal for communities. We know we have limited funds, so what is the best approach for moving forward? We have to craft strategies and focus staff time strategically. The survey results help us prioritize staff time and resources."

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The USC Sea Grant and California Sea Grant programs are part of a national network of 32 programs of marine research, outreach and education activities and part of the National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce. Sea Grant is dedicated to helping citizens use scientific information to support a vibrant economy and ensure ecological sustainability.

The Center for Ocean Solutions is a collaboration among Stanford’s Woods Institute for the Environment and Hopkins Marine Station, the Monterey Bay Aquarium and the Monterey Bay Aquarium Research Institute. Across these institutions, COS draws from about 80 scholars, researchers and educators who work on coastal and ocean ecosystems in the natural, physical and social sciences. COS also works with experienced conservation practitioners and policy experts. Located at Stanford and in Monterey, California, COS is uniquely positioned to leverage expertise and develop practical solutions to the most urgent and important ocean conservation problems.

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