
Rising to the Challenge

Results of the 2011 California Coastal
Adaptation Needs Assessment

Central Region

Compiled by Marika Schulhof

University of Southern California Sea Grant

ACKNOWLEDGEMENTS

We would like to thank, first and foremost, the 594 individuals who responded to this survey. The survey was initiated and developed in collaboration with 15 organizations based in California, who share an interest in the sustainable management and stewardship of the state's coastal and marine resources. We thank them for their participation, collaborative spirit, and for useful feedback on earlier drafts of the survey instrument and this analysis. We thank the six individuals who tested the 2011 survey instrument and provided critical feedback.

REGIONAL SUB-REPORTS

The data collected in the California Coastal Adaptation Needs Assessment were analyzed separately in regional sub-reports for the four coastal California regions surveyed: Northern, Bay Area/Delta, Central, and Southern. In the four regional sub-reports, graphs and charts were generated combining data for all respondent types in each region (city and county; state, federal and regional; elected officials; NGO; and private industry and environmental consultants). The regional analyses also include text responses, which were not included in the full report. The regional sub-reports can be accessed at: <http://www.usc.edu/org/seagrant/research/survey.html>

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Central Region Results:

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Statewide Report:

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The National Sea Grant College Program is a national network of 32 programs dedicated to serving citizens in coastal communities throughout the Nation. Administered through the National Oceanic and Atmospheric Administration (NOAA), Sea Grant is the Agency's primary university-based program dedicated to helping citizens utilize scientific information to support a vibrant economy while ensuring ecological sustainability.

The Center for Ocean Solutions (COS) 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.

SURVEY COLLABORATIVE

California Coastal Commission

California Nevada Applications Program at the Scripps Institution of Oceanography, University of California, San Diego through the NOAA Regional Integrated Sciences and Assessment Program

California Ocean Protection Council

California Ocean Science Trust

California Sea Grant College Program

Center for Ocean Solutions, Stanford University

Coastal Services Center, National Oceanic and Atmospheric Administration

Gulf of Farallones National Marine Sanctuary

San Francisco Bay Conservation and Development Commission

San Francisco Bay National Estuarine Research Reserve

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INTRODUCTION

With more than 1,100 miles of open ocean coastline and another 1,000 miles of shoreline along San Francisco Bay, and hundreds more miles of embayments, the range of coastal management challenges, as well as approaches to managing coastal climate change risks, is diverse. It was thus important to determine whether the survey respondents adequately represented California’s southern, central, northern and bay regions and the different types of coasts found in the state. Forty-three percent of respondents are from southern California, including Santa Barbara, Ventura, Los Angeles, Orange and San Diego counties. Thirty-seven percent of respondents work in the Bay/Delta Region, which includes the 12 counties of Sonoma, Napa, Solano, Sacramento, Marin, San Francisco, Contra Costa, Alameda, San Joaquin, Santa Clara, San Mateo, Santa Cruz.⁸ The remaining respondents are equally divided between counties in central California (12%, Monterey and San Luis Obispo) and northern California (12%, Del Norte, Humboldt, Mendocino, Sonoma). Notably, each coastal county is represented in the survey by at least one respondent (Map 1).

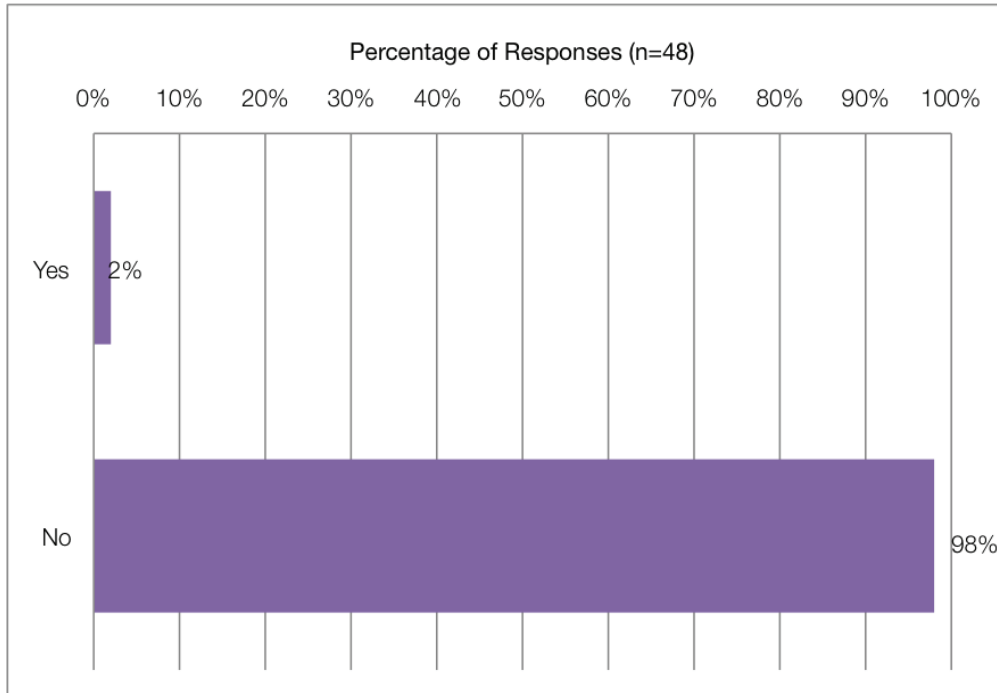
The survey population captured in our survey is thus representative of all California’s major coastal regions with the most populated coastal regions of the state (southern California and the San Francisco Bay region) most strongly represented by survey respondents. In terms of respondents’ job responsibilities, nearly three-quarters of participants are planners, environmental specialists, or wildlife/natural resource managers, while engineers, water resource managers, emergency or flood district managers and others make up the remaining portion. While obviously an uneven distribution, those most directly involved in long-term planning (such as for climate change) are well represented here. Moreover, this survey – contrary to its 2005/2006 predecessor – includes individuals from all levels of government, reflecting the complex nature of coastal management and adaptation planning. The only group clearly missing is Tribal communities, and more efforts need to be made in the future to reach that particular population. Based on this review, we conclude that survey responses are adequately representative of the state of affairs in California.



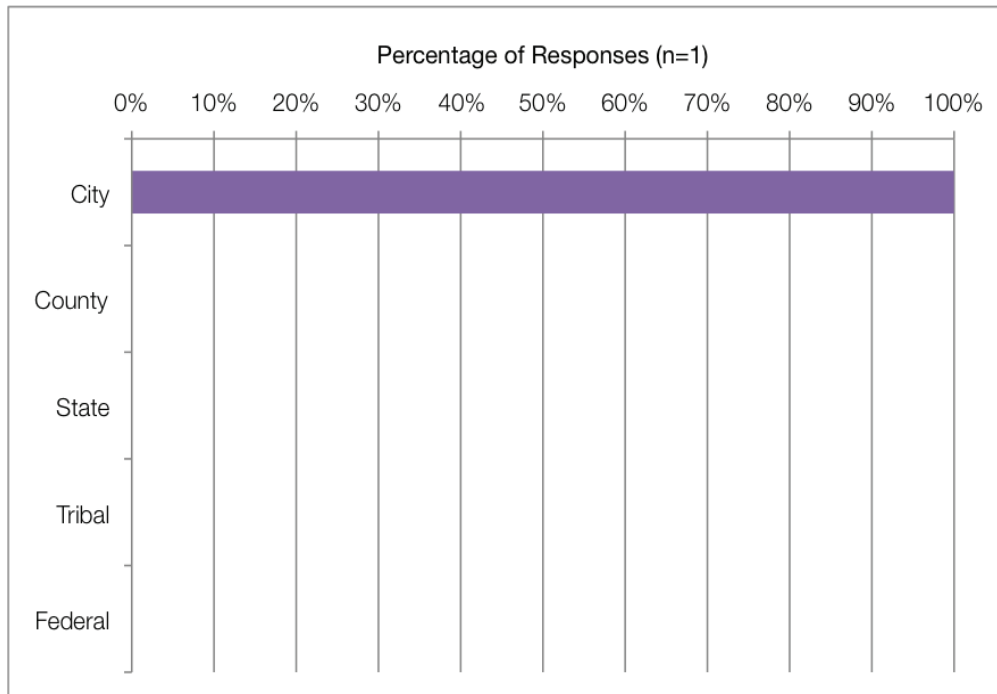
Map 1. Locations of respondents. The identity of survey respondents was kept anonymous unless they chose to provide their contact information. This map was developed using this contact information and is therefore not reflective of the respondent population as a whole. Rather, the map provides a glimpse of the geographic distribution of some of the survey respondents (n=59 of 594 survey respondents).

PART I: SURVEY POPULATION

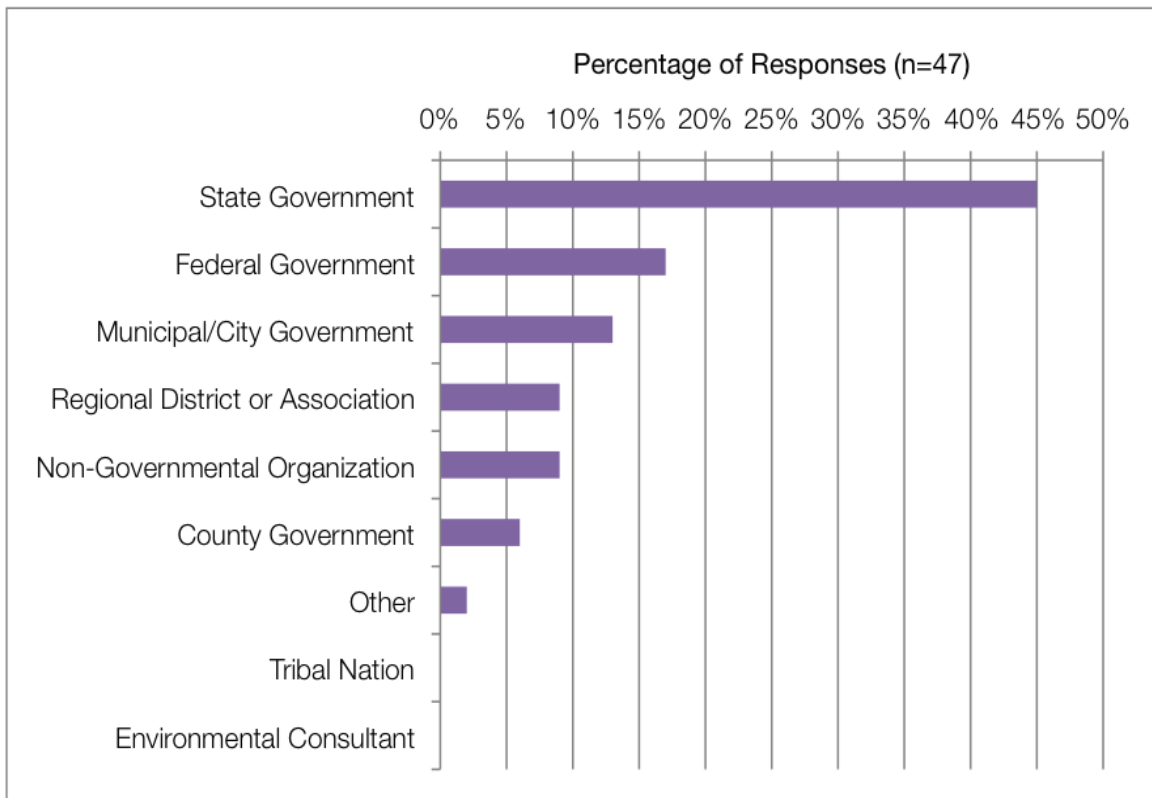
1. Please indicate if you are an elected official.



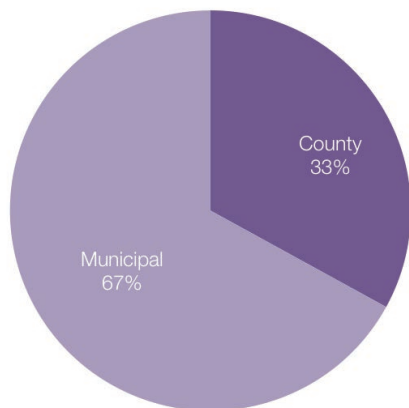
2. If you responded that you are an elected official, please indicate the governmental/organizational sector in which you work.



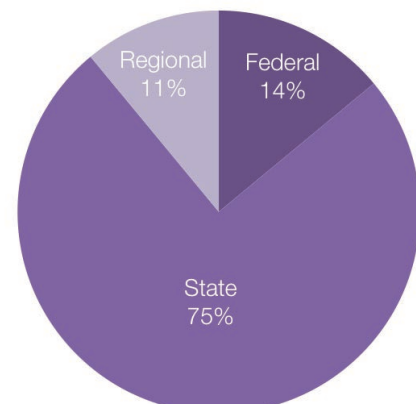
3. If you are not an elected official, please indicate the governmental/organizational sector in which you work.



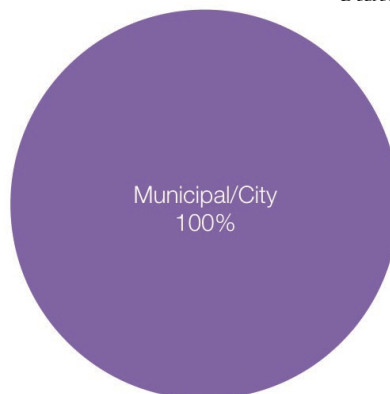
4. Please select your jurisdiction.



City/County Respondents (n=9)

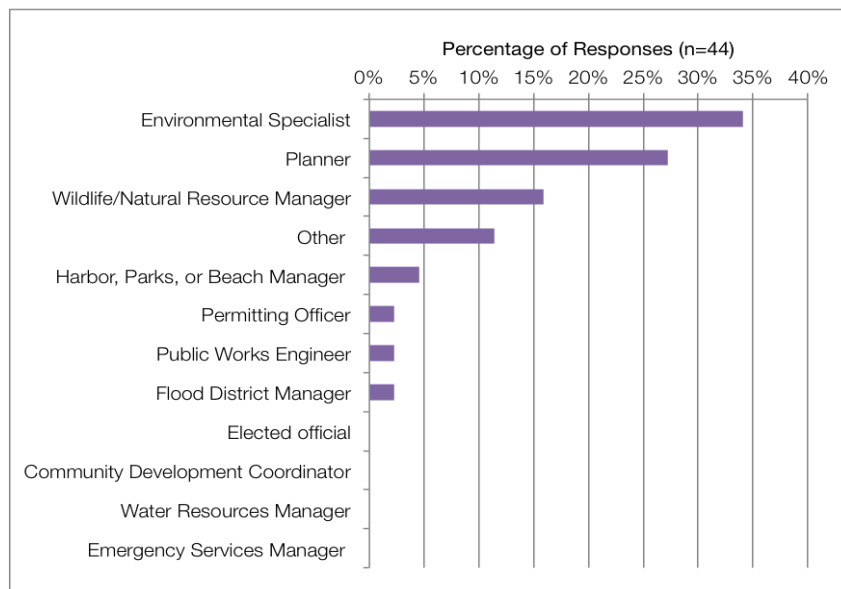


State/Regional/Federal Respondents (n=28)

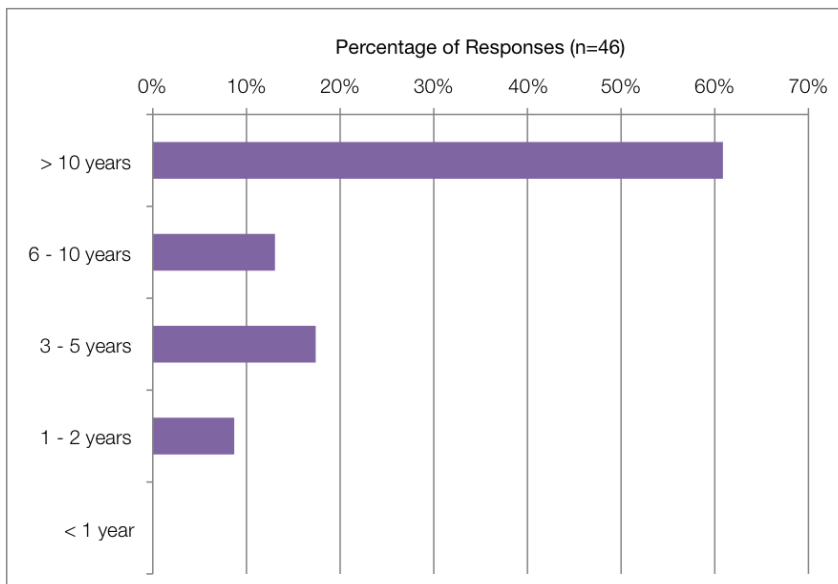


Elected Official Respondents (n=1)

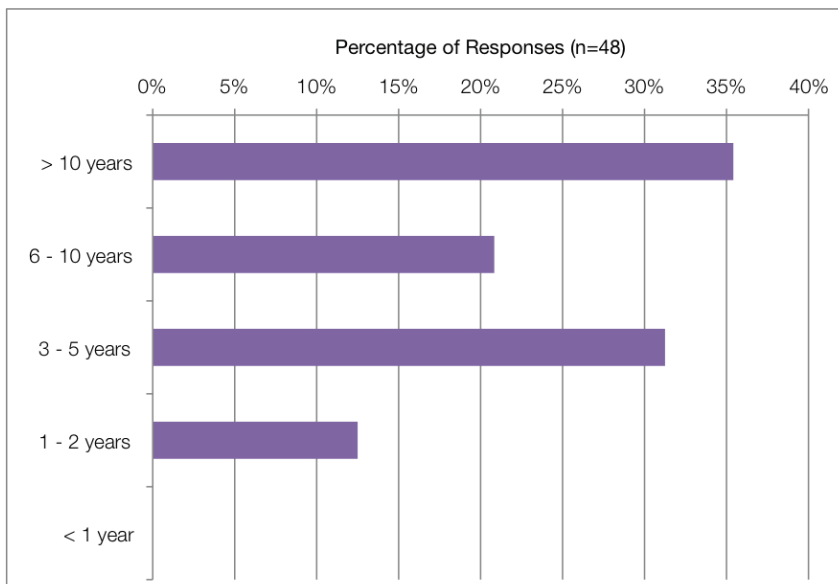
5. Please indicate what type of position you hold in your organization.



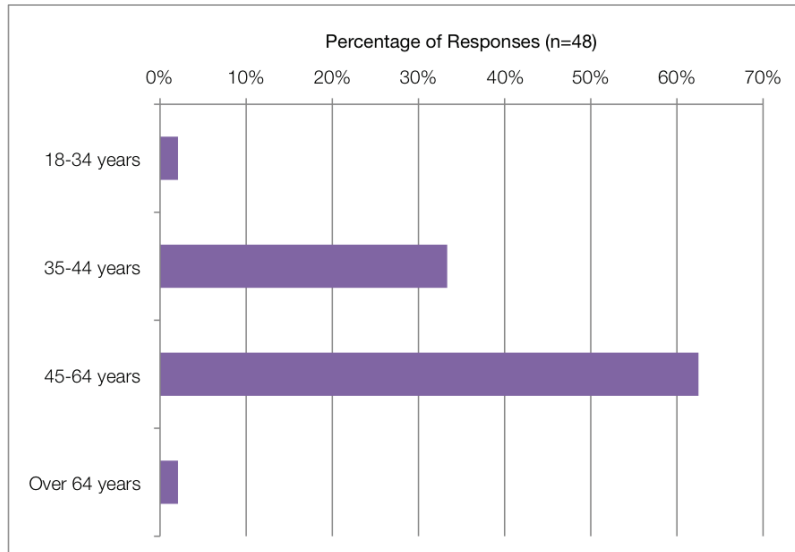
6a. How many years have you been employed by your organization?



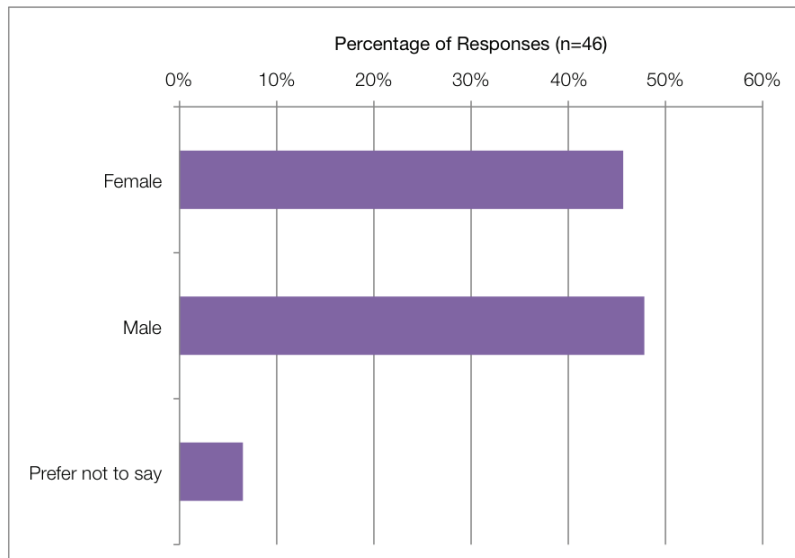
6b. How many years have you held your current position?



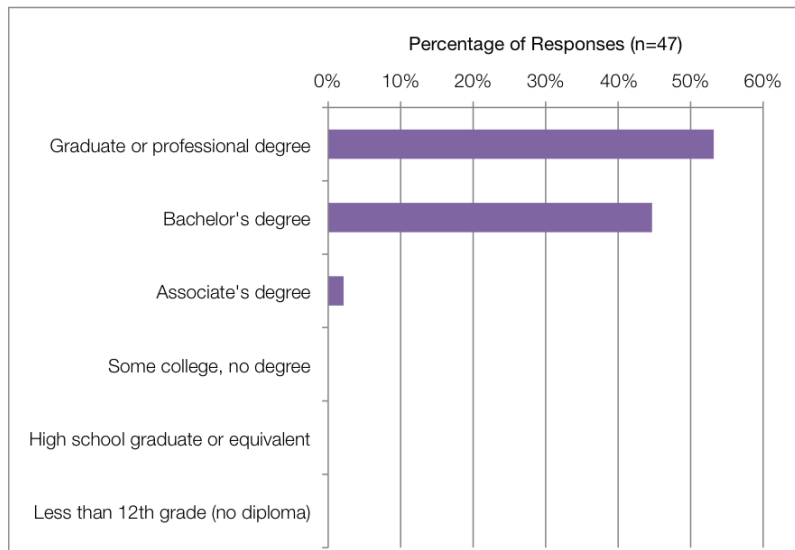
7. What is your age?



8. What is your gender?



9. What is the highest level of education you have completed?

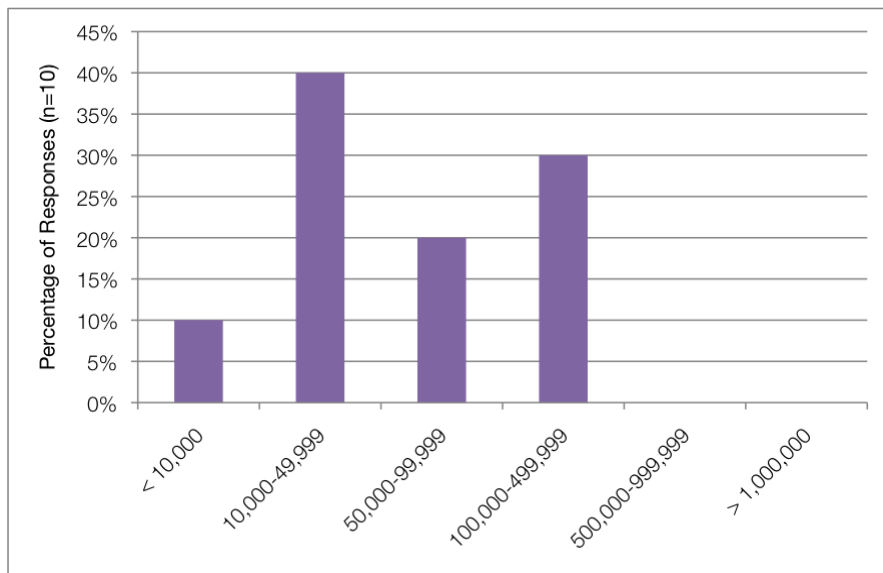


PART II: CURRENT COASTAL MANAGEMENT CHALLENGES IN CALIFORNIA

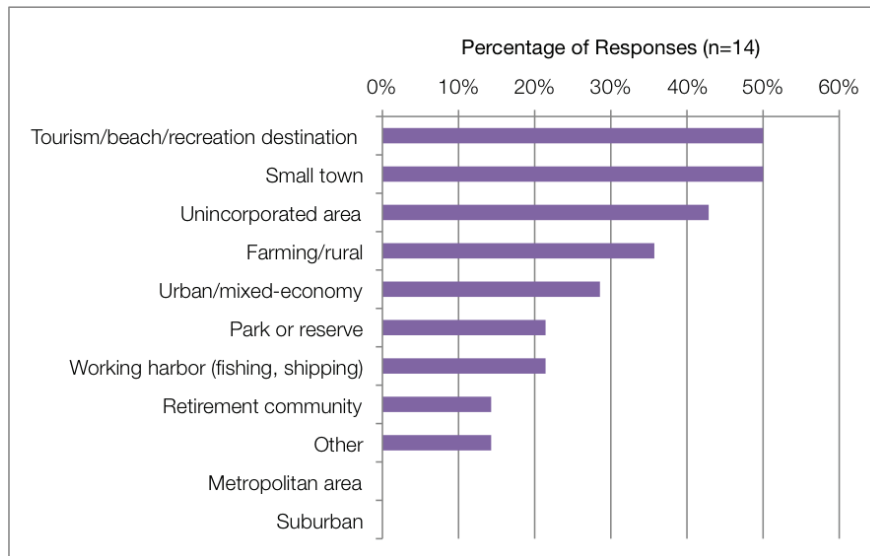
10. What is the approximate length (miles) of the shoreline that you manage or are concerned about in your work (ie., entire length of coastal waterfront, including ocean, bay, lagoon, and estuarine shorelines, within your jurisdictional limits)?

Respondent Category	Mean (\pm Standard Deviation)	Median	Mode	n
City/County	43 (53)	18	n/a	6
Regional/State/Federal	554 (653)	300	1100	25
Elected Officials	8	8	n/a	1

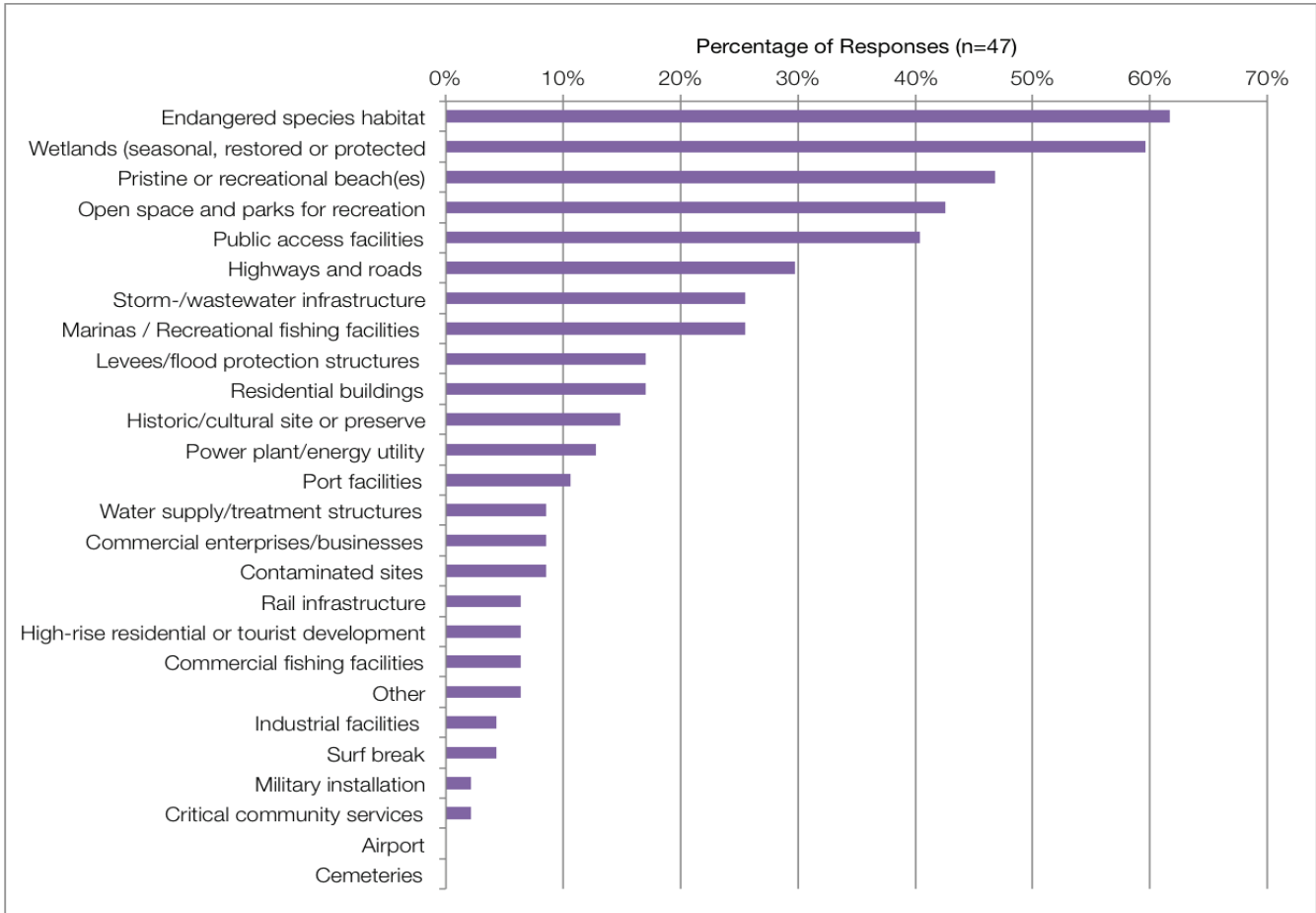
11. What is the approximate size of the population of the community in which you work?



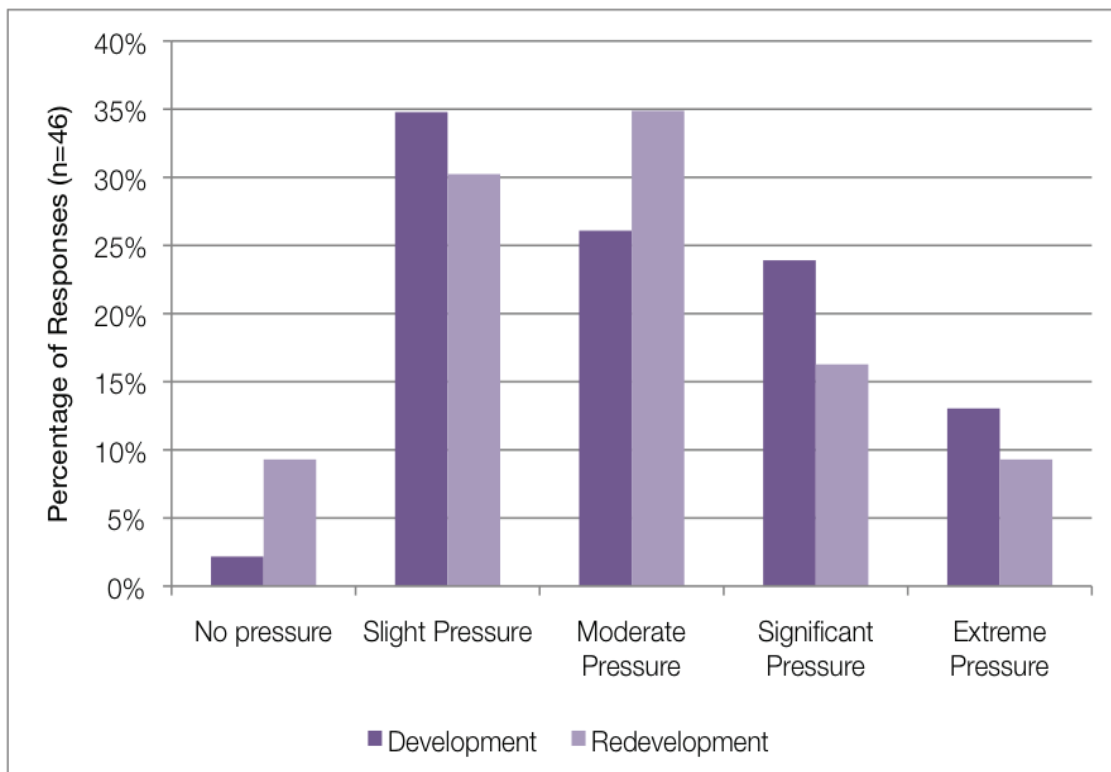
12. What characteristics best describe the community in which you work?



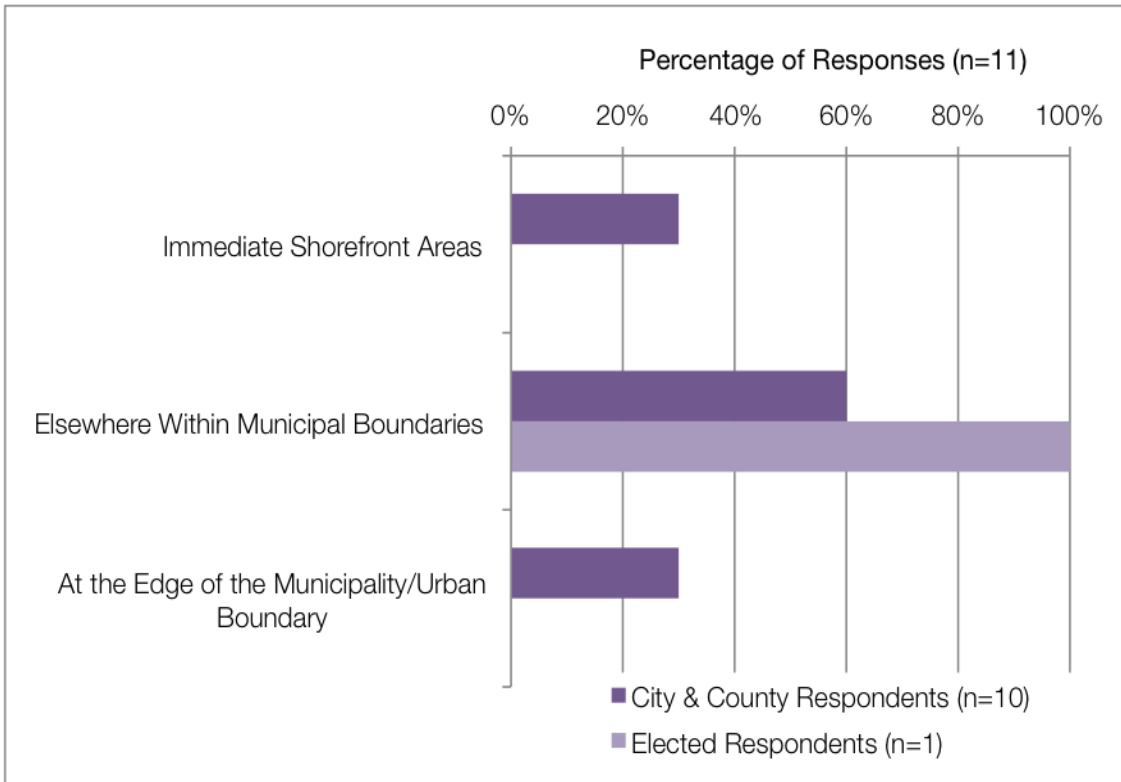
13. What are the predominant types of sensitive infrastructure, development, or habitats are located in the immediate shorefront areas (i.e., in the 100-year floodplain, along bluffs/cliffs) in the area that you manage? (Please select only the top 5)



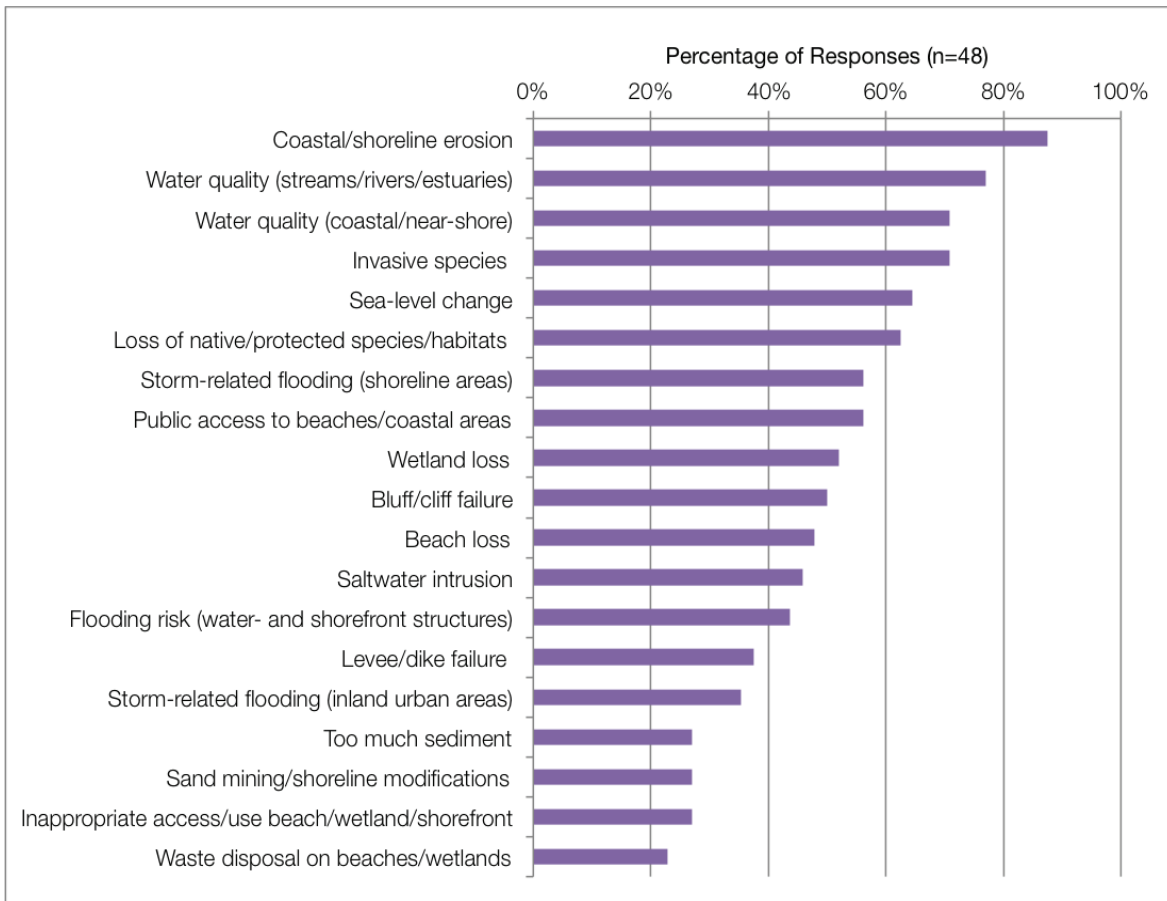
14. How would you describe the degree of development/redevelopment pressure occurring in your community or region?



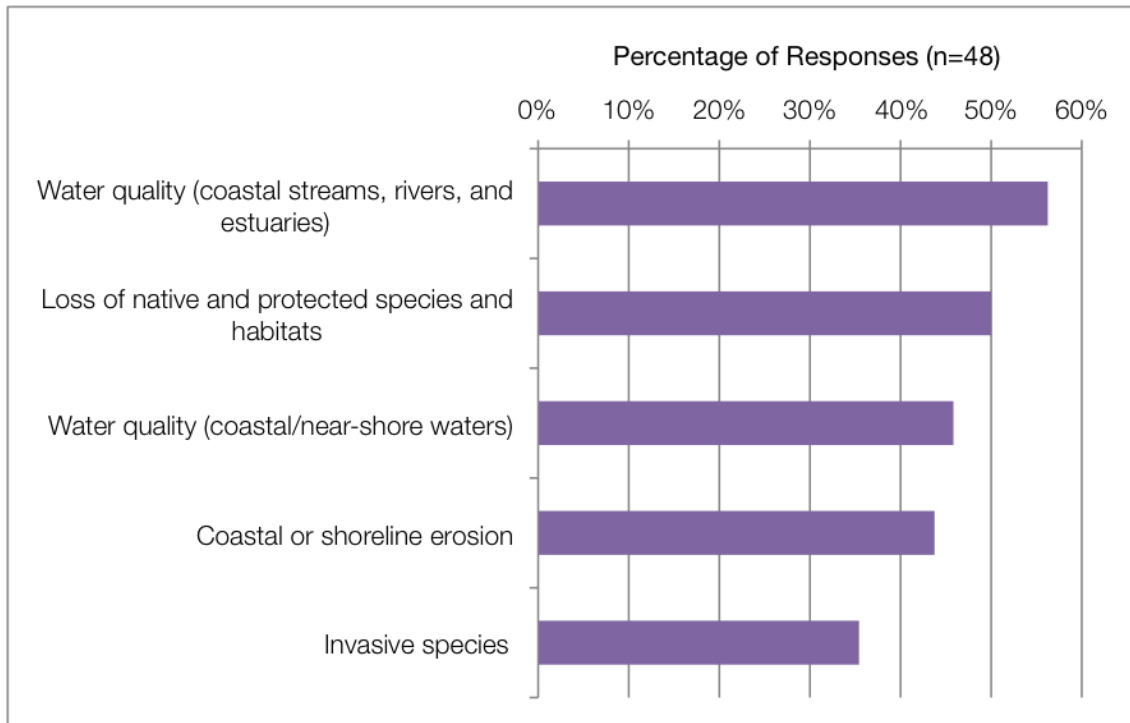
15. Where do you see the greatest development pressure at present?



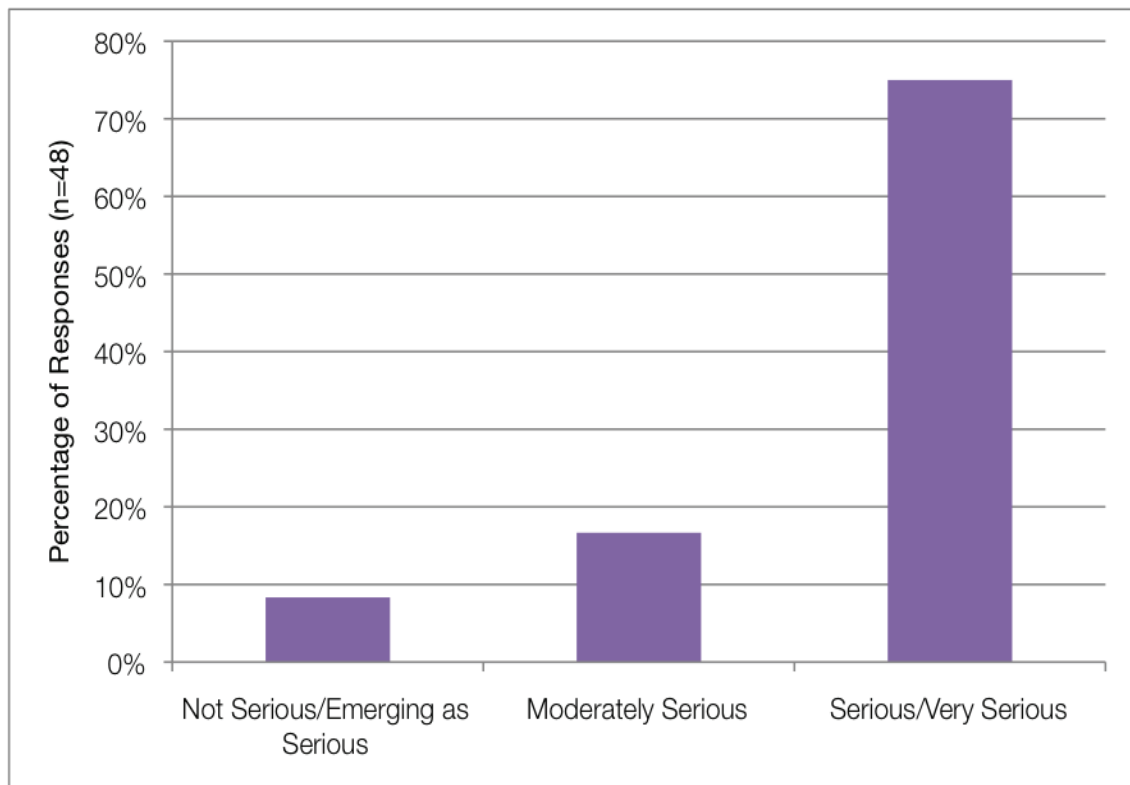
16. What type(s) of coastal management challenges does your community currently face?



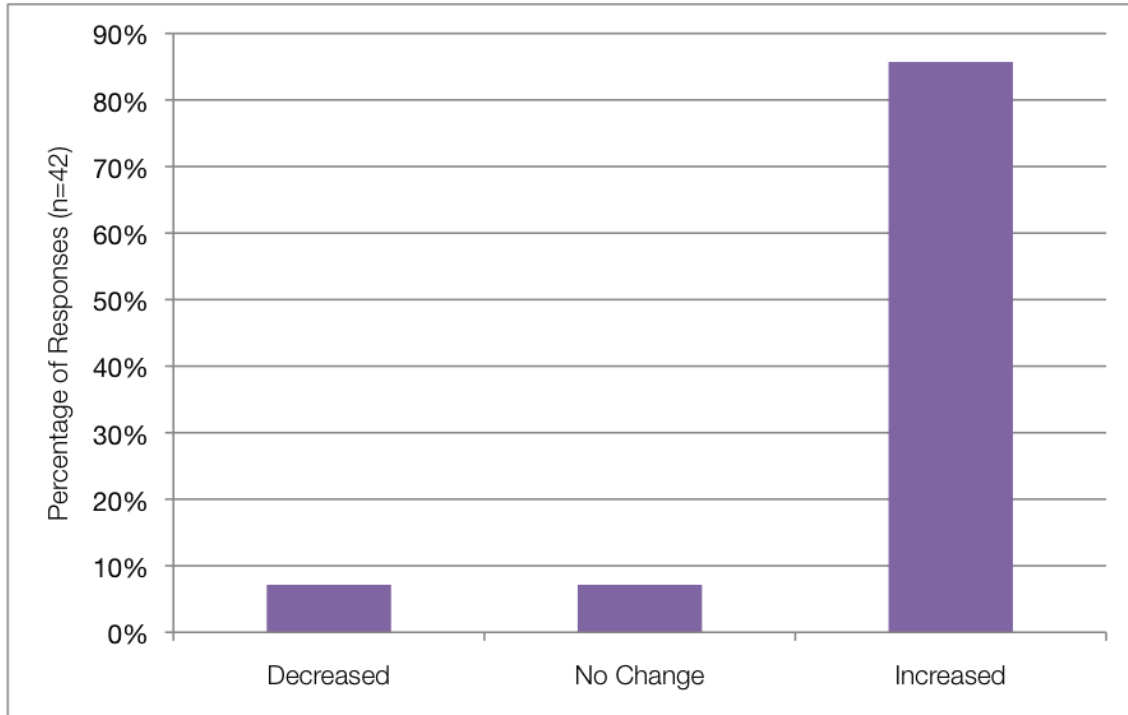
17. Of the challenges selected in Question 18, which do you consider the top five most challenging in your community at present?



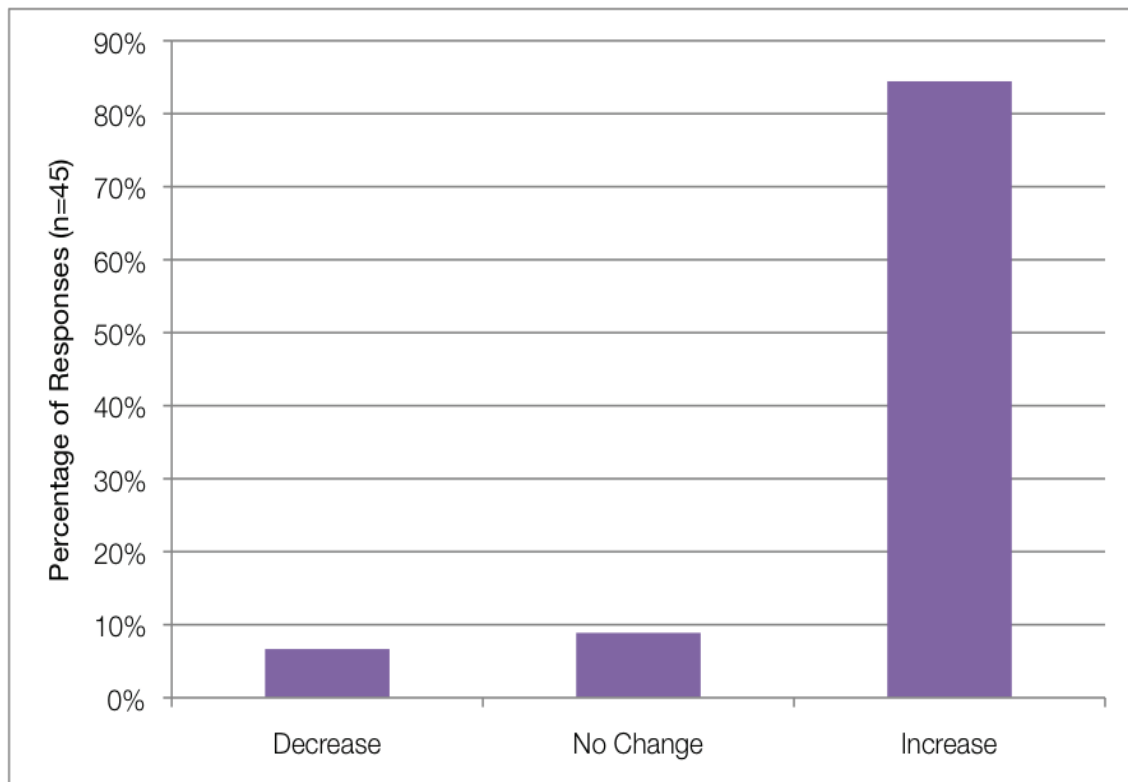
18. How serious would you consider this top coastal management challenge?



19a. How has the severity of this top management challenge changed in your community over the past 5 years?



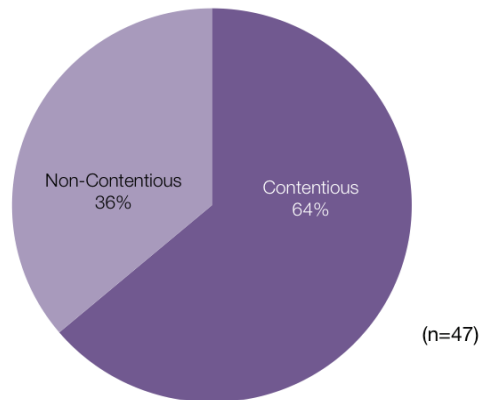
19b. How do you expect the severity of this top management challenge to have changed in your community in 5 years from now?



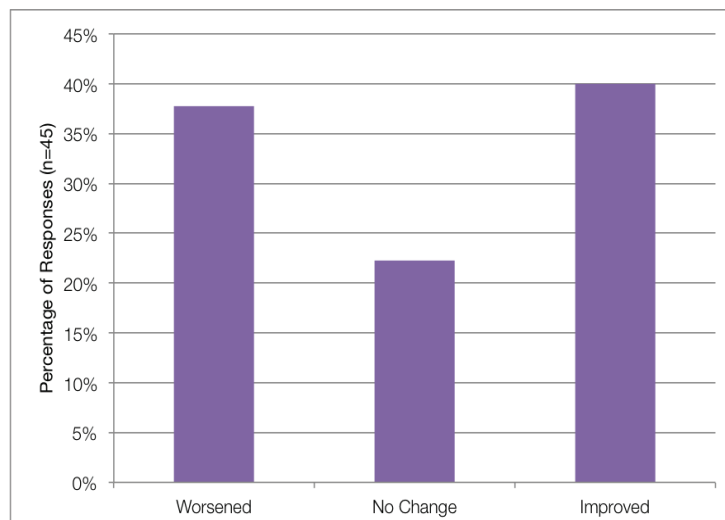
19c. Which are the top three groups of stakeholders involved in your top coastal management challenge?

Respondent Type	Top 3 Stakeholders
City/County	Local governments (n=6) State agencies/commissions (n=5) Federal agencies/departments; Scientists/engineers; Environmental advocacy groups (n=3)
Regional/State/Federal	State agencies/commissions (n=22) Federal agencies/departments (n=21) Local governments (n=17)
Elected	Local land trust(s) (n=1) Non-advocacy, non-profit organizations (n=1) Small businesses (n=1)
NGO	State agencies/commissions (n=2) Commercial resource users (n=2) Local governments; Federal agencies/departments; Scientists/engineers; Utilities; Developers; Local land trust(s); Environmental advocacy groups (n=1)

20a. How would you characterize the current political atmosphere around your top management challenge?

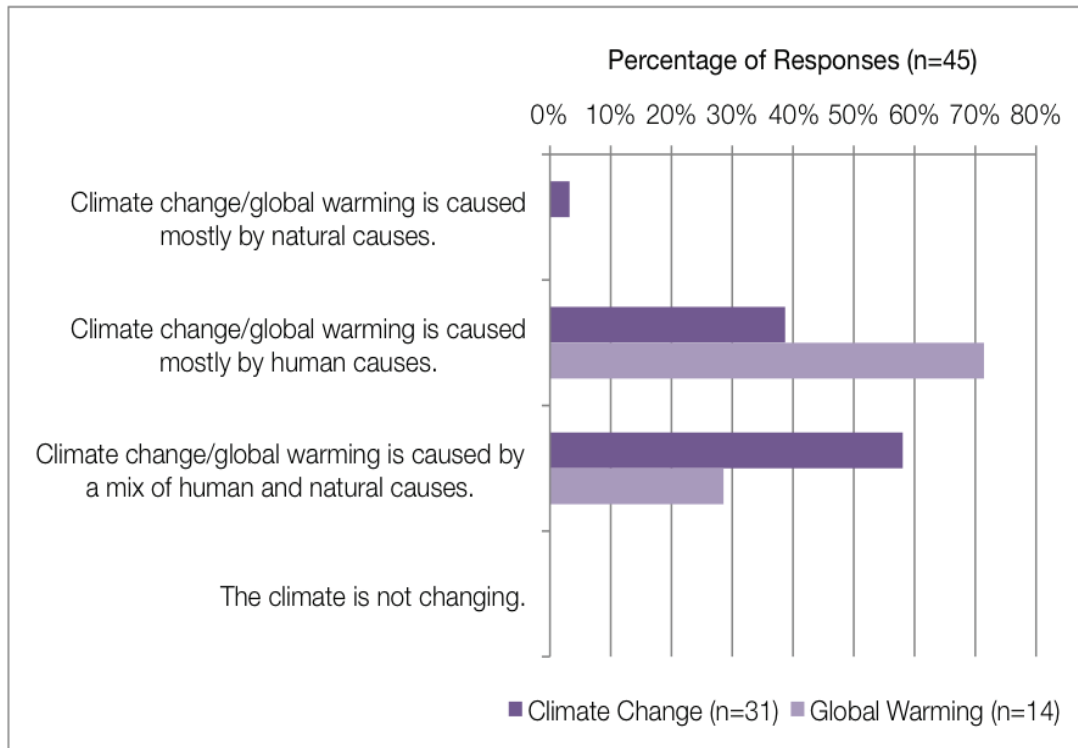


20b. How has the current political atmosphere around your top coastal management challenge changed over the past 5 years?

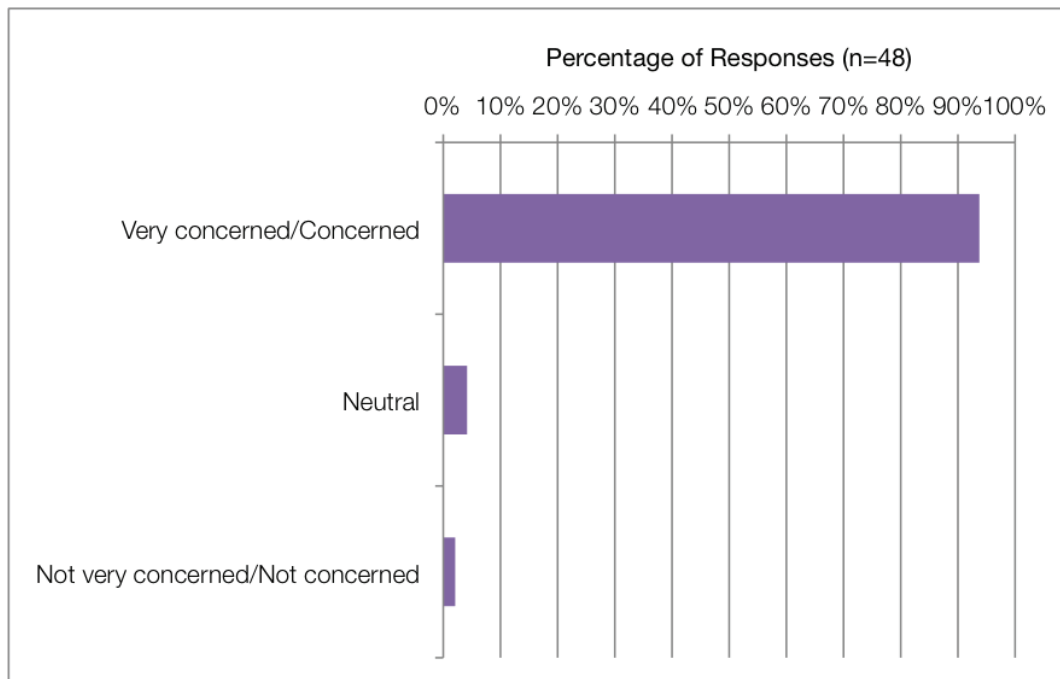


PART III: COASTAL ADAPTATION TO CLIMATE CHANGE

21. Please indicate which of the following statements comes closest to your opinion of climate change or global warming.

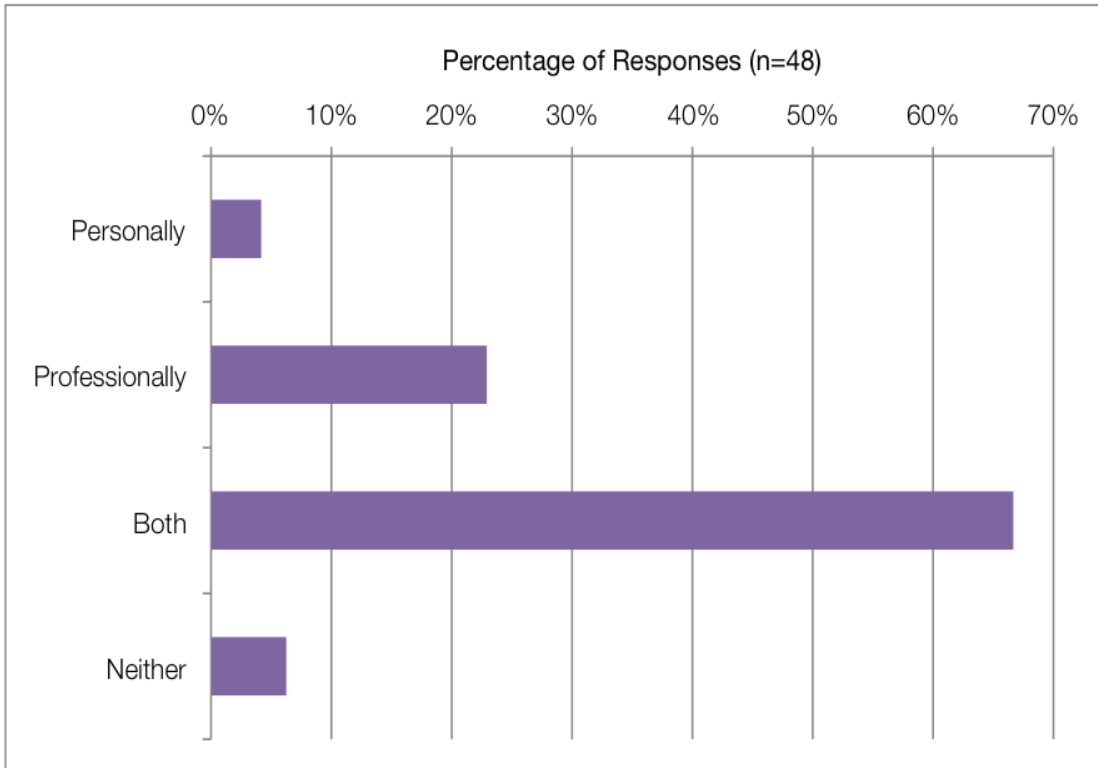


22. What is your personal level of concern about climate change/global warming?

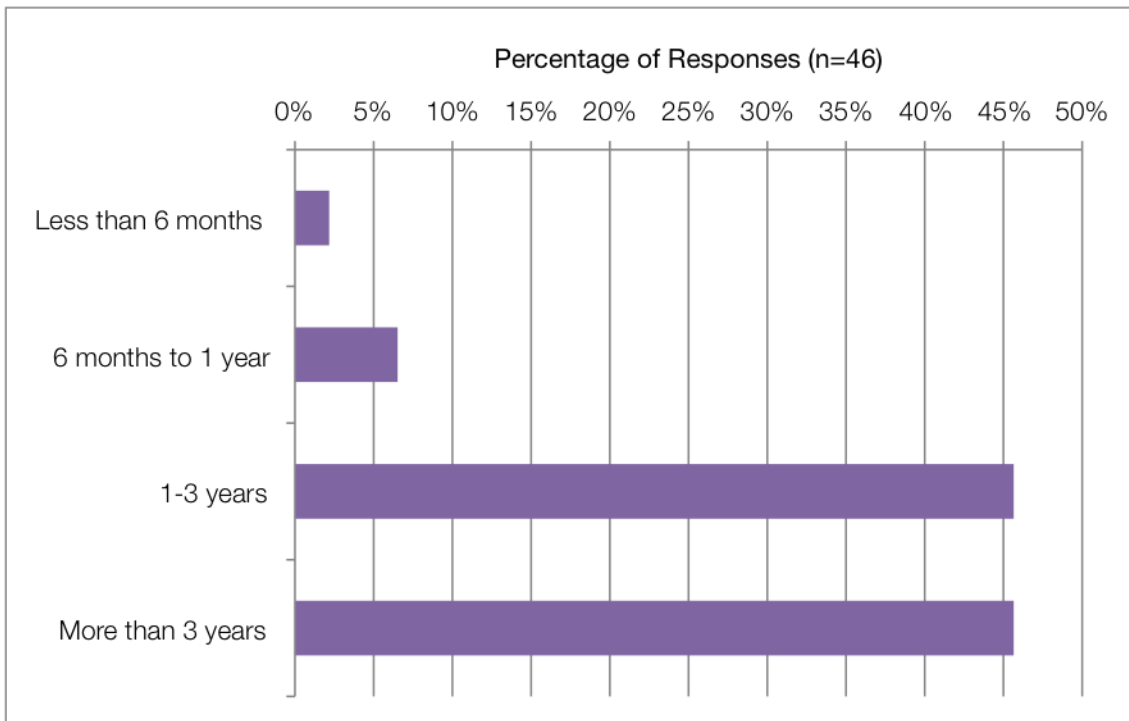


32 respondents received surveys using the term "climate change"
16 respondents received surveys using the term "global warming"

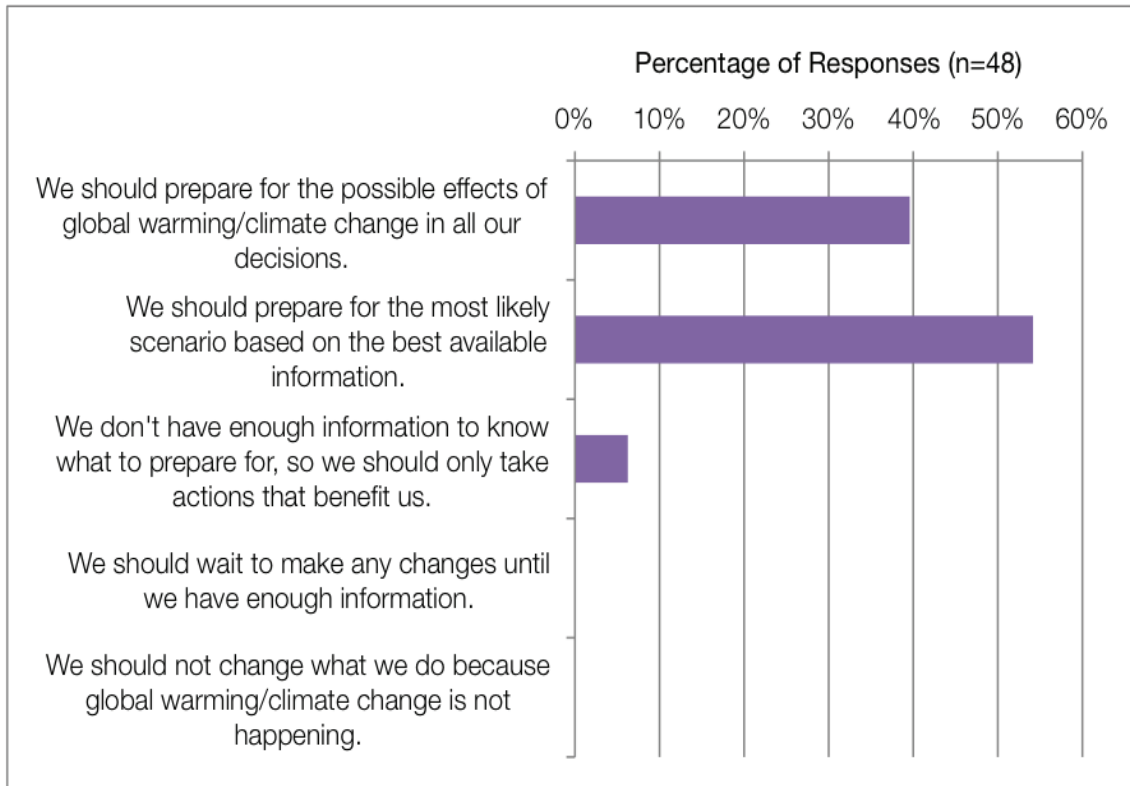
23a. Have you ever, personally or in your work, considered the potential impacts of climate change on your community or region?



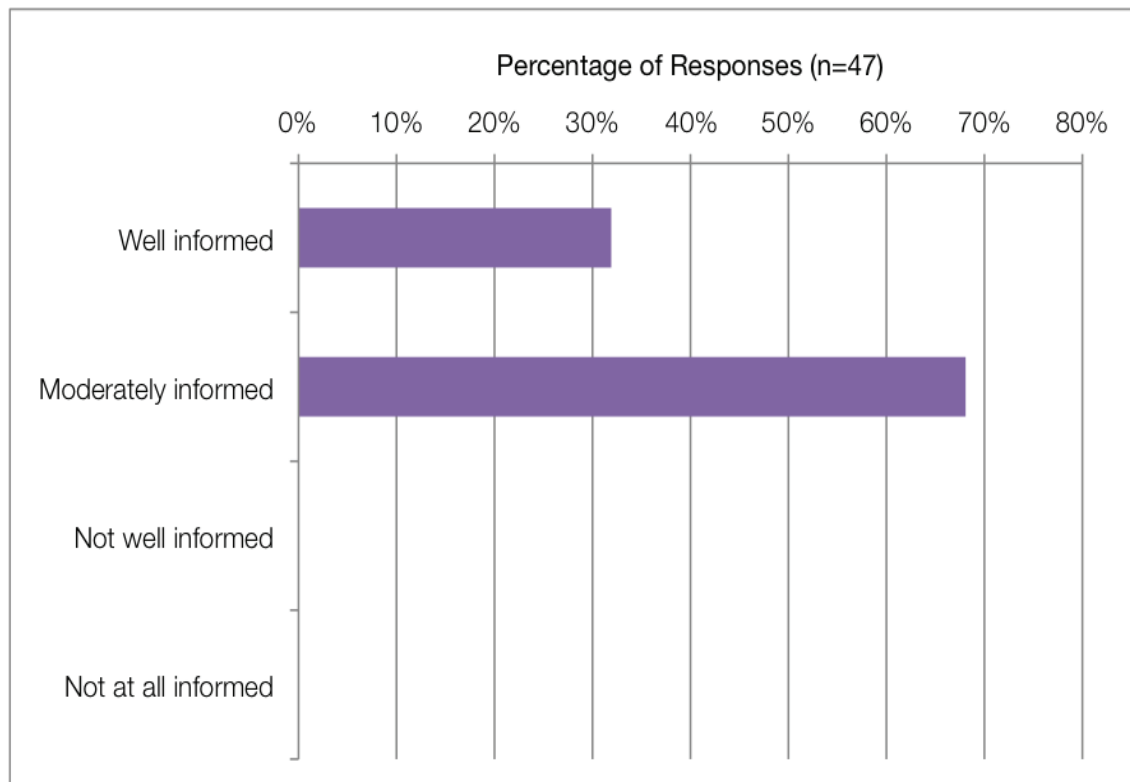
23b. If you have begun considering the impacts of climate change in your work, approximately how long have you done so?



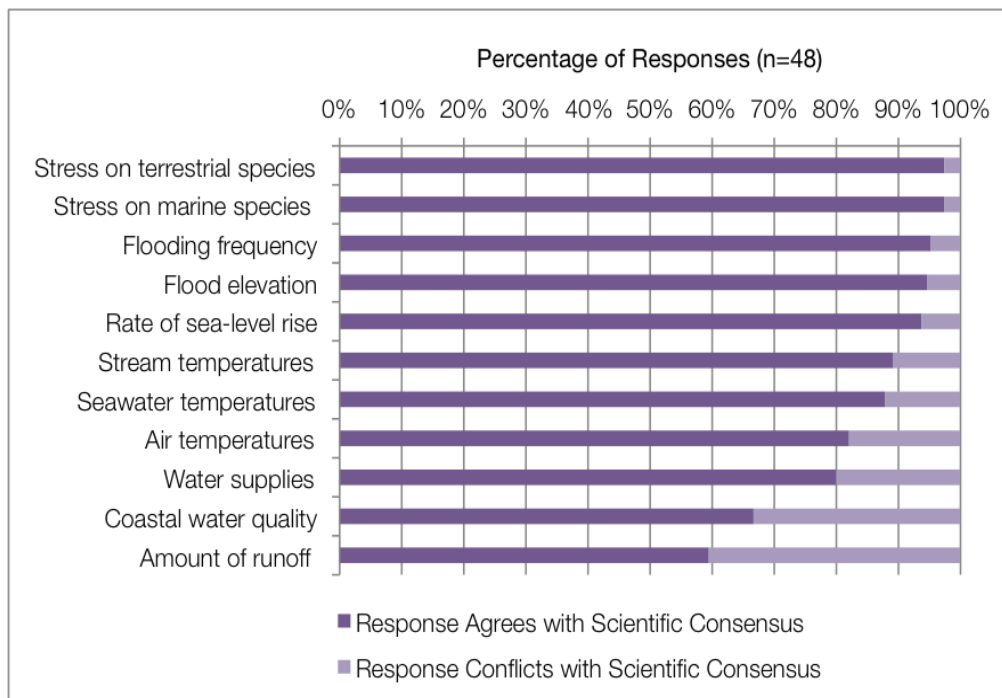
24. Which of the following statements best represents your attitude toward preparing for changes in coastal areas that might result from future climate change?



25. How well informed do you feel you are about climate change?



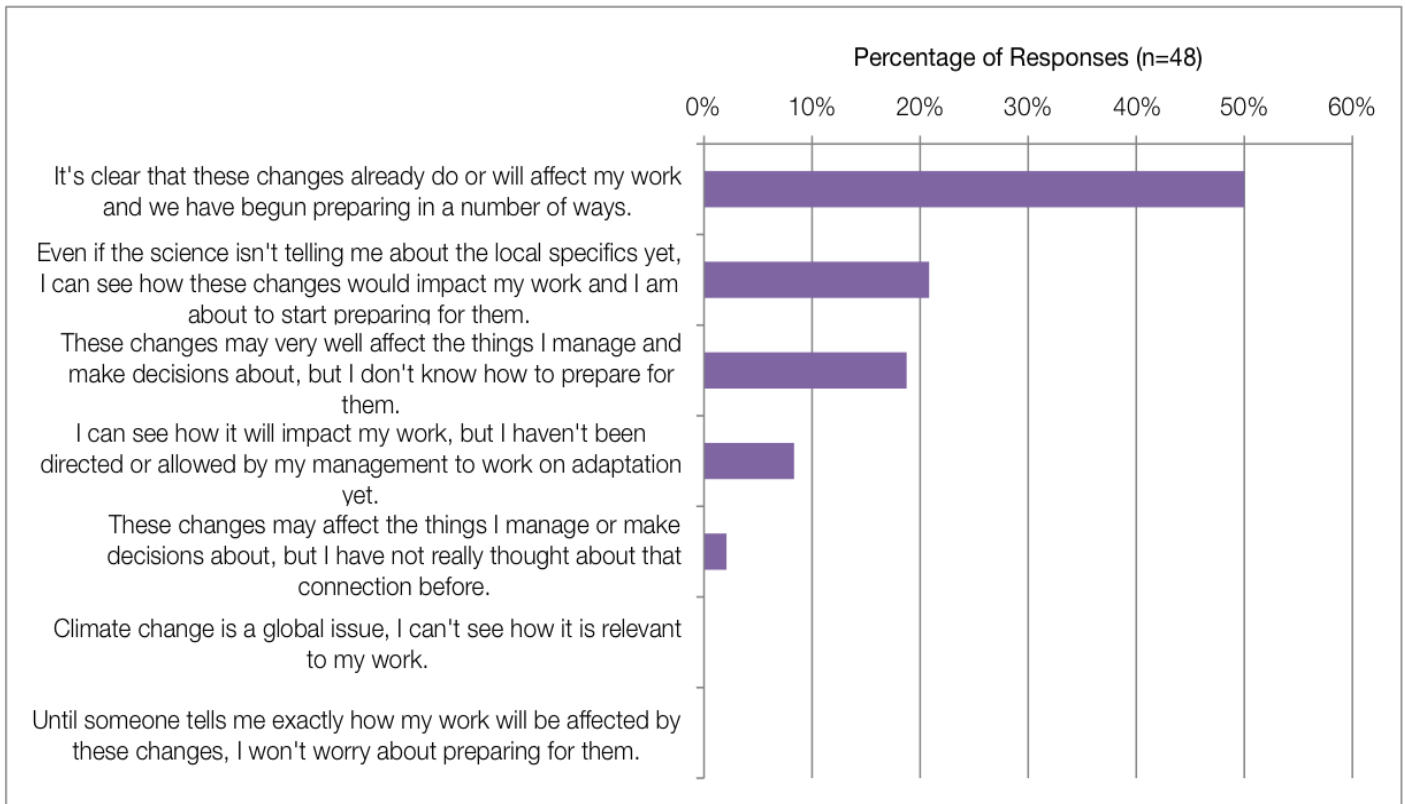
26. How do you think climate change may affect the local average conditions and natural environment in your region over the next 3 - 4 decades?



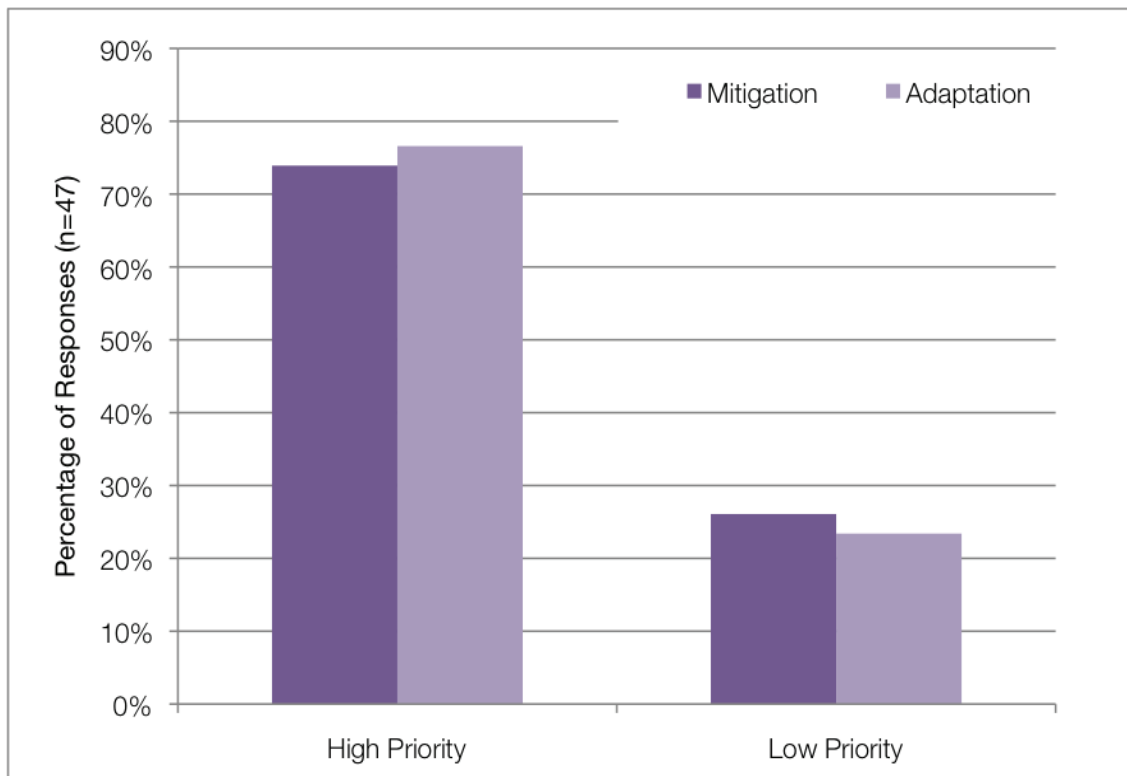
27. Table identifying scientific consensus for various climate change impacts based on analysis of Cayan et al. (2009).

Impact Area	Scientific Consensus
Air temperatures	Air temperatures will increase
Seawater temperatures	Seawater temperatures will increase
Stream temperatures	Stream temperatures will increase
Rain- and snowfall (precipitation)	Depends on region (question not included in analysis)
Water supplies	Water supplies will decrease
Amount of runoff	Amount of runoff will increase
Flooding frequency	Flooding frequency will increase
Flood elevation	Flood elevation will increase
Rate of sea level rise	Rate of sea-level rise will increase
Storm frequency	Still scientific debate (question not included in analysis)
Storm intensity	Still scientific debate (question not included in analysis)
Stress on terrestrial species	Stress will increase
Stress on marine species	Stress will increase
Occurrence of algae blooms	Still scientific debate (question not included in analysis)
Coastal water quality	Coastal water quality will decrease

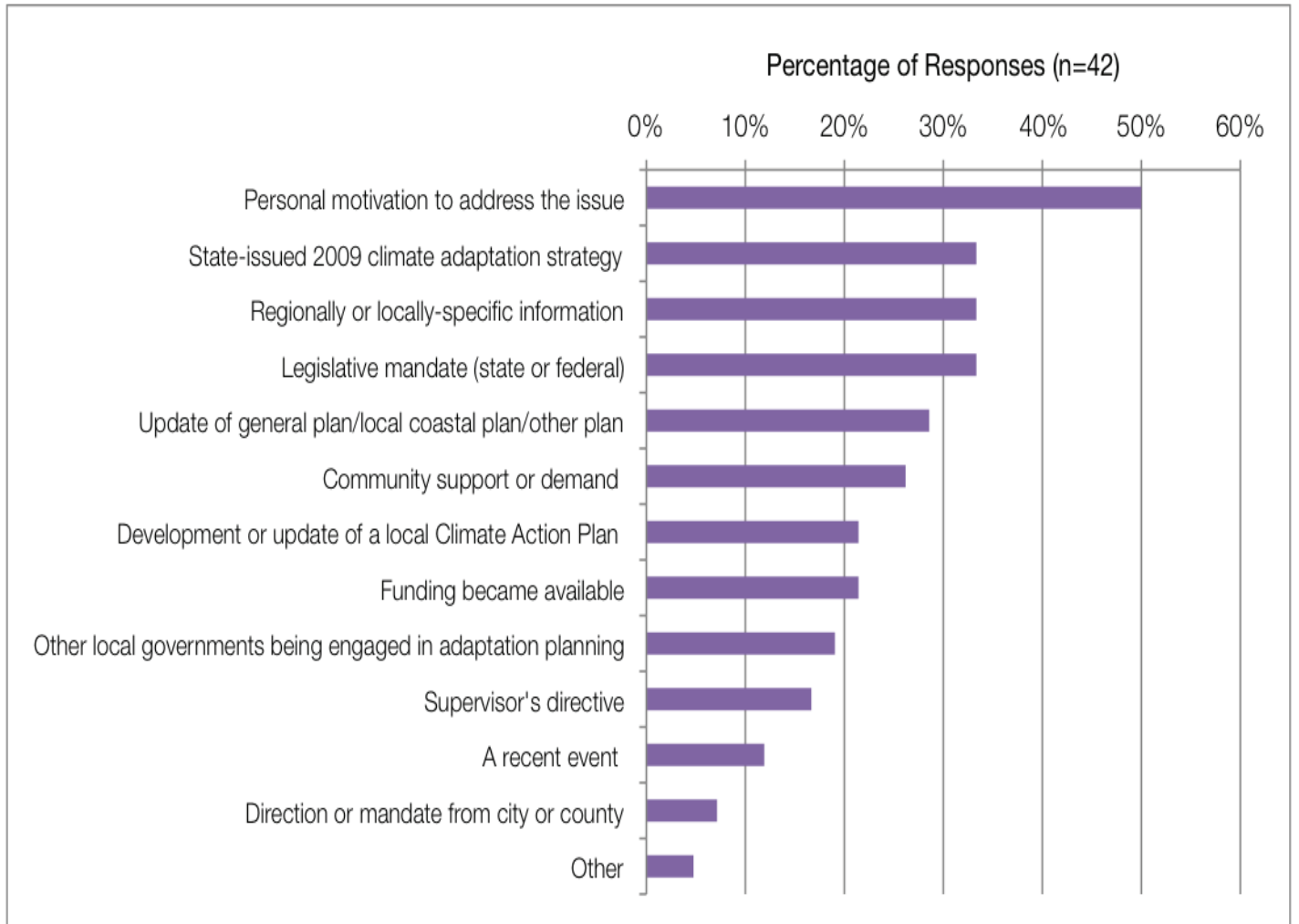
28. How do you think climate change could impact your work?



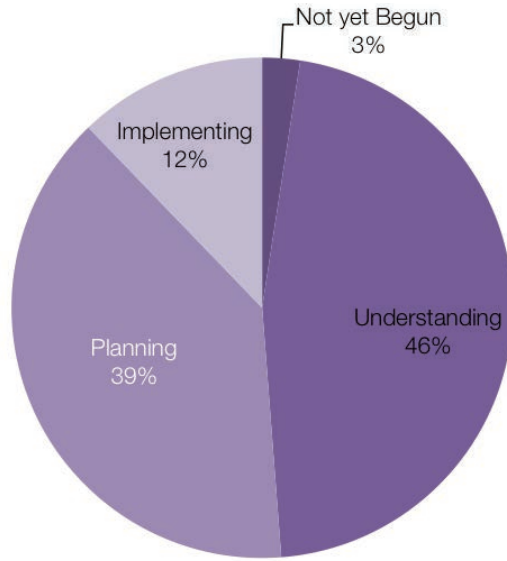
29. Please rate how important it is in your work to address climate change through (a) the reduction of greenhouse gas emissions from energy and land use (mitigation) and (b) efforts to plan and prepare for the projected impacts of climate change (adaptation).



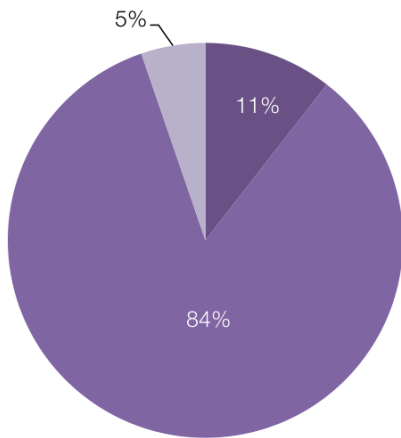
30. If you are engaged in, or contributing to, planning for climate change (adaptation) in your community or region at this time, what prompted your action?



31a. Which phase best describes your current phase of climate change planning and implementation?

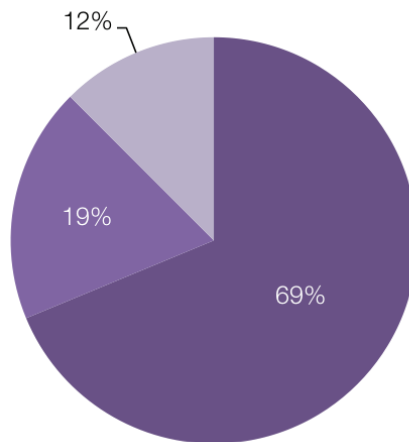


31b. Please provide more detail on your activities or contributions to this phase by selecting one of the statements below.



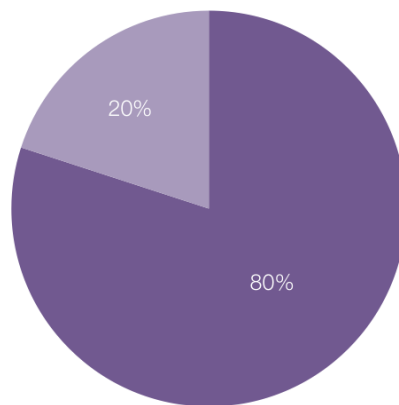
Understanding

- We have not looked into it or are just beginning to become aware of the issue.
- We have started to gather some information to better understand the issue.
- We have completed an assessment of the issue.



Planning

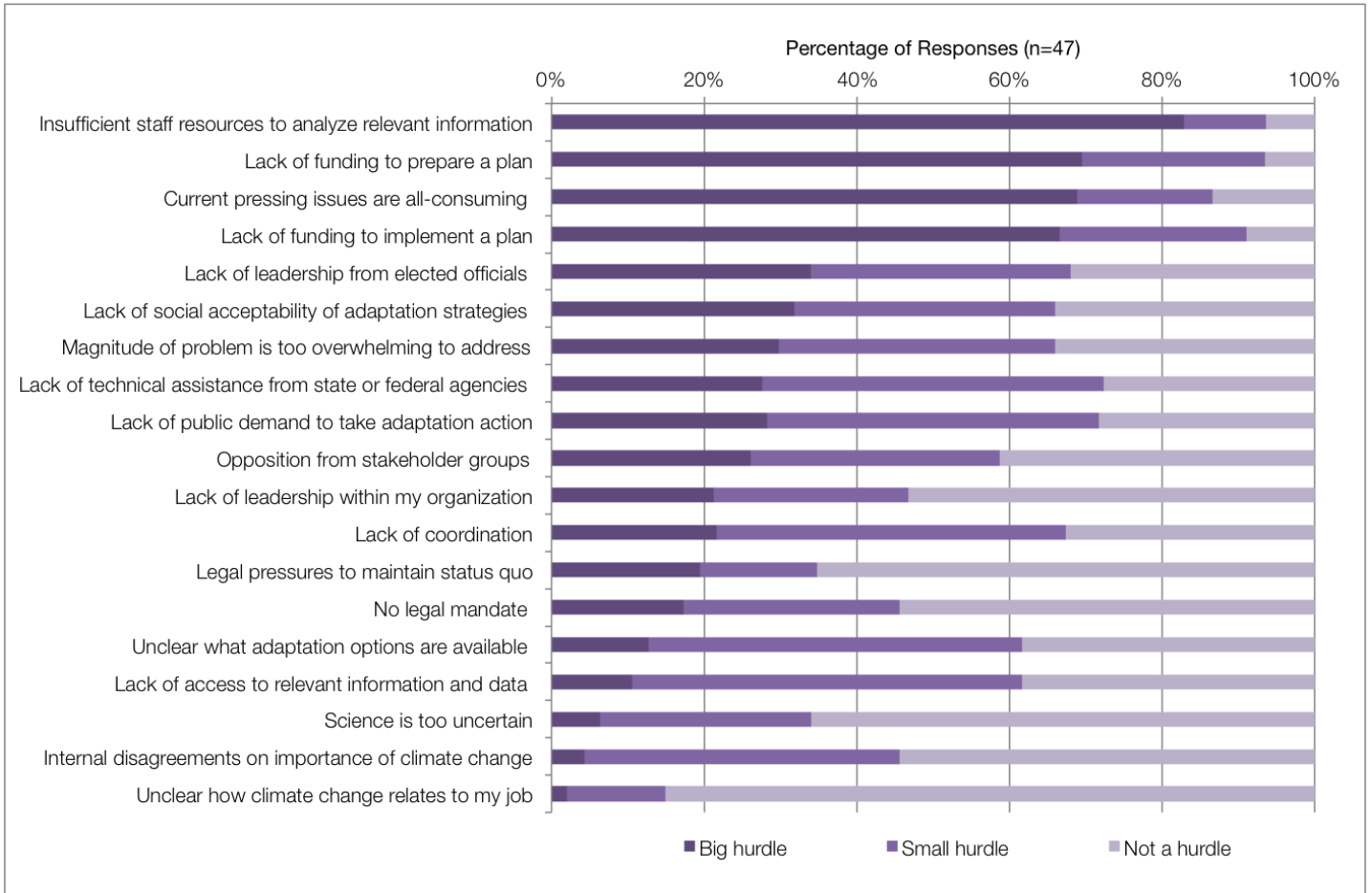
- We are brainstorming a range of options to prepare for and manage climate change risks.
- We have completed an assessment of potential response options.
- We have selected a subset of response options to move forward with.



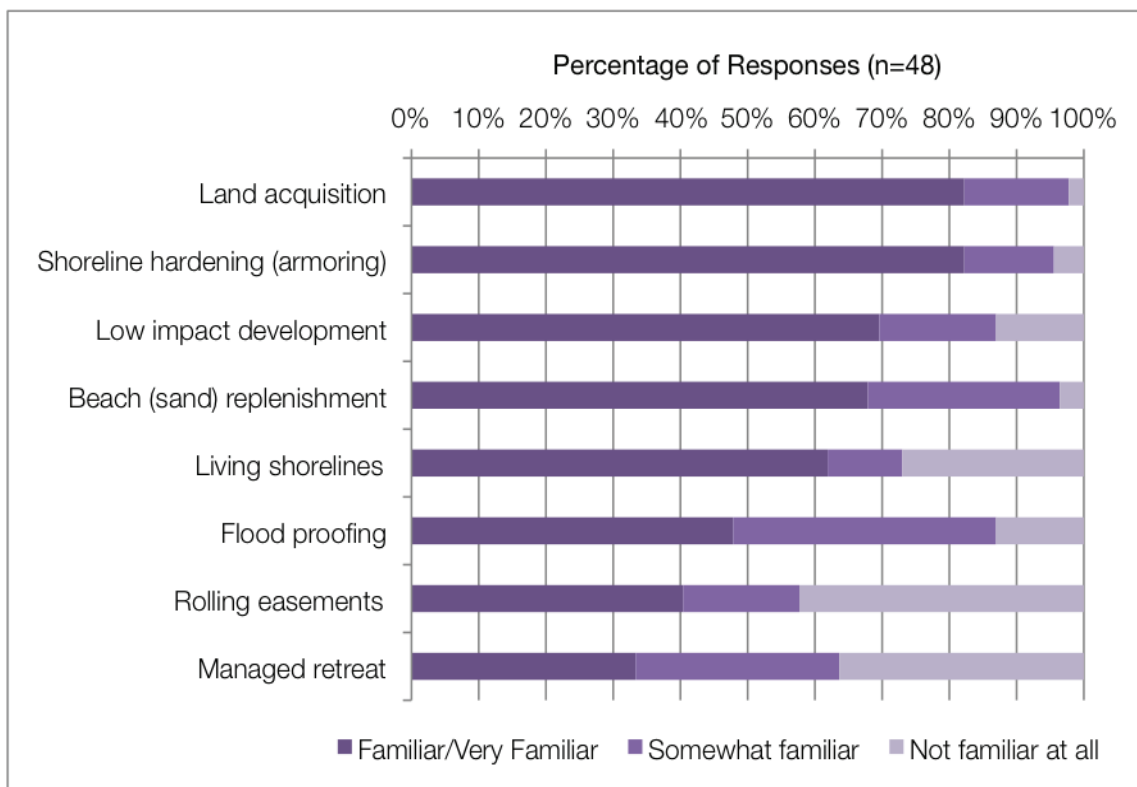
Implementing

- We have begun implementing the selected response options.
- We are evaluating and reassessing how well the implemented options are faring.

32. Whether or not your organization has already taken action to prepare for the possible impacts of climate change, how much of a hurdle has each of the following issues been in your efforts to date?

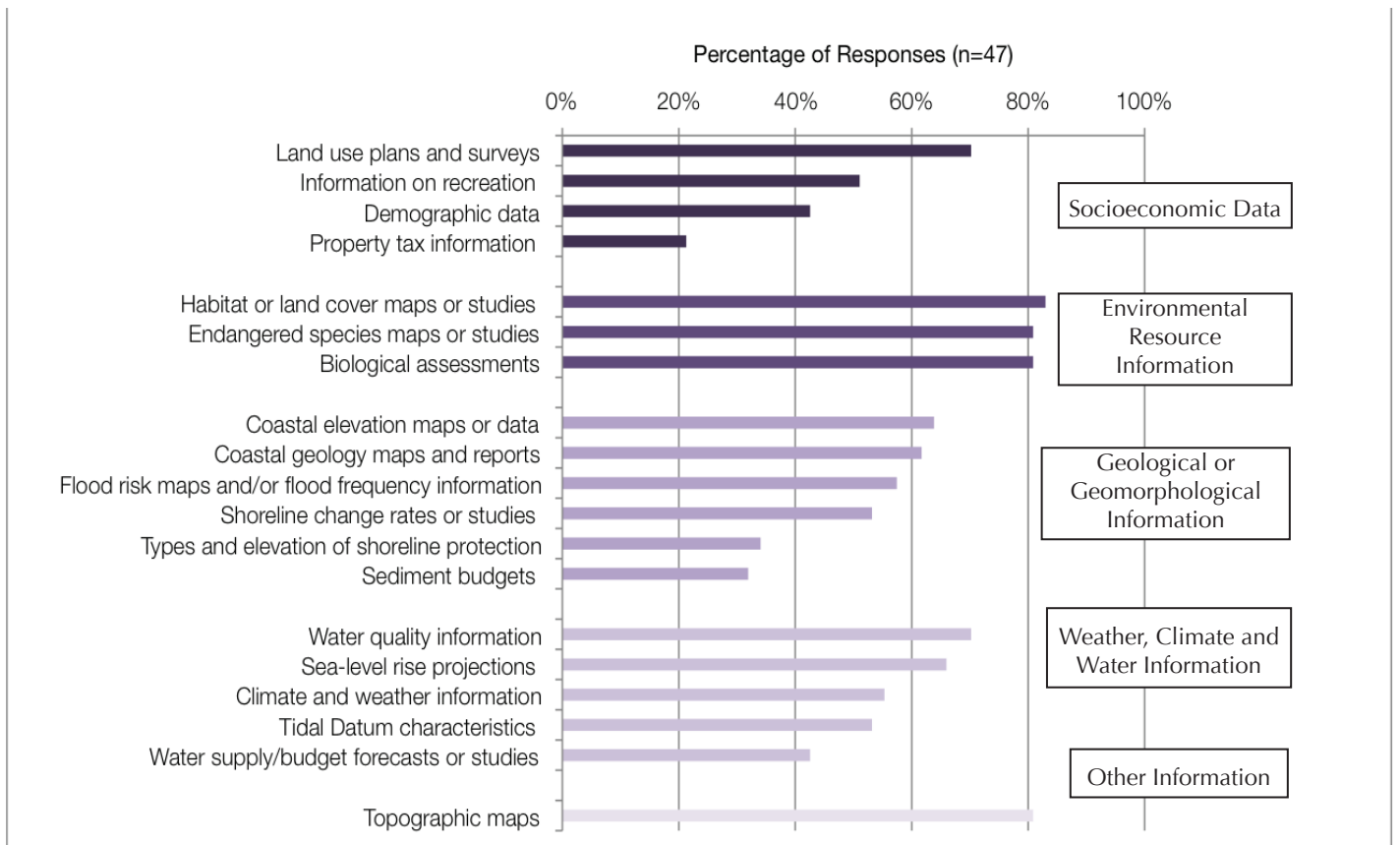


33. Please describe how familiar you are with each of the following coastal adaptation options.

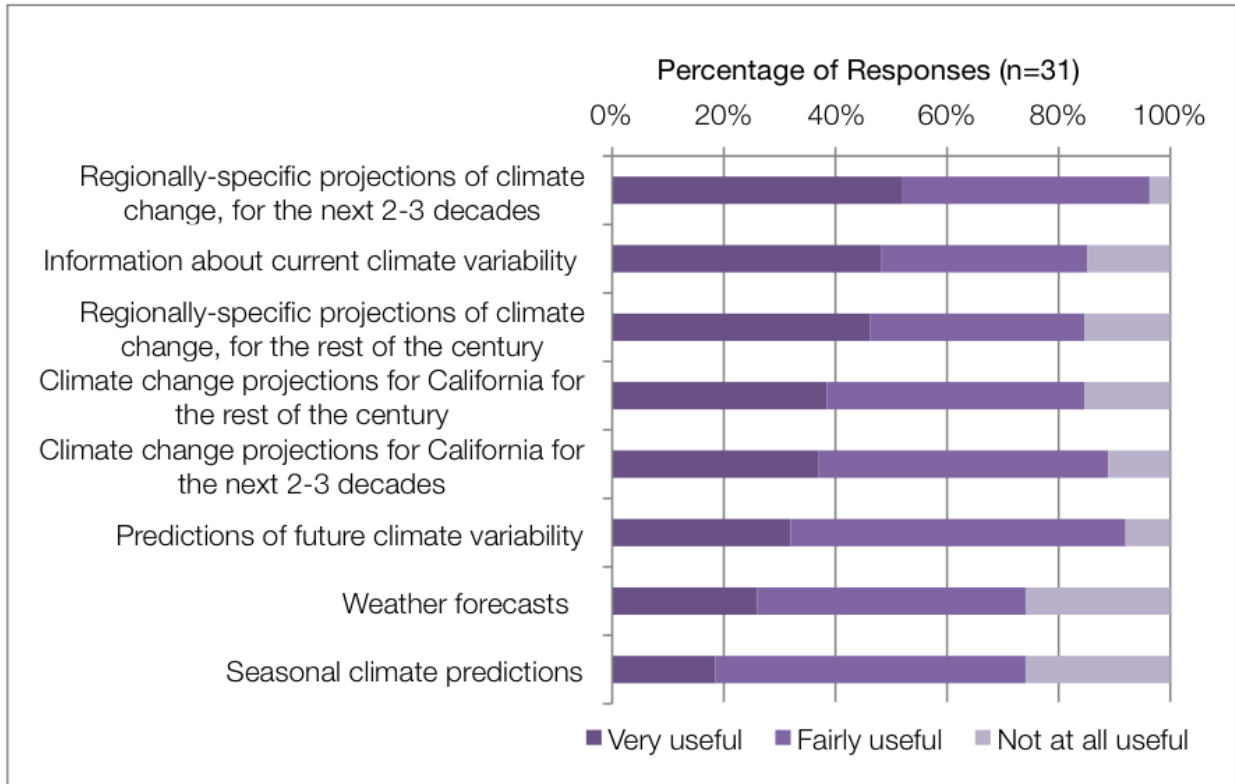


PART IV: DATA AND INFORMATION NEEDS

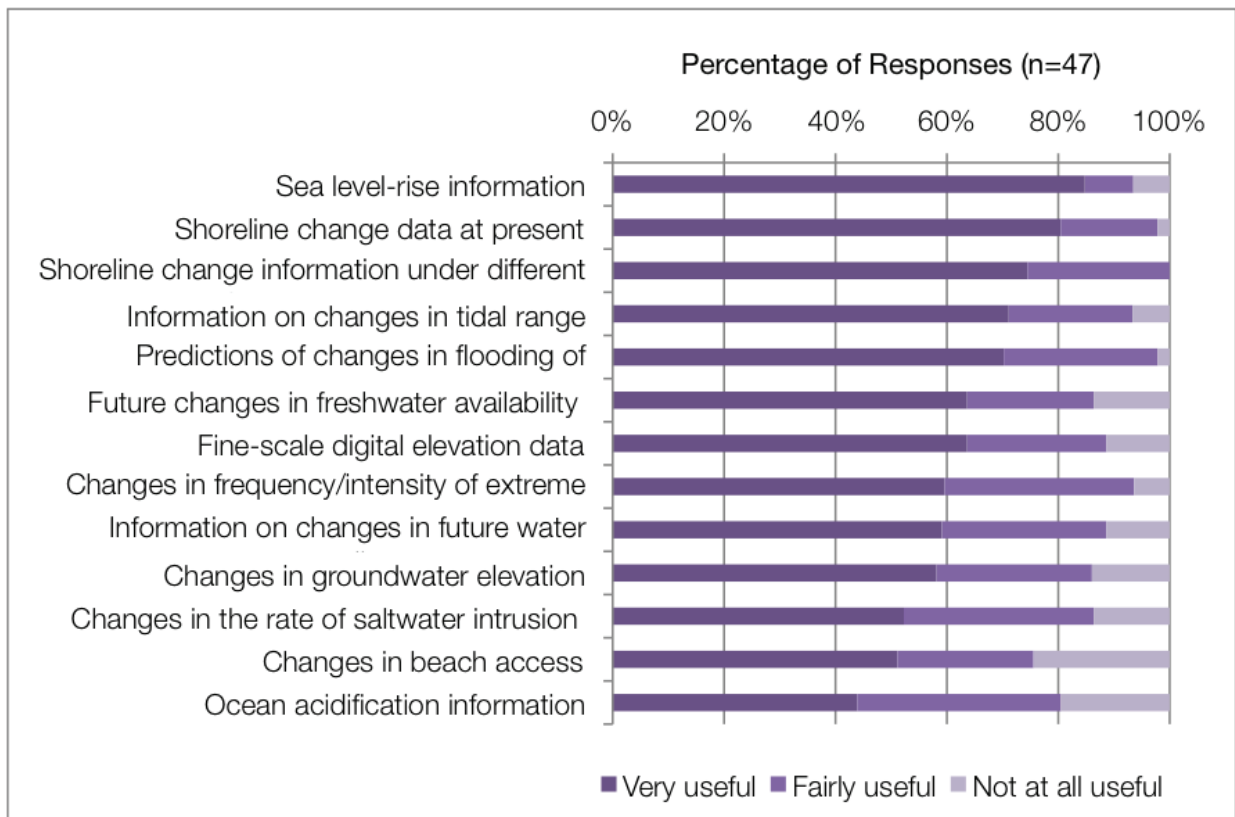
34. In order to carry out your daily job responsibilities, what data and information do you consult regularly?



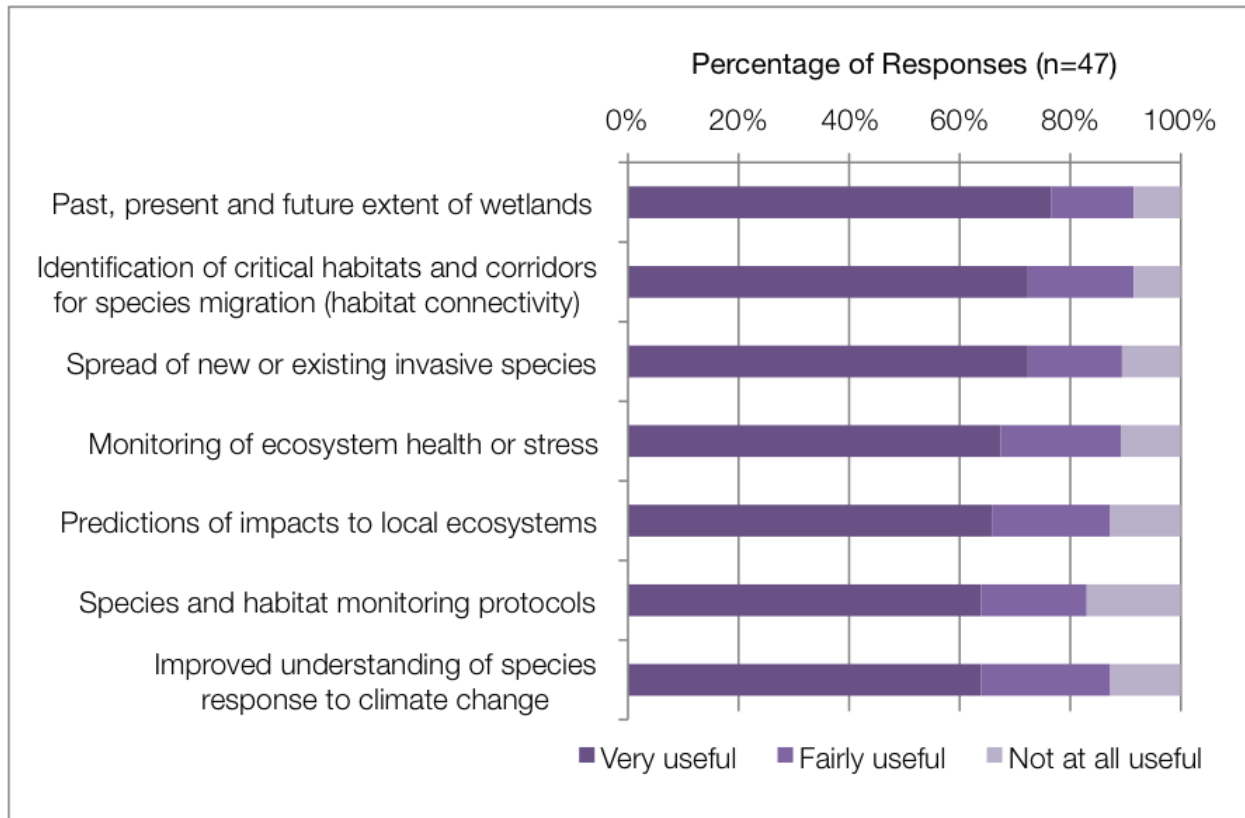
35a. In the work you do, please rate the usefulness of the following types of *weather and climate* information for assessing the risks from climate change to local coastal resources.



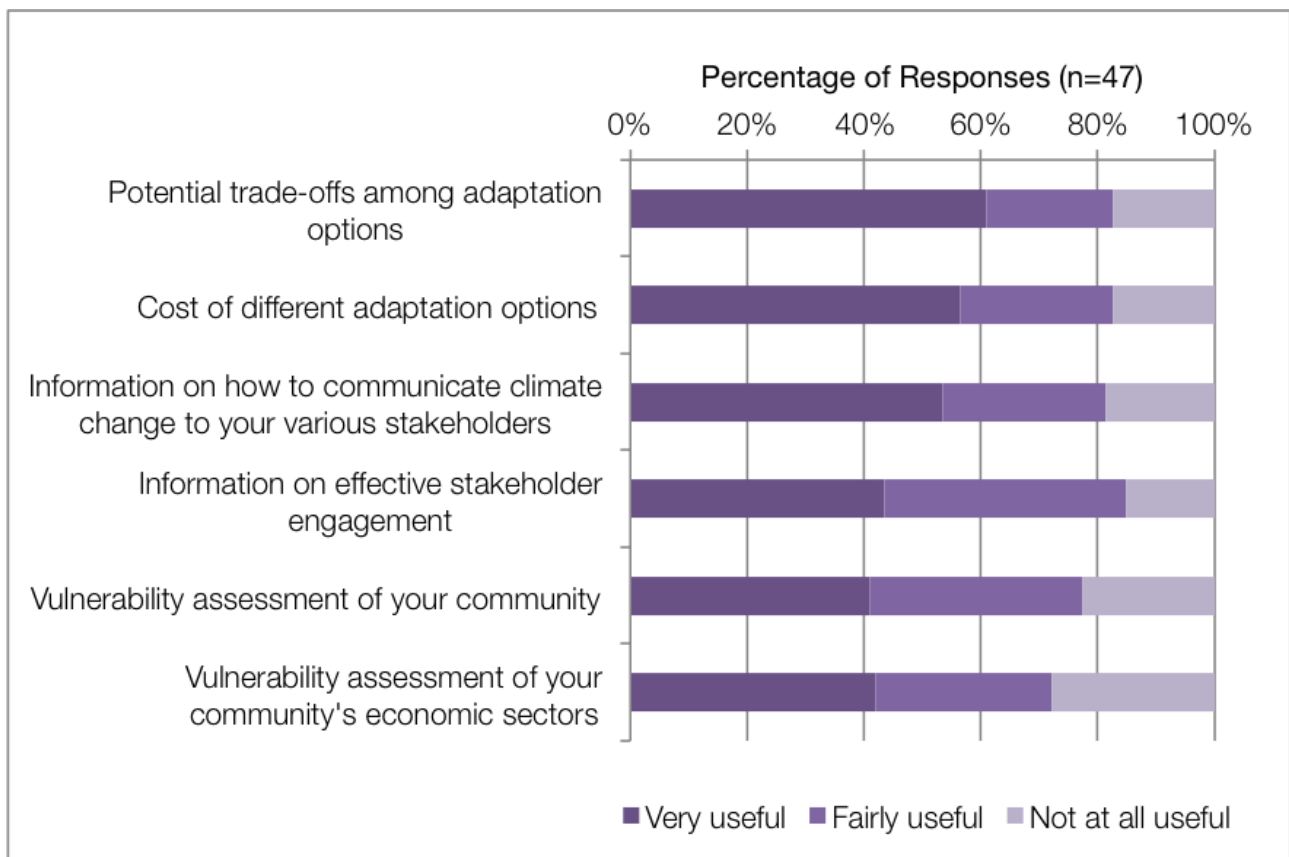
35b. In the work you do, please rate the usefulness of the following types of *physical information* for assessing the risks from climate change to local coastal resources.



35c. In the work you do, please rate the usefulness of the following types of *biological information* for assessing the risks from climate change to local coastal resources.



35d. In the work you do, please rate the usefulness of the following types of *socioeconomic information* for assessing the risks from climate change to local coastal resources.



36. Please identify three types of information for which you have the greatest need, but to which you currently do not have access.

City & County Respondents

Information Type #1	Information Type #2	Information Type #3
Potential sea level rise impacts	Local climate change predictions	Most severe predicted impacts
Accurate tidal change info for the past 10 years	How will ocean acidification affect central calif species?	[No response]
Oil Industry Practices	R	[No response]
Global Warming Data	Shoreline recession	Stormwater control
Scientific Studies	Seacliff Retreat Projections	[No response]
How sea level rise and coastal erosion will impact each other	[No response]	[No response]

State, Federal & Regional Respondents

Information Type #1	Information Type #2	Information Type #3
Miles of riparian habitat	Acres of wetland	Amount of fish impacted by ocean intakes
Easy GIS data	Funding sources	Partners
Wetland retreat information (where the habitat will go as sea level rises)	Sedimentation ability to raise wetlands as sea level rises	[No response]
Relative impact of climate-related stressors vs. other anthropogenic stressors on valued biological resources (i.e., will climate effects outweigh, or be overshadowed by, effects of pollution, invasive species, and habitat loss)	interaction of climate-related stressors and other anthropogenic stressors on individual species or habitats (additive? synergistic? antagonistic?)	Best mechanisms of increasing resilience of valued habitats/species to climate stressors (common wisdom is that reducing other anthropogenic stressors helps, but is this true?)
Species Distribution	Stream Gage Data	[No response]
Private land ownership maps	Database of all known occurring climate impacts to date	Species migration information
Travel diaries	Small area demographic surveys	[No response]
Regional hydrology	Changes in fluvial geomorphology and stream processes	Sediment budgets (marine and terrestrial)
Local sea level prediction maps	Local coastal erosion prediction maps	[No response]
Rainfall changes	Changes in population next 25 years	Global economy
Sea level rise	Adaptation options	Economics of adaptations
Funding	Committment	Action
Future predictions for sea level rise	Beach retreat predictions	Adaptation options
Coastal strand and bluff retreat	Predicted flooding and tidal influence changes	Adequate control methodologies for invasive species
Sea-level rise predictions	Coastal erosion predictions	[No response]
Detailed habitat maps	High accuracy elevations	Marine habitat & substrate
Changes identified via permit process	[No response]	[No response]

36. Please identify three types of information for which you have the greatest need, but to which you currently do not have access. (cont'd)

State, Federal & Regional Respondents (cont'd)

Information Type #1	Information Type #2	Information Type #3
Show on planning-scale local maps where SLR is projected to be and by when using the 4.5-foot this century at a minimum	In addition to #1, show storm surge maps same scale	Similarly, show where existing wetlands and other sensitive habitat will be drowned on the same planning scale
Predictions in change of habitat distribution	Adaptation approaches to ocean acidification	Cumulative analysis of current stressors and those imposed by climate change
Vulnerability assessments	Trade offs	Costs for adaptation strategies
Detailed info. on changes in ocean acidification	Socioeconomic processes to address property issues with coastal erosion	Maintaining salt water marshes during sea level rise
Erosion rates based on erodibility of shoreline geology	[No response]	[No response]
Changing distribution of marine animals	[No response]	[No response]

NGO, Private Industry & Environmental Consultant Respondents

Information Type #1	Information Type #2	Information Type #3
Detailed, highly certain information about local impacts for climate change in the near future (20 years or less)	Sea level rise models with certain outcomes in the near future	Changes in fire regimes due to climate change
Effects of desal on marine environments	Water reuse - blackwater	Small community solar conversions on ALL roof tops
LIDAR	Tidal means	Sand mining regulations

37. Briefly describe what limits your access to this information:

City & County Respondents

Limitations to information
No one has provided it to me personally and I don't have time to look for it
Lack of research time
Our City is very small in its staffing capabilities to undertake any major advanced planning effort to address global warming impacts without receiving assistance from an outside consultant. The City's current budget 11/12 and the upcoming budget 12/13 will not provide much funding to accomodate a full re-view of the global warming impacts on the City's cpastal resoruces.
Budgets, political directives and other work priorities

State, Federal & Regional Respondents

Limitations to information
Complicated systems and lack of data or dispersion of data in easy format
Easy GIS information is developing in programs like CalFlora and Google Earth, but slowly. Arc GIS is just too specialized. We always need funding sources especially when budget times are tough. And partners can help us get our job done more efficiently and effectively.
Don't know where to find it.
Data are not available yet
Not enough surveys conducted; Not enough gaged streams.
Either it is not put togehter yet, or I do not know where to find it.
I'm in the field of transportation planning. Our biggest hurdle to is always funding - low population areas are low priority for state and federal funding sources.
It has not been well studied at all in my region. Minimal current data and almost no consideration of global warming/sea level rise/changes in weather patterns, etc.
Information may not be available
These are predictions into the future and may not be quantified in the near term
It largely is non-existent for locales in my agency's area of jurisdiction
Funding is not available, and is being cut more by the federal government
Our local Marine Sanctuary and the Coastal Commission have made use of adaptation strategies very limited. Political pressures are very high and money is non-existent for moving wastewater infrastructure inland.
Available information, predictions or descriptions may be based on limited scientific input and/or research. This may lend itself to an ineffective or inefficient trail/error approach. Inconsistent results may build up the premise that very little can be effectively accomplished leaving any proactive planning or implementation efforts languishing within critical internal and external politics.
Complicated systems and lack of data or dispersion of data in easy format
lack of consistent studies
work has generally not been done or not processed
Lack of political consensus about publishing it and dealing with the development implication consequences, followed by lack of scientific consensus on the worst case scenario that should be used for planning purposes. Institutional denial about dealing today with the longer term consequences (particularly for high dollar outcomes associated with building such projections into significant public infrastructure projects being funded today - but with economic lifespan stretching into the next century.)

37. Briefly describe what limits your access to this information (cont'd):

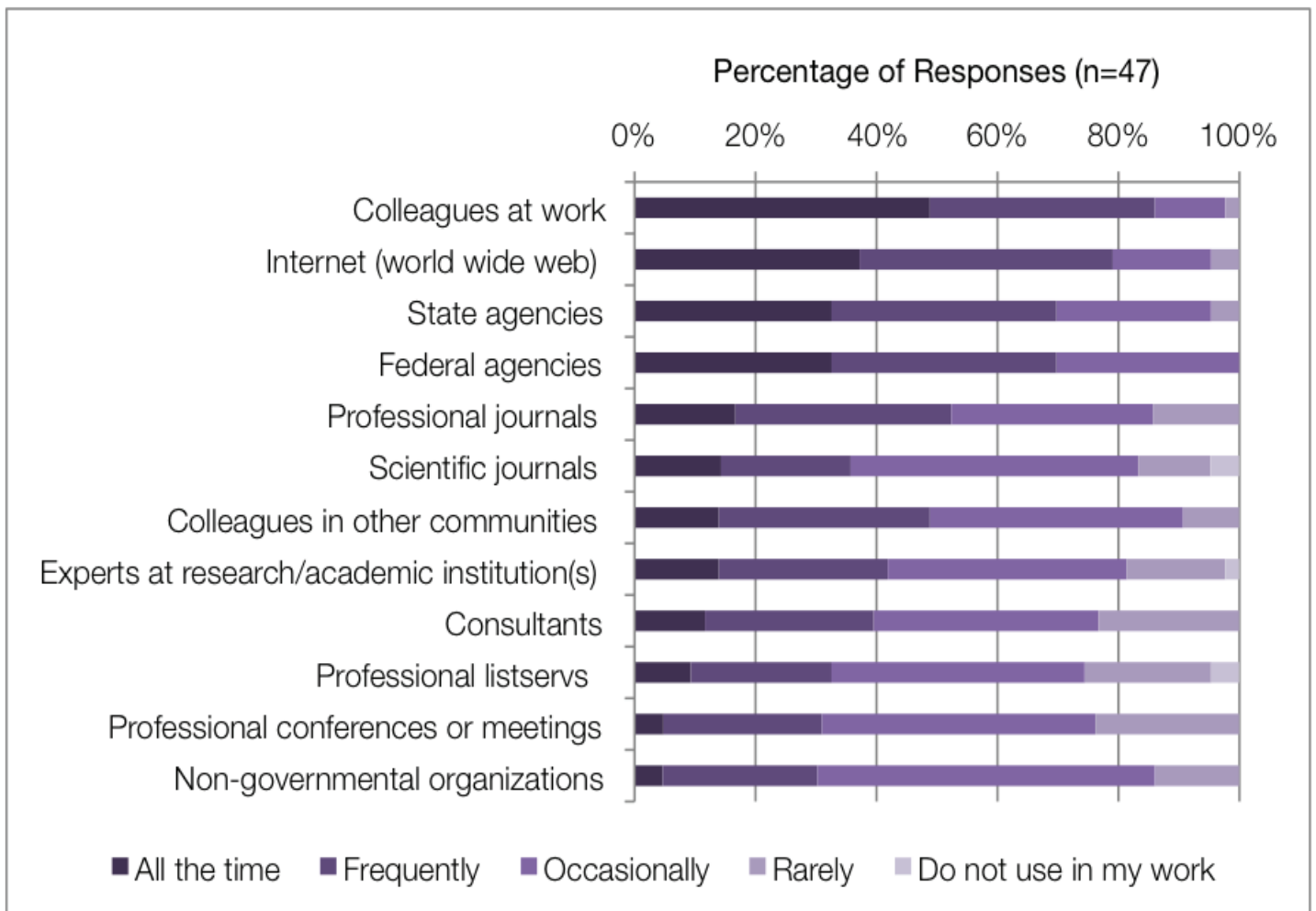
State, Federal & Regional Respondents (cont'd)

Limitations to information
Information has either not been compiled or workload precludes my ability to access and review
No regional models or tools aside from the Southern Monterey Bay Coastal Erosion Workgroup data currently exists
Lack of resources (\$, experts) to develop specific, regional information
It is very new research information
Not routinely collected

NGO, Private Industry & Environmental Consultant Respondents

Limitations to information
The unknown, funding, public will
No studies on cumulative desalination dumping impacts. No small community costs on water reuse but some on large communities. No info on using solar panels on rooftops for mitigation connected to carbon abuse elsewhere
Money and proprietary information

38. What sources do you typically consult to obtain the data and information you need for your work?



39. If you have begun working on adaptation-related projects, please list the three organizations that you have consulted most for information, tools, or other technical assistance.

City & County Respondents

Organization #1	Organization #2	Organization #3
Association of Monterey Bay Area Governments	Monterey sanctuary	Bay Planning Coalition
ICLEI	CARB	California Climate Change Portal
NOAA	California Coastal Commission	[No Response]

State, Federal & Regional Respondents

Organization #1	Organization #2	Organization #3
USFWS	DFG	National Parks
NOAA	USGS	DFG
State Coastal Conservancy	The Nature Conservancy, Marine Initiative	NOAA
San Francisco Bay Conservation and Development Commission	NOAA	State of California
USGS	NPS	DFG
CA State Parks	Sercal	Society for Conservation Biology
California Coastal Commission	Ocean Protection Council	Cal EPA
NMFS	FWS	CDFG
National Weather Service	CA OSPR	CA State Lands Commission
Local governments	California Association of Local Agency Formation Commissions	State OPR
NOAA	State of California	USGS
Colleagues	Consultants	University research

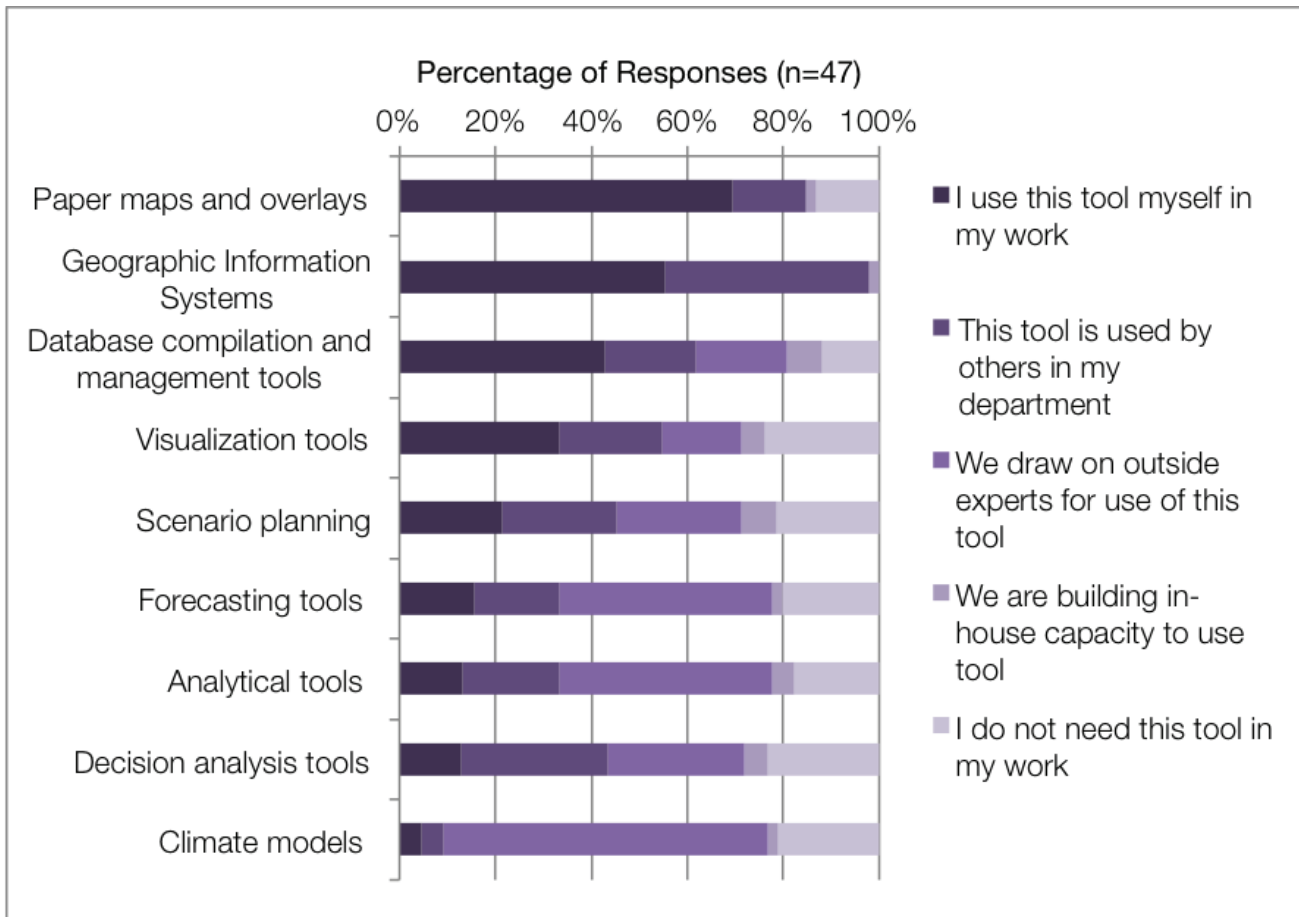
Elected Official Respondents

Organization #1	Organization #2	Organization #3
National Weather Service	State Water Resources Control Board	Water Environment Federation

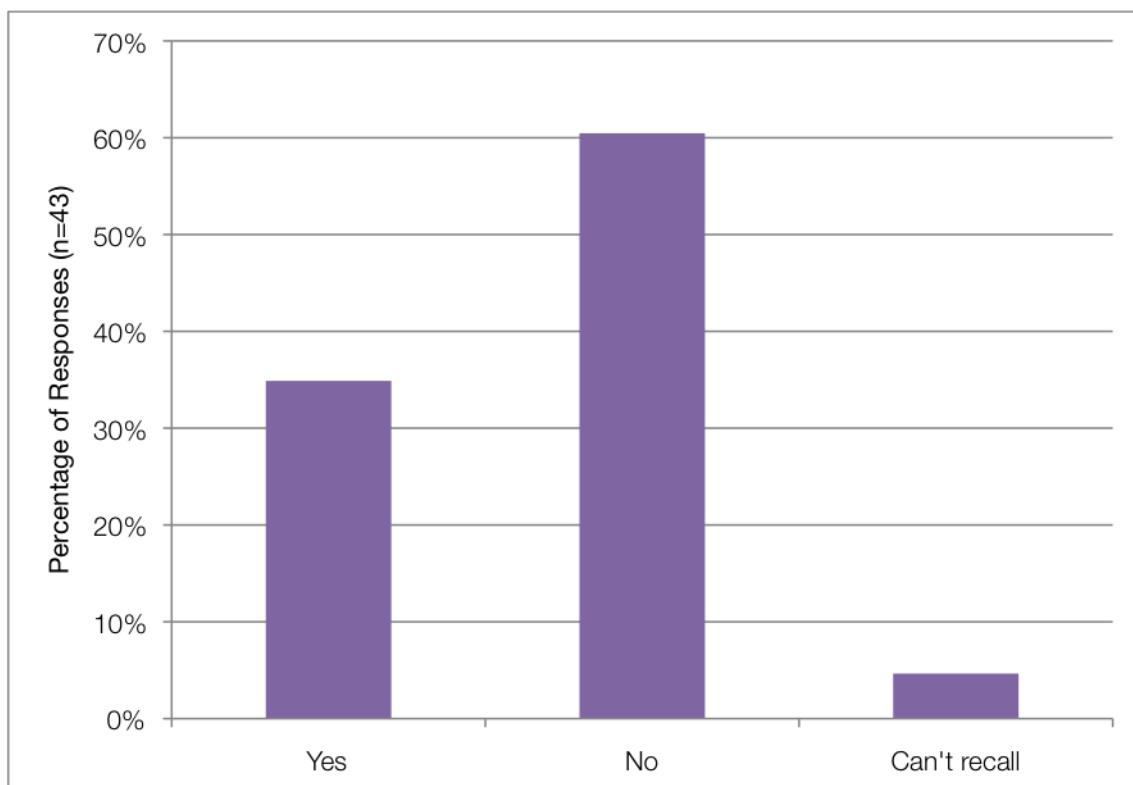
NGO, Private Industry & Environmental Consultant Respondents

Organization #1	Organization #2	Organization #3
NERR Coastal Training Program	USGS	The Nature Conservancy
Pacific Institute	Planning and Conservation League	Stillwater Sciences
USFWS	NOAA	PRBO website for good summary information
Coastal Conservancy	BCDC/Coastal Commission	Elkhorn Slough National Estuarine Research Reserve

40. Please rate the use of the following information processing tools in your work.



41. Have you already participated in any formal training(s) on planning for climate change?



42. If yes, please describe which training(s) you attended (if you have attended more than three, please list the most recent):

City & County Respondents

Title/Topic	Approximate date	Location	Organization offering training
Masters Thesis	1995	Calgary Alberta	University of Calgary

State, Federal & Regional Respondents

Title/Topic	Approximate date	Location	Organization offering training
Natural Resource Specialist Training	February every year	Marconi Conference Center	CA State Parks
Adaptation to coastal climate change	Sep-10	San Francisco	[No response]
Adapting to Climate Change..	May-08	CSUMB Monterey, Ca	US Forest Service
SB375 and LAFCOs	2009	San Jose	CALAFCO
Pacific NW Climate conferences	2010	Portland	UNIV OF WA
Climate adaptation training	2008	Seattle	Univ of WA

NGO, Private Industry & Environmental Consultant Respondents

Title/Topic	Approximate date	Location	Organization offering training
Sea Level Rise- the Next 100 Years	Sep-10	Elkhorn Slough NERR	Coastal Training Program
Lobbying	Numerous years	Washington DC	NWF
Climate Change	Oct-08	[No response]	Land Trust Alliance Ralley
Tidal Marshes: Past and Future	Sep-11	Elkhorn Slough NERR	Elkhorn Slough Tidal Wetland Project
Legislative Symposium	Each year for the past 5	Sacramento	Planning and Conservation League
Climate Change	Summer 2010	San Francisco	USFWS?
Will the commodity market be an profitable edevro to leverage funds? Analysis showed NO	Fall 2010	in house	Graduate Student intern Project

43. If you have had the opportunity to implement any skills, or used information, you obtained in the training, please describe any challenges you encountered in doing so.

State, Federal & Regional Respondents

Challenges
We are presented with some of the latest climate change data and useful studies from outside sources, both private and public, NGO and governmental.
General lack of sense of immediacy

NGO, Private Industry & Environmental Consultant Respondents

Challenges
We are presented with some of the latest climate change data and useful studies from outside sources, both private and public, NGO and governmental.
General lack of sense of immediacy

44. If you have one or more specific suggestions for climate change or adaptation-related research that would assist you in planning and preparing for climate change please list them here.

City & County Respondents

Suggestions
It would be helpful to receive a list of professional consultants and governmental agencies which the City of Seaside can contact for information and/or training. Also, a list of webinar sources would be helpful given the City's lack of budget for travel. Having webinars would also allow for the City's Board and Commissions participate as well.
It would be helpful if the training and planning efforts were presented in a manner similar to the ICLEI green house gas models. This was a non-punitive approach to climate change. The ICLEI staff has been an incredible resource and they do not regulate local government but give us the tools to develop our own strategy.

State, Federal & Regional Respondents

Suggestions
Determine whether adaptation strategies are necessary to increase resilience of valued biological resources, or whether they will adapt naturally, or are far more threatened by other human stressors such as pollution, habitat loss and invasive species than by climate-related stressors
Striking the balance between protecting property (usually developed property) or infrastructure and protecting habitats and natural processes that sustain these habitats.
Feasibility studies of infrastructure and other structures along the immediate coast. How long will a parking lot or bathroom or hotel last at a particular location if built now.
Baseline data and periodic (re)surveys will facilitate defining system trends such as plant community structure, species migration, impact of invasive species, loss of rare species, disease, etc., and improve adaptive, and perhaps proactive, response by responsible entities.
Local Workshops for decisionmakers staff and public
Publishing the necessary planning-scale maps for a century of projected SLR, plus legislation that requires all state and local governments to restrict new development and creation of new development rights (such as by subdivision, upzoning, etc.) within the mapped areas vulnerable to SLR and storm surge flooding, etc. is the critical next step. No single agency or local government is willing to get out in front of it, and our science staff feels professionally vulnerable as individuals, reluctant to be identified with any specific SLR predictions, etc. Keep hedging in terms of "uncertainty" - understandably - but this is leading to paralysis. Always need more information, but how long can we wait?
All state and federal agencies acknowledge there is significant problem, but the challenges seem so overwhelming, complex, and uncertain, that the permitting agencies maintain the status quo. Resource managers need to learn more about pragmatic approaches to adaptation and make use of existing tools and information a greater priority in their everyday tasks. Agency leadership needs to move beyond words to action.
Increase awareness of ocean acidification in the ongoing discussions/planning for climate change.
Get politicians more involved!

44. If you have one or more specific suggestions for climate change or adaptation-related research that would assist you in planning and preparing for climate change please list them here. (cont'd)

NGO, Private Industry & Environmental Consultant Respondents

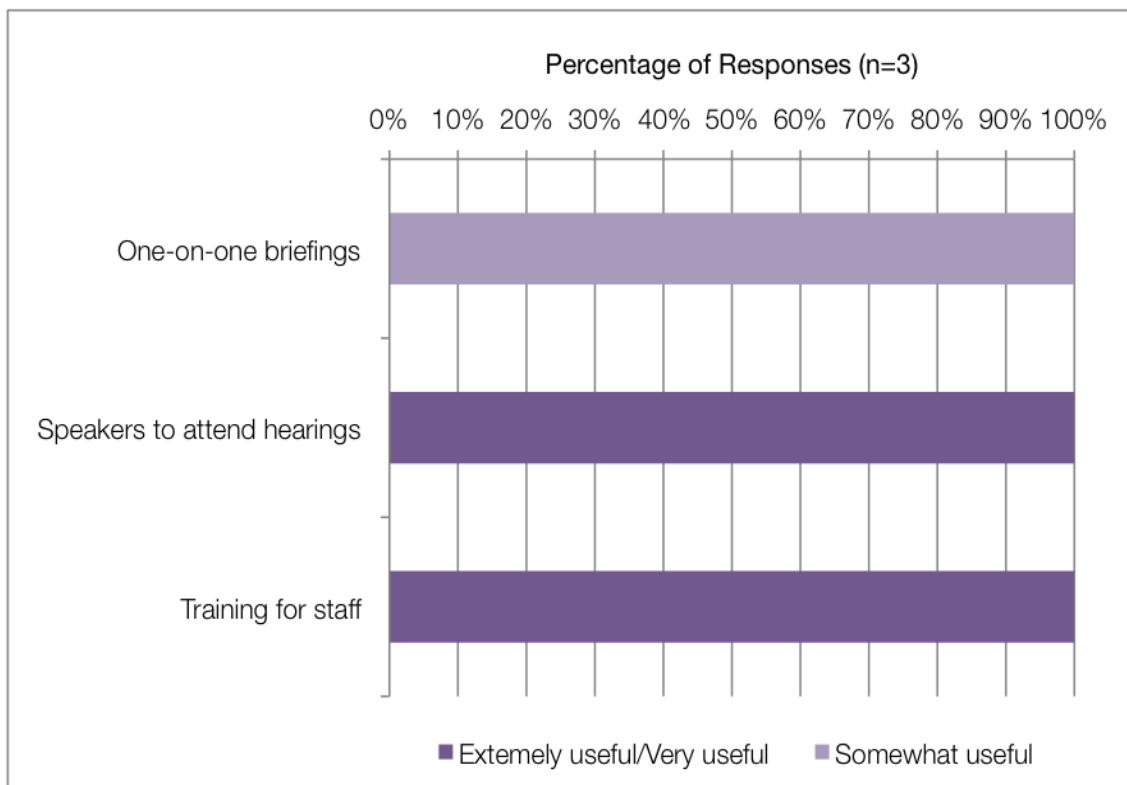
Suggestions
Clarity with how the public receives information about, processes uncertainty with, and motivates around climate change information: widespread dissemination of this understanding on TV so that the public knows how it behaves and can adjust accordingly.
Providing leadership training to NGOs to educate their constituency on how to engage their decision makers regarding climate change issues and population trends. Enhancing CEQA to be more engaged in the climate change challenges and provide new guidelines for mitigation. Educating constituencies on the importance of the General Plan, Local Coastal Plans and the importance of protection CEQA from being unraveled. Implementing AB 32. Creating incentives that make reuse of water more appealing than dams, desalination and ground water pumping. Dealing with population control through incentives like tax credits awarding no children and eliminating the tax credits for having children.
Provide collaborative opportunities for open dialogue around either true or hypothetical case studies.
All adaptation research should quantify the costs of adaptation so that adaptation can be compared with mitigation from a cost benefit perspective.

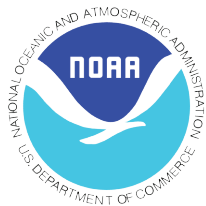
45. To make the most effective and efficient use of the available information and tools to support planning for climate change, please rate how useful each of the following opportunities to learn more about them would be to you.

All Respondents (Except Elected Officials)



Elected Officials





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