

Awareness and application of long-term monitoring data in the Pacific Islands

SURVEY QUESTIONNAIRE

Hi,

The Ecosystem Science Division (ESD) of the Pacific Island Fisheries Science Center (PIFSC), with the funding from the NOAA Coral Reef Conservation Program, is conducting a survey to better understand long-term socioeconomic monitoring needs to improve fisheries, coastal and marine management that benefits human well-being. We are particularly interested in your awareness and use of socioeconomic and biophysical data that is currently collected, the links you see between them, and your thoughts on additional information that should be collected in the future. The results will help us understand the use of the data and the gaps and make recommendations on the types of data to be collected in the future monitoring.

You have been selected to participate in this survey as you are a possible user of the long-term monitoring data or as you are involved in the efforts of collecting the socioeconomic and biophysical data. Your participation is voluntary, and the information you provide will be kept strictly anonymous. No personally identifiable information (name, affiliation, telephone number, email address) will be linked to your completed survey. The information collected will be viewed only by the NOAA research team compiling the data, and will be destroyed at the end of the information collection process. This process will maintain the anonymity of the responses received. Results will be aggregated, so that no responses can be attributable to individuals.

Thank you for taking the time to assist us with this effort.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other suggestions for reducing this burden to Supin Wongbusarakum, Ecosystem Sciences Division, Pacific Islands Fisheries Science Center, National Oceanic and Atmospheric Administration, 1845 Wasp Boulevard, Building 176, Honolulu, Hawaii 96818, supin.wongbusarakum@noaa.gov.

Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Privacy Act Statement

Authority: The collection of this information is authorized under the [Coral Reef Conservation Act of 2000](#) (P.L. 106-562; 16 U.S.C. 6401 et seq).

Purpose: NOAA proposes to conduct a survey and focus groups. The information gathered will help inform partners in coastal and marine resource management and conservation about the types of data that are important for their monitoring programs, that can help fill data gaps, and that can improve integrated monitoring.

NOAA Routine Uses: NOAA will use this information to generate information that will help ensure that monitoring programs are designed appropriately with useful indicators and are effectively implemented, and that will help bring about conditions that are optimized for users to apply data effectively in their work and to better integrate biophysical and socioeconomic monitoring in ecosystem approaches for fisheries, coastal and marine management. Disclosure of this information is permitted under the Privacy Act of 1974 (5 U.S.C. Section 552a) to be shared among NOAA staff for work-related purposes. Disclosure of this information is also subject to all of the published routine uses as identified in the Privacy Act System of Records Notice [Commerce/NOAA-11](#), Contact Information for Members of the Public Requesting or Providing Information Related to NOAA's Mission.

Disclosure: Furnishing this information is voluntary; however, failure to participate in the survey or a focus group will provide less information for use in this endeavor.

Part 1: All respondents

1. What are your title, program (division) and office (organization or agency)?

Title: _____

Program: _____

Office: _____

2. What is your highest level of education?

- High school
- Community college
- Undergraduate
- Graduate (master)
- Graduate (PhD)
- Others, please specify _____

3. What is your main type of work? Please check all that applies.

- Biophysical research or monitoring
- Field work/field station for biophysical research
- Socioeconomic research or monitoring
- Fisheries management
- Coastal/habitat management
- Making rules and regulations on resource use
- Endangered species
- Communications and outreach
- Administration
- Teaching and training
- Managing a student lab
- Others, please specify _____

4. What would you say are your top 2 areas of expertise and how many years have you worked in each of these 2 areas?

4.1 First area of expertise _____ Years _____

4.2 Second area of expertise _____ Years _____

5. From the following list of data currently collected by **long-term monitoring programs**, please tell us:

- a) whether you are aware of their availability
- b) how important you think the data types are to inform management (regardless of availability or use of these data for your own work)?
- c) whether you have ever used these data types for management decisions

<p>Type of data (if you would like to see examples of each data type, please see attached appendix)</p>	<p>a) Are you aware of the data availability</p>	<p>b) How important do you think the data types are to inform management? Please rate from 0 to 10</p>	<p>c) Have you ever used these data types for management decisions</p>
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			0 = <i>not important at all</i> , 5 = <i>moderately important</i> ; 10 = <i>very important</i> . Use n/a for “cannot assess”	(not applicable for data you only collect)	
	Yes	No	Rate 0 to 10, or n/a	Yes	No
Sociocultural and economic data					
1. Demographics, incl fishers, vulnerable populations, and general communities					
2. Community well-being, including health					
3. Personal disruption					
4. Housing					
5. Labor force					
6. Physical infrastructure and coastal development					
7. Resource governance and institution					
8. Attitudes towards management					
9. Understanding of environmental regulations					
10. Attitudes towards enforcement					
11. Awareness of and attitude towards marine protected areas					
12. Participation in resource stewardship					
13. Participation in fishing activities in Hawaii and jurisdictions (AS, GU, CNMI), (including gear, effort and catch)					
14. Fisher classification					
15. Proportion of population being reliant on commercial and recreational fisheries					
16. Commercial fisheries economic data (cost/expenses and revenue) and impact assessment					
17. Recreational fisheries economic data and Assessment					
18. Seafood industry economic trends and impacts, incl. fish trade (dealer, amount and value of fish sold)					
19. Fishers’ participation in seafood markets					
20. Perceived fishing conditions					
21. Socio-cultural importance of fishing					
22. Current livelihoods of communities					
23. Livelihood sustainability, (occupational) diversity and flexibility					

24. Resource dependency for ecosystem services (including livelihoods, e.g. commercial and subsisting fisheries)					
25. Participation in marine non-fishing activities, incl tourism					
26. Economic impact of dive/snorkel tourism to jurisdiction					
27. (Equitable) access to resources/assets					
28. Ability to decide and act in order to create change					
29. Value/importance of marine and coastal species and resources by the communities					
30. Perceived conditions of natural resource					
31. Awareness and knowledge of marine and coastal resources					
32. Perceived threats to natural resources					
33. Perceived climate threats and natural hazard risks to communities (particularly to fisheries)					
34. Learning and knowledge to adapt to climate change impacts					
Biophysical data					
35. Coral size structure					
36. Coral condition					
37. Benthic percent cover					
38. Coral growth					
39. Rugosity					
40. Fish abundance					
41. Fish size structure					
42. Protected species					
43. Macroinvertebrate key species					
44. Sea level rise					
45. Water temperature					
46. Water chemistry					
47. Light					
48. Benthic accretion/bioerosion					
49. Cryptobiota diversity					
50. Meteorology (air temperature, wind speed, wind direction, humidity, etc)					
51. Large-scale climate forcing (El Niño/La Niña, Pacific Decadal Oscillation)					

52. Physical oceanography					
53. Microbial biodiversity					
54. Marine debris					

6. If you said you use any of the above data, could you describe in a few words your most common uses?

1. _____

2. _____

3. _____

7. If there are data types in the table above you are aware of but never use, could you please list the main reasons for not using them?

1. _____

2. _____

3. _____

8. The following list show types of socioeconomic and biophysical data that are suggested by the literature and scientific experts as being potentially useful for management but to the best of our knowledge are not currently collected. Could you please rate how important you think each of these data types could be to inform management. **Please use a scale of 1 through 10, with 0 being “not important at all”, 5 “moderately important”; and 10 “very important”. Use n/a for “cannot assess”.**

	Please rate from 0 to 10 0 = <i>not important at all</i> , 5 = <i>moderately important</i> ; 10 = <i>very important</i> . Use n/a for “cannot assess”
Sociocultural and economic data	
1. Cultural heritage and connection to place	
2. Sense of place and identity	
3. Social relations and network	
4. Community or local stewardship of resources	
5. Existence value of resources (including nature as being a source of inspiration, creativity, and aesthetics)	
6. Spiritual connection to nature and species	
7. Gender issues (division of resource use,	

management, and gender equity)	
Biophysical data	
8. Reproduction or fecundity of organisms	
9. Recruitment or connectivity of organisms	
10. Mortality of organisms	
11. Metabolic performance of organisms	
12. Land-based sources of pollution, water quality, sedimentation, nutrient inputs	
13. Other measures of habitat/structural complexity	
14. <i>In situ</i> measurements of light (e.g., irradiance of photosynthetically active radiation [PAR])	

Part 2:

9. Please select only one of the following areas that your work has been most relevant to:

- Biophysical monitoring and research
- Sociocultural and/or economic monitoring and research
- Resource management, regulations, communications and outreach, administration, and all others

Section B: Questions for those involved in biophysical monitoring and research

10.1 What are your main roles in monitoring? Please check all that applies.

- Obtain funding, including proposal development
- Establish monitoring design
- Lead monitoring program
- Lead field data collection
- Collect data in the field
- Analyze data
- Report or communicate data to possible users
- Other, please specify _____

10.2 What is the goal or purpose of your biophysical monitoring?

From a scale of 0 to 10, with 0 being not at all, 5 being moderate, to 10 being very high, please answer the following:

10.3 How useful **in general** do you think the existing types of biophysical data collected by long-term monitoring programs are for informing management decisions?

0 1 2 3 4 5 6 7 8 9 10 n/a
Not at all *Moderate* *Very high* *Don't know*

10.4 To what extent do you think the existing data from long-term biophysical monitoring programs **you are involved with** have been used for management decisions?

0 1 2 3 4 5 6 7 8 9 10 n/a
Not at all *Moderate* *Very high* *Don't know*

10.5 What is the level of community engagement that you incorporate into your work?

0 1 2 3 4 5 6 7 8 9 10
Not at all *Moderate* *Very high*

10.6 What is the extent to which your work is collaborative **with natural scientists in different fields?**

0 1 2 3 4 5 6 7 8 9 10
Not at all *Moderate* *Very high*

10.7 What is the extent to which your work is collaborative **with social scientists?**

0 1 2 3 4 5 6 7 8 9 10
Not at all *Moderate* *Very high*

10.8 What is the extent to which your work is collaborative **with resource managers?**

0 1 2 3 4 5 6 7 8 9 10
Not at all *Moderate* *Very high*

10.9 What are the top 5 types of biophysical data that you think would be most useful for sociocultural and economic monitoring? Please list in order of importance.

1. _____
2. _____
3. _____
4. _____
5. _____

10.10 What are the top 5 types of sociocultural and economic data that you think would be most useful to complement your biophysical monitoring? Please list in order of importance.

1. _____
2. _____
3. _____
4. _____
5. _____

Section C: Questions for those involved in sociocultural and/or economic monitoring and research

11.1 What is your main role in monitoring? (check all that applies)

- Obtain funding, including proposal development
- Establish monitoring design
- Lead monitoring program
- Lead field data collection
- Collect data in the field
- Analyze data
- Report or communicate data to possible users
- Others, please specify _____

11.2 What is the goal or purpose of your sociocultural and/or economic monitoring?

From a scale of 0 to 10, with 0 being not at all, 5 being moderate, to 10 being very high, please answer the following:

11.3 How useful do you think the existing types of socioeconomic data collected by long-term monitoring programs are **in general** for informing management decisions?

0	1	2	3	4	5	6	7	8	9	10	n/a
<i>Not at all</i>				<i>Moderate</i>				<i>Very high</i>		<i>Don't know</i>	

11.4 To what extent do you think the existing data from long-term biophysical monitoring programs **you are involved with** have been used for management decisions?

0	1	2	3	4	5	6	7	8	9	10	n/a
<i>Not at all</i>				<i>Moderate</i>				<i>Very high</i>		<i>Don't know</i>	

11.5 What is the level of community engagement that you incorporate into your work?

0	1	2	3	4	5	6	7	8	9	10
<i>Not at all</i>					<i>Moderate</i>				<i>Very high</i>	

11.6 What is the extent to which your work is collaborative **with social scientists in different disciplines?**

0	1	2	3	4	5	6	7	8	9	10
<i>Not at all</i>				<i>Moderate</i>				<i>Very high</i>		

11.7 What is the extent to which your work is collaborative **with natural scientists?**

0	1	2	3	4	5	6	7	8	9	10
<i>Not at all</i>				<i>Moderate</i>				<i>Very high</i>		

11.8 What is the extent to which your work is collaborative **with resource managers?**

0	1	2	3	4	5	6	7	8	9	10
<i>Not at all</i>				<i>Moderate</i>				<i>Very high</i>		

what are the top 5 types of sociocultural and economic data that you think would be most useful for biophysical monitoring? Please list in order of importance.

1. _____
2. _____
3. _____
4. _____
5. _____

11.9 What are the top 5 types of biophysical data that do you think would be most useful to complement your sociocultural and economic monitoring? Please list in order of importance.

1. _____
2. _____
3. _____
4. _____
5. _____

Section D. Questions for those involved in management and all other types of work except biophysical, sociocultural, and economic monitoring

From a scale of 0 to 10, with 0 being not at all, 5 being moderate, to 10 being very high, please answer the following:

12.1 How useful do you think the existing types of biophysical data collected by long-term monitoring programs are for informing management decisions?

0 1 2 3 4 5 6 7 8 9 10 n/a
Not at all Moderate Very high Don't know

12.2 How useful do you think the existing types of socioeconomic data collected by long-term monitoring programs are for informing management decisions?

0 1 2 3 4 5 6 7 8 9 10 n/a
Not at all Moderate Very high Don't know

12.3 What is the extent do you think biophysical data can be improved to better inform management decisions?

0 1 2 3 4 5 6 7 8 9 10 n/a
Not at all Moderate Very high Don't know

12.4 What is the extent do you think sociocultural and economic data can be better improved to inform management decisions?

0 1 2 3 4 5 6 7 8 9 10 n/a
Not at all Moderate Very high Don't know

12.5 What is the extent you have worked directly with people who design or implement long-term biophysical monitoring?

0 1 2 3 4 5 6 7 8 9 10
Not at all Moderate Very high

12.6 What is the extent you have worked directly with people who design or implement long-term sociocultural and economic monitoring?

0 1 2 3 4 5 6 7 8 9 10
Not at all Moderate Very high

12.7 What is the level of community engagement that you incorporate into your work?

0 1 2 3 4 5 6 7 8 9 10
Not at all Moderate Very high

12.8 How important do you think about the monitoring teams working across social and natural scientific disciplines and collaborating with one another?

0 1 2 3 4 5 6 7 8 9 10
Not at all Moderate Very high

12.9 What is the level of your interest in working with the monitoring teams to make sure that the data produced meet your management needs?

0 1 2 3 4 5 6 7 8 9 10
Not at all *Moderate* *Very high*

12.7 What is the level of difficulty in combining biophysical and socioeconomic data in ways that are informative for management decisions?"

0 1 2 3 4 5 6 7 8 9 10
Not at all *Moderate* *Very high*

12.8 What are the data types do you find most useful for your work?

1. _____
2. _____
3. _____
4. _____
5. _____

12.9 Are there any missing data that would be useful in better managing resources and address human well-being simultaneously. If yes, what would be the top 3 most important ones?

1. _____
2. _____
3. _____

12.10 If there are comments you would like to make, please share them below.

End of the survey
Thank you very much for your participation!