PROGRAM DEFINITIONS

Community-Based Monitoring: umbrella term for the direct involvement of local community members in monitoring, either through their participation in collaborative monitoring efforts, or by training and contracting local workers to carry out monitoring projects. Involves the gathering of information by local residents over a period of time.

Citizen Science: research collaborations between scientists and volunteers, particularly (but not exclusively) to expand opportunities for scientific data collection and to provide access to scientific information for community members. Usually large-scale efforts.

Observing Networks: In Alaska and the Arctic, these usually involve paid observers who contribute local observations to observing networks that also include the scientific instruments deployed to collect data remotely, including satellites, buoys, and other types of sensors; and the agencies and researchers who deploy and them.

Public Participation in Scientific Research (PPSR): Over-arching category that includes citizen science, volunteer monitoring, and other forms of organized research in which members of the public engage in the process of scientific investigations: asking questions, collecting data, and/or interpreting results.

Community-Based Research: In Alaska, the term usually refers to the role of organized communities (villages, towns, cities) in identifying community concerns and being engaged in research that is relevant or affects them.

Community-Based Participatory Research (CBPR): Community-based research that emphasizes a partnership approach to research and equitable involvement of community members and researchers in all aspects of the research process and in which all partners contribute expertise and share decision-making and ownership.

What they all of these terms have in common: A collaboration between professional scientists or other users of data and other forms of information (e.g., natural resource managers) with non-scientist stakeholders from recognizable, but diverse, communities who collect or gather the data or information.

<u>Spectrum of Collaboration</u>

1) Contributory programs are generally designed by scientists and members of the public contribute data**.**

2) Collaborative programs are generally designed by scientists and members of the public contribute data but may also help to refine project design, analyze data, or disseminate findings.

3) Co-created programs are designed by scientists and members of the public working together; at least some of the public participants are actively involved in most or all of the steps of the scientific process.

DEFINITIONS FOR PROGAM DESIGN AND PLANNING

Purpose: The "why we are doing this" statement. The purpose statement for community-based environmental monitoring projects generally relate to one or more of the following contexts:

a) detecting what changes are occurring
b) determining which changes are of concern to a community
c) determining responses the community is planning and/or initiating to changes
d) determining the consequences to or trade-offs for different outcomes of changes

Goals: Qualitative statement(s) about what we will strive to achieve in the future (that describe characteristics or qualities of what we strive to achieve, e.g., sustainability, environmental health, adaptation)

Objectives: How much will be accomplished and when, in quantitative – or measurable - terms. S-M-A-R-T objectives are Specific, Measurable, Achievable, Realistic, and Time-specific.

Outcomes: Desired benefits at appropriate levels for the project or program. Examples of levels include science, individual participants, communities, resource management systems, the "good of society," and/or social-ecological systems (e.g., resilience of ecosystems, including humans and human cultures and societies)

Methods: The methods are the descriptions of "how we are doing this:"

- Collecting scientific data collection in a standardized way (data collection protocols)
- Making observations and/or providing traditional and local knowledge that will be handled in appropriate ways
- Data management (Quality Assurance/Quality control procedures, inclusion of metadata about how data was collected, storage, access, archiving
- Evaluation
- Assessment
- Communication over the life of the project or program

<u>Defining Success</u>

Metrics or Indicators: What gets measured or reported.

Evaluation Methods: The way(s) in which specific activities are reviewed and how often in order to determine their effectiveness and efficiency in relation to the objectives. Evaluations done at pre-determined points during a project or program are formative and may lead to refinements of protocols; those done at the end of a project or program are summative and after-the-fact.

Project/Program Assessment Methods: The way(s) in which the overall or cumulative impact of the project or program is measured in terms of how much was accomplished and how well it was done in relation to outcomes. May be quantitative (e.g., how much data was collected, how long an observation program was sustained) and/or qualitative (e.g., satisfaction of the participants).