Societal Benefit/Relevance Area Mapping Activity

Goals for this activity

- Identifying areas of common interest across the Arctic
- Documenting the products needed to inform those interests
- Connecting observations to products and decision makers
- Targeting gaps in observing and product development
- Highlighting areas of integration and needs for interoperability

Participating organizations: IARPC AOSIT, SAON, US GEO, GEO/GEOSS

What is a Societal Benefit/Relevance Area?

The Group on Earth Observations (GEO) developed a series of Societal Benefit Areas (SBAs) for organizing observational activity globally.

The current SBAs are:

- Agriculture
- Biodiversity
- Climate
- Disasters
- Ecosystems
- Energy
- Health
- Water
- Weather

Information within these SBAs addresses certain objectives which improve the understanding, management, resilience, and monitoring of the earth to reduce loss of life and property.

Revisioning the Societal Benefit Areas…

with an eye to the Arctic and its role in the global system

GEO will be undertaking a revisioning process to develop new SBA's that will be the cornerstone of their efforts for the next decade.

Recommendations for new SBA's include greater emphasis on areas of urgent need.

There is an opportunity for the Arctic community to develop new SBA's and provide input to the global GEO process.

Many of the urgent priorities in the Arctic are shared by the global community:
food security, freshwater security, coastal vulnerability, climate teleconnections, …

These priorities draw on inputs from more than one agency and require multidisciplinary or interdisciplinary observations.

They have been targeted for multilateral funding support by the Belmont Forum. Thus, there is both a scientific competency and a receptive international funding community.

What is the appropriate suite of Arctic-relevant Societal Benefit Areas?

Soliciting community input to develop the Societal Benefit/Relevance Areas

- Interact with the community through ArcticInfo and ArcticHub to gain input
  make the most of "radio button responses" and replies to ensure greater participation

- Provide context and a comment period to develop a universe of possible SBAs
  give tight scope and brief submission window to concentrate effort

- Vet these through IARPC AOSIT (incl. SEARCH) and with SAON Board (incl. GEO)
  allow national and international program expertise to winnow the field

- Ensure that there are documents supporting the selection of SBAs
  ground selection in available priority documents and context analysis

Creating an information "map"

Identify the products and information streams which inform each of the SBAs
use available literature with emphasis on those generated by "end users"

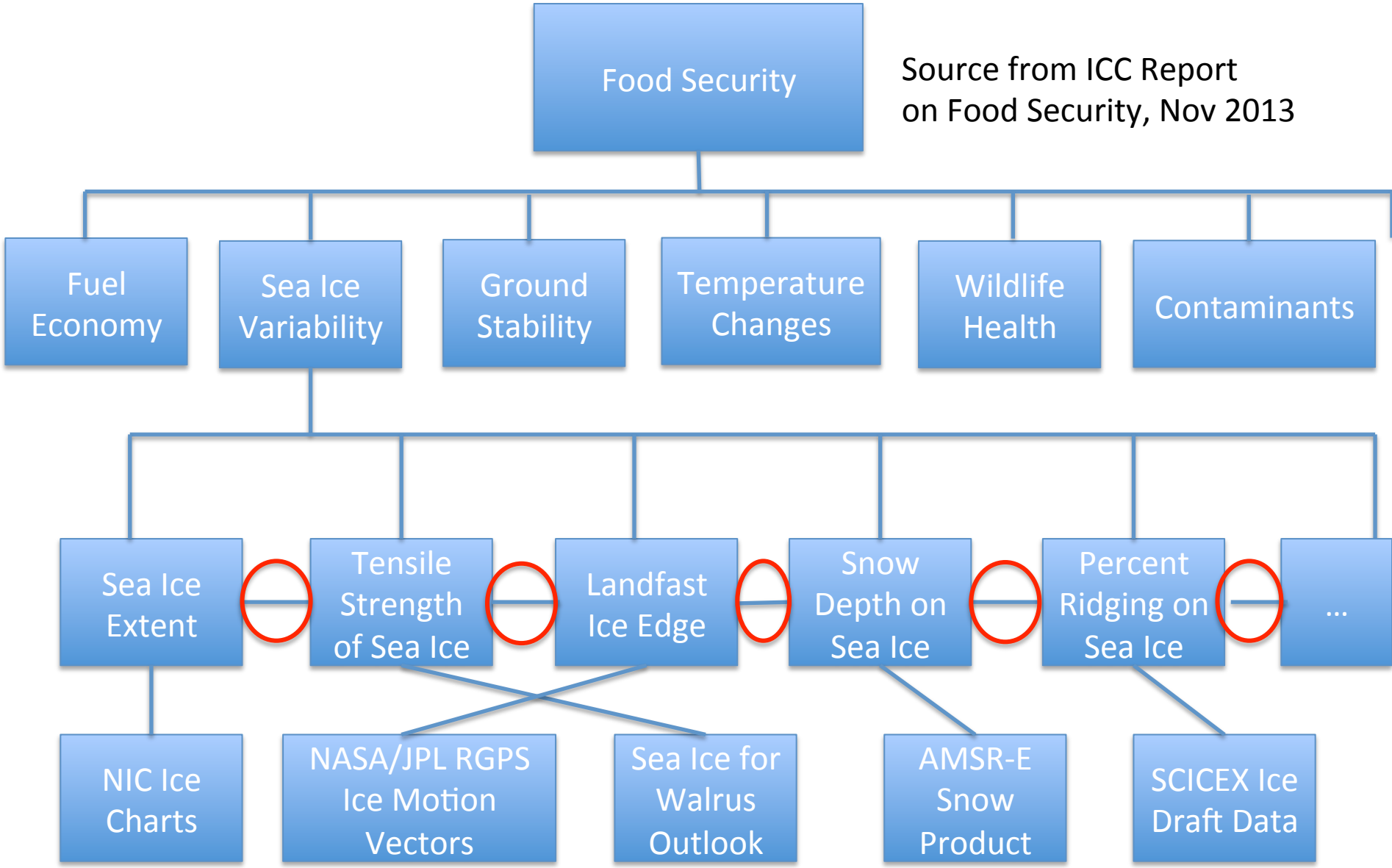
Determine the observing systems, census data, and other information streams needed for each product
allow for crowdsourcing on the ArcticHub to source some of these inputs

Document the source of data and available product development tools
highlight areas where web services and product integration is already in use

Identify gaps where either products or source information is unavailable or not currently supported
pinpoint gaps and lack of understanding that could affect action on a particular SBA

Determine whether component information streams are interoperable or if tools are available to integrate this information
look for examples of common metadata and formatting for ease of use

Visualizing the mapping effort



What are the outputs and goals of this effort?

There will be two major products of this effort:

(1) a list of societal benefit areas which speak to current and near-term priorities for observing networks and systems with particular emphasis on those aligned with priorities identified in Arctic science priority documents

(2) a series of maps – one for each societal benefit area -- of products and relevant information streams which inform those products. These maps will be supported by available documents for transparency and traceability. Both products and information will be sourced internationally and subset to meet national IARPC requirements.

These products will require:

- community input to the identification of the societal benefit areas
- verification and adoption of the societal benefit areas by the IARPC AOSIT, SAON Board, and other relevant oversight bodies (e.g., GEO/GEOSS)
- continued communication with the broader Arctic and observing communities through a web presence, likely on the ArcticHub
- visualization of the mapping efforts and their content for community and programmatic use

The mapping effort should provide information on:

- the products – identified by decision makers and other stakeholders -- that inform the identified societal benefit areas, with reference to supporting documents
- the relevant information streams which currently (or could) be used to generate those products, the agencies and organizations that provide that information, and the location of that information in a data archive
- the presence of or need for coordination between those agencies providing information streams which inform the products used by decision makers and other stakeholders
- the catalog of available web services and data integration that compile information into user-defined products which inform the societal benefit areas
- gaps where products identified as critical to decision-making are unavailable or incomplete due to lack of data integration, interoperability, accessibility, visualization, or supporting information

How is this relevant to IARPC AOSIT?

To meet the requirements of the US Interagency Arctic Research Policy Committee Arctic Observing Systems Implementation Team goals and milestones (only non-discipline specific goals shown below) –

Goals

• Integrate and continue to deploy a national Arctic observing system and promote international cooperation to create a circumpolar Arctic observing system

• Facilitate observing-system design for the arctic

• Assess local-resident priorities for addressing change

• Improve data access

• Engage indigenous observers and communities in monitoring environmental parameters

Milestones

• Support diverse, multi-disciplinary observing teams that include representatives from state, local, and tribal governments, academia, the private sector, the international Arctic community, and other stakeholders

• Assess the state of the nine observing system/network themes and identify knowledge gaps and establish sites or regions for key observations

• Develop an interagency (and international) planning document for an Arctic land ice monitoring system with focus on outlet and tidewater glaciers and their surrounding

• Develop action plans to implement an integrated design, including connections with other national and international observing systems, sustain current and planned operations, and use system models to identify observing contributions and needs for forecasting and design

Who would support this effort and what is the timeline?

We have support to conduct this effort at NSF and AMAP and will crowdsource what input we can through the ArcticHub and during AOSIT discussions.

We would always be interested in additional assistance.

To provide a showcase example, the first mapped SBA would need to be completed by October/November for the IARPC Principals and the SAON Board Meeting.

A proposed timeline and series of work packages with reporting back to IARPC and SAON is available.

Through this collaborative activity with the AOSIT, linking to other IARPC teams, and in partnership with the international SAON, we hope to create a useful product to identify key competencies and needs in our observing system to benefit society.

Please help us to refine this process, provide commentary and suggestions.