

Arctic Observing Summit 2018



Introduction to AOS 2018: Themes & guidelines for process, breakout sessions, and participation

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AOS: Goals



- Provide **community-driven, science-based** guidance for the **design, implementation, coordination** and **sustained** long-term (decades) **operation** of an international network of Arctic observing systems that serves a wide spectrum of needs
- Create a **forum** for coordination and exchange between **academia, government agencies, Indigenous & local communities, industry, non-governmental organizations and other Arctic stakeholders** involved in or in need of long-term observations

AOS: Goals



- AOS 2013 - Vancouver, 2014 - Helsinki, 2016 - Fairbanks
- Conference statements & Community White Papers & Brief Statements provide guidance on the process & priorities for individual summits
- Conference statements & white papers from previous summits available at arcticobservingsummit.org - also two special issues of journal *Arctic* (AINA) with select full papers
- AOS 2016 defined this summit's agenda: **Making the business case for Arctic Observing**

Themes - AOS 2018



Need for Observing System

- Societal Benefits - Long & short term perspective (e.g., UN-SDG, emergency response)

System Implementation

- Funding/support models
- Optimization of existing platforms & technologies
- New technologies to increase efficiency & impact
- Role of data management

Operating Observing Systems

- Success stories & lessons learned
- Use
 - Use of data & information relevant for business case
 - Data Management in support of public and private interests
 - Technology in support of public and private interests
 - Entrepreneurship and sustained observations

Products & Potential Outcomes



Sustaining Arctic Observing Networks (SAON) Initiative of Arctic Council & IASC

- AOS as a SAON Task
- Linkages to Committee on Networks & Committee on Information & Data Services

National level

- AOS as a mechanism to leverage & collate national support structures

Global program linkages

- Drawing on international support structures → GEO

Networking

- Building Communities of Practice → Indigenous Peoples Organizations; other decision-makers; private sector

Arctic Science Ministerial (ASM-2 & 3?)

- Input to ASM-2 Science Forum & Ministerial
- Opportunity to identify one or two high-level, but specific aims to build capacity through convergent support

Towards sustained Arctic obs.



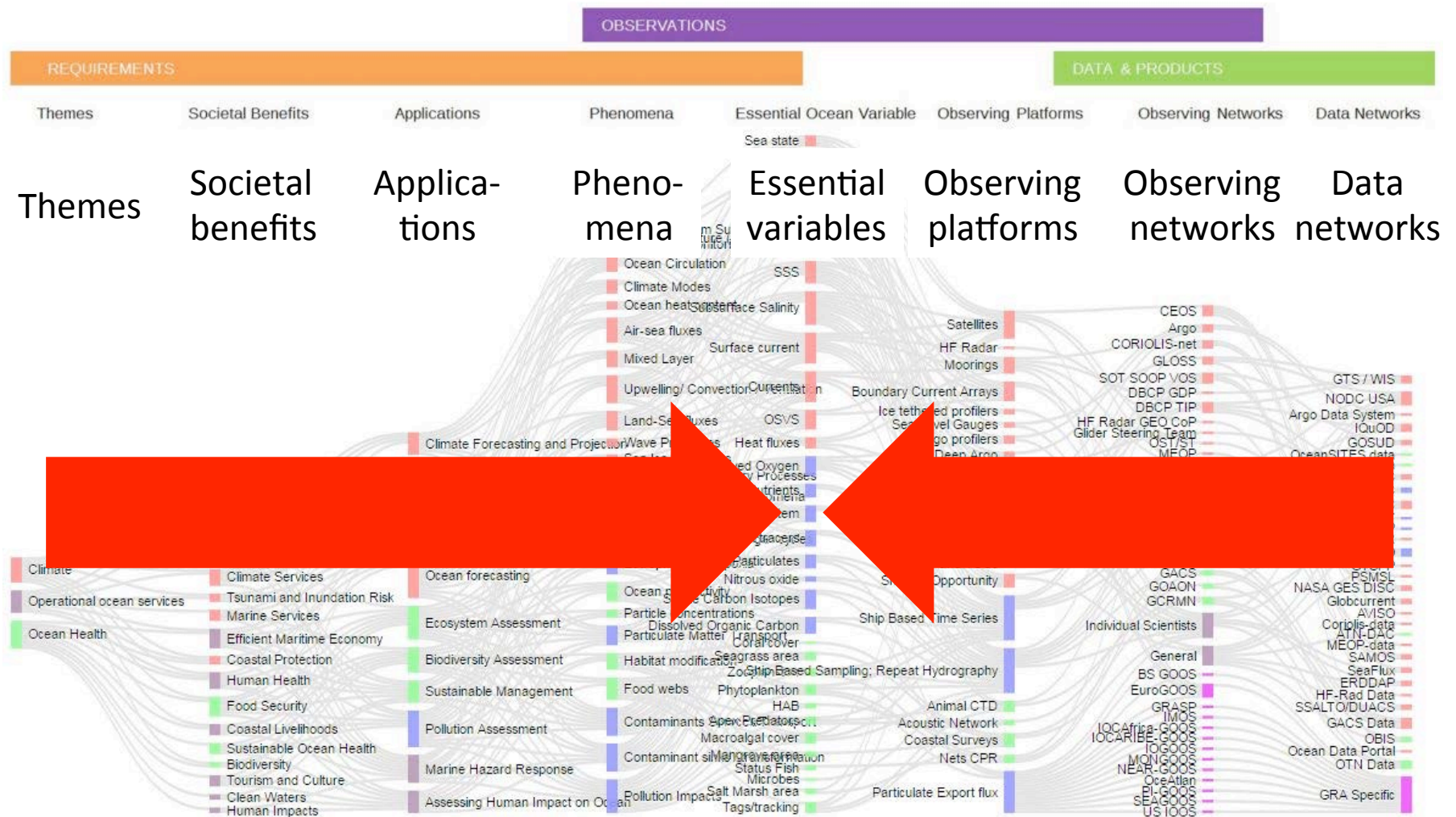
- Multitude of individual observing programs, projects, networks
- AOS as a mechanism to achieve structured coordination & integration: Bottom-up & top-down
- AOS as an interface between agencies, academia, Indigenous organizations, private sector, global programs & others

Frameworks of relevance



- Value-tree analysis through STPI, 2017 (<https://bit.ly/2tuGX6L>)
- GOOS - Framework on Ocean Observing (FOO) (<https://bit.ly/2twAnf6>)
- Other initiatives under SAON and (inter)national programs or projects, such as EU INTAROS, U.S. AON & SEARCH
- Here in WG2 (for example) GOOS FOO used as a way to structure conversation

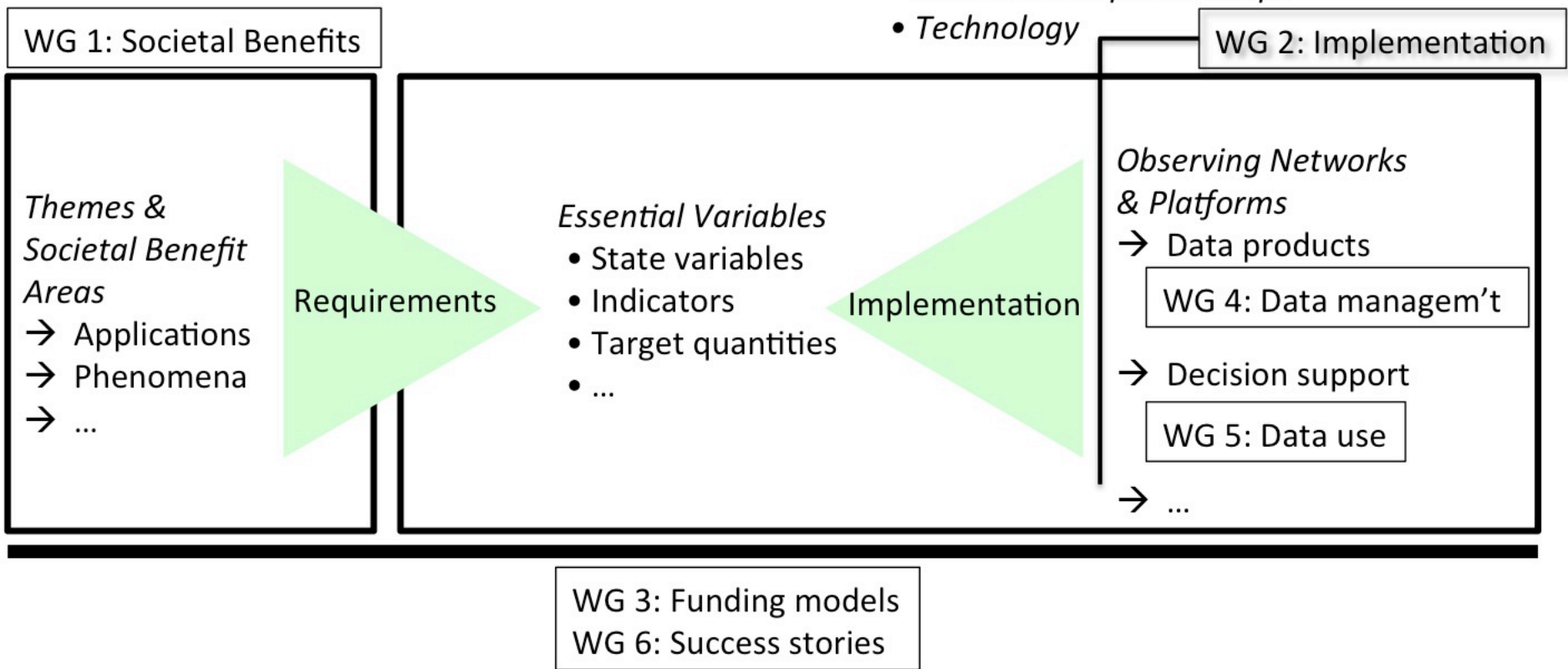
AOS WGs in context



AOS WGs in context



- *Public-private partnerships*
- *Community-driven observations*
- *International partnerships*
- *Technology*



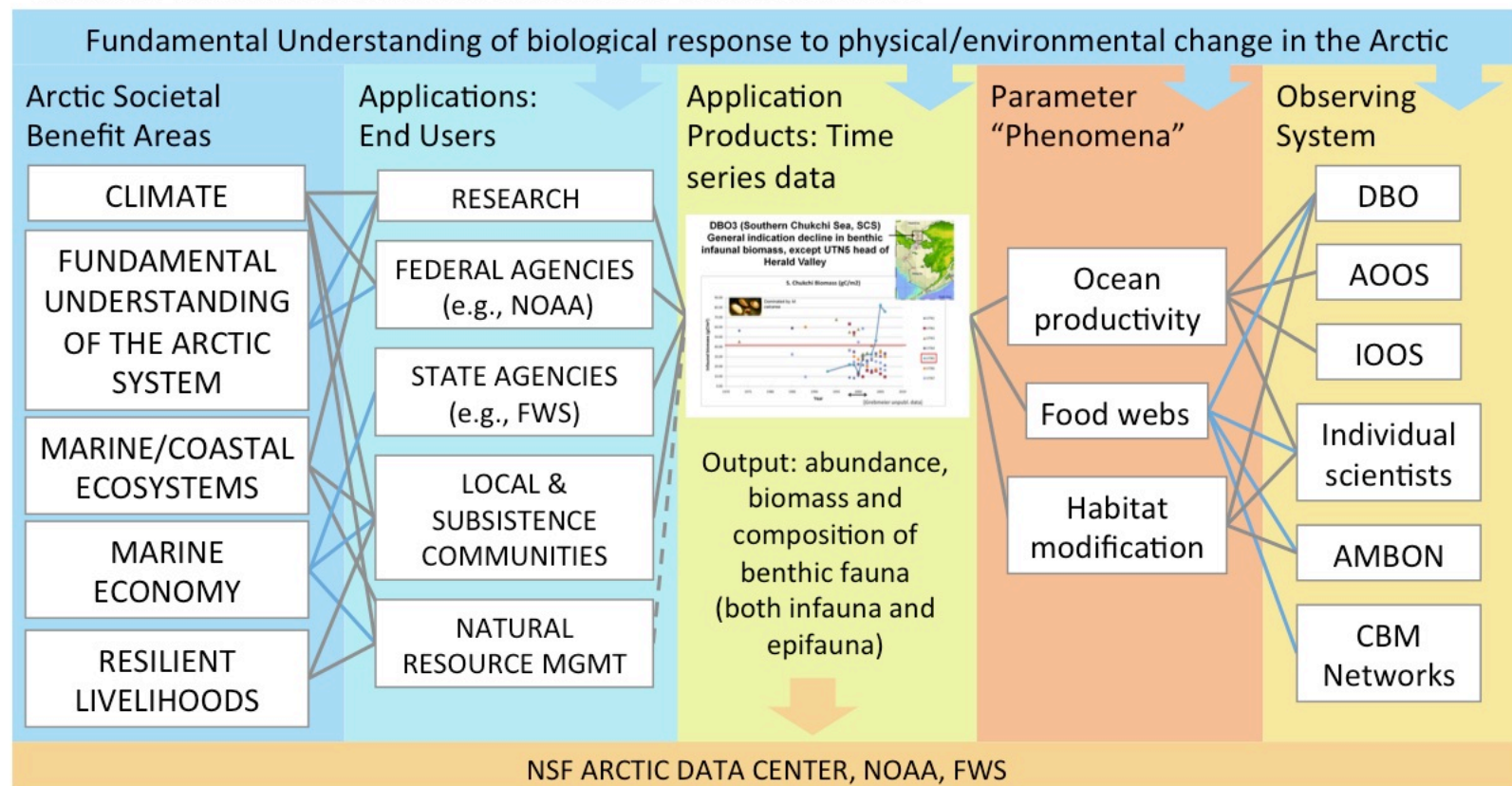


AOS 2018 WG 2 - Example

- Claire Eaton, University of New Hampshire

User base for the observing system & end-to-end “network”

Variable: Benthic invertebrate abundance and distribution





AOS 2018 WG 2 - Example

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Tabular Organization (Societal benefit > data repository)

Variable: Benthic invertebrate abundance and distribution

Societal benefits	Applications	Phenomena	Essential variable	Observing platform	Observing network	Data repository
<ul style="list-style-type: none"> Climate Fundamental Understanding of Arctic Systems Marine and Coastal Ecosystems and Processes Marine economy Resilient livelihoods 	<ul style="list-style-type: none"> Climate analysis & assessment Ocean forecasting Ecosystem assessment Biodiversity assessment Sustainable management Assessing human impact on ocean 	<ul style="list-style-type: none"> Ocean productivity Food webs Habitat modification 	<ul style="list-style-type: none"> Benthic invertebrate abundance and distribution 	<ul style="list-style-type: none"> Satellites Moorings Ships of opportunity Ship-based time series Acoustic network 	<ul style="list-style-type: none"> DBO AOOS IOOS Individual scientists AMBON Community-based monitoring networks 	<ul style="list-style-type: none"> NSF/AON NOAA SERC (private) US FWS State FWS

Scores from 1 to 6 (low – 1; high – 6)
 In color scale: score 1, score 2, score 3, score 4, score 5, score 6.

Sustainability	Implementation costs
Scientific and expert support	Costs for installation
Funding support	Costs for maintenance and development
Site representativeness	Costs for data management

AOS 2018 Working Groups



Need for Observing System

- WG1: Societal Benefits over the Short, Medium and Long-Term Perspectives (Tilche & Krümmel- Flüela)

System Implementation

- WG2: Implementing and Optimizing a Pan-Arctic Observing System (Eicken & Starkweather - Wisshorn)
- WG3: Sustained Support and Funding Models/Strategies (Schlosser & Rachold- Dischma)

- WG4: Data Management (Pulsifer & Godøy- Sertig)

Operating Observing Systems

- WG5: Uses of Data and Information Derived from Observing Systems (Ryan & Larsen - Schwarzhorn)
- WG6: Success Stories (Sankar & N.N. - Davos)

WG Rapporteurs: Thank you!

Post-it notes, easels, markers

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AOS 2018 Working Groups



- We all want sustained observations of Arctic change
- Our visions for sustained Arctic observations are diverse AND they have significant overlap
- Recognize diversity as a strength and focus on the overlap: Where do we want Arctic sustained observations to be 5, 10, 20 years on? What are hurdles that we have to overcome jointly to get there?
- What are the high-level, but specific needs to overcome those hurdles and move towards structured coordination of observations
- Focus on the interfaces & the commonalities

AOS 2018 Working Groups



- **Questions?**

**For detailed program, brief statements,
working group information etc. see also:
www.arcticobservingsummit.org**