

# ABOVE and IARPC

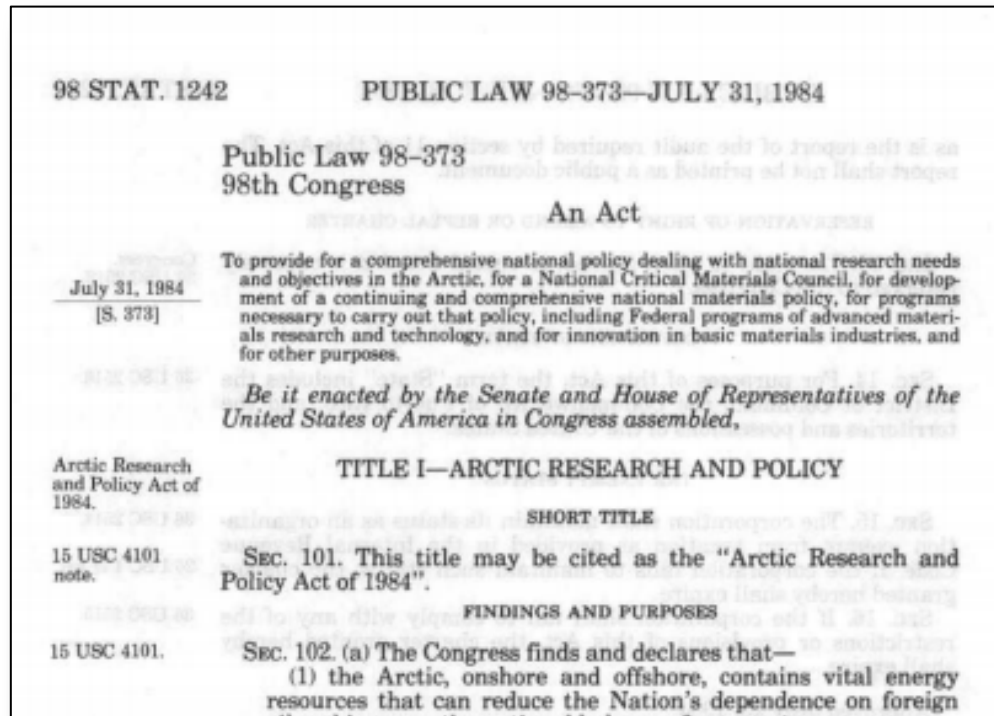
Eric Kasischke

ABOVE Science Team Meeting

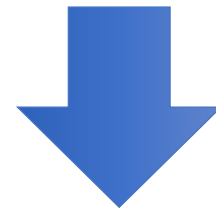
20 January 2017

# What is IARPC?

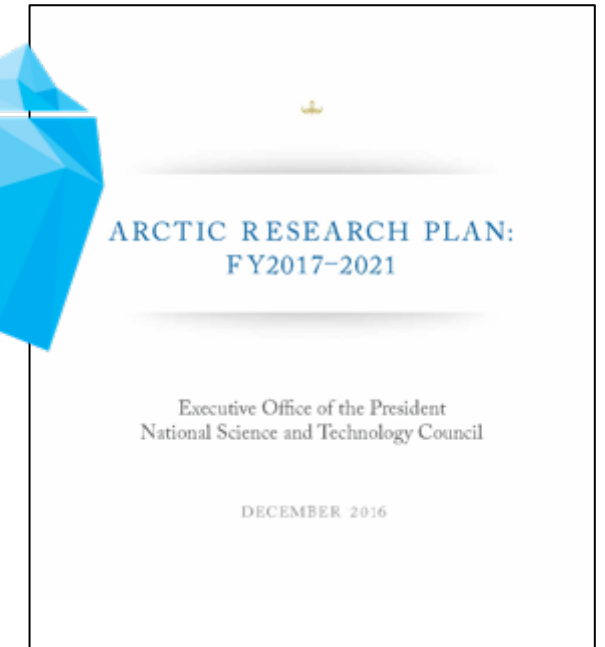
## Arctic Research Policy Act of 1984



USARC  
sets goals and  
objectives



IARPC  
develops and  
implements a  
research plan



ARCTIC RESEARCH PLAN  
FY2017-2021

PRODUCT OF THE  
Interagency Arctic Research Policy Committee  
OF THE NATIONAL SCIENCE AND TECHNOLOGY COUNCIL



December 2016

## Purpose of the Arctic Research Plan

- Identifies key areas where **ongoing research** in the Arctic sponsored by Federal agencies can be coordinated (Research Goals and Objectives)
- Calls for engagement of researchers from all organizations interested in coordination of research activities in the Arctic, including those from other countries
- Identifies specific activities (Performance Elements) where ongoing activities can be used to address research goals and objectives

# How is the Plan implemented?

**IARPC** Federal only

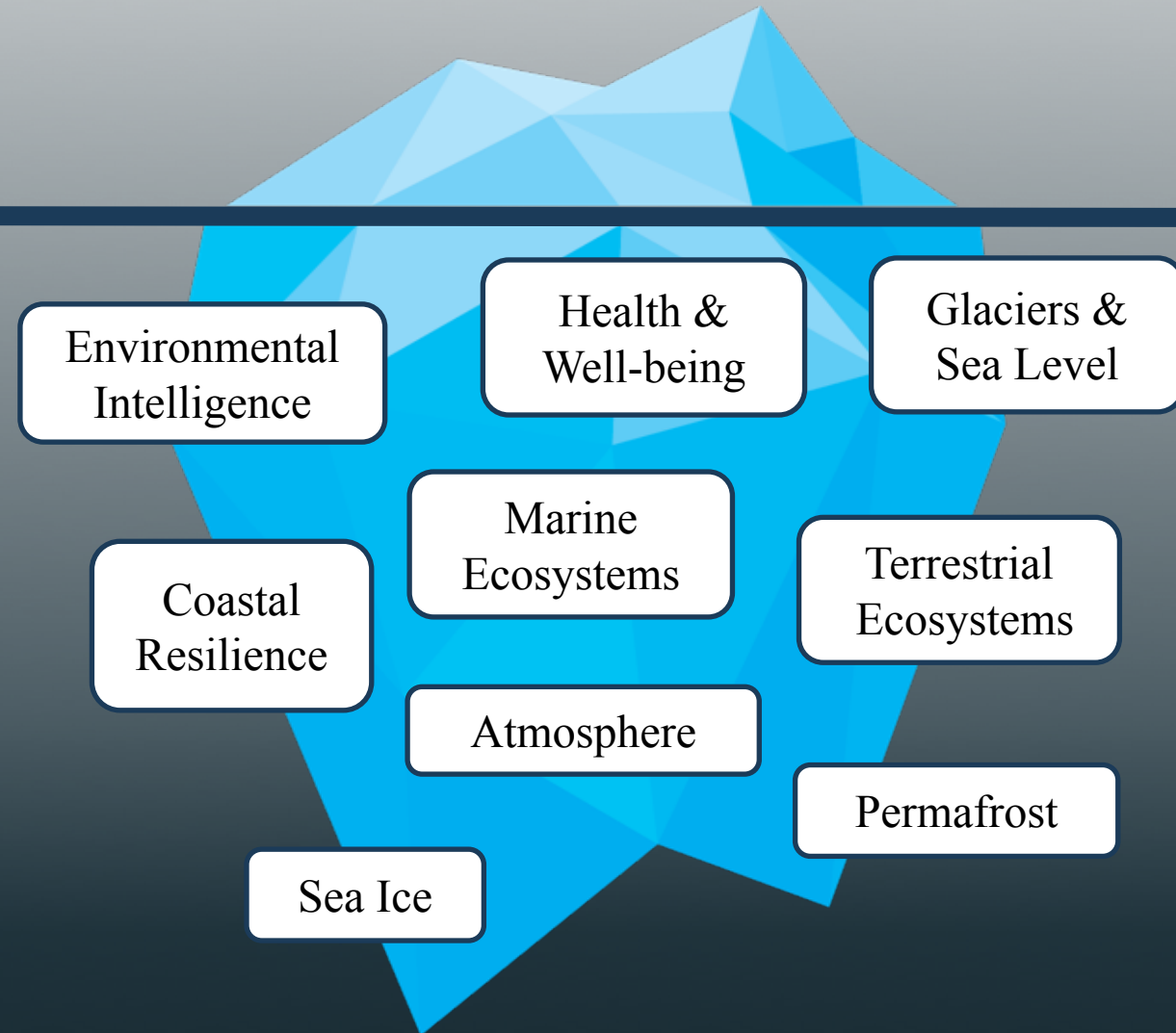
Principals and staff representing 14 Federal agencies

**IARPC**  
Collaborations

Federal & non-Federal

Researchers, resource managers, and stakeholders from academia, NGOs, industry, state, Indigenous and international organizations.

Anyone interested in Arctic research can join IARPC



# Plan Organization

## Research Goals (9)

Broad topics where an interagency approach can accelerate progress

## Research Objectives (34)

Specific challenge areas that address the research goal

## Performance Elements (123)

Tasks with concrete, measurable outcomes that demonstrate progress toward Research Objectives



# Policy Drivers

1. Enhance the **well-being** of Arctic residents.
2. Advance **stewardship** of the Arctic environment.
3. Strengthen national and regional **security**.
4. Improve understanding of the Arctic as a **component of planet Earth**.



# Research Goals

1. Enhance understanding of **health determinants** and improve the **well-being** of Arctic residents;
2. Advance process and system understanding of the changing Arctic **atmospheric composition and dynamics** and the resulting changes to surface energy budgets;
3. Enhance understanding and improve predictions of the changing Arctic **sea ice cover**;
4. Increase understanding of the structure and function of Arctic **marine ecosystems** and their role in the climate system and advance predictive capabilities;
5. Understand and project the mass balance of **glaciers, ice caps, and the Greenland Ice Sheet**, and their consequences for sea level rise;



# Research Goals

6. Advance understanding of processes controlling **permafrost** dynamics and the impacts on ecosystems, infrastructure, and climate feedbacks;
7. Advance an integrated, landscape-scale understanding of Arctic **terrestrial and freshwater ecosystems** and the potential for future change;
8. Strengthen **coastal community resilience** and advance stewardship of coastal natural and cultural resources by engaging in research related to the interconnections of people, natural and built environments;
9. Enhance frameworks for **environmental intelligence** gathering, interpretation, and application toward decision support.



# Terrestrial Ecosystems Collaboration Team

## Team Leaders



**Eric Kasischke**  
Terrestrial Ecology Program  
Scientist  
NASA



**Steve Gray**  
Director  
Alaska Climate Science Center  
USGS



**Jeremy Littel**  
Research Ecologist  
Alaska Climate Science Center  
USGS

## Research Objectives

**7.1** Improve understanding of and ability to model feedbacks and interactions among the large-scale processes causing climate change and the responses of terrestrial and freshwater ecosystems.

**7.2** Advance understanding of how changes to ecosystems alter animal and plant populations and their habitats and subsistence activities that depend on them.

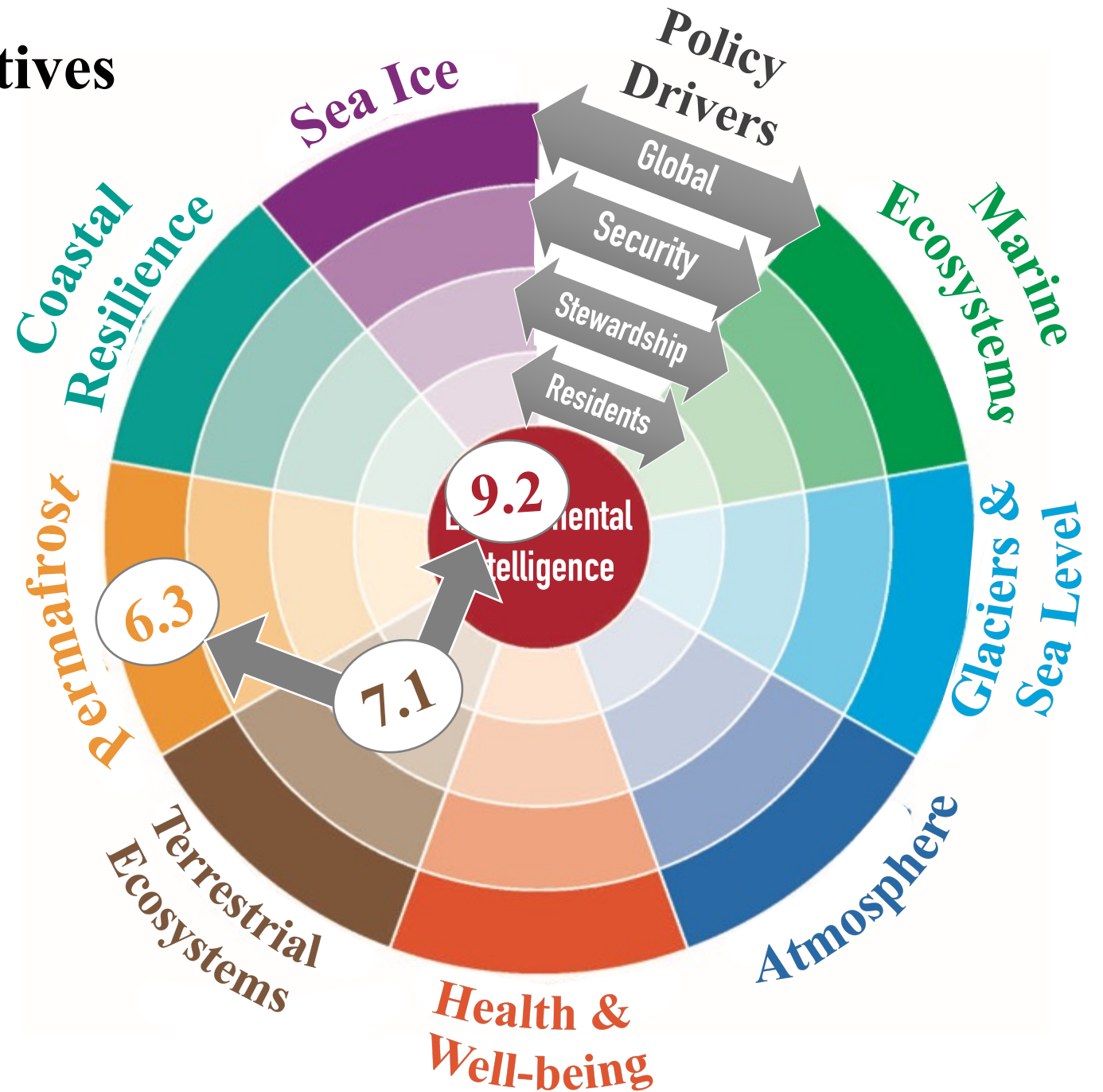
**7.3** Evaluate how changes in fire activity are impacting rural and urban communities, atmospheric emissions and carbon budgets, and other feedbacks to climate.

# Cross-cutting Research Objectives

**7.1** Improve understanding of and ability to model feedbacks and interactions among the large-scale processes causing change (climate, natural disturbances, and human-caused perturbations) and the responses of terrestrial and freshwater ecosystems

**9.2** Use global and regional models with detailed Arctic processes to understand feedbacks within the components of the Arctic system and with the climate system.

**6.3** Integrate empirically measured permafrost processes into models that predict how climate change, hydrology, ecosystem shifts and disturbances interact within terrestrial and freshwater systems to impact the permafrost evolution, degradation, and feedbacks from local landscapes to the circum-Arctic.



# IARPC Organization

- On 6 February, the IARPC website will be reorganized into the 9 new Collaboration Teams identified in the new Arctic Research Plan
- You can request an account on the IARPC web page to join any of the Collaboration Teams that are of interest to you
- Each IARPC Collaboration Team will self organize and hold monthly meetings (most via Webinars) (beginning in February)
- CT meetings will focus on
  - Outlining key research programs of IARPC collaborators
  - Discussing ways to coordinate research needed to address specific Performance Elements, including those that are cross-cutting with other Collaboration Teams
  - Presenting recent research results that address IARPC Objectives



# IARPC provides the opportunity to:

1. Share the results from ABoVE research with other scientists in the ABoVE Study Domain
2. Coordinate ABoVE research (including synthesis activities) with other researchers in the ABoVE Study Domain
3. Report the results from ABoVE research to key program managers from U.S., State and other agencies within the ABoVE Study Domain
4. Report the key results to IARPC Principals [including the NASA representative (e.g., NASA Chief Scientist) and the Director of the National Science Foundation], US Arctic Research Commission, and Congress

Request an account at

iarppcollaborations.org



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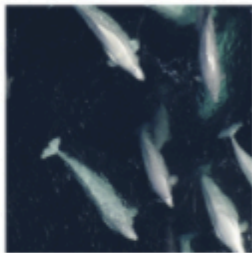
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## Marine Ecosystems

Increase understanding of the structure and function of Arctic marine ecosystems and their role in the climate system and advance predictive capabilities

Joined 3/4/2014

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#### [IARPC Releases Arctic Research Plan 2017-2021](#)

The Interagency Arctic Research Policy Committee (IARPC ) announced the release of Arctic Research Plan 2017-2021 on December 15 at the American Geophysical Union Fall Meeting in San Francisco,...

Dec 15, 2016 by Jessica Rohde - Topics IARPC 5-Year Plan, IARPC, White House, IARPC accomplishments and 4 more



#### [US Representatives to IASC](#)

The Polar Research Board serves as the U.S. National Committee to IASC, a non-governmental,

Post...

#### Upcoming team meetings

Nov 10 [Marine Ecosystems Collaboration Team Meeting](#)

Oct 4 [Marine Ecosystems Collaboration Team Meeting](#)

#### Recent team meeting