



# Department of the Interior

## Key Arctic Science Objectives

**Goal:** To support decisions concerning environmental, economic, and cultural aspects of the U.S. Arctic.

- Better **understand** and improve **forecasting** of the effects of global **environmental change** and the potential impacts of **economic development** on communities and ecosystems.
- Improve decision-makers' **access** to **integrated** scientific **information** and **indigenous knowledge** relevant to management in the Arctic.
- **Broad-based information products** pertinent to development trends, environmental sensitivities, and changing conditions.

*Source: Managing for the Future in a Rapidly Changing Arctic: A Report to the President. Interagency Working Group on Coordination of Domestic Energy Development. 2013.*



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## What Observations Does Your Agency Support?

- **USGS** – LANDSAT (w/NASA), permafrost/climate, river discharge and temperature, glaciers, wildlife response to ecosystem change.
- **BLM** – NPR-A monitoring (fish, hydrology, caribou, birds); AIM program of *in situ* vegetation composition & height, invasives, active layer depth, etc.; remote sensing of landcover types and pattern); AK Fire Service -- fire extent, lightning.
- **NPS** – 19 “Vital Signs” in 5 bins: **Air/Climate** (e.g., weather, snowpack), **Geology/Soils** (e.g. coastal erosion, permafrost), **Water** (e.g., stream & lake communities & ecosystems), **Biological Integrity** (e.g., caribou, landbirds), and **Landscapes** (e.g., fire and landscape dynamics).
- **USFWS** – Primarily population, distribution, demography, and health surveys for **birds, mammals, and fish, and vegetation monitoring**; secondarily **water, climate, contaminants, and landscape change**.





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## Agency's Role in an Interagency Observing Network

- Coordinate observing activities of multiple organizations in **terrestrial/freshwater & coastal ecosystems** into coherent systems (e.g. ALCC TEON – core suite of related physical and vegetation variables).
- Implement common approaches to long-term **biodiversity monitoring** consistent with Arctic Council's CAFF working group CBMP.
- **Landscape change** analyses based on **remote sensing** products.
- Develop **landscape-change models** at appropriate ecological and spatial resolution for **resource management applications** and data sets with which to **test and parameterize** models.
- Sustain **data integration and accessibility** platforms and develop **value-added information products** aimed at communicating science to managers and communities.