

On-line version of this presentation is available at: <http://goo.gl/rdJGg>

# NEON-US Government Interface

Brian Wee, Ph.D.  
Chief of External Affairs  
(Congressional and Executive Branch Liaison)  
National Ecological Observatory Network (NEON), Inc.

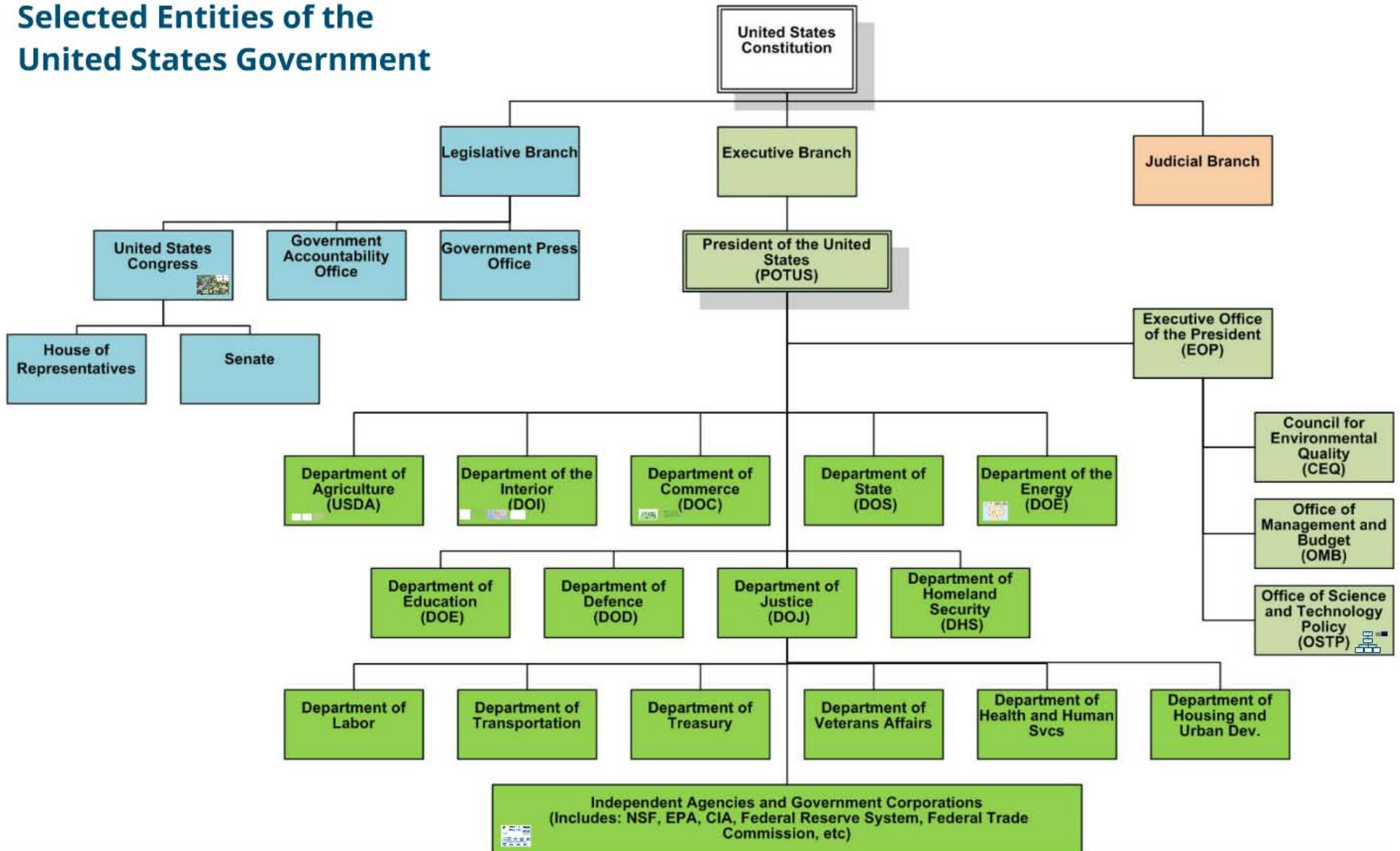
2013-07-15 | Korean Delegation Visit to NEON HQ | Boulder, CO



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# Selected Entities of the United States Government





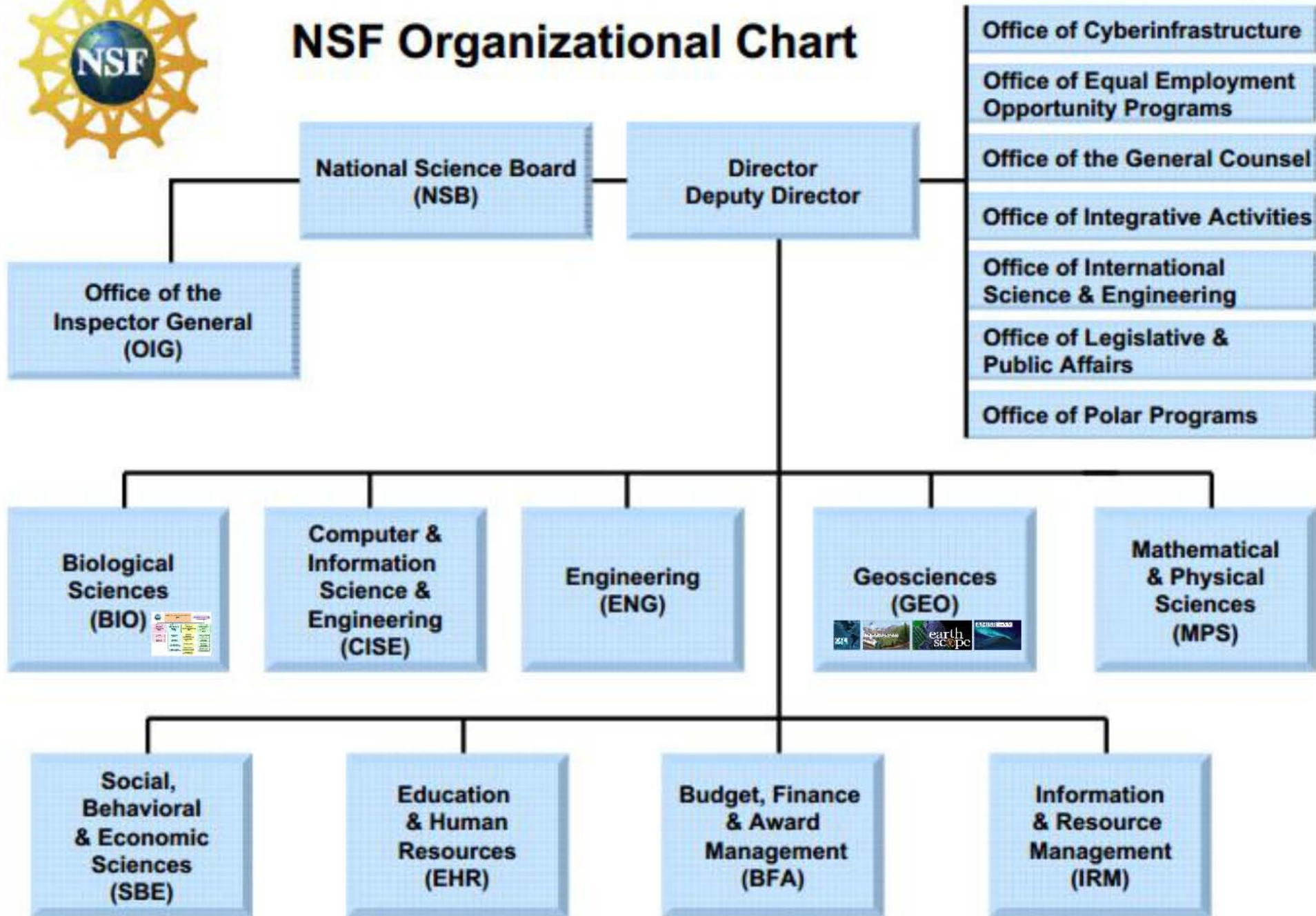
- ### U.S. Capitol Map
- |   |   |    |                                       |
|---|---|----|---------------------------------------|
| 1 | Russell Senate Office Building          | 7  | Madison Building: Library of Congress |
| 2 | Dirksen Senate Office Building          | 8  | Cannon House Office Building          |
| 3 | Hart Senate Office Building             | 9  | Longworth House Office Building       |
| 4 | U.S. Supreme Court                      | 10 | Rayburn House Office Building         |
| 5 | Jefferson Building: Library of Congress | 11 | Ford House Office Building            |
| 6 | Adams Building: Library of Congress     | 12 | U.S. Botanic Garden                   |
|   |   | 13 | Capitol Visitor Center                |

Union Station 

  
ARCHITECT  
OF THE  
CAPITOL



# NSF Organizational Chart





**Directorate for Biological Sciences  
(BIO)**

**Emerging Frontiers (EF)**

**Division of  
Biological  
Infrastructure  
(DBI)**

**Human  
Resources**

**Research  
Resources**

**Division of  
Environmental  
Biology  
(DEB)**

**Ecosystem  
Science**

**Evolutionary  
Processes**

**Population and  
Community Ecology**

**Systematics &  
Biodiversity Science**

**Division of  
Integrative  
Organismal Systems  
(IOS)**

**Behavioral  
Systems**

**Developmental  
Systems**

**Neural Systems**

**Physiological &  
Structural Systems**

**Plant Genome  
Research Program**

**Division of  
Molecular and  
Cellular  
Biosciences  
(MCB)**

**Cellular Dynamics  
and Function**

**Genetic  
Mechanisms**

**Molecular  
Biophysics**

**Systems and  
Synthetic Biology**



CZ



**CZO**

**CRITICAL ZONE OBSERVATORIES**  
*U.S. NSF NATIONAL PROGRAM*

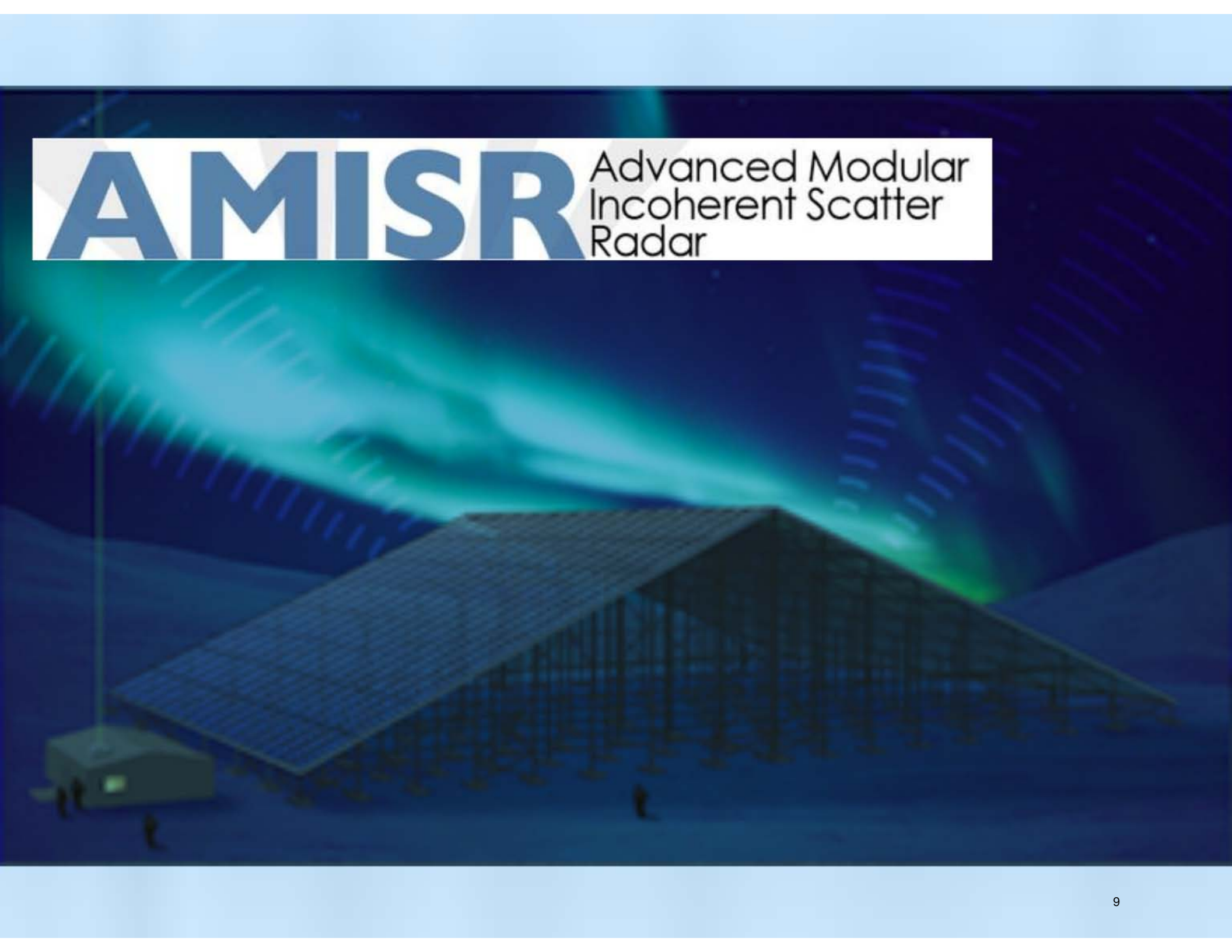


# earth scope



# AMISR

Advanced Modular  
Incoherent Scatter  
Radar



# Global Trends 2025



GLOBAL TRENDS 2025: THE NATIONAL INTELLIGENCE COUNCIL'S 2025 PROJECT

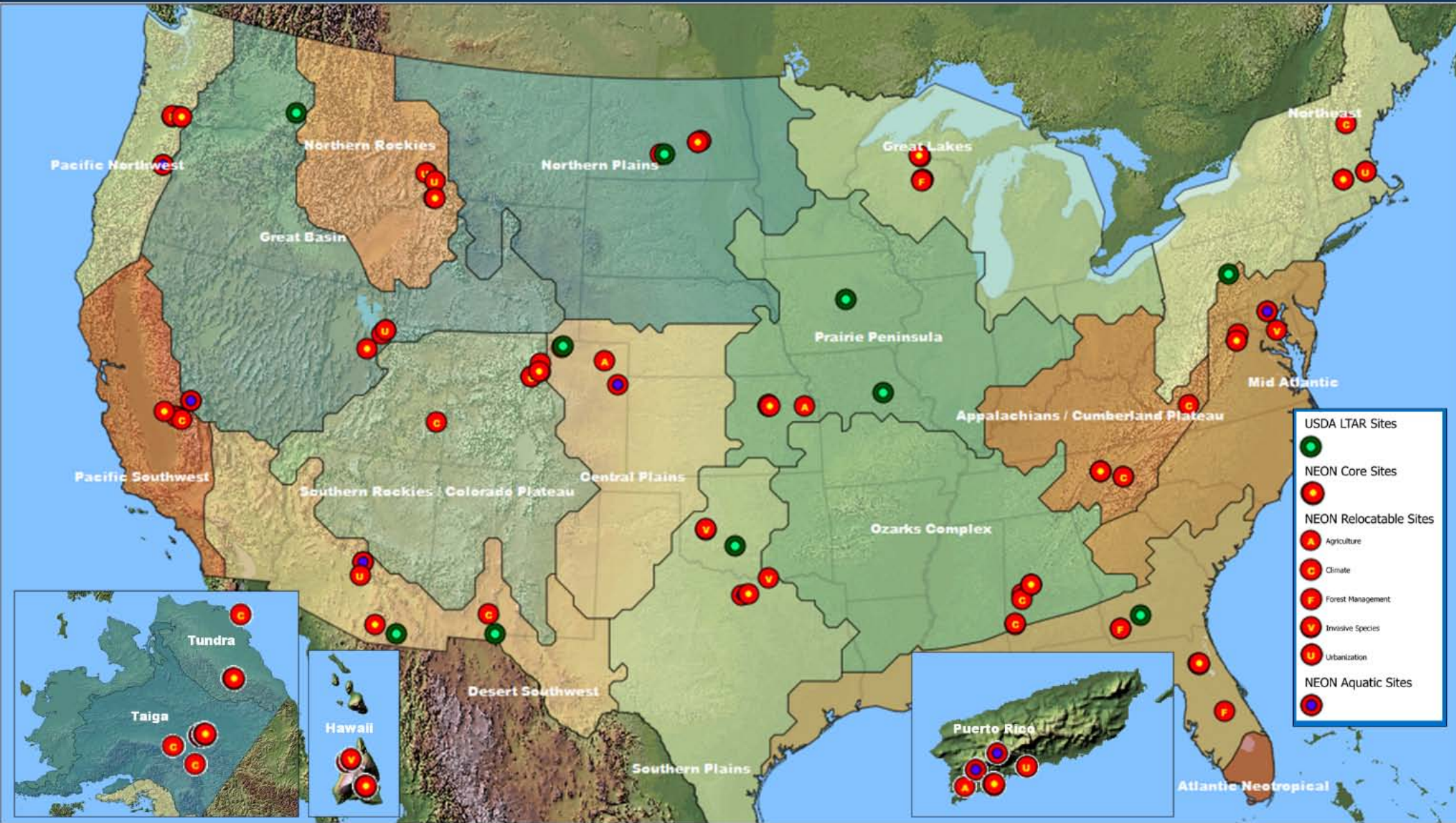
[http://www.dni.gov/nic/NIC\\_2025\\_project.html](http://www.dni.gov/nic/NIC_2025_project.html)

- By 2025, droughts, **food shortages and scarcity of fresh water** will plague large swaths of the globe, from northern China to the Horn of Africa.
- For poorer countries, **climate change** "could be the straw that breaks the camel's back."
- **Floods and droughts** will trigger mass migrations and political upheaval in many parts of the developing world.
- **Energy security** will also become a major issue as India, China and other countries join the United States in seeking oil, gas and other sources for electricity.

# Why Do We Need a Long-Term Agro-Ecosystem Research Network?

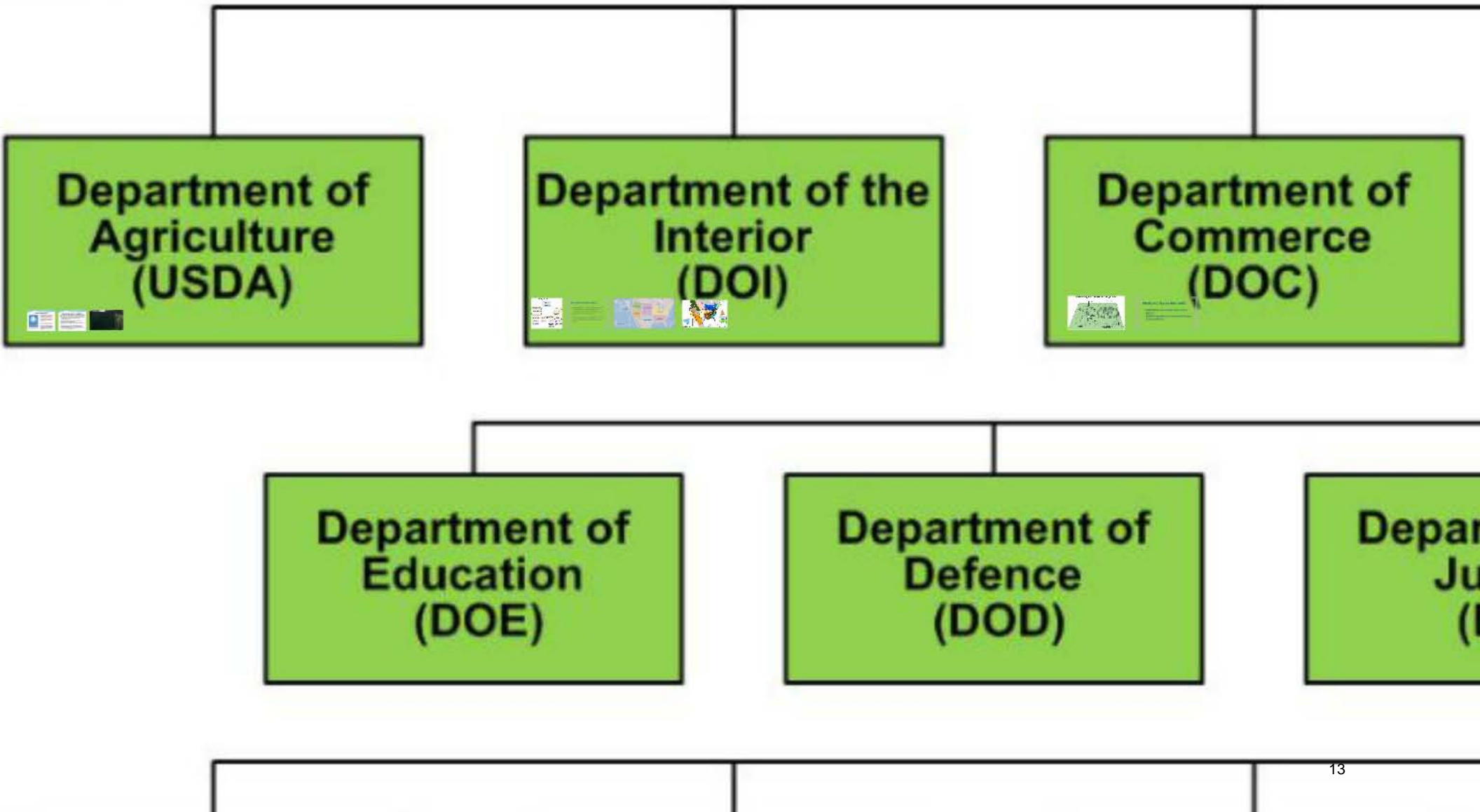
- To help understanding how **key agricultural system components interact at larger scales** (e.g., watershed; landscape).
- To help anticipate the **environmental effects of shifting agricultural practices**.
- To help improve the **effectiveness of conservation programs**.
- To help identify the broader **societal benefits of modern agriculture** (e.g., bio-energy production; carbon sequestration; improved water quality & water-use efficiency; wildlife habitat).

# NEON – LTAR National Configuration



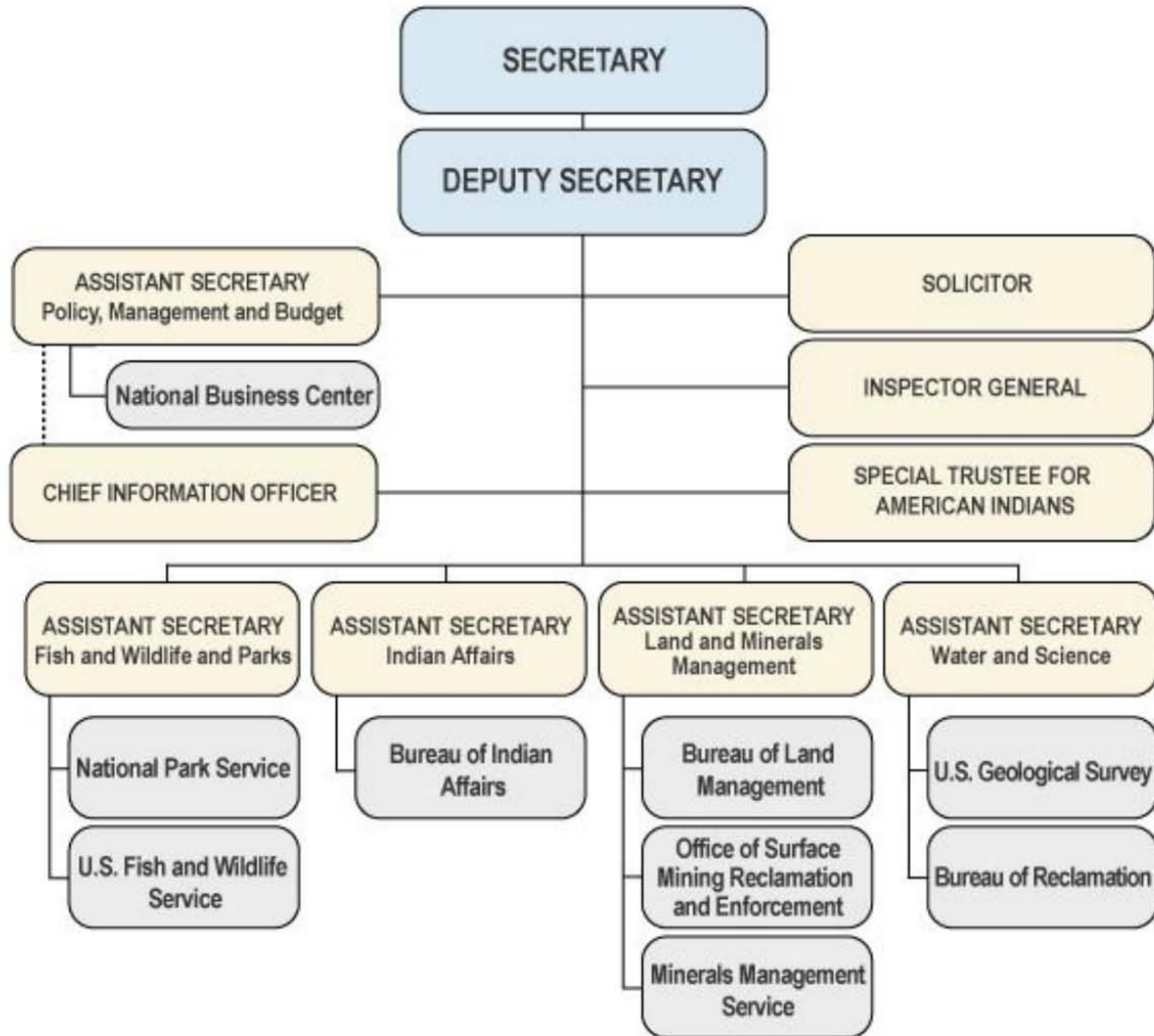
**USDA LTAR Sites**

- NEON Core Sites
- NEON Relocatable Sites
  - Agriculture
  - Climate
  - Forest Management
  - Invasive Species
  - Urbanization
- NEON Aquatic Sites



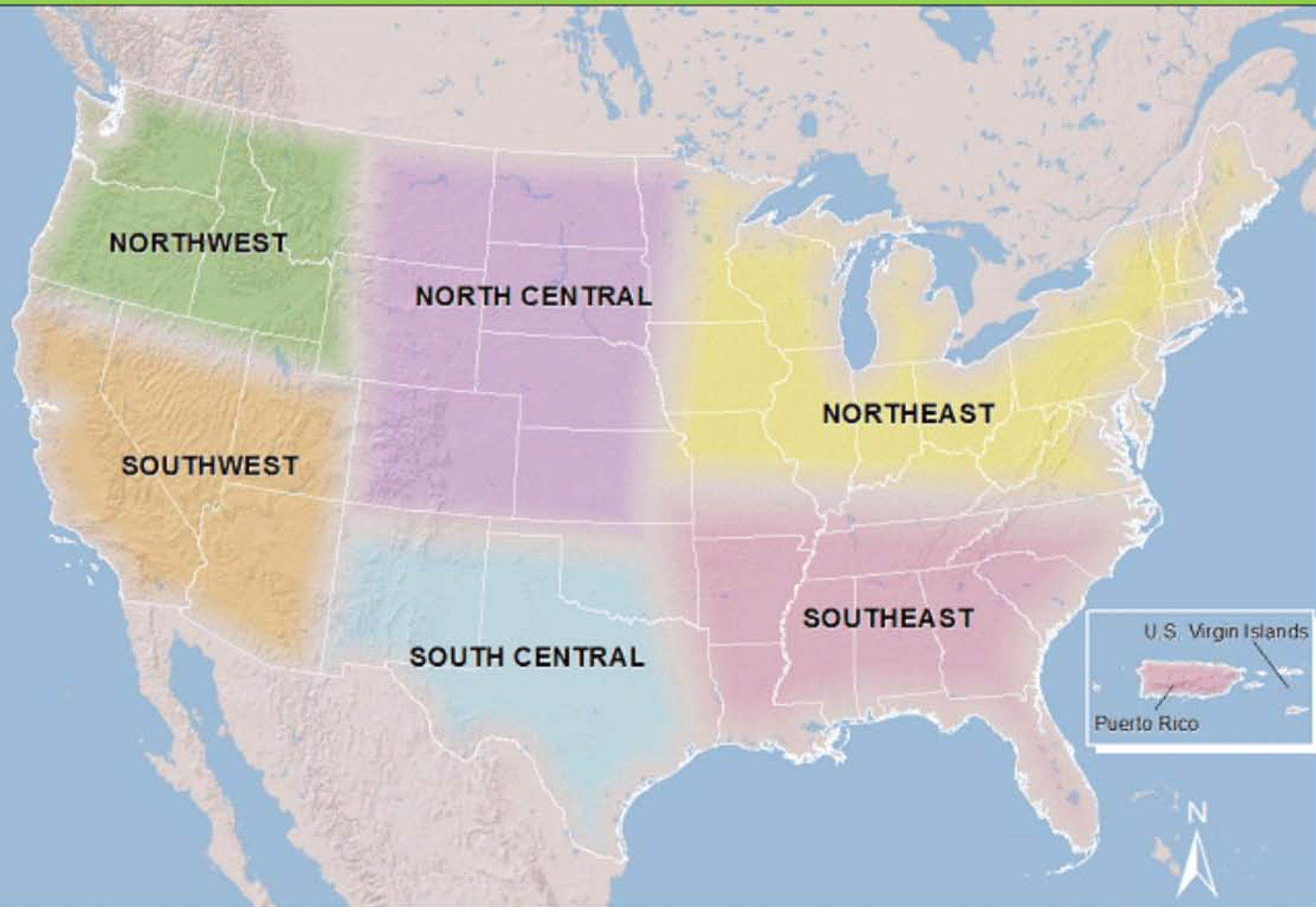
# U.S. Department of the Interior

Click on the office for more information

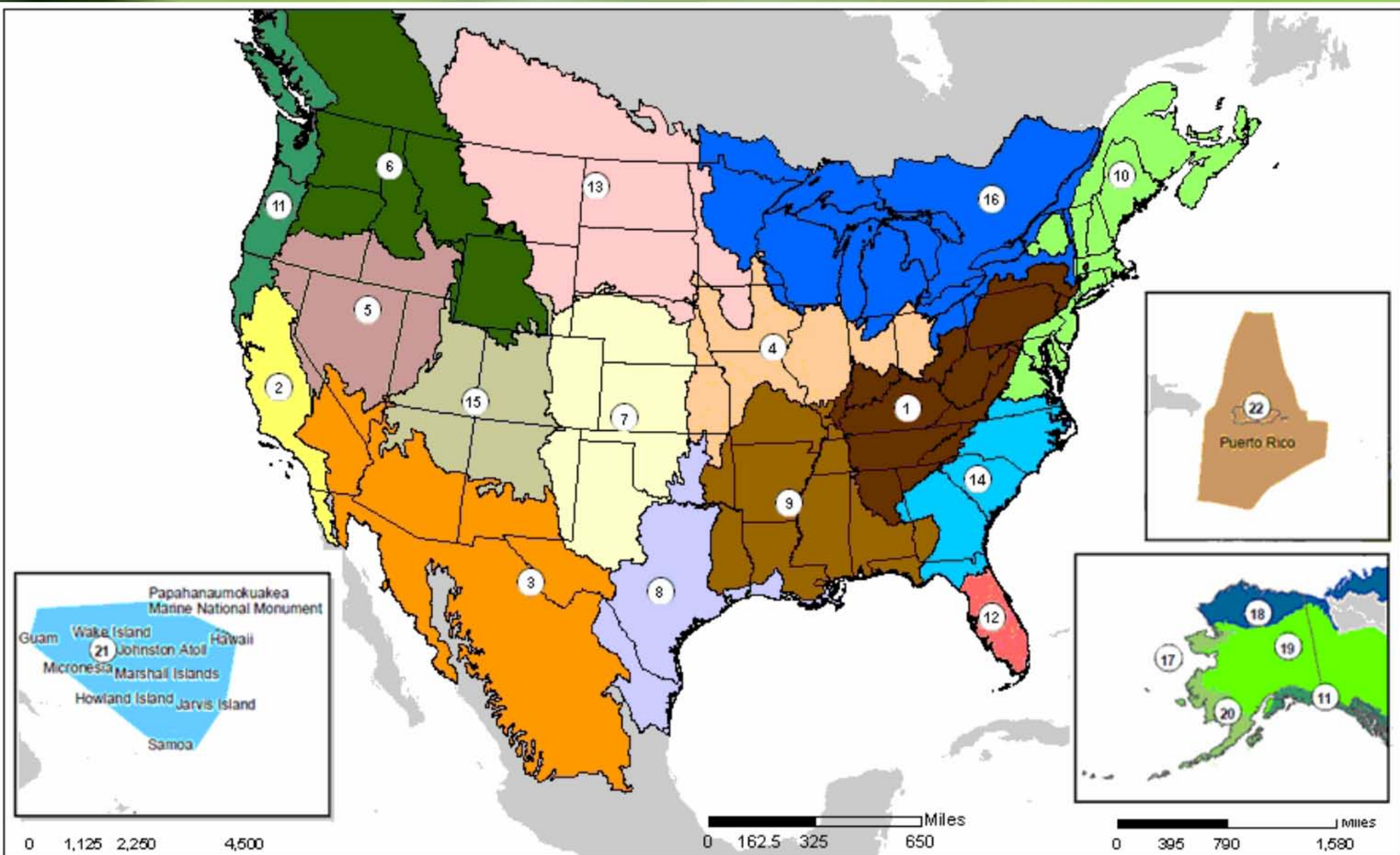


# DOI Climate Science Centers

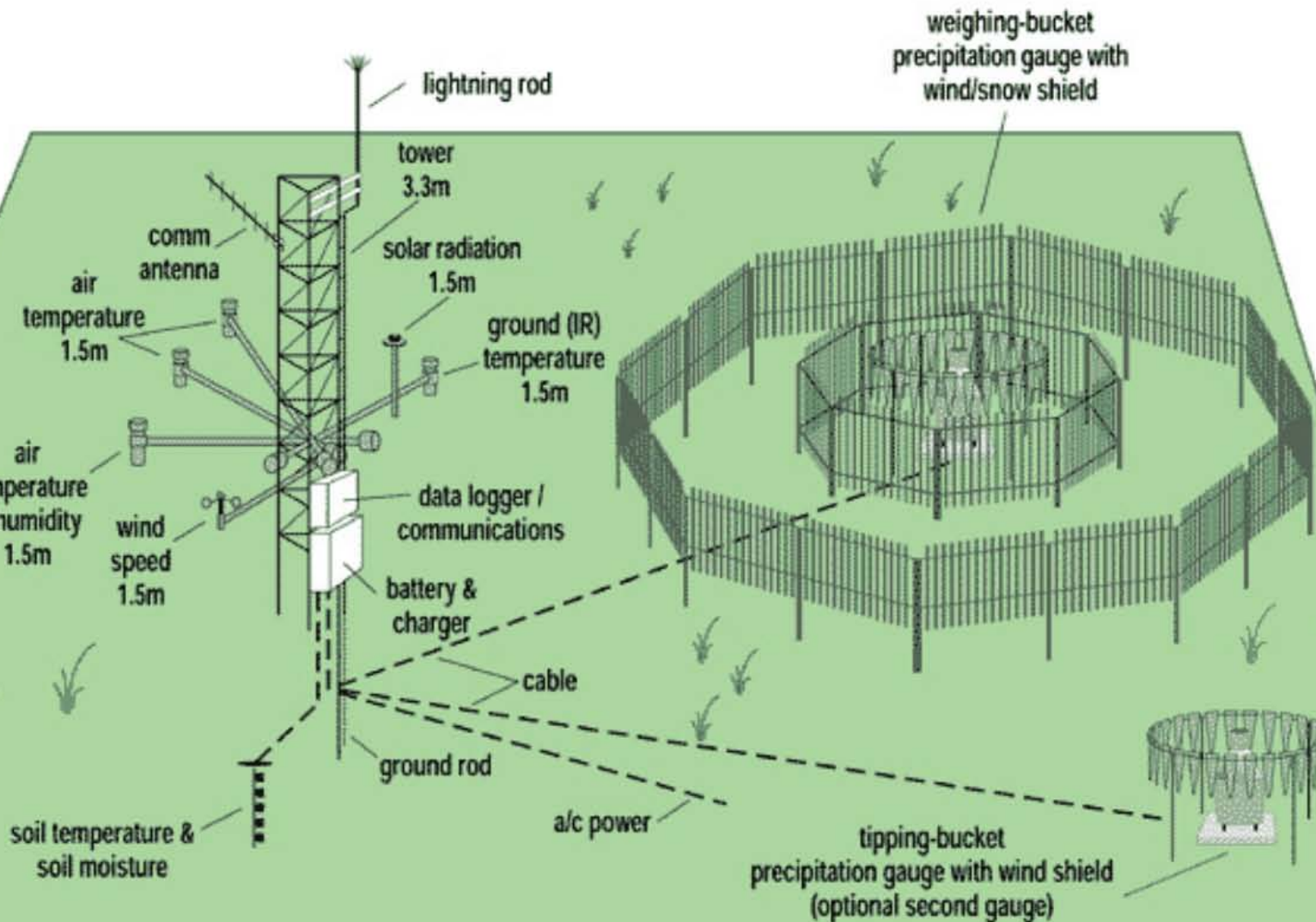
- **What:** deliver basic climate change impact science to Landscape Conservation Cooperatives (LCC), including physical and biological research, ecological forecasting, and multi-scale modeling
- **Why:** to anticipate, monitor and adapt to climate and ecologically-driven responses at regional-to-local scales.







# Proposed Typical CRN Station Configuration



## **NEON, Inc. has an MOU with:**

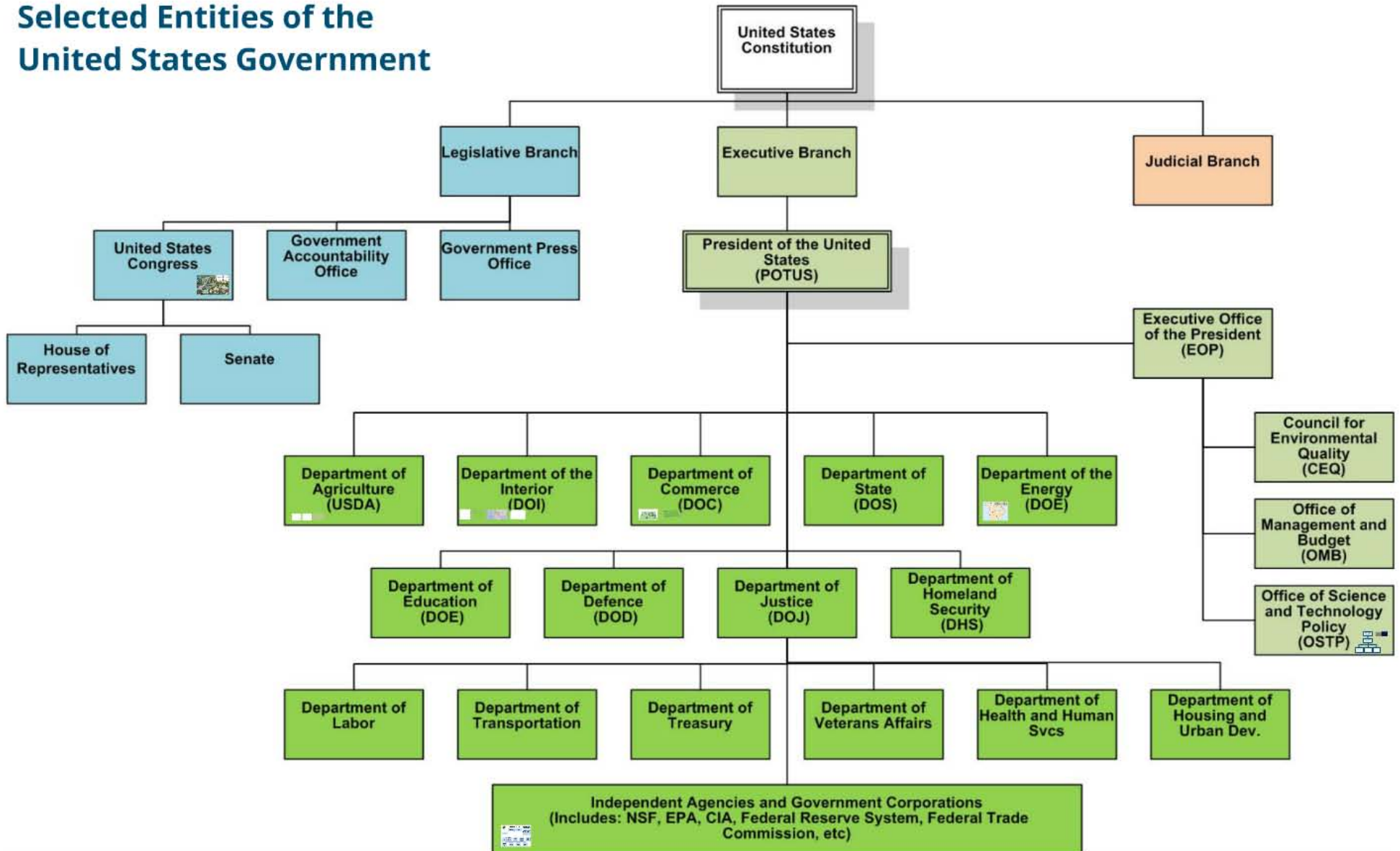
- **NOAA National Climatic Data Center (NCDC)**
- **NOAA Atmospheric Turbulence Diffusion Division (ATDD)**

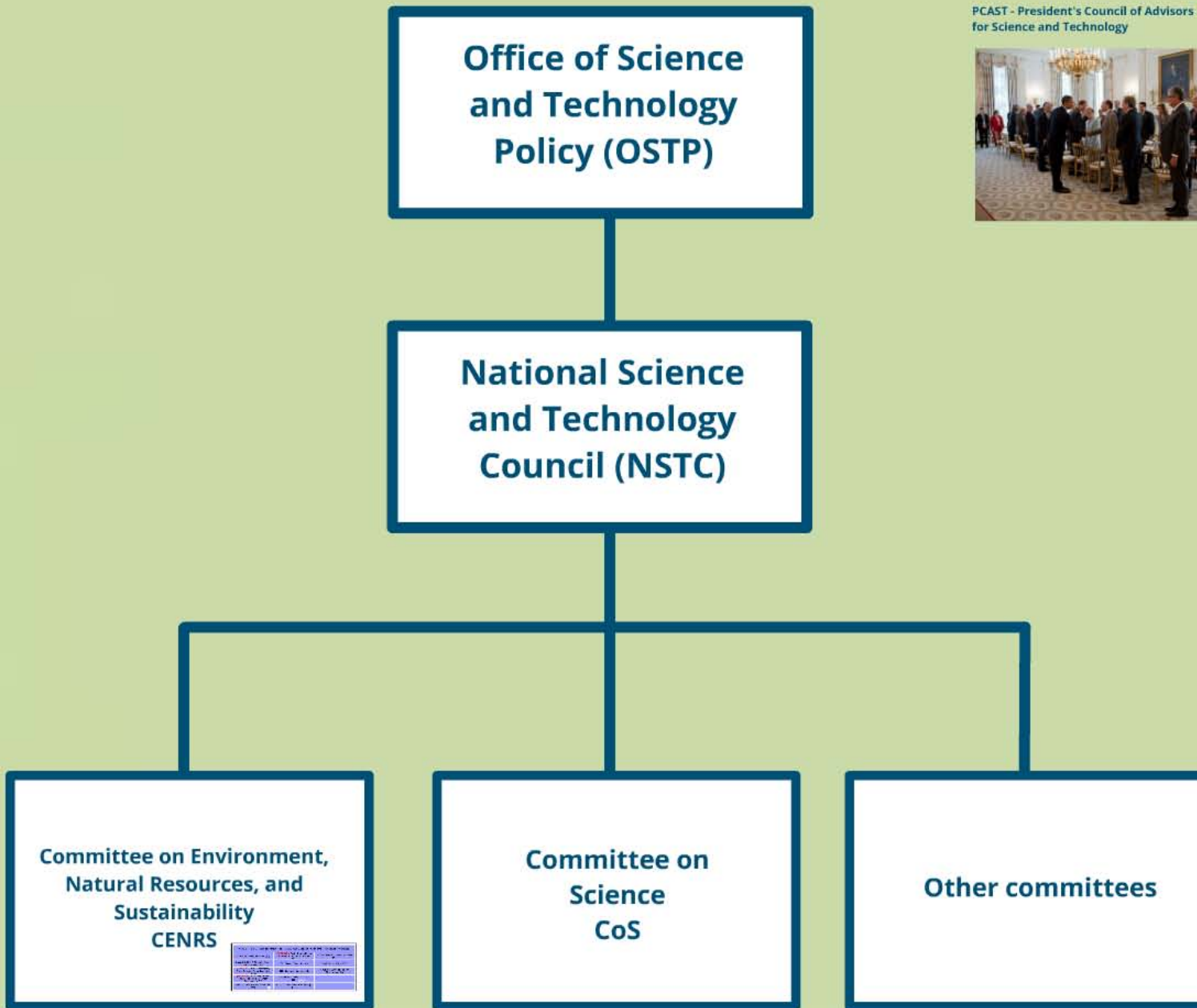


# AmeriFlux



# Selected Entities of the United States Government





PCAST - President's Council of Advisors for Science and Technology



**Integration of US Observation Assets**

... collaboration in monitoring could rapidly improve the information base available for assessment and management ... recommendations should be developed for integrating the existing monitoring networks with the help of state-of-the-art informatics"

... (U.S. President's Council of Advisors on Science and Technology) (PCAST, 2011) "State-of-the-Art Informatics for Global Change"

# PCAST - President's Council of Advisors for Science and Technology



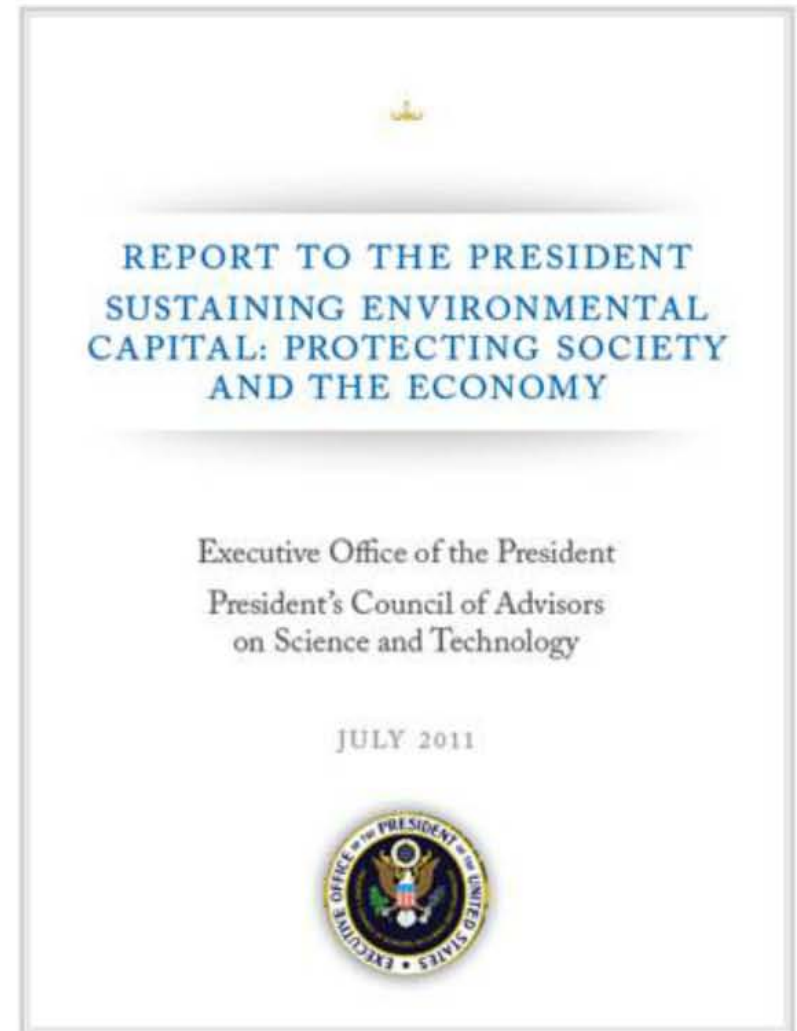
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# Integration of US Observation Assets

“... **collaboration in monitoring** could rapidly improve the information base available for assessment and management....

recommendations should be developed for **integrating** the existing monitoring networks with the help of state-of-the art **informatics**”

- US President's Council of Advisors on Science and Technology's (PCAST) 2011 report on "Sustaining Environmental Capital"





## COMMITTEE ON ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY (CENRS)

AQRS: Air Quality Research (SC)

**[PROPOSED]** RCIS: Roundtable on  
Climate Information & Services  
(IWG)

SWAQ: Water Availability & Quality  
(SC)

CSMSC: Critical & Strategic Mineral  
Supply Chains (SC)

SDR: Disaster Reduction (SC)


T&R: Toxics & Risk (SC)

**[PROPOSED]** IARPC: Interagency  
Arctic Research Policy Committee  
(IWG)

SES: Ecological Services (SC)

USGEO: U.S. Group on Earth  
Observations (SC)

**[PROPOSED]** ISTS: Integration of  
Science and Technology for  
Sustainability (TF)

SGCR: Global Change Research  
(SC) 

NEO: National Earth Observations  
(TF) 

SOST: Ocean Science & Technology  
(SC)



# NATIONAL STRATEGY FOR CIVIL EARTH OBSERVATIONS

Executive Office of the President  
National Science and Technology Council

APRIL 2013



FOR CIVIL  
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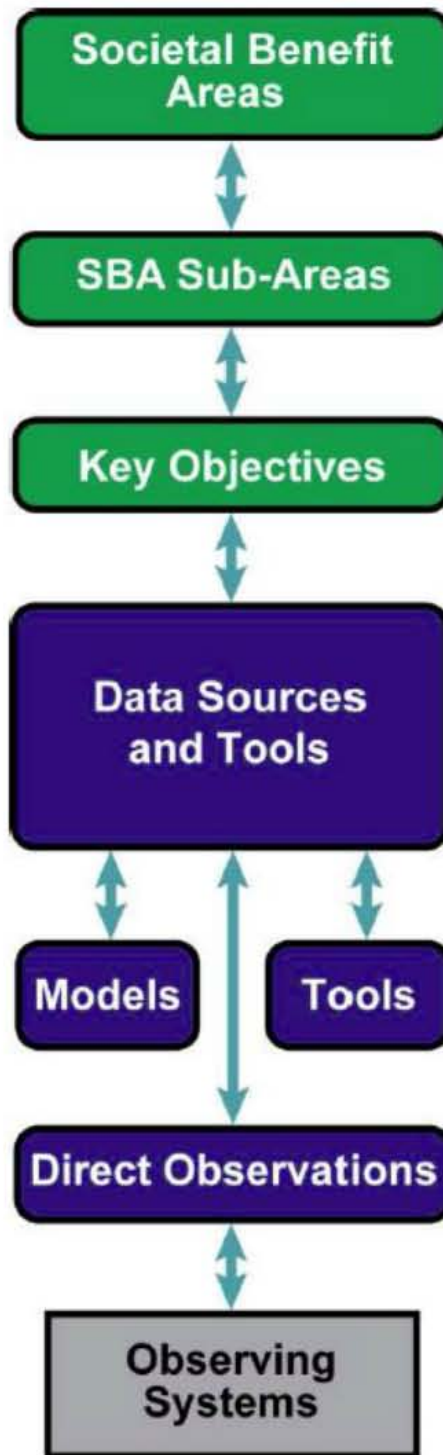


Figure 1: Value chain analysis

**SDR: Disaster Reduction (SC)**

**SES: Ecological Services (SC)**

**SGCR: Global Change Research  
(SC)**



**SOST: Ocean Science & Technology  
(SC)**



# US Global Change Research Program

Global Change Research Act  
(1990) Mandate:

“To provide for development and coordination of a comprehensive and integrated United States research program which will assist the Nation and the world to **understand, assess, predict, and respond** to human-induced and natural processes of global change.”



United States  
Global Change  
Research Program



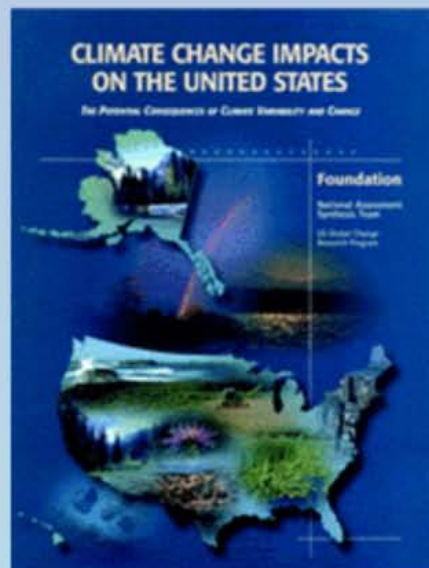
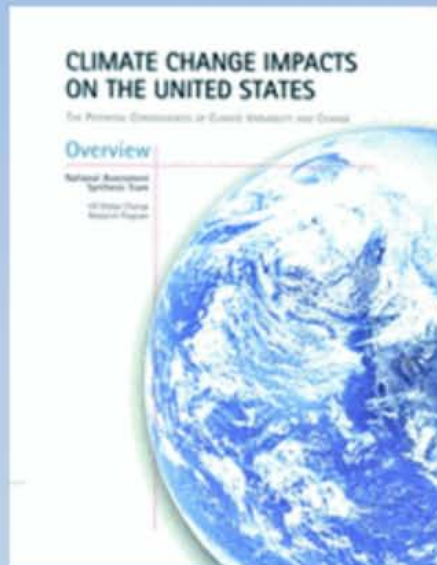
13 Federal Departments & Agencies +  
Executive Office of the President



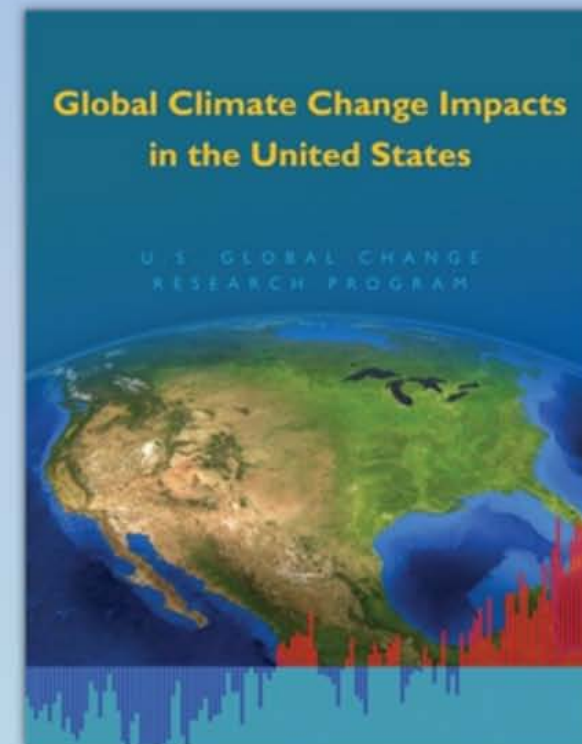
U.S. Global Change Research Program  
**National Climate  
Assessment**

# Previous National Climate Assessments

## Climate Change Impacts on the United States (2000)



## Climate Change Impacts in the United States (2009)



<http://nca2009.globalchange.gov/>



U.S. Global Change Research Program  
**National Climate  
Assessment**

# The “New” National Climate Assessment



## Goal

- Enhance the ability of the United States to **anticipate, mitigate, and adapt** to changes in the global environment.

## Vision

- Advance an **inclusive, broad-based, and sustained process** for assessing and communicating scientific knowledge of the impacts, risks, and vulnerabilities associated with a changing global climate in support of decision-making across the United States.

