NCCWSC/CSC Strategic Science Planning Approach

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Regional CSC Science Agendas

- Composed of **strategic elements** (goals, objectives, timelines)
- **Stakeholder-driven** and vetted with the **science community**
- Define **near-term** (under 5 years) **priorities** for research
- Meant to be inspirational and broader than what can be accomplished using only USGS investments while also providing a framework for establishing annual priorities (e.g. RFP)

The NCCWSC Science Agenda

- The work of the National program office is meant to **add value to the regionally-based work of the CSC network while also addressing national-scope priorities.**

- NCCWSC solicits **input** on research priorities from stakeholders, the management and research communities (via the CSCs and LCCs), and ACCCNRS.

- Relatively more emphasis is placed on **synthesis, best practices, and regional intercomparison** of climate change impacts.

Guiding Principles for NCCWSC Science Program

- inspired by and responsive to the **needs of the resource management community**;
- place priority on **evaluation, translation, and synthesis** of climate impact research findings;
- promote rigorous, objective, and integrated research that **advances fundamental understanding** of climate impacts to natural resources;
- ensure **broad dissemination** of results and foster **professional scrutiny, critique, and learning**;
- encourage seeking out and promoting **institutional efficiencies and leveraging opportunities** in climate impact research.

Science Portfolios in Practice

The overall NCCWSC science portfolio seeks to:

- Balance risk
- Sponsor both short- and long-term projects
- Encourage both regional and local application
- Encourage multi-sector projects
- Efficiently use DOI investments (planned leveraging)
- Be flexible and opportunistic (unplanned leveraging)

Science Portfolios in Practice

- Strategic science within the NCCWSC-CSC enterprise should move **toward clear policy-relevant benchmarks**.

One of the main goals of the ACCCNRS and the CSC Stakeholder Advisory Committees is to help develop meaningful **"policy relevant" endpoints** to guide the activities of the enterprise.

- To be successful, NCCWSC shall deliver a blended portfolio of research that:
  - informs a coherent science program
  - emphasizes the value added nature of the NCCWSC-CSC enterprise
  - exemplifies our ability to coordinate science activities across a broad landscape and bring the best, cutting edge science to bear on impacts of climate change on fish, wildlife and their habitat

Goal Organization for the NCCWSC

- The scientific work of the NCCWSC-CSC enterprise can be categorized into two bins, **science infrastructure and capacity** and **thematic science activities**.

- Science infrastructure and capacity is the added value and tangible by-products of conducting science. It includes objectives such as communication and translation of scientific results, coordination of science across multiple organizations, training and education, development of data and information infrastructures, and the provision of a long term evaluation process.

- Thematic science projects are the backbone of the NCCWSC-CSC enterprise, and this body of work adheres to mission-relevant areas of research.

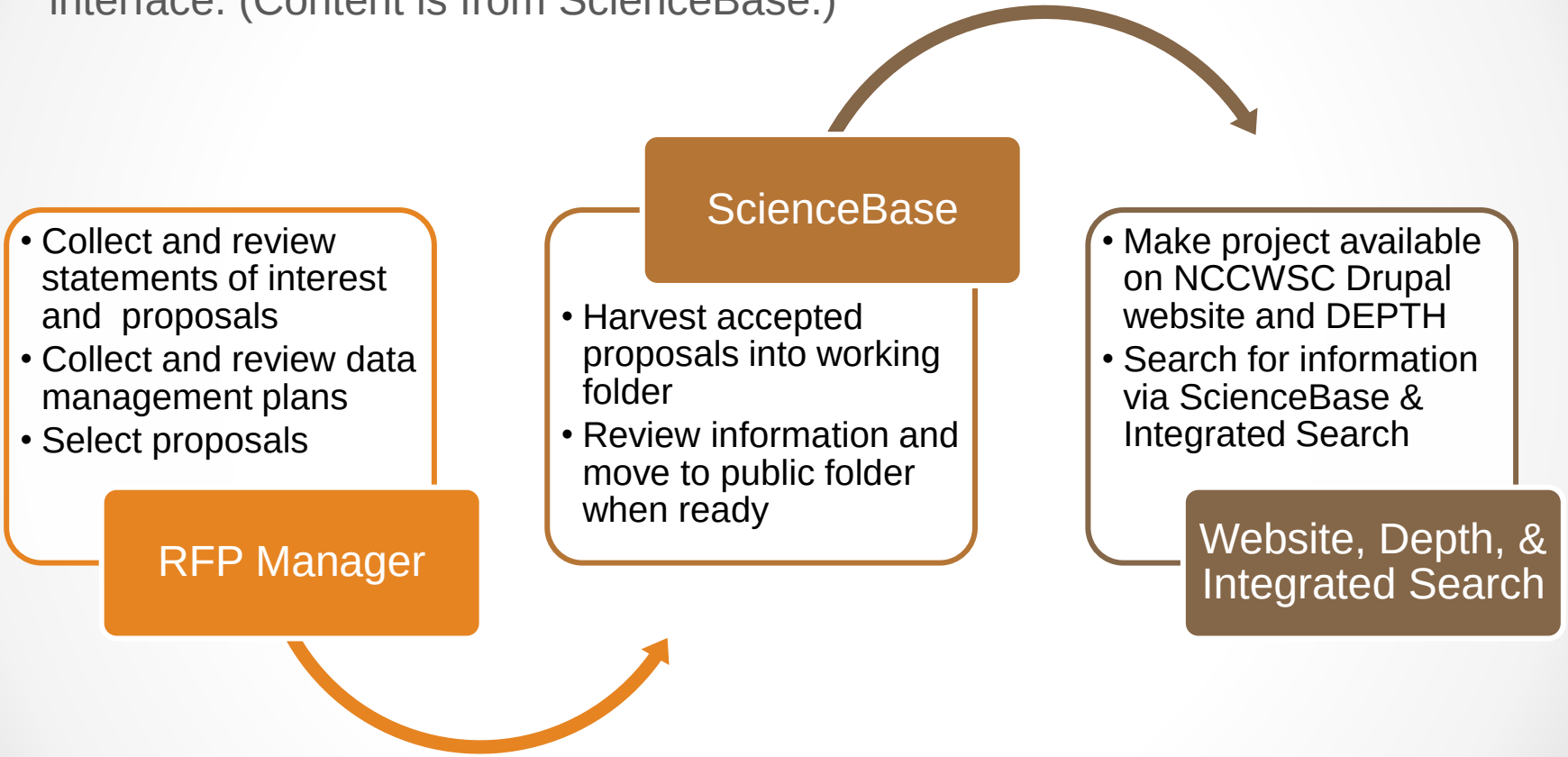
Overview of Science Capacity

- Science Capacity Goal 1: Collaborate, communicate and translate science results to managers, stakeholders and the public interested in climate change science.
- National Outcomes
  - Develop a method/approach for building climate based vulnerability assessments into regional adaptation planning.
  - Produce a standard regional approach to conservation planning that utilizes strategic decision-making approaches.

Overview of Science Capacity

- Science Capacity Goal 2: Create and maintain a shared information and data management platform.
- National Outcomes
  - Produce a derivative portal for downscaling data for use in linking biological information to climate impacts data.
  - Provide a persistent catalog of funded and completed projects through implementation of a common project level metadata record, primarily in the ScienceBase system.

- **RFP Manager** – Manages the submission and review of statements of interest and proposals during annual funding opportunities.
- **ScienceBase** – Repository of project records, data and other products for all NCCWSC and CSC funded projects.
- **DEPTH** – Allows users to view and edit project records with a searchable interface. (Content is from ScienceBase.)



Overview of Science Capacity

- Science Capacity Goal 3: Educate and train a core of climate scientists that will provide expertise in the future.
- National Outcomes
  - Develop and host an annual NCCWSC/CSC wide training course to train new scientists in climate change adaptation science.
  - Hold yearly meetings (i.e. “climate boot camps”) across CSCs to develop a regional and/or national community of students and early-career scientists.

Overview of Science Capacity

- Science Capacity Goal 4: Evaluate the impacts of the NCCWSC-CSC enterprise.
- National Outcome
  - Develop a performance measurement system for the CSCs and NCCWSC that may include instituting client satisfaction reviews to access progress toward stakeholder goals.

Overview of Thematic Activities

- Thematic Science Goal 1: Assess and synthesize our state of knowledge about climate change impacts to DOI natural and cultural resources within the larger context of ongoing global change (including changing patterns of land-use, invasive species, hydrology etc.)
- National Outcomes
  - Produce a national assessment of climate impacts on biodiversity, ecosystems and ecosystems services.
  - Develop and evaluate a nationwide suite of hypotheses related to ecological drought for the purpose of informing long-term climate adaptation responses in resource management activities.

Overview of Thematic Activities

- Thematic Science Goal 2: Perform vulnerability assessments of species and ecosystems.
- National Outcomes
  - 1. Develop national or regional assessments of vulnerability of threatened, at risk, endangered or State Wildlife Action Plan (SWAP) species to climate driven changes in invasive species, wildfire risk, sea level rise and melting/ice permafrost.

Overview of Thematic Activities

- Thematic Science Goal 3: Understand the social-ecological impacts of climate change.
- National Outcomes
  - 1. Develop a series of projects that provides an understanding of the use of Traditional Ecological Knowledge in climate change adaption planning.
  - 2. Develop a series of projects that provides an understanding of the use of ecosystem services as a concept in climate change adaption planning.

Overview of Thematic Activities

- Thematic Science Goal 4: Understand the interactions between climate and the physical, biological, and chemical forces that influence the structure and functioning of ecosystems and the goods and services they provide.
- National Outcomes
  - 1. Develop a series of integrated ecological models that incorporate climate drivers and their impacts to fish, wildlife and their habitats.
  - 2. Complete a model inter-comparison of hydrologic models used in projecting climate impacts to aquatic systems.

Thank you

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