ACTION LEARNING SCENARIO # 4

Achieving the USGS Science Strategy: Maximizing organizational effectiveness

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Issue: How can USGS most effectively implement the new Bureau Science Strategy within an environment of on-going change and uncertainty?

The USGS Executive Leadership Team (ELT) recently endorsed the draft Science Strategy developed by the Science Strategy Team (SST). The Executive Summary of this document is provided in Attachment 1. This strategy identifies 6 broad areas where USGS can bring to bear research capabilities, datasets and expertise to address challenging scientific issues of societal relevance:

- A National Hazards, Risk, and Resilience Assessment Program: Ensuring the Long-term Health and Wealth of the Nation
- Climate Variability and Change: Clarifying the record and assessing the consequences
- Energy and Minerals for America's Future: Providing a scientific Foundation for Decision Makers
- Understanding ecosystems and predicting ecosystem change: Ensuring the Nation's economic and environmental future
- The role of the environment and wildlife in Human Health: A warning system for environmental risk to public health in America
- A Water Census of the United States: Quantifying, Forecasting, and Securing Freshwater for America's Future

Each of these strategic theme areas requires integration of our discipline capabilities, often at an ecosystem or landscape-based scale, and thus the ability to achieve both horizontal and vertical integration within our matrix organization. Attachment 2 provides a schematic illustration of this integration. Horizontal integration means reaching across our traditional organizational boundaries of disciplines, regions and Science Centers, in order to develop and implement our scientific programs and activities. Vertical integration means the ability to work within disciplines and also up and down the current chain of command to get things done. Both types of integration are essential for the USGS to achieve delivery on its mission.

The Director pointed out at a recent ELT meeting that integration currently occurs most often at two levels within USGS. One is at the Bureau level as we have developed cross-cutting initiatives such as the Hazards Initiative or emerging Climate Change Initiative. The other is within the Regions as they focus on delivering integrated science solutions to partners to address issues on the landscape.

In order to develop the level of integration required to achieve the Science Strategy, integration will need to occur more broadly and deeply within our structure than is currently the case. APPENDIX 1 provides the Executive Summary of a National Academy of Sciences report titled "Facilitating Interdisciplinary Research."

A key challenge of this Action Learning is to identify critical actions, linkages and key ideas that will allow us to move forward toward implementation of the Science Strategy within an organization that is still in a state of flux, especially with respect to the regional structure. A key to balancing horizontal and vertical integration will be effective communication between and among all levels and offices within our organization, including Headquarters, the field, Regions and Science Centers. How do we effectively bridge across our discipline cultures, processes and people to implement this strategy? How do we effectively incorporate both regional and programmatic (Headquarters Discipline) needs into workable plans that can be successfully delivered by our Science Centers?

Background:

The new Bureau level Science Strategy has been developed during a time of on-going change at USGS that can be seen to be part of a continuum of change occurring over the last 6 or 7 years as outlined in the following table:

Trend of Recent Change

MOVING FROM…….	GOING TO……
Culture and mindset of discipline-based science	Focus on issue-based, multidisciplinary natural science
Traditional earth science disciplines	Non traditional disciplines
Executives with single discipline focus, accountability, representation	Executives with multidisciplinary focus, accountability, representation
Science activity focus	Science product and information delivery focus; real-time
Multiple diverse business models	Business models with more commonality

Executive Leadership has emphasized to the Director that, during this change, the USGS must: (1) build on the success of the regions in developing partnerships, particularly with other DOI bureaus, (2) remain responsive and relevant to current and future science, business and customer needs, (3) ensure collaborative regional to national science planning, (4) facilitate reimbursable program development and execution, (5) effectively bring together our 4 business models, (6) maintain nationally consistent standards of quality and deliverability, (7) incorporate other on-going change efforts effectively, (8) enforce executive accountability, (9) avoid creating new stovepipes and (10) avoid duplication and addition of staff *(from ELT Meeting Notes).*

Challenge:

The USGS Executive Leadership, both the Executive Leadership Team and the Bureau Program Council (BPC) are currently considering how to best approach the Science Strategy.

The Director has taken some initial steps by establishing a focus on a possible climate change budget initiative for FY09. The Bureau Program Council (BPC) has developed a Bureau Planning Model that outlines the management of science planning and delivery at a high level within the Bureau and delineates the respective roles of the Disciplines and Regions in these processes (Attachment 3). Using this as a place to start, please consider how the USGS can manage a dynamic science portfolio containing projects of various maturities. Implementation of the Science Strategy contains the challenge of bringing in something new that has the potential to develop into new products and services while continuing to deliver "bread and butter" products and services. The challenge many organizations face, particularly those with flat or declining budgets, is that the in-coming new idea is immediately perceived to be a competitor for funds with the existing portfolio. Managing a portfolio that contains both established technologies and new rivals can be considered using a concept referred to as the "S-curve" for successful innovation. Attachment 4 provides an article from the Harvard Business Review on this concept which will be helpful for your discussions.

We acknowledge that key aspects of our organizational structure are still in flux, pending decisions by the Director and approval at DOI. Nevertheless, as a Bureau we want to move forward with the Science Strategy. We would like the Action Learning Team to work at a level of thinking that reaches beyond proposed organization changes. Drawing on the background materials provided, your own experience, and your learnings from the leadership program, please make recommendations on how the USGS could most effectively address the people, leadership, science, process and communication aspects of implementing the Science Strategy to achieve the science outcomes the USGS is seeking and engage employees and external stakeholders.

As part of your recommendations, please address the following questions:

- What are the highest priority actions that must be taken to ensure success of the strategy? By whom must these actions be taken?
- How can the USGS best engage employees and external stakeholders to encourage their commitment to achieving the strategy?
- What are the criteria for evaluating success in addressing this challenge?

Your findings and recommendations in response to these questions will provide valuable insight and ideas that can help USGS senior leaders manage implementation of the strategy in a way that engages employees and stakeholders and enhances the ability of the USGS to develop and deliver science to its customers.

Expectations and outcomes:

This Action Learning is not a call to redesign our current matrix organization nor to propose additional models for restructuring; these are beyond the scope of this Action Learning. What we hope to see are some creative ideas and approaches that could move our Bureau forward toward beginning to implement the Science Strategy in the short term, and to actually achieving it in the long term, given the current reality of the environment in which we find ourselves. This environment is one of uncertainty regarding pending change, including the regional restructuring currently under consideration by the Bureau but not yet approved by DOI. We appreciate that there is a lot of ambiguity to deal with in this challenge, but dealing effectively with ambiguity is a critical leadership skill during these times when the rate of change is accelerating. Thank you and we look forward to hearing your thoughts and ideas!

Background Materials:

Attachment 1 – Bureau Science Strategy - Executive Summary

Attachment 2 – Figure illustrating horizontal and vertical integration

Attachment 3 – Bureau Planning Document

Attachment 4 – Harvard Business Review article: "The S-Curve: A Concept and Its Lessons"
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APPENDIX 1 Report from the National Academy of Sciences: Facilitating Interdisciplinary Research, 2004, Executive Summary