Management Models for Future Seismological and Geodetic Facility Capabilities: A CORES Workshop

Hyatt Regency Chicago
151 E Wacker Drive, Chicago, IL 60601
Room: Roosevelt 3AB

May 13-14, 2019

AGENDA

DAY 1

Remote participation via: https://nasem.zoom.us/j/455173322

8:00 am[1] **Check in; Continental breakfast**

SESSION 1
8:30 – 9:30
Current, Emerging, and Frontier Capabilities of Seismological and Geodetic Facilities
Moderator: Doug Hollett

Session Objective
Introduce workshop participants to the current and future capabilities of seismological and geodetic facilities as defined by the technical community in a 2015 community workshop report. (https://tinyurl.com/Facilities2015).

8:30 **Welcome and Introductions**
Doug Hollett, Workshop Committee Chair

8:40 **Sponsor expectations**
Lina Patino, Director, Division of Earth, Sciences National Science Foundation

8:45 **Description of Seismological and Geodetic Facility Capabilities**
2015 community workshop (see https://tinyurl.com/Facilities2015)
Lucy Flesch, Purdue University

8:55 **Description of capabilities**
Rick Aster, Colorado State University

9:05 Questions/discussion

[1] All times Central Daylight

SESSION 2a
9:30 – 12:55
Management and Decision Making Models at Scientific Facilities
Moderator: Tim Dixon

Session Objective

Learn about and compare management and decision structures applied at multiple scientific facilities and consider advantages/disadvantages of aspects of those models for accommodating instrumentation, user support services, data management, education and outreach, and workforce development.

Prompting questions for speakers (provided prior to the workshop):

- What are the mission and capabilities/services offered by your facility?
- What management and governance or decision-making models does your facility employ?
- How does your facility management structure incorporate interactions with stakeholders to set priorities?
- How has the management model changed over time?
- Which elements of your management structure best accommodate instrumentation, user support services, data management, education and outreach, and workforce development capabilities?
- Are there weaknesses or gaps?
- What elements of the management model are designed to allow responsiveness to technological advances and emerging science? Have these been tested??

NSF-Supported Seismological and Geodetic Facility Management: IRIS and UNAVCO

9:30 • **Incorporated Research Institutions for Seismology (IRIS)**
Robert Detrick, President, IRIS

9:50 • **UNAVCO**
Meghan Miller, President, UNAVCO

10:10 **Q&A with panel of IRIS and UNAVCO board members/staff**

IRIS	**UNAVCO**
Robert Detrick, President	*Meghan Miller, President*
Doug Wiens, Chair, Board of Directors	*Glen Mattioli, Director of Geodetic Infrastructure*
Bob Woodward, Director, Instrumentation Services	*Chuck Meertens, Director of Geodetic Data Services*

10:40 Break

Other Scientific Facilities

10:55 **International Ocean Discovery Program (IODP)**
Bradford Clement, Director of Science Services, IODP

11:35 **National Ecological Observatory Network**
Michael Kuhlman, Chief Scientist, Contract Research, Battelle

12:15 **NASA Distributed Active Archive Centers**
Jeanne Behnke, Earth Science Data and Information Systems (ESDIS) Project Deputy Manager for Operations, Goddard Space Flight Center

12:55 **Working lunch—small group discussions**

SESSION 2b
1:40 – 2:40
Comparison of Management and Decision Making Models
Moderator: Holly Given

Session Objective
Identify common and unique aspects of the management and governance/decision models for the facilities described earlier in the session.

1:40 **Panel Discussion with Facility Managers**
Robert Detrick, President, IRIS
Meghan Miller, President, UNAVCO
Bradford Clement, Director of Science Services, IODP
Michael Kuhlman, Chief Scientist, Contract Research, Battelle
Jeanne Behnke, ESDIS Project Deputy Manager for Operations, Goddard Space Flight Center

Potential questions for panelists

- Which aspects of management models were similar across all the facilities?
- Which management models were unique to specific facilities? Were these tailored to the unique scientific objectives?
- Similarly, are there aspects of the decision-making models that were similar across the facilities?
- Which aspects of the decision-making models that were unique to specific facilities? Were these tailored to meet specific scientific objectives?
- Which management and decision making models would not accommodate the scientific objectives of specific facilities?
- What aspects of other facilities might you consider adopting and why?

2:40 Break

SESSION 3
3:00 – 4:30
Management Models Appropriate for Seismological and Geodetic Facility Capability Management
Moderator: Nettie La Belle-Hamer

Session Objectives
Identify management and decision models or aspects of them that might successfully be applied to seismological and geodetic facilities.

3:00 Breakout Discussions
Committee and participants will be assigned to different groups**;** group rapporteurs will capture overarching themes and present in plenary.

Group 1 **Moderator:** Doug Hollett **Rapporteur:** Shemin Ge	**Group 2** **Moderator:** Nettie La Belle-Hamer **Rapporteur:** George Gehreis	**Group 3** **Moderator:** Holly Given **Rapporteur:** Diana Elder	**Group 4** **Moderator:** Greg Beroza **Rapporteur:** Bill Dietrich
Tim Dixon	Rick Aster	Jon Alberts	Jeanne Behnke
Lucy Flesch	Xyoli Perez Campos	Sergio Barrientos	Enrique Cabral-Cano
Alan Levander	Dave Chadwell	Susan Eriksson	Brad Clement
Chuck Meertens	Andrea Donnellan	Meghan Miller	Bob Detrick
Paul Morin	Michael Foote	Ben Phillips	Rick Farnsworth
Susan Schwartz	Mike Kuhlman	Michael West	Egill Hauksson
Kamini Singha	Kate Moran	Donna Whitney	Carolina Lithogow-Bertelloni
Jim Yoder	Sandy Shor	Doug Wiens	Glen Mattioli
	Bob Woodward		

Questions for small group discussion:
- What are the advantages and disadvantages of the various management models for accommodating instrumentation, user support services, data management, education and outreach, and workforce development?
- What elements of the management models do you think best accommodate and integrate technological innovation? Why?

3:45 Reconvene for Plenary

3:50 Plenary: Summaries from breakout sessions
Rapporteurs from each group will have 10 minutes to summarize key findings of their groups and answer questions from the audience.

SESSION 4—Open Microphone
4:30 – 5:00
Moderator: Doug Hollett
Participants welcome to present comments on relevant topics (3 minute limit each)

5:00 Open session adjourns

DAY 2

Remote participation via: https://nasem.zoom.us/j/989062060

8:00 a.m. **Check in; Continental breakfast**

SESSION 5a
8:30 – 10:40
Management Models for Future Seismological and Geodetic Facilities
Breakout Discussions

Session Objectives

Breakout groups will consider the scientific advantages of the various management and decision structures for accommodating the seismological and geodetic instrumentation, user support services, data management, education and outreach, and workforce development capabilities.

8:30 **Welcome and Overview of Day 1, Objectives Day 2**
Doug Hollett, Workshop Committee Chair

8:55 **Breakout Sessions**
Management models that could advance the scientific goals

Workshop participants will assigned to one of four groups for moderated discussion. Two of the groups will discuss Topic A, and the other two will discuss Topic B. At the designated time, the groups will convene for a final plenary, and rapporteurs from each group will summarize their group's discussion.

Group 1	**Group 2**	**Group 3**	**Group 4**
Topic A	**Topic A**	**Topic B**	**Topic B**
Moderator: Doug Hollett **Rapporteur:** Donna Whitney	**Moderator:** Holly Given **Rapporteur:** Shemin Ge	**Moderator:** Greg Beroza **Rapporteur:** Carolina Lithgow-Bertelloni	**Moderator:** Nettie La Belle-Hamer **Rapporteur:** Michael Foote
Xyoli Perez Campos	Jon Alberts	Rick Aster	Jeanne Behnke
Susan Eriksson	Bill Dietrich	Enrique Cabral-Cano	Sergio Barrientos
George Gehrels	Tim Dixon	Rick Farnsworth	Dave Chadwell
Mike Kuhlman	Andrea Donnellan	Egill Hauksson	Brad Clement
Chuck Meertens	Alan Levander	Meghan Miller	Bob Detrick
Kate Moran	Ben Phillips	Andrew Newman	Diana Elder
Michael West	Susan Schwartz	Kamini Singha	Lucy Flesch
Doug Wiens	Bob Woodward	Jim Yoder	Glen Mattioli
			Sandy Shor

TOPIC A: Management structures for independent seismological and geodetic capabilities

a. What are the scientific advantages of distributing seismological and geodetic capabilities (listed below) among multiple organizations (as is done at present)?
    i. instrumentation
    ii. user support services
    iii. data management
    iv. education and outreach
    v. workforce development
b. What are disadvantages?
c. What can be learned from other scientific facilities about successful management practices to address future challenges and emerging capability needs?
d. What management model aspects discussed during the workshop might allow the current facilities greater flexibility to respond to future unexpected scientific needs or technology developments?

TOPIC B: Management structures for centralized seismological and geodetic capabilities

a. What are the scientific advantages of centralizing some or all of the seismological and geodetic capabilities listed below within a single managed facility?
    i. instrumentation
    ii. user support services
    iii. data management
    iv. education and outreach
    v. workforce development
b. Which of these capabilities might not be centralized within a single facility to scientific advantage and why?
c. Which management and governance/decision making structures might accommodate these unified capabilities, which could not, and why or why not?
d. If only some of these capabilities might be centralized, what management structures might be necessary to accommodate all the capabilities (i.e., those that might be unified and those that cannot)?

10:40 **Break**

SESSION 5b
11:00 – 12:30
Management Models for Future Seismological and Geodetic Facilities
Moderator: Greg Beroza
Plenary

Rapporteurs from each group will have 10 minutes to summarize respective discussions of their respective groups.

11:00 **Breakout group summaries** (10 minutes each followed by clarifying questions)

11:40 **Plenary discussion about breakout sessions**

FINAL SESSION
12:30 – 1:00
Summaries: Observations Regarding Managing Seismological and Geodetic Facility Capabilities

Planning committee members will summarize key discussion points raised regarding management of seismological and geodetic facility instrumentation, user support services, data management, education and outreach, and workforce development capabilities.

12:30	**Observation about managing:**	
	Instrumentation	*Tim Dixon*
	User support services	*Holly Given*
	Data management	*Greg Beroza*
	Education and outreach	*Doug Hollett*
	Workforce development	*Nettie La Belle-Hamer*
1:00 pm	**Workshop Adjourns**	