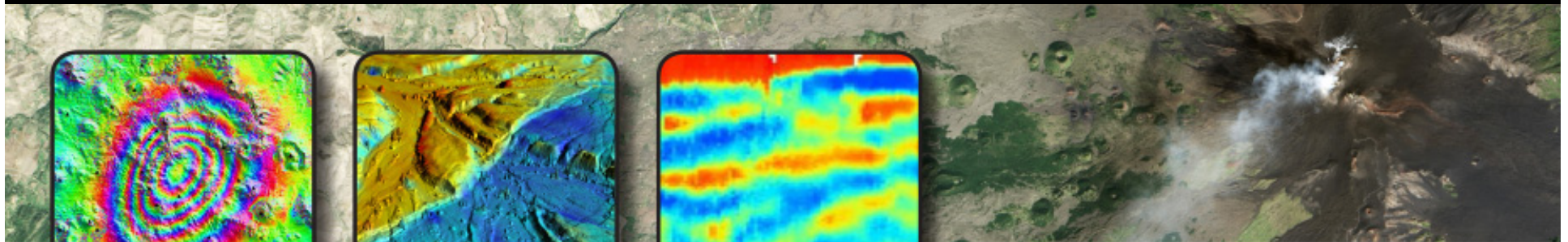




# ***Future Geophysical Facilities: Capabilities Needed to Address Grand Challenges in Earth Science***

Community guidance and update



MAY 4-6, 2015 • LEESBURG, VIRGINIA

## **WORKSHOP ON FUTURE SEISMIC AND GEODETIC FACILITY NEEDS IN THE GEOSCIENCES**



# Facilities Recompetition 2016-18

- SAGE/GAGE awards expire 30 Sep 2018
- NSF planning competition for successor facility/facilities
- Timeline
  - **1 Aug:** Deadline for community comments to NSF (via email)
  - **1<sup>st</sup> quarter 2016:** Solicitation released
  - **December 2016:** Proposals due
  - **1 Oct 2018:** New award(s) start, if any
- Details – see Dear Colleague Letter 15-076, [www.nsf.gov/pubs/2015/nsf15076/nsf15076.jsp](http://www.nsf.gov/pubs/2015/nsf15076/nsf15076.jsp)



NSF 15-076

## Dear Colleague Letter: Recompetition of Operations and Management of NSF-supported Facilities to Succeed the GAGE and SAGE Facilities

April 28, 2015

Dear Colleague:

The Division of Earth Sciences (EAR) in the Directorate for Geosciences (GEO) at the National Science Foundation (NSF) currently supports two large multi-user facilities -- the *Geodesy Advancing Geosciences and EarthScope (GAGE) Facility* and the *Seismological Facilities for the Advancement of Geosciences and EarthScope (SAGE)* -- that provide geodetic, seismic, and related geophysical instrumentation, data, and educational capabilities to a wide range of EAR-supported communities. NSF is preparing for a competition for future Cooperative Agreement(s) to support management and operations of one or more facilities to provide geodetic, seismic, and/or related geophysical capabilities following expiration of the current GAGE and SAGE cooperative agreements. The planned competition is the second stage in a two-stage integration and recompetition process that NSF developed, presented to the National Science Board (NSB), and described to the community in 2009 ([Dear Colleague Letter NSF 10-021](#)).

The planned competition will be held via an open, merit-based, external peer-review process consistent with the NSF Grant Proposal Guide and the NSB Resolution on Competition and Recompetition of NSF Awards ([NSB-08-12](#)). EAR is currently preparing the program solicitation for

# Future Seismic and Geodetic Facility Needs in the Geosciences

Gather community input for NSF on:

- the most important **scientific questions, research opportunities, and broader impacts** that the community will be pursuing in 2018 and beyond,
- and the **seismic, geodetic and MT facility capabilities** that will be required to support this research and associated education, outreach, training and workforce development.

Two types of capabilities will be identified:

- **Foundational facilities:** seismic and geodetic capabilities without which geoscience research, as practiced today, could not continue.
- **Frontier facilities:** new capabilities that will be required to make rapid progress in addressing one or more science grand challenge questions.

# **Future Facilities Report to NSF ESNM Summary (6/12/15)**

Rick Aster and Mark Simons (Editors)

# Modes of Community Involvement

- Numerous grand challenge / visioning reports
- Webinars
- 90+ Whitepapers (see workshop [www](#)).
- Workshop presentations/breakouts
- The writing committee
- Feedback on the draft report

June 26 – July 20

Aug 12 – 24: Final review by Writing Committee; final edits and updates

Aug 25: Final formatting begins

Sept 2: Report officially delivered and presented to NSF

# Writing Committee

- Rick Aster (Editor)
- Mark Simons (Editor)
- Bill Hammond (Geodesy and lithosphere dynamics)
- Steve Holbrook (Near Surface geophysics, Marine seismology and geophysics)
- Estelle Chaussard (SAR/InSAR)
- Leigh Stearns (Ice sheet/glacier dynamics/education & outreach)
- Gary Egbert (MT/EM Imaging)
- John Hole (Industry/active source/large N applications/imaging)
- Thorne Lay (Rupture dynamics/seismic-geodetic integration/imaging)
- Steve McNutt (Volcano and Earthquake seismicity)
- Michael Oskin (Topography/Geodesy)
- Brandon Schmandt (Tomography, Fluvial seismology, large N applications)
- David Schmidt (Tectonics and Seismology; volcanology and InSAR)
- John Vidale (Operational earthquake monitoring/early warning/subduction systems)
- Lara Wagner (Tomography/portable instrumentation applications)
- Paul Winberry (Cryoseismology/geophysics)
- Roland Burgmann (Geodesy and lithosphere dynamics)
- Natalya Gomez (SLR/GIA/mantle rheology)

Working Title:

***Future Geophysical Facilities: Capabilities Needed to  
Address Grand Challenges in Earth Science***

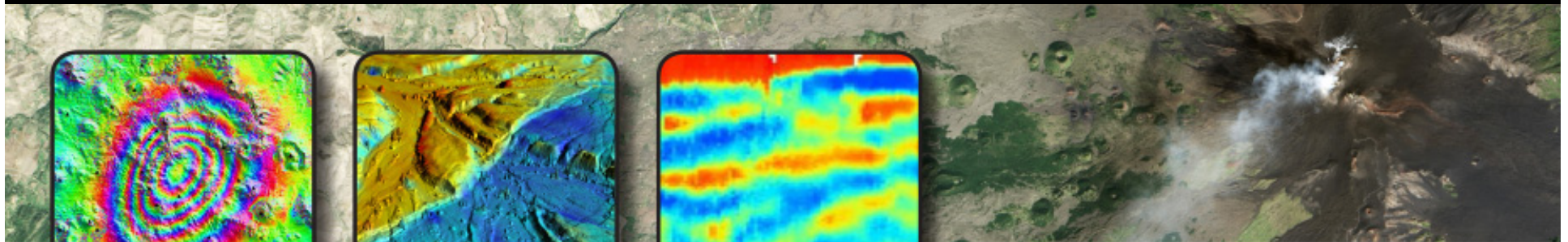
- 1. Background**
- 2. Facility Vision**
- 3. Science Imperatives**
- 4. Societal Imperatives**
- 5. Facility Capabilities**
- 6. Appendices**





# ***Future Geophysical Facilities: Capabilities Needed to Address Grand Challenges in Earth Science***

Community guidance and update



MAY 4-6, 2015 • LEESBURG, VIRGINIA

## **WORKSHOP ON FUTURE SEISMIC AND GEODETIC FACILITY NEEDS IN THE GEOSCIENCES**

