

NEWS

In Brief

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Hubble images asteroid that spacecraft Dawn will visit Images of the asteroid Vesta taken by NASA's Hubble Space Telescope in May will help astronomers plan for the 2011 visit by the spacecraft Dawn, which is scheduled to launch on 7 July. Astronomers used the newly released images to map out the southern hemisphere of the 530-kilometer diameter asteroid, which is dominated by a 456-kilometer diameter impact crater that formed billions

of years ago. The images also reveal characteristics that could indicate volcanic activity, such as differences in brightness in the east and west that may reflect changes in composition. The images, taken by the telescope's Wide Field Planetary Camera 2, resolve features as small as 60-kilometers across. These new images as well as images taken in 2003 and 2004 of the dwarf planet Ceres, which Dawn will visit in 2015, are available at <http://hubblesite.org>. Hubble last imaged Vesta in 1994 and 1996.

U.K. Met Office forecast for Atlantic hurricane season GloSea, the U.K. Meteorological Office's computer model of the

global atmosphere-ocean system, has predicted a cooling trend in sea surface temperatures in the tropical North Atlantic that will result in a less active hurricane season. The Met Office has predicted that there is a 70% chance of a less active hurricane season in the North Atlantic this year, with only 7–13 named storms occurring within the remaining five months of the season (July through November). There have already been two named storms this year—Andrea and Barry. From 1990–2005, there were an average of 12.4 storms during July–November. The U.K. Met Office forecast contrasts with NOAA's, which was released in May and predicted a busier season than average, with 13–17 named storms.

MEETINGS

New Perspectives Through Data Discovery and Modeling

Arctic System Synthesis Workshop, Seattle, Washington, 2–4 April 2007

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Dramatic changes in the Arctic have captured the attention of the public. Understanding changes such as the decline of sea ice, the fate of polar bears and other marine mammals, melting of the Greenland ice sheet, changes in the terrestrial carbon budget, and impacts on and feedbacks from the human community require a new approach to research involving synthesis of linkages between system components and threshold behaviors.

Addressing these challenges requires substantial improvement in methods to integrate complex and disparate data from observations and models, including traditional knowledge. Data are collected for a variety of purposes, are poorly harmonized over space and time, and bear varying degrees of access. Synthesizing this information requires innovative data discovery, standardization, interdisciplinary data integration, distribution, and advanced data assimilation to support the development of Arctic system models.

A workshop supported by the U.S. National Science Foundation (NSF) Arctic System Science (ARCSS) Program brought 52 participants to Seattle, Wash., in April to identify innovative approaches to data management and assimilation, recent developments in tech-

nology, and modeling activities to advance Arctic system science and the dissemination of scientific knowledge to policy-makers, educators, students, and the public. This meeting was motivated by the ARCSS Program's ongoing focus on synthesis and the need to foster Arctic system understanding through improved data discovery and modeling.

Participants at the meeting contributed a cross section of expertise in atmospheric and ocean sciences, ecology, biology, social sciences, remote sensing, modeling, data management, policy, and education and outreach. Nearly 35 additional community members participated through a Webcast and online bulletin board.

The workshop's key recommendation calls for a new framework—The Arctic Synthesis Collaboratory—envisioned as an “umbrella” concept that fosters interactions among Arctic scientists and other stakeholders; data analysis and modeling activities; outreach, education, and policy-relevant resources; and development of the Arctic science community. The Collaboratory supports four interacting functions: (1) a Community Network and Synthesis “Meeting Grounds,” (2) Data and Modeling Support, (3) Education, Outreach, and Policy, and (4) Scientist Training and Development. These functions could be established virtually, as a distributed set of Web-based activi-

ties, and also take advantage of existing facilities to provide specific services. The Community Network and Meeting Grounds builds connections and partnerships between individuals, groups, and organizations, through synthesis activities. Data and Modeling Support facilitates access to, and manipulation and visualization of, data sets and simulation tools. The Education, Outreach, and Policy function provides a clearinghouse for newsworthy and publicly-gained resources on scientific issues. Scientist Training and Development keeps researchers abreast of developments in tools and techniques for synthesis.

A report based on workshop findings and earlier events will be available for review before publication in fall 2007. Further discussion across the community, NSF, and other agencies is necessary to translate the vision for the Collaboratory into action. For more information on the workshop, see http://www.arcus.org/ARCSS/2007_data/index.html.

The Workshop Organizing Committee members are as follows: C. J. Vorosmarty and A. D. McGuire (meeting co-chairs), L. Hinzman, M. Holland, M. Murray, J. Schimel, W. Warnick, J. Weatherly, and H. Wiggins.

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