



« Waterfront in Biloxi, Miss. following Hurricane Katrina, one of the most devastating storms in the U.S. in decades (Courtesy of Digital Globe).

Balancing public and private sector interests in the area of environmental science has long been a tricky undertaking. There is no better example of the tensions that can develop than the controversy sparked by a recent Senate bill proposing to ban the National Weather Service (NWS) from issuing forecast products that could otherwise be provided by commercial weather services. The debate is confounded by the fact that most forecasts, whether from the NWS or a private company, are based on government-collected data.

Supporters say passage of the bill would force the NWS to concentrate on its core purpose — to forecast severe weather for the protection of life and property — while maintaining a financially viable private weather sector. Critics call the bill a veiled attempt to roll back drastically the amount of information the NWS is allowed to disseminate to the general public, thus paving the way for

Private Sector Grows as Earth Observation Stakeholder with GEOSS

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NOAA close-up satellite image of Hurricane Katrina taken at 11:45 a.m. EDT on Aug. 28, 2005, as the catastrophic hurricane moves closer to the U.S. Gulf Coast with highly destructive winds near 175 mph. Visible is Florida in the upper right corner, Cuba in the lower right, and Mexico below. The image is from the NOAA GOES-12 satellite.

commercial providers to fill the gap and, in effect, forcing the general public to pay twice for weather forecasts, once through tax dollars and again by patronizing private weather companies.

In sharp contrast to this discord is a cooperative endeavor by nearly 60 countries, more than 15 U.S. federal agencies and dozens of international organizations to integrate space-based, airborne and surface-based observations of the Earth for societal and economic benefit, and a related effort to facilitate public-private partnership in doing so.

Endorsed by scientists and government leaders around the world, the Global Earth Observation System of Systems (GEOSS) is expected not only to lead to improved weather forecasts, but also to support more informed decision-making in areas including natural resource management, public health, agriculture, transportation and emergency response.

Complementing this intergovernmental effort is a collection of private companies, academic institutions and nongovernmental organizations (NGOs) that have formed the Alliance for Earth Observations, an initiative of the nonprofit Institute for Global Environmental Strategies (IGES, Arlington, Va.). The purpose of the alliance is to involve the private sector in U.S. and international planning for Earth observations, especially as it relates to GEOSS.

The alliance was established in 2003 with the support of five leading aerospace companies — Ball Aerospace, Boeing, Lockheed Martin, Northrop Grumman and Raytheon — shortly after the United States hosted the first Earth Observation Summit. Highlighted by keynote addresses from Colin Powell, at that time U.S. Secretary of State, and other Cabinet members, the summit sparked formation of the Group on Earth Observations (GEO), an assemblage of government representatives from around the world charged with developing a 10-year plan to implement GEOSS.

Nancy Colleton, IGES president and alliance executive director, applauded the political will demonstrated at the summit (which IGES had a hand in organizing), but also recognized a critical need to promote private sector participation in the GEOSS process.

“Harnessing the wealth of experience that the aerospace community has in systems architecture and that NGOs have in developing applications, coupled with advancements from the IT and university sectors, is what will make GEOSS a reality,” Colleton said. “This is the partnership that is needed.”

Besides playing a significant role in developing the GEOSS architecture, managing and processing the vast amounts of data the system would collect, and creating observations-driven decision support tools, the private sector also stands to gain as users of the system. Improving weather forecasts by one degree Fahrenheit, for example,

could save a large utility company as much as \$100,000 per day, according to the National Oceanic and Atmospheric Administration (NOAA). Accurate and comprehensive data are important to many other industries as well, including the insurance industry, which depends on satellite images, climate records and other statistics when structuring policies and verifying claims.

In order to ensure GEOSS will address the needs of as many potential users as possible, the alliance has organized several forums and workshops in which industry experts have shared their ideas, needs and concerns with officials from the U.S. Interagency Working Group on Earth Observations (IWGEO). The IWGEO is a collection of 17 federal agencies that together have drafted a plan for developing and implementing the U.S. Integrated Earth Observation System (IEOS), the U.S. contribution to GEOSS.

NOAA Administrator Conrad C. Lautenbacher, one of the most outspoken proponents of GEOSS, and whose agency has a lead role in both the national and international efforts, says he welcomes and values input from the private sector.

"GEOSS goes well beyond a government science project. It is an operational system developed for end users, and without their input GEOSS would never have gotten off the ground," said Lautenbacher, who along with Colleton and another alliance representative testified before Congress in March of this year about the status and benefits of GEOSS. "In numerous venues, we continue to listen to the needs of many industries, and to factor those vital interests into the business of developing a global network."

Despite the current clash between public and private weather interests, there is in fact a history of public-private partnership in the area of environmental data. For example, in the past NASA has had agreements with commercial remote sensing companies to purchase ocean, land, climate and natural hazard data, and NOAA gets lightning observations from a private vendor. A 2001 report by the National Research Council expressed support for these types of arrangements, concluding that, under certain conditions, "it may well be in the public interest for the government to privatize data collection."

A similar spirit of cooperation has been echoed

by the aerospace companies that founded the alliance. Traditionally fierce competitors, they have come together to form a united front because, they say, it is in the best interest of everyone in the private sector that GEOSS become a reality and move forward with input from a diversity of voices.

"We know that the combined resources, talents and influence of industry can be a very powerful tool," said Mike Wooster, director of Environmental Programs for Ball Aerospace. "In the early stages of a developing initiative as important as GEOSS, it is particularly important we work together to establish a program that can stand on its own — one from which we can all benefit."

With the recent addition of geospatial companies such as ESRI and MacDonald, Dettwiler and Associates, academic and research centers including Scripps Institution of Oceanography and Woods Hole Oceanographic Institution, as well as the conservation-focused NatureServe, the alliance is quickly becoming the unifying and broadly representative organization that its founders envisioned.

As the national and international processes continue to unfold — an office has now been established at the World Meteorological Organization in Geneva to house the GEOSS secretariat — Colleton hopes to maintain the momentum of GEOSS and the alliance with events like the upcoming Forum on Earth Observations II, to be held early next year in Southern California. Sponsored by the alliance, the forum, a follow-up to a similar meeting last fall, will provide a venue for members of the private sector to interact with government leaders and to identify observational data needs.

"Earth observations are truly central to everything, whether mitigating risk, managing natural resources, or forecasting air quality," Colleton said. "That's why it's important we work together to address as many needs as possible." ❧



🚩 **NOAA Administrator Conrad Lautenbacher speaking at the U.S. Integrated Earth Observation System Public Engagement Workshop in early 2005.**