

Forum On Earth Observations IV™

**Climate, Energy, and National Security:
Meeting the Environmental Information Challenge**

Hyatt Regency Washington

Washington, DC

June 9, 2010

Luncheon Program

Remarks and introduction of luncheon speaker by: Ray Kolibaba, Vice President, Civil Strategic Initiatives, Northrop Grumman.

Good Afternoon and thank you for attending the 4th Forum on Earth Observations™. Northrop Grumman is very pleased to be, not only a founding member of the Alliance for Earth Observations, but also a sponsor of this event.

I will keep my comment short so that we can hear from our distinguished guest speaker.

Northrop Grumman, as a whole, has systematically shifted priorities and focus to pressing issues of climate and energy. Climate and energy are not just environmental concerns; they are national security issues and we at Northrop Grumman want to be a part of the solution.

We have taken this challenge personally, and are committed to making a difference by taking and implementing some forward-thinking steps. For example:

1. The Northrop Grumman Board of Directors has established Carbon Reduction Goals. The achievement of these goals will be a factor in our incentive compensation company-wide; it will be a metrics-driven performance.
2. Our President and CEO, Wes Bush, is on the Board of Conservation International. Our efforts are not just from the bottom up; they're from the top down as well. We are all committed.
3. Our CTO, Alexis Livanos, recently spoke at an AIAA conference held in Washington, DC, to highlight the efforts undertaken by Northrop Grumman, company wide, in the hope of inspiring others to do the same.
4. Northrop Grumman is making substantial investments in addressing how we work with other organizations (i.e. government, academia, national laboratories, and our industry partners) to address these issues. A complex challenge like climate change will require a new approach to partnerships in order to address the problems we face; collaboration will pave the way faster to a better tomorrow.

Most of you in the audience know Northrop Grumman as a defense and security contractor focused on sensors and platforms. But we are much broader than that. Northrop developed sensors and platforms for programs such as: DMSP, AQUA, AURA, and NPOESS. NASA, Dryden Research Center, recently flew a Global Hawk over the Pacific Ocean to collect environmental data—a project on which Northrop has been at the forefront. We have also been working on the James Webb Space Telescope and are very excited to be a

part of such cutting edge technology that will bring us leaps and bounds into the future —we currently have a model of the telescope on display as part of the World Science Festival taking place around Battery Park in New York, knowing outreach of our nation’s great observatories serve to inspire both children and adults.

I would like to spend a few moments addressing another part of the support chain needed to address climate change issues. I have spent my career in government and industry, supporting primarily space systems from the ground perspective —although typically the platforms and sensors get the focus and dollars when building the systems. However, none of these systems can be effective without a ground system for operations and processing of the information collected. I appreciated Admiral Titley’s comments and his observations regarding where the investments typically are made in developing and deploying systems.

My group in Northrop Grumman is in the business of helping to answer the “so what” of the data collected. We have all this data, from x to y. So what? We are data rich, but information poor. How do we take the science, the data, and translate that into actionable information for policy makers? We have many sources of data from space, airborne and *in-situ*. Data need to be open, collected from these sources and repositories and used for the application of, and conversion into, models that address global, regional, and local issues. We need to understand the uncertainty associated with the data developed to establish a confidence factor in our data, all the way through to decisions. Economic and demographic impacts must be a factor in the decision process.

I agree with Sherri Goodman that there is a role for industry to participate and support the “whole of government” approach. My experience is that industry has been kept at arm’s length as the government works to define the way ahead. Climate change will not be solved behind closed doors. Complex problems require cross-collaboration, and tapping all the nation’s resources to find solutions. These issues will require non-traditional working relationships with all stakeholders to be effective. Whereas there has been great stride and success in inter-agency cooperation, we want to stress to our government colleagues that we, Northrop Grumman, and our industry partners, have a lot of innovation to offer in the search for solutions to the climate change challenges.

We stand ready to help and work along side government, academia, and non-governmental organizations to find a way forward.

Thank you for your time. I look forward to an equally engaging second half of the conference. But first, I would like to introduce our luncheon speaker...