

Weathering the future

GOES-N satellite to provide more precise, earlier storm alerts

Here's how it GOES

The unique design of GOES allows its primary sensors to "stare" at Earth and frequently image clouds, monitor Earth's surface temperature, and sound Earth's atmosphere for its vertical temperature and water vapor distribution. GOES can track atmospheric phenomena, ensuring real-time coverage of short-lived dynamic events, such as severe local storms and tropical hurricanes and cyclones.

Boeing furnished GOES' space environment monitoring instruments as well as its communications subsystem with search-and-rescue capability to detect distress signals from land, sea, and air. Boeing also integrated GOES' imager, sounder and solar X-ray imager. The imager produces visible and infrared images of Earth's surface, oceans, cloud cover and severe storm atmosphere. The sounder provides vertical temperature and moisture profiles of the atmosphere. The solar X-ray imager monitors the sun's X-rays for the detection of solar flares. This early warning is important, as solar flares affect not only the safety of humans in high-altitude missions, such as the Space Shuttle, but also military and commercial satellites.

The first of three Boeing-built next-generation GOES-N satellites was deployed in late May. The satellites will help lead to earlier and more precise weather alerts.

By DIANE STRATMAN

When the Boeing Mission Operations team in Suitland, Md., handed over control of the GOES-N spacecraft to NASA in June to begin operational testing, it was just the latest in a series of successful milestones for the satellite.

GOES-N, the most advanced U.S. weather and Earth observation satellite, was launched on May 24. It was an all-Boeing mission with a Boeing Delta IV rocket lifting the Boeing-built spacecraft from Cape Canaveral Air Force Station, Fla.

The mission of GOES-N is to provide more accurate prediction and tracking of severe storms and other weather phenomena. That means earlier and more precise warnings for the public—which helps save lives and property.

The spacecraft will do that by continuously observing and measuring meteorological phenomena in real time across the Americas and their surrounding oceans. That information will then be transmitted to the National Oceanic and Atmospheric

Administration (NOAA), NASA, and oceanic and atmospheric scientists.

"This satellite will serve the nation by monitoring conditions that trigger dangerous weather, and it will serve the world by contributing vast amounts of observational data, as part of our contribution to the Global Earth Observation System of Systems," said retired Navy Vice Admiral Conrad C. Lautenbacher, undersecretary of commerce for oceans and atmosphere and NOAA administrator.

Forecasters are not the only beneficiaries of GOES-N technology. When the U.S. Coast Guard is searching the open seas and every second counts, the GOES-N enhanced ability to pinpoint distress calls will significantly reduce response time and enable search-and-rescue personnel to deploy appropriate resources to save lives. NASA engineers designing future spacecraft will benefit from GOES-N's capability to detect and measure activities such as solar flares and magnetic fields.

"GOES is one of those unique programs that touch the life of every person in the nation," said Steve O'Neill, president, Boeing

Satellite Systems International. "People depend on accurate meteorological information daily. The application of data received from the satellites will ensure the public receives increasingly precise information."

On June 4, after GOES-N achieved geosynchronous orbit, NOAA christened the spacecraft "GOES-13."

The successful launch marked the fifth overall flight by the Delta IV family of launch vehicles.

"We are very proud of the role we played by giving the GOES-N spacecraft a great ride," said Dan Collins, vice president and general manager of Boeing Launch Systems. "On the heels of last year's devastating storm season, we all knew how important the GOES-N launch was, and the team worked very hard to make sure we were successful. When we couple this launch with the recent launch of CloudSat and CALIPSO on board a Delta II, the Delta team has contributed to improving our understanding of weather, saving lives for years to come. This is really something to be proud of." ■

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