

NWP Readiness for the GOES-R Geostationary Satellite System

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ABSTRACT

NOAA's Geostationary Operational Environmental Satellites (GOES) have been a mainstay of weather forecasts and environmental monitoring for the past 40 years. The next generation of GOES satellites, known as the GOES-R Series, is scheduled for launch in November 2016 and will usher in a new era in geostationary environmental satellites. It has been 22 years since the last major instrument advance with the GOES I-M series. The GOES-R satellites will continue to provide continuous imagery and atmospheric measurements of Earth's Western Hemisphere that will foster a host of improved and new environmental products and services.

GOES-R's primary instrument, the Advanced Baseline Imager (ABI), will provide three times the spectral resolution and four times the spatial resolution while scanning the Earth nearly five times faster than the current GOES. GOES-R will also host a new instrument, the Geostationary Lightning Mapper (GLM) that is designed to continuously map in-cloud and cloud-to-ground lightning with 8 km spatial resolution and 80 percent detection efficiency over the Western Hemisphere. It will provide information to improve storm monitoring and warnings and contribute to improved aircraft safety and efficient flight route planning. GOES-R's space weather instruments will provide improved observations of the sun and space environment with more timely dissemination and early warning to a diverse user community.

This presentation will provide an overview and status update of the GOES-R program and the activities leading to an operational GOES-R system. The new observations will provide dramatically improved weather, water, and space environmental services in the coming decades, enhancing public safety and providing economic benefits to the U.S. and our international partners.

Speaker Bio: Dr. Steven Goodman is the Senior Program Scientist for the NOAA geostationary satellite program. His research interests include the global distribution and variability of thunderstorms, lightning and precipitation physics, and the application of space-based remote sensing to improve the short-range forecasts and warnings of severe storms. As the Senior Program Scientist for the GOES-R Program, he serves as the primary science authority for the United States next generation geostationary environmental satellite program, a joint agency development managed by NOAA and NASA. Following a 20-year career with NASA and prior to joining the GOES-R Program Office, he served as the Deputy Director of the NESDIS Office for Satellite Research and Applications and as the Acting Deputy Director for the Joint Center for Satellite Data Assimilation. He is a past recipient of the NASA Medal for Exceptional Scientific Achievement and a Fellow of the American Meteorological Society.