

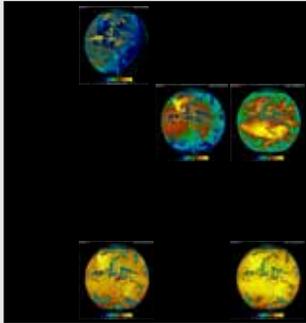
ADVANCED BASELINE IMAGER (ABI)

The primary instrument on NOAA's GOES-R

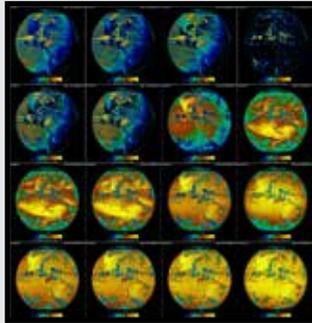
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 **3X** MORE DATA [more color]

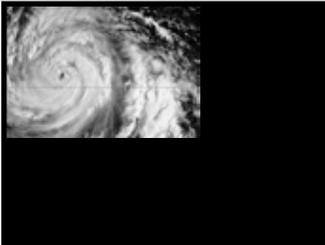


Current GOES spectral bands

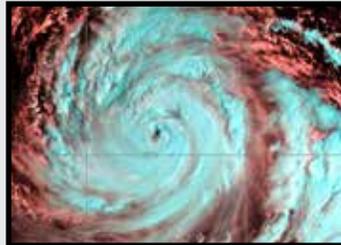


Simulated GOES-R spectral bands

 **4X** BETTER RESOLUTION [more pixels]



Current GOES Data Simulation



Simulated GOES-R Data

 **5X** FASTER SPEED [refreshes more often]

**Current
GOES-NOP Imagers**

26 MINUTE
full disk

**New GOES-R
(ABI)**

5 MINUTE
full disk



Harris Corporation's Advanced Baseline Imager technology will provide better information about the formation of storms earlier than today's weather satellites, which will improve preparedness for severe weather events.

TRANSFORMING WEATHER FORECASTING

ABI's data will help meteorologists pinpoint and track an area of developing storms in much greater detail than they can today. Knowing how rapidly storm clouds are forming will lead to earlier warnings. Better data quality and faster scan speed will contribute to fewer weather-related flight delays as well as earlier preparation for heavy rainfall, tornados, thunderstorms, tropical storms, and hurricanes.

NEXT-GENERATION ENVIRONMENTAL SATELLITES

ABI is the instrument of choice for the next generation of weather and climate information.

The ABI technology is currently in operation on Japan's Himawari-8 weather satellite, providing detailed environmental data across the Eastern hemisphere since July 2015.

Following the GOES-R launch, Harris' ABI technology will launch on GOES-S, GOES-T, and GOES-U satellites, as well as Japan's Himawari-9 and South Korea's GEOKOMPSAT-2.

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GOES-R GROUND SYSTEM

Satellite Communication and Data Management

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GOES-R represents a quantum leap in the timeliness, quantity, and accuracy of remotely sensed meteorological data. With a breakthrough space-based sensor capability collecting more data at faster rates, a ground system equally transformational is required to deliver the advancements expected by NOAA and the nation. Harris' state-of-the-art enterprise ground system communicates with and controls the GOES-R spacecraft, receives the raw data from the GOES-R instruments, and prepares the data for distribution to the National Weather Service's Advanced Weather Interactive Processing System (AWIPS) and more than 10,000 direct users to ensure protection of lives and property.

GROUND SYSTEM INFRASTRUCTURE

The GOES-R ground system is installed across three sites in Maryland, Virginia, and West Virginia. Thousands of data storage servers, hundreds of computer workstations with specialized software, and about 100 miles of interconnecting cables comprise the enterprise ground system. In order to provide near-real-time weather information within seconds to the National Weather Service and other users, the system is designed in a highly reliable and secure manner.

SATELLITE COMMUNICATION, TELEMETRY, COMMAND, AND CONTROL

Uplink and downlink communication with the GOES-R satellite and its instruments is facilitated by six, new 16.4 meter tri-band antennas, built to withstand a category 2 hurricane. The ground system also performs telemetry, tracking, and control of the GOES-R constellation of satellites and its onboard instruments, leveraging the Harris commercial-off-the-shelf system, OS/COMET®.

DATA PROCESSING AND MANAGEMENT

Data processing power for the ground system requires 40 trillion floating point operations per second to transform the satellite's data into usable intelligence, capable of producing several terabytes of data products every day.



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