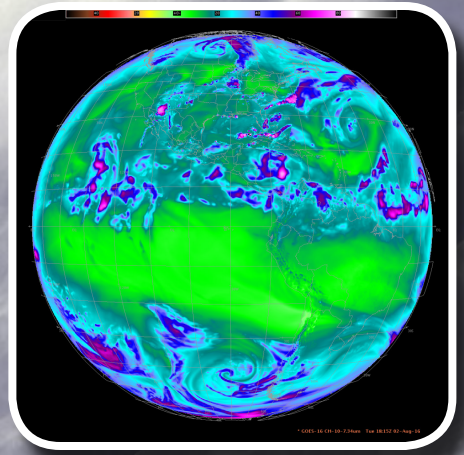
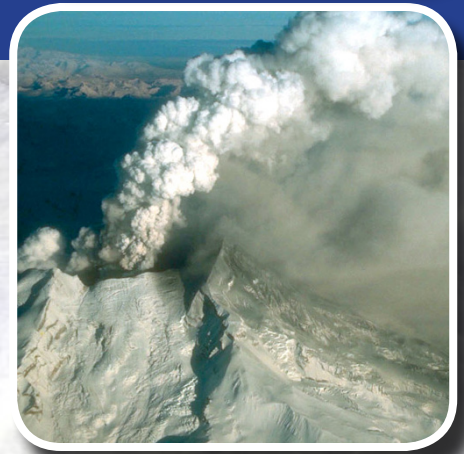




# GOES-R

Advanced Baseline Imager (ABI)

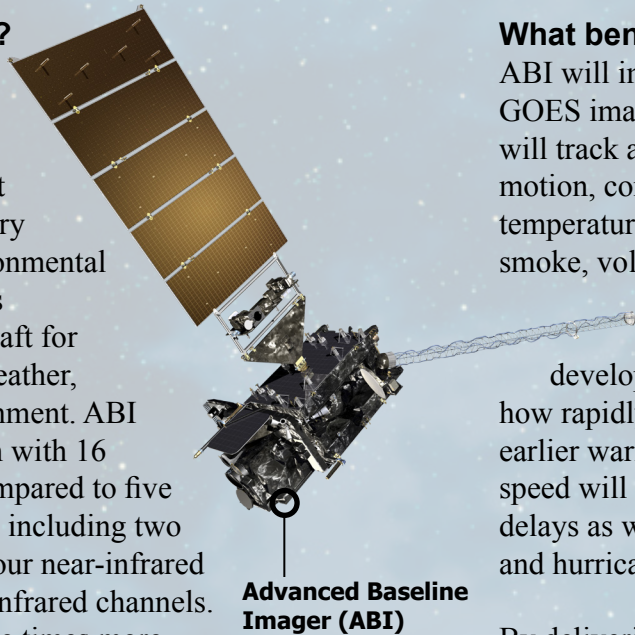


*New capabilities*  
*Higher resolution*  
*Faster coverage*



## What is the ABI?

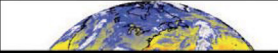
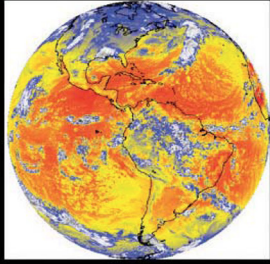
The Advanced Baseline Imager (ABI) is the primary instrument on the Geostationary Operational Environmental Satellite – R Series (GOES-R) spacecraft for imaging Earth's weather, oceans and environment. ABI will view the Earth with 16 spectral bands (compared to five on current GOES), including two visible channels, four near-infrared channels, and ten infrared channels. It will provide three times more spectral information, four times the spatial resolution, and five times faster coverage than current GOES.



Advanced Baseline Imager (ABI)

## How does it work?

ABI is a multi-channel imaging radiometer designed to observe the Western Hemisphere and provide variable area imagery and radiometric information of Earth's surface, atmosphere and cloud cover. ABI will be used for a wide range of applications related to severe weather, tropical cyclones and hurricanes, aviation, natural hazards, the atmosphere, ocean and cryosphere.

Current GOES 5 minute Capability	Future GOES-R 5 minute Capability
	
ABI covers the Earth approximately five times faster than the current imager	

The instrument has two scan modes. The default mode will concurrently take a full disk (Western Hemisphere) image every 15 minutes, an image of the continental U.S. every five minutes, and two smaller, more detailed images of areas where storm activity is present, every 60 seconds (or one mesoscale region every 30 seconds). ABI can also operate in continuous full disk mode, providing uninterrupted scans of the full disk every five minutes.

## What benefits will it provide?

ABI will improve every product from the current GOES imager and introduce a host of new products. It will track and monitor cloud formation, atmospheric motion, convective development, land and sea surface temperatures, ocean dynamics, flow of water, fire, smoke, volcanic ash plume, aerosols and air quality, and vegetative health. ABI's data will help meteorologists pinpoint and track an area of developing storms in much greater detail. 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 tropical storms and hurricanes.

By delivering a better and larger suite of weather, climate and environmental products, ABI will usher in a new era in weather forecasting, benefitting public safety, protection of life and property, and our nation's economic health and prosperity.



KLM passenger jet engine damaged by volcanic ash

- ✓ Improved hurricane track and intensity forecasts
- ✓ Improved aviation flight route planning
- ✓ Increased warning lead time for severe storms
- ✓ Improved air quality warnings and alerts
- ✓ Better fire detection and intensity estimation
- ✓ Data for long-term climate variability studies

Instrument Contractor  
**HARRIS**

Fort Wayne, Indiana

### Learn more

<http://www.goes-r.gov/spacesegment/abi.html>

<https://www.harris.com/content/goes-r-advanced-baseline-imager>

<http://www.goes-r.gov/education/ABI-bands-quick-info.html>

<http://journals.ametsoc.org/doi/abs/10.1175/BAMS-D-13-00210.1>