

National Aeronautics and  
Space Administration



NASA's  
Launch Services Program  
Presents...

# Geostationary Operational Environmental Satellite- R (GOES-R)

The Geostationary Operational Environmental Satellite – R Series (GOES-R) is part of the next generation of geostationary weather satellites. There are four satellites in the series: GOES-R, GOES-S, GOES-T and GOES-U. The first satellite in the series, GOES-R, is scheduled for launch in 2016. The GOES-R Series Program is a collaborative development and acquisition effort between the National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA) to develop, deploy and operate the satellites. The GOES-R series satellites will provide continuous imagery and atmospheric measurements of Earth's Western Hemisphere, total lightning data, and space weather monitoring to provide critical atmospheric, hydrologic, oceanic, climatic, solar and space data.

GOES-R will provide images of weather patterns and severe storms as frequently as every 30 seconds, which will contribute to more accurate and reliable weather forecasts and severe weather outlooks. GOES-R's environmental data products will support short-term weather forecasts and severe storm watches and warnings, maritime forecasts, seasonal predictions, drought outlooks and space weather predictions. GOES-R products will improve hurricane tracking and intensity forecasts, increase thunderstorm and tornado warning lead time, improve aviation flight route planning, provide data for long-term climate variability studies, improve solar flare warnings for communications and navigation disruptions and enhance space weather monitoring.

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

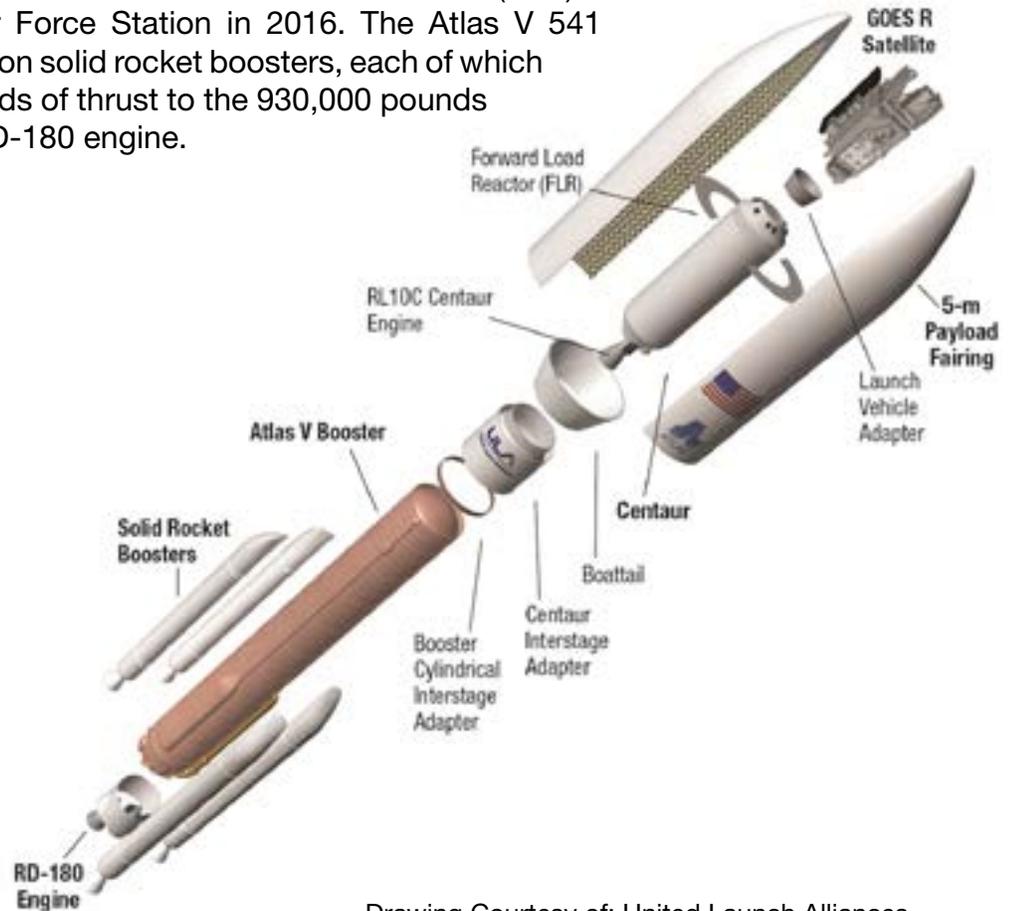
Launch Vehicle  
**Atlas V-541**

Launch Location  
**Cape Canaveral  
Air Force Station, FL**

Launch Date  
**2016**

# Geostationary Operational Environmental Satellite-R (GOES-R)

GOES-R is scheduled to launch aboard a United Launch Alliance (ULA) Atlas V 541 from Cape Canaveral Air Force Station in 2016. The Atlas V 541 configuration includes four strap-on solid rocket boosters, each of which adds an additional 330,000 pounds of thrust to the 930,000 pounds provided by the core vehicle's RD-180 engine.



Drawing Courtesy of: United Launch Alliances

The GOES-R spacecraft bus will be 3-axis stabilized and designed for 10 years of on-orbit operation preceded by up to 5 years of on-orbit storage. The satellite will be able to operate through periodic station-keeping and momentum adjust maneuvers, which will allow for near-continuous instrument observations. Other notable performance elements include: vibration isolation for the Earth-pointed optical bench and high-speed spacecraft-to-instrument interfaces designed to maximize science data collection. The cumulative time that GOES-R science data collection (including imaging) will be interrupted due to all momentum management, station-keeping, and yaw flip maneuvers will be under 120 minutes/year. This is a nearly two orders of magnitude improvement compared to the current GOES satellites. The spacecraft will carry three classifications of instruments: nadir-pointing, solar-pointing, and in-situ.



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

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