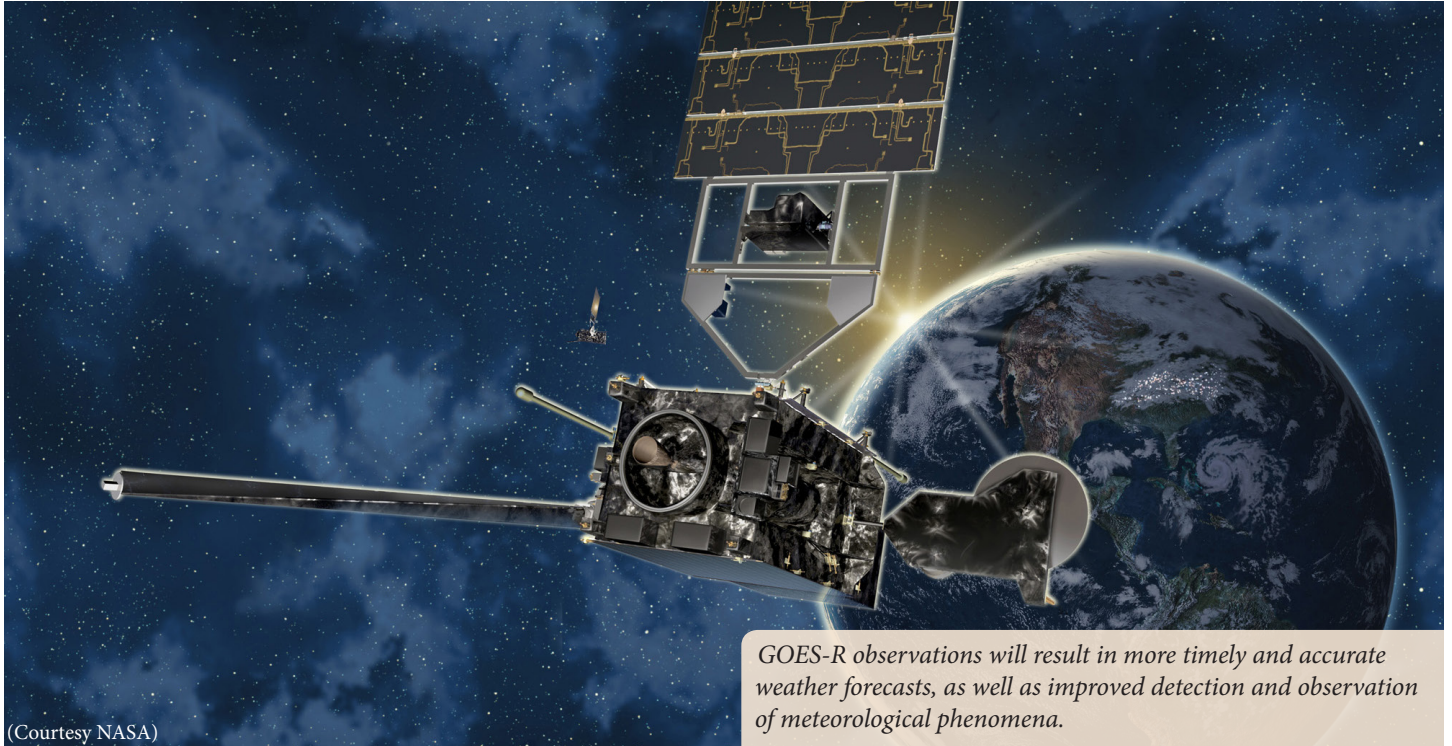


# GOES-R

The Geostationary Operational Environment Satellite  
R-Series Program



*GOES-R observations will result in more timely and accurate weather forecasts, as well as improved detection and observation of meteorological phenomena.*

## Frequently Asked Questions

### What is the purpose of the GOES-R program?

The GOES-R program is a key element of NOAA operations. The GOES-R series of satellites will fly improved spacecraft and instrument technologies, for more timely and accurate weather forecasts. The program will improve the detection and observation of meteorological phenomena that directly affect public safety, protection of property, and economic health and development.

### What does the EXIS instrument measure?

The EXIS instrument detects solar soft X-ray irradiance (XRS) and solar extreme ultraviolet (EUVS) spectral irradiance. XRS helps predict proton events and monitors solar flares that can disrupt communications and degrade navigational accuracy. EUVS monitors solar variations that directly affect satellite drag/tracking and ionospheric changes, which impact communication and navigation operations. EXIS will provide one of the most important observations for early warning of space weather events.

### Why is it so important to monitor solar activity?

Solar radiation is the Earth's primary source of energy. It greatly affects climate, as well as space-based technology and human exploration. High solar variability in the ultraviolet range directly causes changes to the temperature, density, and composition of

## Quick Facts

**Launch date:** November 19, 2016

**Launch location:** Kennedy Space Center, Cape Canaveral, FL

**Launch vehicle:** Atlas V-541

**Mission target:** Earth orbit

**Primary duration:** Through December 2027

**Project description:** GOES-R is a satellite series carrying six instruments designed to enhance weather forecasting, severe storm tracking, and meteorology research.

#### LASP will provide:

- The Extreme Ultraviolet/X-ray Irradiance Sensor (EXIS)
- EXIS Lead Scientist, Frank Eparvier
- Three flight models and parts for a fourth

#### Other organizations involved:

- NASA Goddard Space Flight Center
- National Oceanic and Atmospheric Administration (NOAA)
- Department of Commerce
- National Environmental Satellite, Data, and Information Service
- Lockheed Martin Space Systems

Earth's upper atmosphere. Because of its influence on the upper atmosphere, space weather affects a range of human endeavors—including telecommunications, GPS navigation, and satellite orbit tracking.

To read more about GOES-R EXIS, visit:

<http://lasp.colorado.edu/home/missions-projects/quick-facts-goes-r>.

*The Laboratory for Atmospheric and Space Physics (LASP) combines all aspects of space exploration through our expertise in science, engineering, mission operations, and data management. As an institute at the University of Colorado Boulder, LASP includes students throughout our activities. Learn more at <http://lasp.colorado.edu>.*