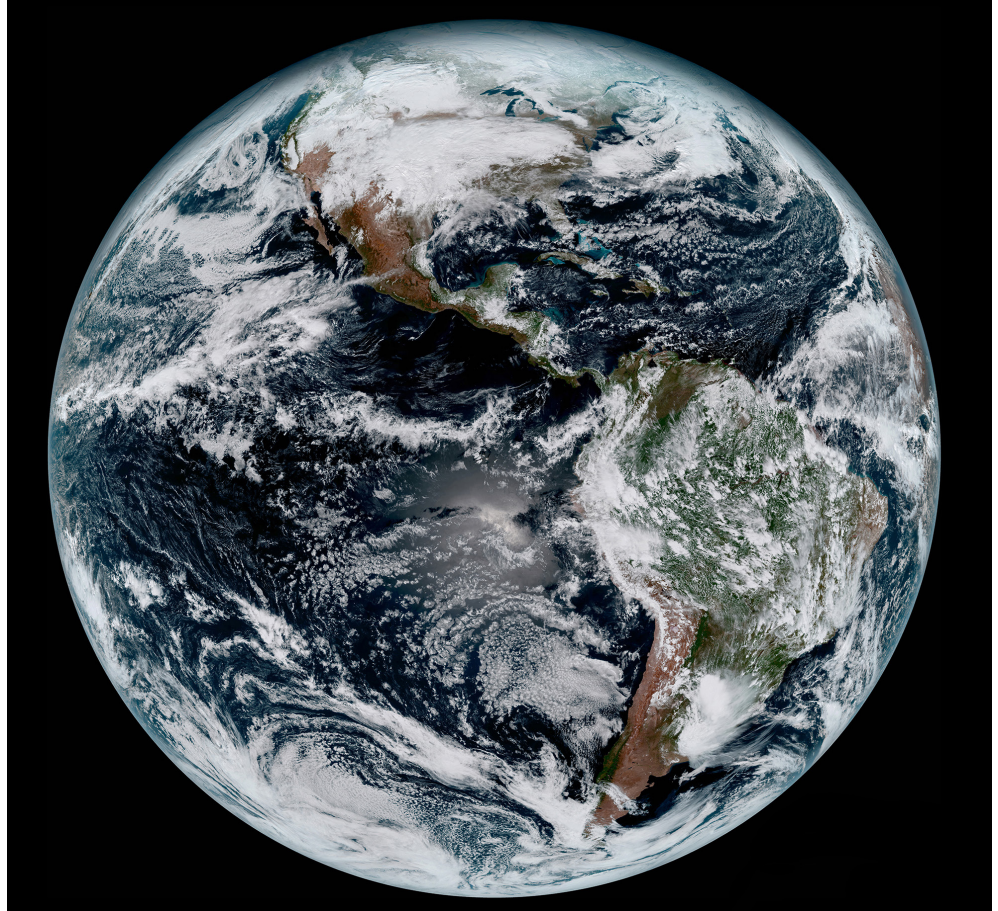




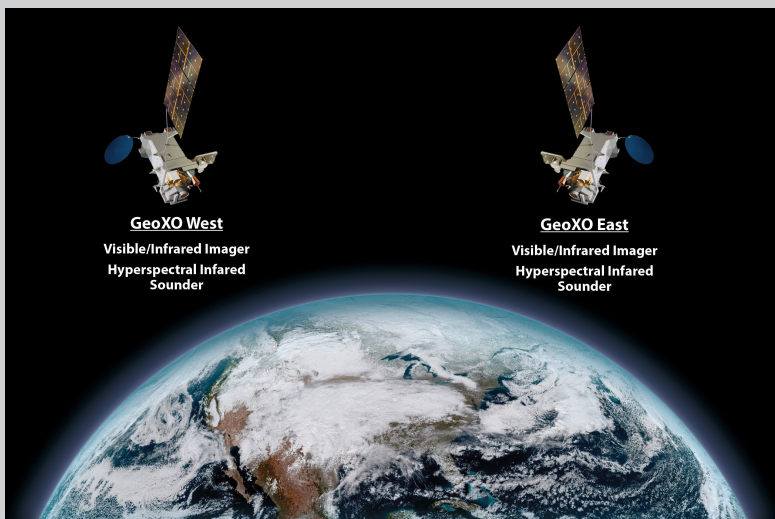
Geostationary Extended Observations (GeoXO)

FACT SHEET

NOAA's GeoXO satellite system will advance Earth observations from geostationary orbit. The GeoXO mission will bring new and improved capabilities for short-term forecasts and warnings of severe weather and environmental hazards. GeoXO will supply essential information for public safety, protection of property, and efficient economic activity. NOAA plans for GeoXO to begin operations in the early 2030s as the GOES-R Series satellites near the end of their operation lifetimes. GeoXO will operate into the 2050s.



What will GeoXO provide?



GeoXO constellation

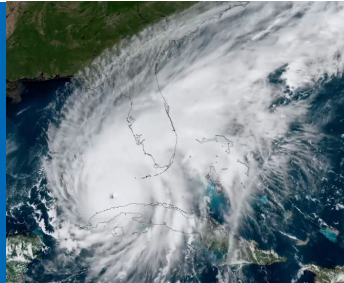
- Real-time, high-resolution visible and infrared imagery for monitoring Earth's weather and environment, including severe storms, hurricanes, and natural hazards like wildfires, smoke, dust, volcanic ash, drought, and flooding.
- Real-time information about the vertical distribution of atmospheric moisture, winds and temperature for better numerical weather prediction and short-term severe weather forecasts.



Why do we need GeoXO?

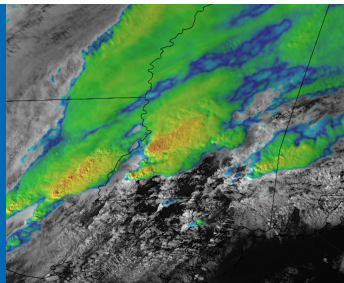
Geostationary satellites orbit 22,300 miles above the equator at the same speed the Earth rotates, allowing them a constant view of the same area. GeoXO will continuously observe the Western Hemisphere to detect and monitor events as they unfold.

Hurricanes: Real-time monitoring of storm properties, tracking of storm position and movement, wind and intensity estimates; improved track and intensity forecasts



Atmospheric rivers: Real-time measurements of water vapor in the atmosphere and tracking of cloud movement that help to forecast heavy rain and flash flooding events

Severe storms: Detection of storm potential, improved forecasts and warnings, real-time monitoring of cloud properties, atmospheric motion, moisture in the atmosphere, and severity of storms



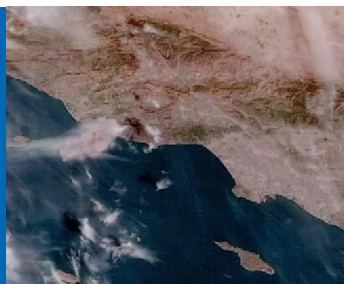
Energy: Temperature and humidity information for more accurate energy demand forecasts, reducing energy costs and impacts on energy production

Numerical weather prediction: Improved forecast accuracy and early predictions of severe weather



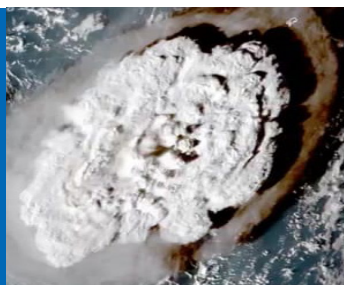
Agriculture: Drought monitoring and assessment, livestock forage availability, soil moisture, and vegetation health information, reduced crop damage/loss from severe weather, fires and smoke

Wildfires: Hot spot detection, real-time tracking of fire behavior, smoke monitoring and estimation of fire size, temperature and intensity



National security: Environmental information for military base, aircraft and ship safety/operations, maritime navigation, and aircraft and troop deployment

Volcanic eruptions: Real-time detection and monitoring of eruptions, ash, and volcanic cloud behavior; detection and monitoring of sulfur dioxide and air quality



Aviation: Fog detection and dissipation prediction, aircraft icing threat detection, turbulence prediction, volcanic ash and dust monitoring, fewer weather-related flight delays