



GeoEye-1

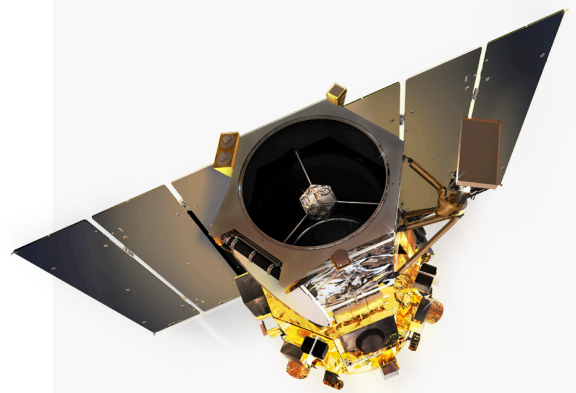
The GeoEye-1 satellite is equipped with some of the most advanced technology ever used in a commercial remote sensing system. The satellite collects images at .41-meter panchromatic (black-and-white) and 1.65-meter multispectral resolution. The satellite can collect up to 350,000 square kilometers of pan-sharpened multispectral imagery per day. This capability is ideal for large-scale mapping projects. GeoEye-1 can revisit any point on Earth once every three days or sooner.

Features

- » Very high resolution
- » Industry-leading geolocation accuracy
- » High capacity over a broad range of collection types
- » Direct downlink to customer sites available
- » Frequent visits at high resolution

Benefits

- » Provides highly detailed imagery for precise map creation, change detection, and in-depth image analysis
- (Note: imagery must be re-sampled to 50 cm for non-US government customers)
- » Geolocate features to less than 5 m to create maps in remote areas, maximizing the utility of available resources
- » Collects, stores, and downlinks a greater supply of frequently updated global imagery products than competitive systems
- » Stereoscopic collection on a single pass ensure image continuity and consistency of quality



GeoEye-1 artist rendering



Bora Bora

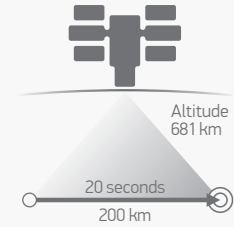
Design and specifications

Launch Information	Date: September 6, 2008 Launch vehicle: Delta II Launch site: Vandenberg Air Force Base, California
Mission Life	Expected >10 years
Spacecraft Size	4186 lbs, 4.34 m in length

Altitude 681 km

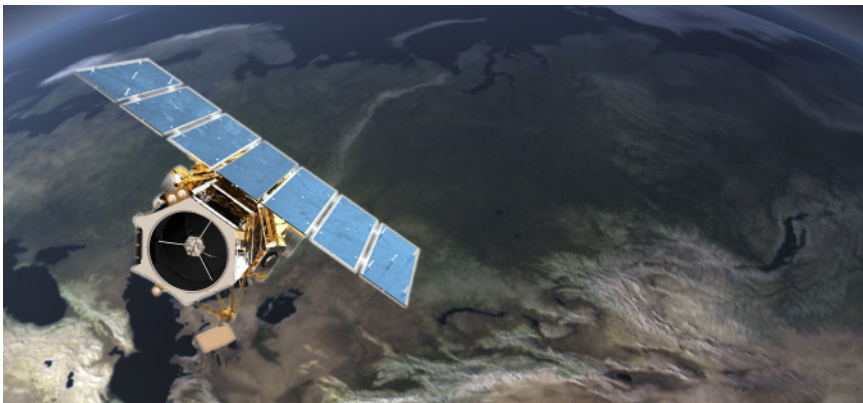
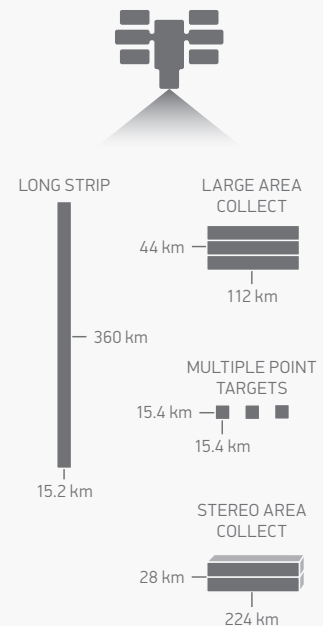
Orbit	Type: Sun-synchronous, 10:30 am descending node Period: 98 min
Sensor Resolution and Spectral Bandwidth	Panchromatic: 41 cm GSD at nadir Black & White: 450 - 800 nm Multispectral: 1.65 m GSD at nadir Blue: 450 - 510 nm Green: 510 - 580 nm Red: 655 - 690 nm Near-IR: 780 - 920 nm
Dynamic Range	11-bits per pixel
Swath Width	Nominal Swath Width: 15.3 km at nadir
Attitude Determination and Control	Type: 3-axis Stabilized Star tracker/IRU/reaction wheels, GPS
Retargeting Agility	Time to slew 200 km: 20 sec
Onboard Storage	1 Tbit capacity
Communications	Payload Data: X-band 740/150 Mbps AES/DES encryption Housekeeping: X-band 64 kbps AES encryption
Revisit Frequency (at 40°N Latitude)	2.6 days at 30° off-nadir
Metric Accuracy	5 m CE90, 3 m CE90 (measured)
Capacity	350,000 km ² /day Multi-spectral

Altitude and slew time





Collection scenarios

(30° off-nadir angle)



Sensor bands

-  Panchromatic
-  Multispectral

DS-GE1 09/14