

Guide: Maxar Satellite Constellation

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PGC provides high-resolution imagery from Maxar Technologies (formerly DigitalGlobe). Here you will find information about the satellites' spatial and temporal resolution, spectral capabilities, and more!

About Maxar

Maxar Technologies Inc. is a commercial satellite imagery company currently headquartered in Westminster, Colorado. DigitalGlobe and MDA Holdings Company merged to become Maxar Technologies in 2017.

Maxar operates a constellation of five electro-optical earth imaging satellites.

For more information, visit Maxar's Constellation.

WorldView-1

WorldView-1 was Maxar's second satellite, increasing capacity for the growing demand for commercial satellite imagery.

Launched in September 18, 2007, WorldView-1 has a single panchromatic band with a resolution of 0.5 m.

Satellite Specifications

Launched: 2007

Operational Altitude: 496 km

Spectral Characteristics: Panchromatic

Sensor Resolution: 50 cm GSD at nadir

Dynamic Range: 11-bits per pixel

Swath Width: 17.7 km at nadir

Capacity: 1.3 million km² per day

Stereo Collection: Yes

Datasheet

WorldView-2

Maxar's third satellite was launched on October 8, 2009.

WorldView-2 provides commercially available panchromatic imagery of .46 m resolution, and 8-band multispectral imagery with 1.84 m (6 ft 0 in) resolution.

Satellite Specifications

Launched: 2009

Operational Altitude: 770 km

Spectral Characteristics: Panchromatic + 8 Multispectral

Sensor Resolution: 46 cm GSD at nadir

Dynamic Range: 11-bits per pixel

Swath Width: 16.4 km at nadir

Capacity: 1.0 million km² per day

Stereo Collection: Yes

Datasheet

WorldView-3

Launched on August 13, 2014, WorldView-3 provides commercially available panchromatic imagery of 0.31 m (12 in) resolution, which was the highest resolution commercially available at the time.

In addition, eight-band multispectral imagery with 1.24 m (4 ft 1 in) resolution and shortwave infrared (SWIR) imagery at 3.7 m (12 ft 2 in) resolution are also available.

Satellite Specifications

Launched: 2014

Operational Altitude: 617 km

Spectral Characteristics: Panchromatic + 8 Multispectral + 8 SWIR + 12 CAVIS

Sensor Resolution: 31 cm GSD at nadir

Dynamic Range: 11-bits per pixel, 14-bits per pixel SWIR

Swath Width: 13.1 km at nadir

Capacity: 680,000 km² per day

Stereo Collection: Yes

Datasheet

WorldView-4

Launched on November 11, 2016, WorldView-4 is Maxar's newest high-resolution satellite.

Satellite Specifications

Launched: 2016

Operational Altitude: 617 km

Spectral Characteristics: Panchromatic + 4 Multispectral Bands

Sensor Resolution: Pan: 31 cm GSD at nadir; MS: 1.24 m at nadir

Dynamic Range: 11-bits per pixel

Swath Width: 13.2 km at nadir

Capacity: 680,000 km² per day

Stereo Collection: Yes

Datasheet

As of 2018, WorldView-4 is not available in the NRO Electro-Optical Commercial Layer (EOCL) license.

QuickBird

Maxar's first Earth observation satellite, QuickBird launched in October of 2011 and became the first satellite provide commercially-available sub-meter optical imagery.

QuickBird was retired in December 2014 after its mission was extended in 2011 by raising the orbital altitude from 450km to 482km.

Satellite Specifications

Launched: 2011

Operational Altitude: 400-450 km

Spectral Characteristics: Panchromatic + 4 Multispectral

Sensor Resolution: 55-61 cm GSD at nadir

Dynamic Range: 11-bits per pixel

Swath Width: 14.9-16.8 km at nadir

Capacity: 200,000 km² per day

Stereo Collection: Yes

Datasheet

IKONOS

A pioneer in earth-observation satellites, IKONOS was the first to collect publicly available high-resolution imagery at 1-(panchromatic) and 4-(multispectral) meter resolution.

Launched on September 24, 1999, the satellite performed for more than twice its life expectancy when it was retired in March 2015.

Satellite Specifications

Launched: 1999

Operational Altitude: 681 km

Spectral Characteristics: Panchromatic + 4 Multispectral

Sensor Resolution: 82 cm GSD at nadir

Dynamic Range: 11-bits per pixel

Swath Width: 11.3 km at nadir

Capacity: 240,000 km² per day

Stereo Collection: Yes

Datasheet

GeoEye-1

Originally owned and operated by GeoEye Inc., GeoEye-1 was launched on September 6, 2008.

GeoEye-1 offers four multispectral bands (red, green, blue and near-infrared) in addition to its panchromatic band, which has a maximum resolution of 41 cm.

Satellite Specifications

Launched: 2008

Operational Altitude: 681 km

Spectral Characteristics: Panchromatic + 4 Multispectral Bands

Sensor Resolution: Pan: 41 cm GSD at nadir; MS: 1.65 m GSD at nadir

Dynamic Range: 11-bits per pixel

Swath Width: 15.3 km at nadir

Capacity: 350,000 km² per day

Stereo Collection: Yes

Datasheet

Summary

In this Guide, we've covered:

- History of Maxar Technologies, Inc.
- Detailed specifications of sensors