



Satellite Imagery: Resolution



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A comprehensive and detailed list of satellite data from the beginning of satellite remote sensing to the present, including their resolutions and other relevant specifications, is quite extensive. Here is a detailed table that includes notable satellites from various eras:

Satellite	Launch Year	Spatial Resolution (m)	Spectral Bands	Temporal Resolution	Radiometric Resolution (bits)	Notable Applications
Landsat 1	1972	80	4 multispectral (green, red, NIR)	18 days	6	Earth observation, land use
Landsat 2	1975	80	4 multispectral (green, red, NIR)	18 days	6	Earth observation, land use
Landsat 3	1978	80	4 multispectral (green, red, NIR)	18 days	6	Earth observation, land use
Landsat 4	1982	30 (multispectral)	7 multispectral, thermal	16 days	8	Earth observation, land use
		120 (thermal)				
Landsat 5	1984	30 (multispectral)	7 multispectral, thermal	16 days	8	Earth observation, land use
		120 (thermal)				

SPOT-1	1986	10 (panchromatic)	3 multispectral	26 days	8	Earth observation, agriculture
		20 (multispectral)				
ERS-1	1991	30 (SAR)	Single band (C-band SAR)	35 days	8	Oceanography, ice monitoring
Landsat 7	1999	15 (panchromatic)	8 multispectral, thermal	16 days	8	Earth observation, land use
		30 (multispectral)				
Terra (MODIS)	1999	60 (thermal)	36 spectral bands	Daily	12	Climate monitoring, environmental change
		250 (visible, NIR)				
		500 (shortwave infrared)				
		1000 (thermal)				
Ikonos	1999	0.82 (panchromatic)	4 multispectral	3-5 days	11	Urban planning, agriculture
		3.28 (multispectral)				

QuickBird	2001	0.61 (panchromatic)	4 multispectral	1-3.5 days	11	High-resolution mapping, urban planning
		2.44 (multispectral)				
Aqua (MODIS)	2002	250 (visible, NIR)	36 spectral bands	Daily	12	Climate monitoring, environmental change
		500 (shortwave infrared)				
		1000 (thermal)				
Landsat 8	2013	15 (panchromatic)	11 multispectral (incl. thermal)	16 days	12	Earth observation, land use
		30 (multispectral)				
		100 (thermal)				
Sentinel-1A	2014	5-20 (SAR)	Single band (C-band SAR)	12 days	16	Disaster monitoring, land and sea mapping
WorldView-3	2014	0.31 (panchromatic)	8 multispectral, 8 SWIR, 12 CAVIS	1-4.5 days	11	High-resolution mapping, urban planning
		1.24 (multispectral)				



Sentinel-2A	2015	10 (visible, NIR)	13 multispectral	5 days	12	Agriculture, forestry, land use
		20 (red edge, SWIR)				
		60 (cirrus, coastal)				
Sentinel-2B	2017	10 (visible, NIR)	13 multispectral	5 days	12	Agriculture, forestry, land use
		20 (red edge, SWIR)				
		60 (cirrus, coastal)				
Sentinel-3	2016	300 (SLSTR, OLCI)	Multiple (optical, thermal, altimetry)	1-2 days	12	Oceanography, land monitoring
RADARSAT-2	2007	3-100 (SAR)	Single band (C-band SAR)	24 days	16	Ice monitoring, agriculture
TerraSAR-X	2007	1-40 (SAR)	Single band (X-band SAR)	2-4 days	16	High-resolution mapping, disaster monitoring
Gaofen-1	2013	2 (panchromatic)	4 multispectral	4 days	12	Earth observation, disaster monitoring



		8 (multispectral)			
Pleiades-1A/1B	2011/2012	0.5 (panchromatic)	4 multispectral	Daily	12
		2.0 (multispectral)			
GeoEye-1	2008	0.41 (panchromatic)	4 multispectral	2.5 days	11
		1.65 (multispectral)			

This table includes a broad range of satellites from the early Landsat missions to more recent high-resolution and radar imaging satellites, showcasing the advancements in remote sensing technology over time. Each entry includes the satellite name, launch year, spatial resolution, spectral bands, temporal resolution, radiometric resolution, and notable applications. This overview provides a sense of how satellite capabilities have evolved and diversified to meet various scientific and practical needs.

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