

Satellite: TERRA

Agency supporting the mission: NASA

Mission orbital parameters

Purpose	Precession rate	Orbit radius (km)	Long. of ascending node	Inclination	Repeat time (min)
To observe land, sea, air interaction and its effects on climate change.	Sun synchronous	705	10:30 PM	98.2	98.8

Instr. Name	purpose	Wavelength range (µm)	# of Channels	Spectr resol (units)	Horiz swath (km)	Horiz resol (m)	Vert resol (km)	Data rate	Launch-& end dates
ASTER	To map the land surface temperature, emissivity, reflectance, and elevation.	.52-11.65 VNIR: 3 bands SWIR: 6 bands TIR: 5 bands	14	N/A	60	15 (1-3), 30 (4-9), 90 (10-14)	N/A	N/A	DEC 18 1999 – DEC 2005
CERES	To measure the Earth's total radiation budget and assess clouds' roles in the radiation budget.  Channel: 1 (SWIR) 2 (window) 3 (TIR)	.3-100  .3-5 8-12 .3-100	3	N/A	Limb to Limb		N/A	10 Kbps	DEC 18 1999 – DEC 2005
MISR	To monitor the aerosols, clouds and surface cover at multiple camera angles (Nadir, 26.1°, 45.6°, 60.0°, and 70.5°)  Channel: 1 2 3 4	.446-.867  .446 .558 .672 .867	4	N/A	360	275	N/A	3.3 Mbps	DEC 18 1999 – DEC 2005
MODIS	To image clouds, land and sea surfaces over a large 2330 km swath for the purpose of climate prediction  Channel: Land/Cloud/Aerosols Boundaries 1	.62-14.4  .620 – .670	36	N/A	2330	250 (1-2), 500 (3-7), 1000 (8-36)	N/A	6.1 Mbps	DEC 18 1999 – DEC 2005

	2 Land/Cloud/Aerosols Properties	.841-.876							
	3	.459-.479							
	4	.545-.565							
	5	1.230-1.250							
	6	1.628-1.652							
	7	2.105-2.155							
	Ocean Color/Phytoplankton/ Biogeochemistry								
	8	.405-.420							
	9	.438-.448							
	10	.483-.493							
	11	.526-.536							
	12	.546-.556							
	13	.662-.672							
	14	.673-.683							
	15	.743-.753							
	16	.862-.877							
	Atmospheric Water Vapor								
	17	.890-.920							
	18	.931-.941							
	19	.915-.965							
	Surface/Cloud Temperature								
	20	3.66-3.84							
	21	3.929-3.989							
	22	3.929-3.989							
	23	4.020-4.080							
	Atmospheric Temperature								
	24	4.433-4.498							
	25	4.482-4.549							
	Cirrus Clouds Water Vapor								
	26	1.360-1.390							
	27	6.535-6.895							
	28	7.175-7.475							
	Cloud Properties								
	29	8.4-8.7							
	Ozone								
	30	9.58-9.88							
	Surface/Cloud Temperature								
	31	10.78-11.28							
	32	11.77-12.27							
	Cloud Top Altitude								
	33	13.185-13.485							
	34	13.485-13.785							
	35	13.785-14.085							
	36	14.085-14.385							
MOPITT	To measure the distribution, transport, sources, and sinks of carbon monoxide and methane in the troposphere.	.226-46.2	8	N/A	640	22,000	3	N/A	DEC 18 1999 – DEC 2005

