

# Спутниковые данные

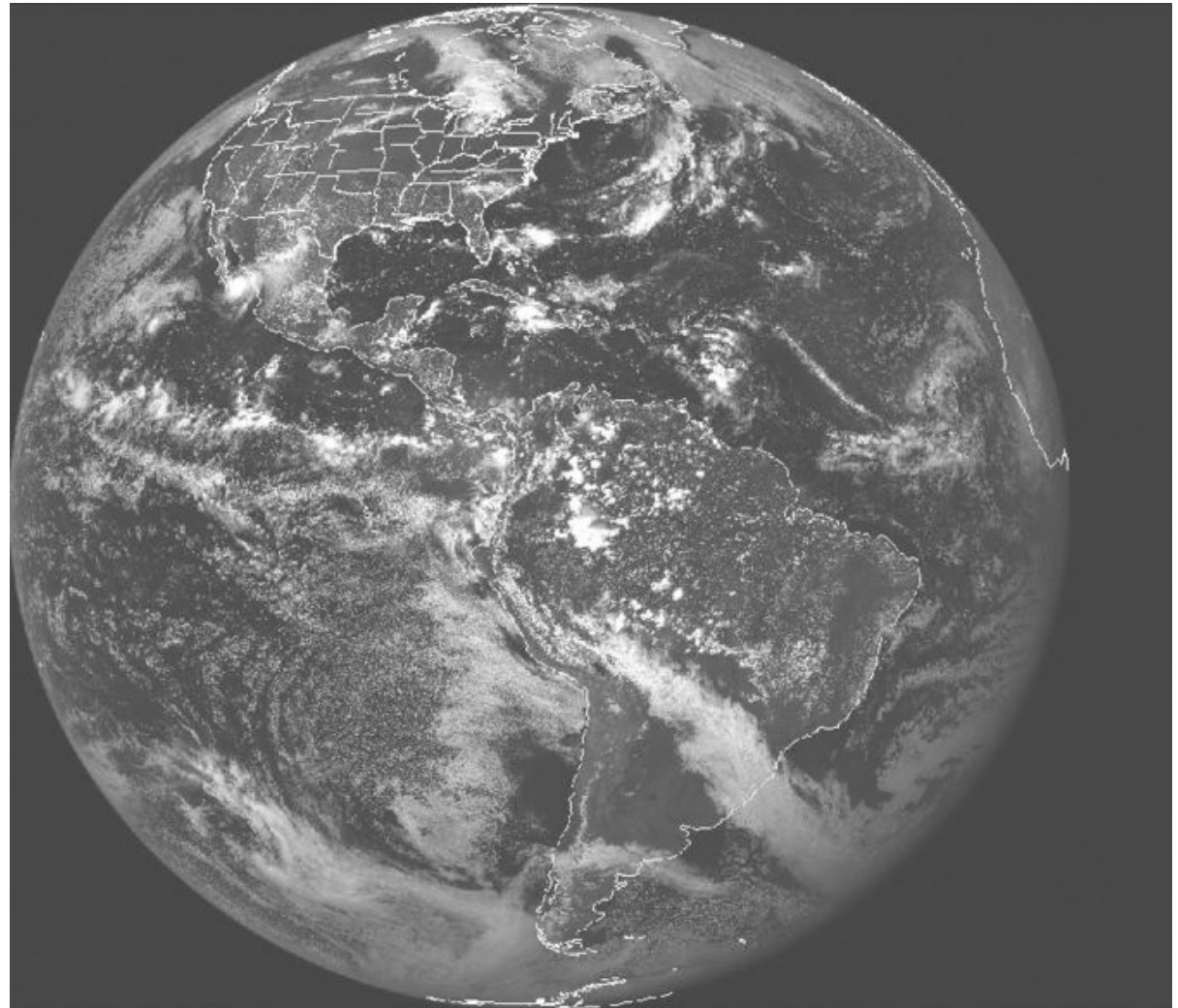
# Метеорологические спутники

TIROS-1 (Television and Infrared Observation Satellite - 1) – США, 1960



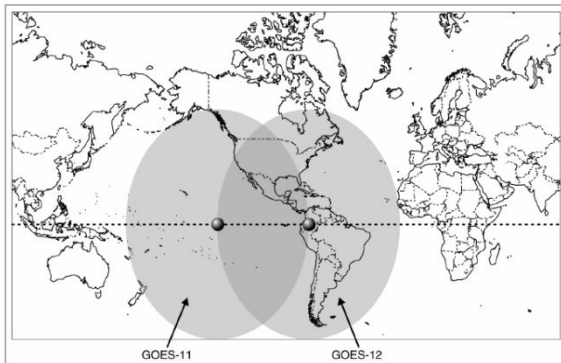
# Метеорологические спутники

GOES (Geostationary Operational Environmental Satellite) 1-15, 1975-2010, США



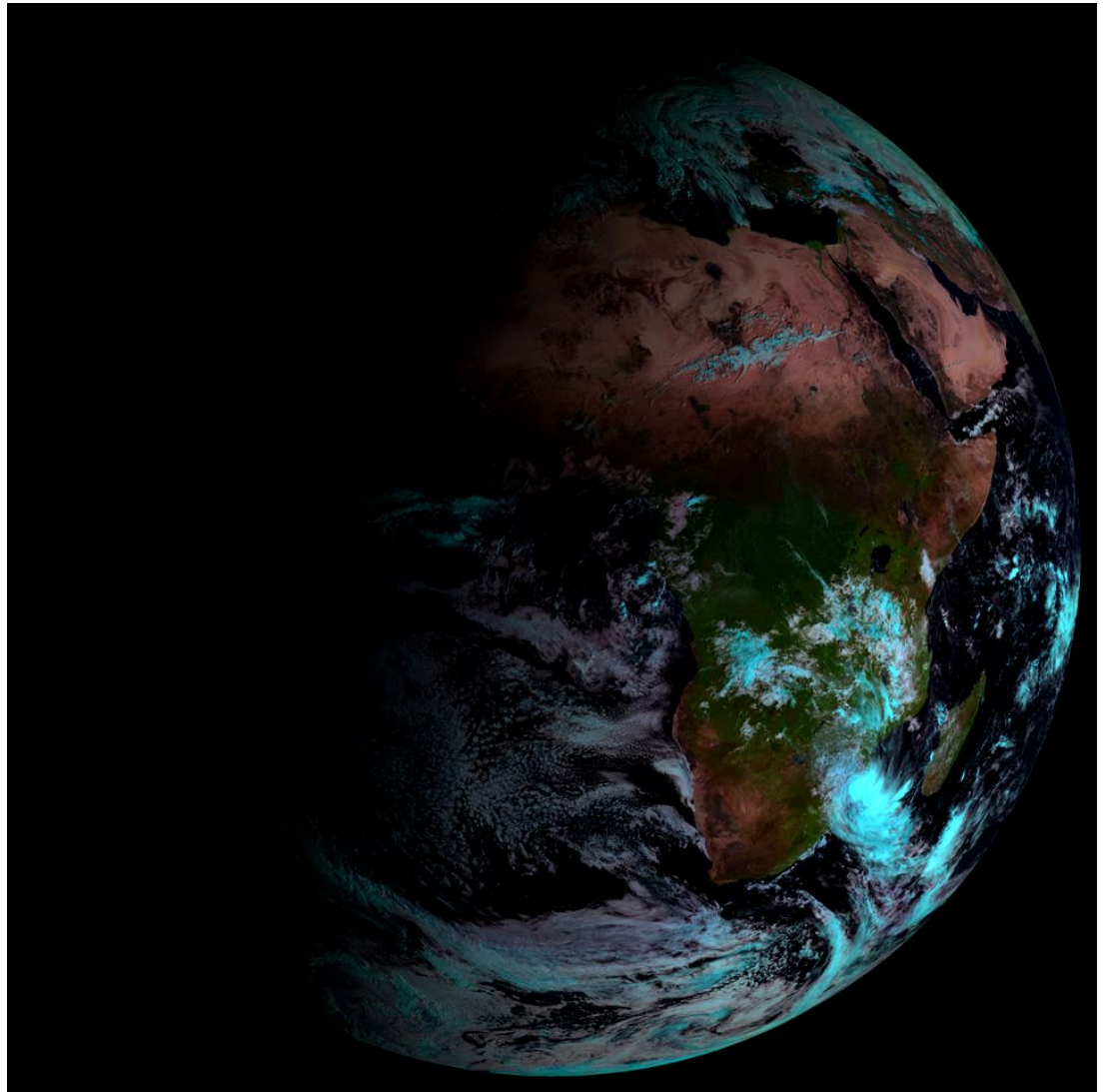
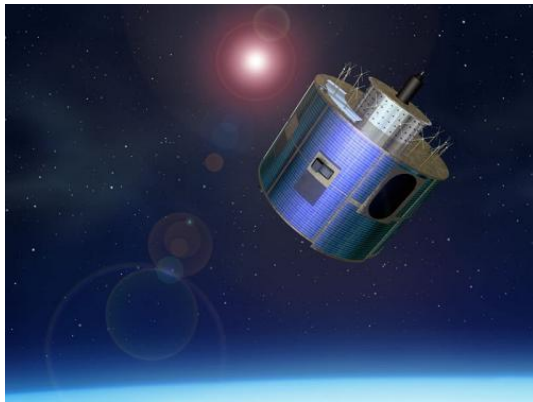
24 Aug 2005 17:45:14Z 0.65 um GOES 12

CIRA/NOAA CSU



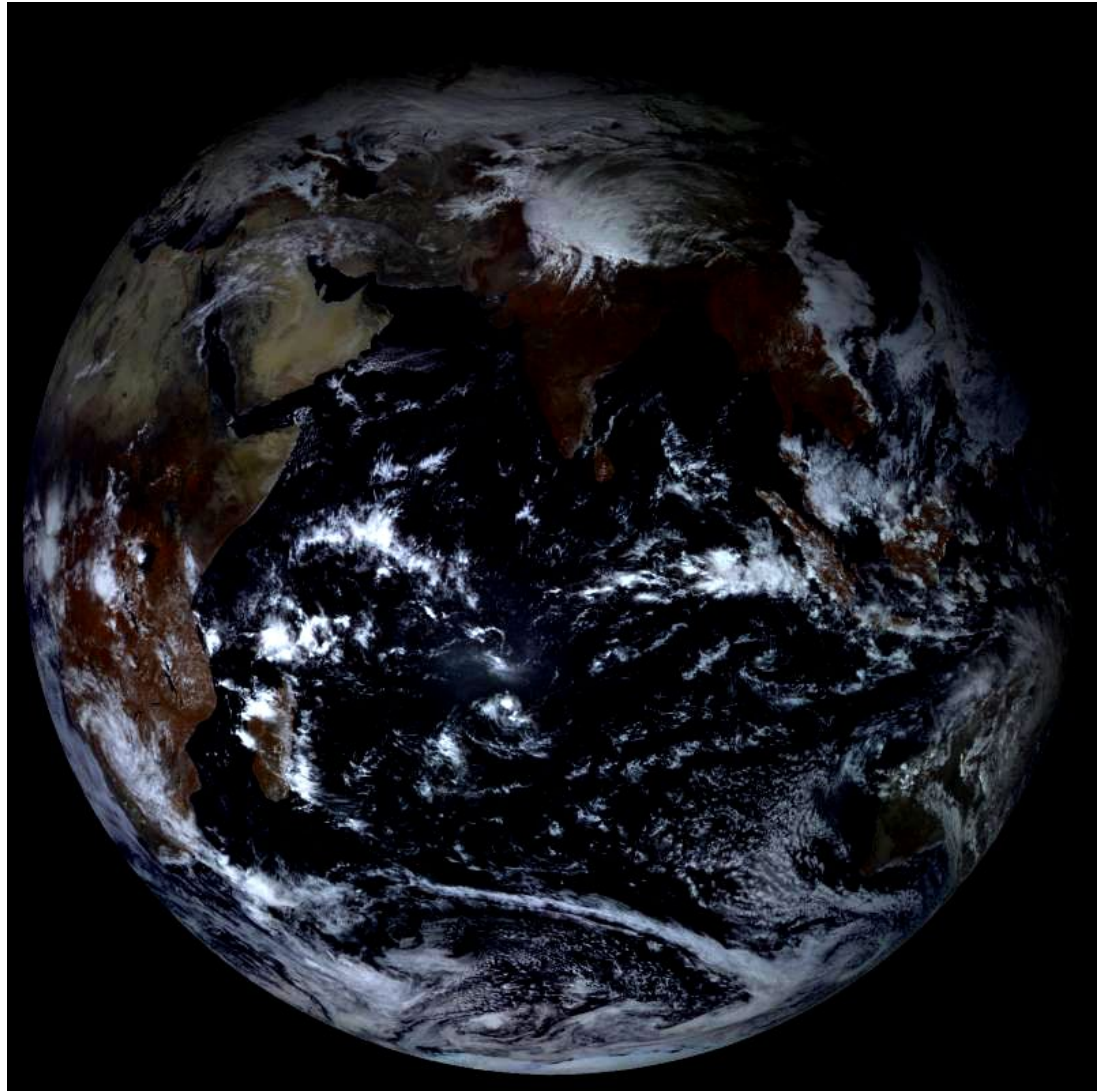
# Метеорологические спутники

METEOSAT – 1-10, Europe, 1995



# Метеорологические спутники

Метеор, Электро, Космос – 1964-1981, СССР



Орбита	геостационарная,
Тип орбиты	точка стояния – 76° в.д.
Перигей, км	32000
Апогей, км	32000
Наклонение, град	0
Период повторного просмотра, сут	0.25-0.5 час.

# Характеристики

<b>Band</b>	<b>Wavelength Range (&gt;<math>\mu\text{m}</math>)</b>	<b>Spatial Resolution</b>	<b>Application</b>
1	0.52 - 0.72 (visible)	1 km	cloud, pollution, and haze detection; severe storm identification
2	3.78 - 4.03 (shortwave IR)	4 km	identification of fog at night; discriminating water clouds and snow or ice clouds during daytime; detecting fires and volcanoes; night time determination of sea surface temperatures
3	6.47 - 7.02 (upper level water vapour)	4 km	estimating regions of mid-level moisture content and advection; tracking mid-level atmospheric motion
4	10.2 - 11.2 (longwave IR)	4 km	identifying cloud-drift winds, severe storms, and heavy rainfall
5	11.5 - 12.5 (IR window sensitive to water vapour)	4 km	identification of low-level moisture; determination of sea surface temperature; detection of airborne dust and volcanic ash

# NOAA AVHRR 1-19

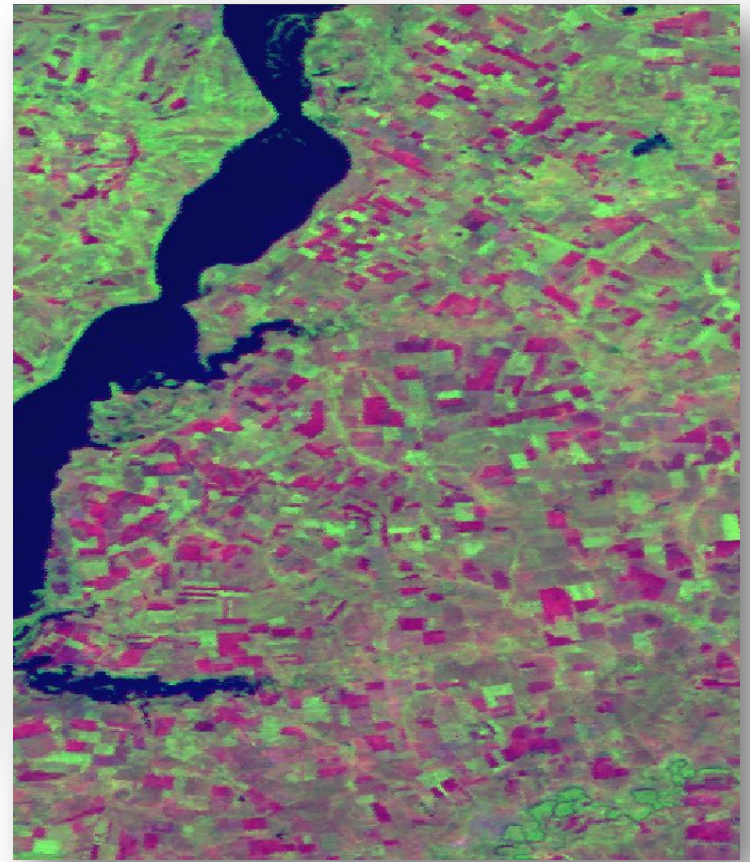
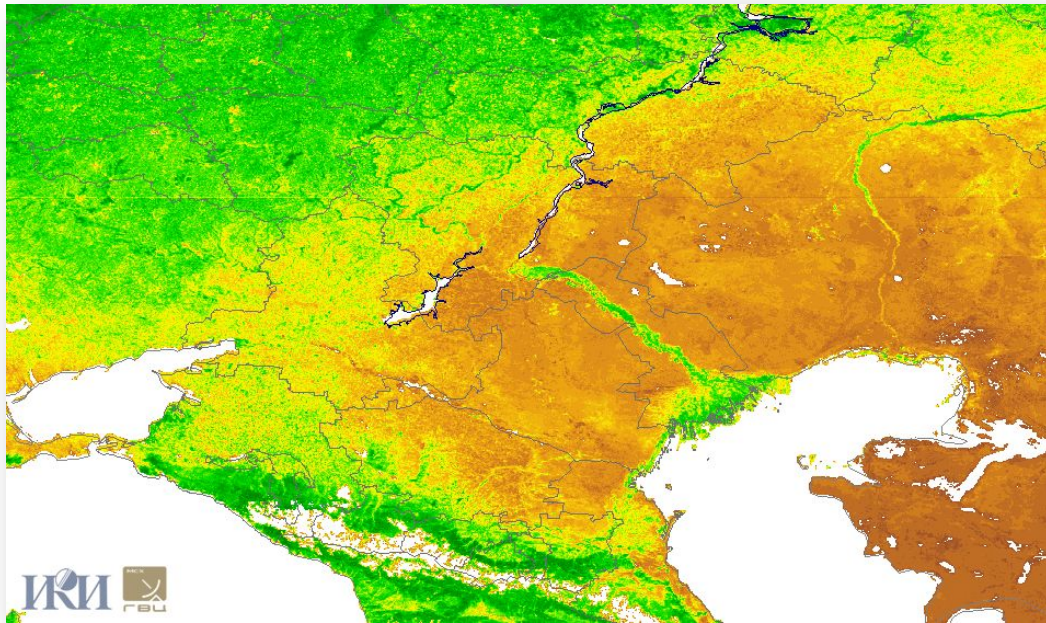
- Advanced Very High Resolution Radiometer



1984 - 2012

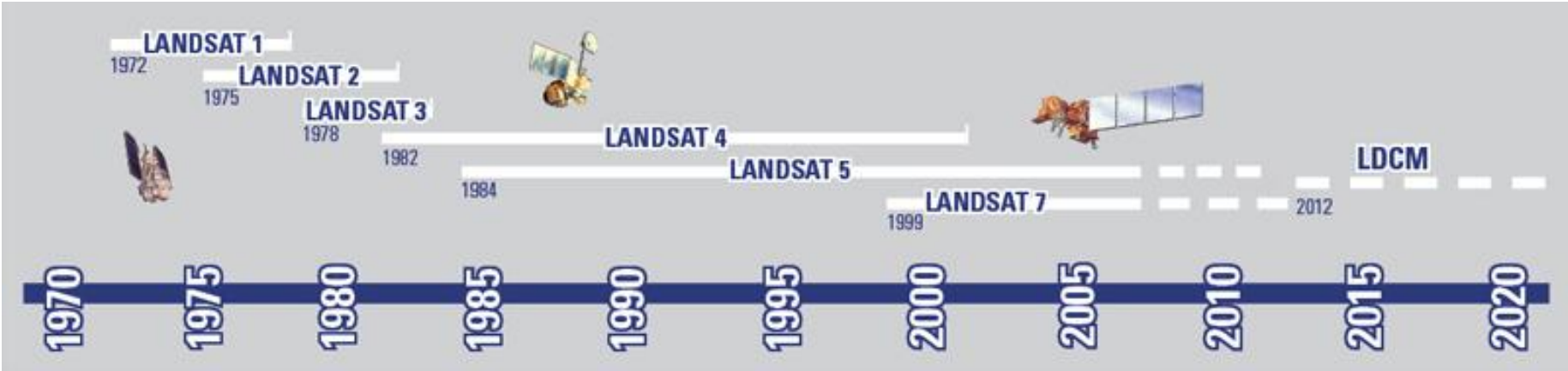
Режимы/Каналы:	1	2	3	4	5
Спектральный диапазон (мкм):	0.58 – 0.68	0.725 – 1.00	3.55 – 3.93	10.3 – 11.3	11.5 – 12.5
Пространственное разрешение в надире:			1100 м		
Ширина полосы съемки			2800 км		
Радиометрическое разрешение					10 бит на пиксел

# NOAA AVHRR





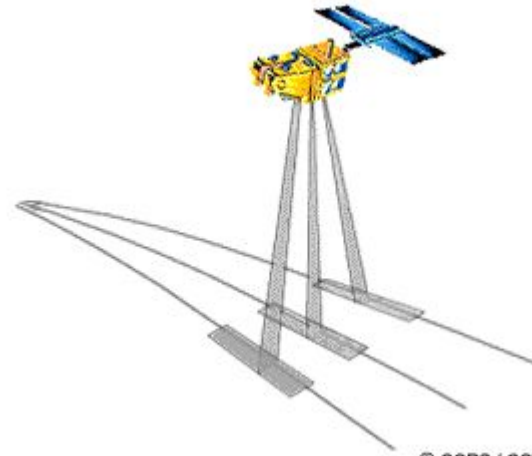
# LANDSAT



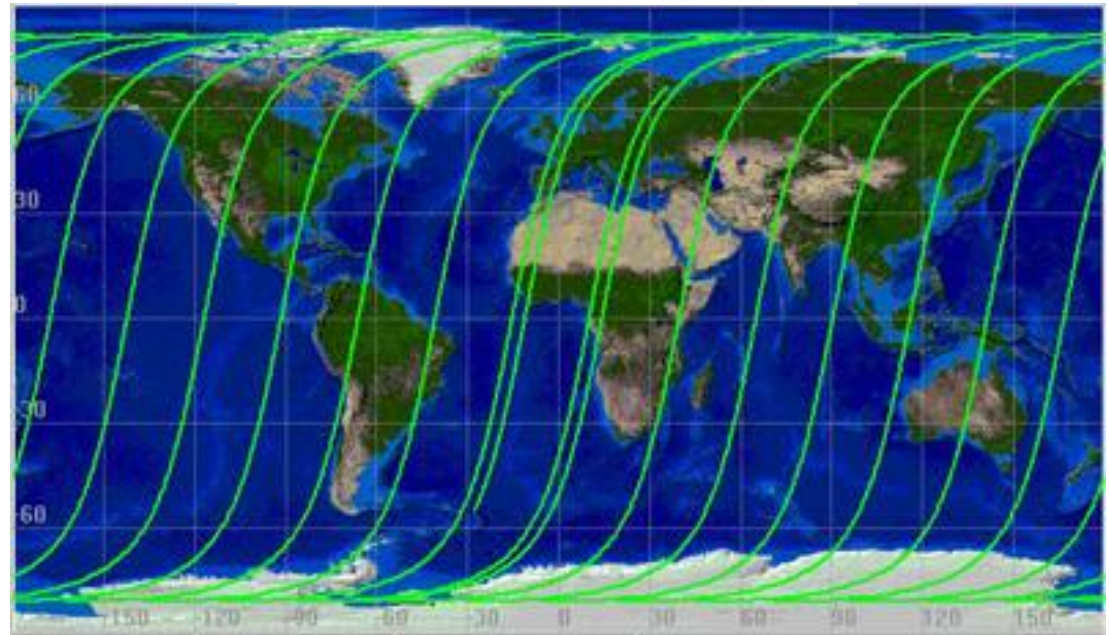
# TM-5

<b>Channel</b>	<b>Wavelength Range (<math>\mu\text{m}</math>)</b>	<b>Application</b>
TM 1	0.45 - 0.52 (blue)	soil/vegetation discrimination; bathymetry/coastal mapping; cultural/urban feature identification
TM 2	0.52 - 0.60 (green)	green vegetation mapping (measures reflectance peak); cultural/urban feature identification
TM 3	0.63 - 0.69 (red)	vegetated vs. non-vegetated and plant species discrimination (plant chlorophyll absorption); cultural/urban feature identification
TM 4	0.76 - 0.90 (near IR)	identification of plant/vegetation types, health, and biomass content; water body delineation; soil moisture
TM 5	1.55 - 1.75 (short wave IR)	sensitive to moisture in soil and vegetation; discriminating snow and cloud-covered areas
TM 6	10.4 - 12.5 (thermal IR)	vegetation stress and soil moisture discrimination related to thermal radiation; thermal mapping (urban, water)
TM 7	2.08 - 2.35 (short wave IR)	discrimination of mineral and rock types; sensitive to vegetation moisture content

# SPOT



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# SPOT

Сенсор	Съёмочный канал	Размер пиксела	Спектральный диапазон
SPOT 5	Панхроматический	2.5 м или 5 м	0.48–0.71 мкм
	B1: зелёный	10 м	0.50–0.59 мкм
	B2: красный	10 м	0.61–0.68 мкм
	B3: ближний инфракрасный	10 м	0.78–0.89 мкм
	B4: средний инфракрасный	20 м	1.58–1.75 мкм
SPOT 4	Моноспектральный	10 м	0.61–0.68 мкм
	B1: зелёный	20 м	0.50–0.59 мкм
	B2: красный	20 м	0.61–0.68 мкм
	B3: ближний инфракрасный	20 м	0.78–0.89 мкм
	B4: средний инфракрасный	20 м	1.58–1.75 мкм
SPOT 1 SPOT 2 SPOT 3	Панхроматический	10 м	0.501–0.73 мкм
	B1: зелёный	20 м	0.50–0.59 мкм
	B2: красный	20 м	0.61–0.68 мкм
	B3: ближний инфракрасный	20 м	0.78–0.89 мкм