Types of Satellite Imagery

By

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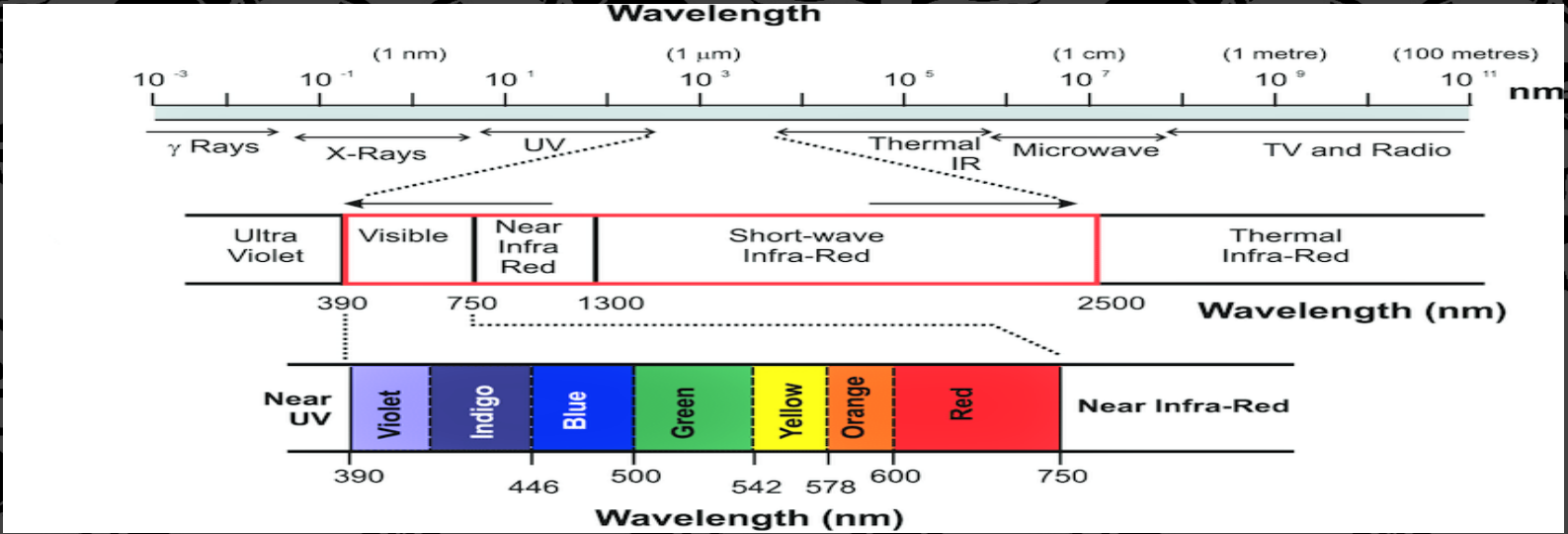
The Electromagnetic Spectrum

The electromagnetic spectrum ranges from the shorter wavelengths (including gamma and x-rays) to the longer wavelengths (including microwaves and broadcast radio waves). There are several regions of the electromagnetic spectrum which are useful for remote sensing.



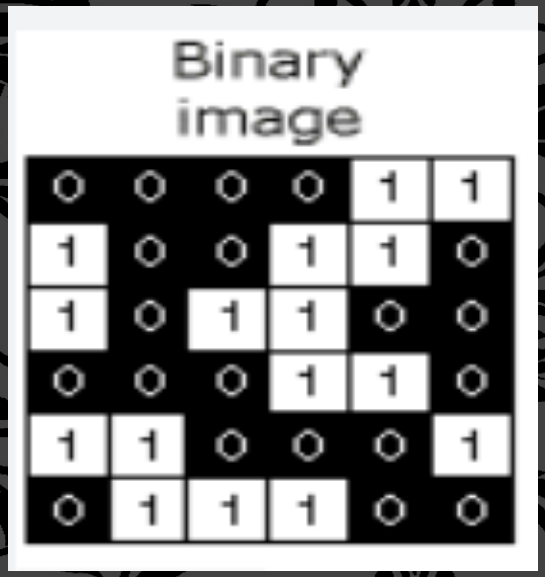
Landsat-8 bands

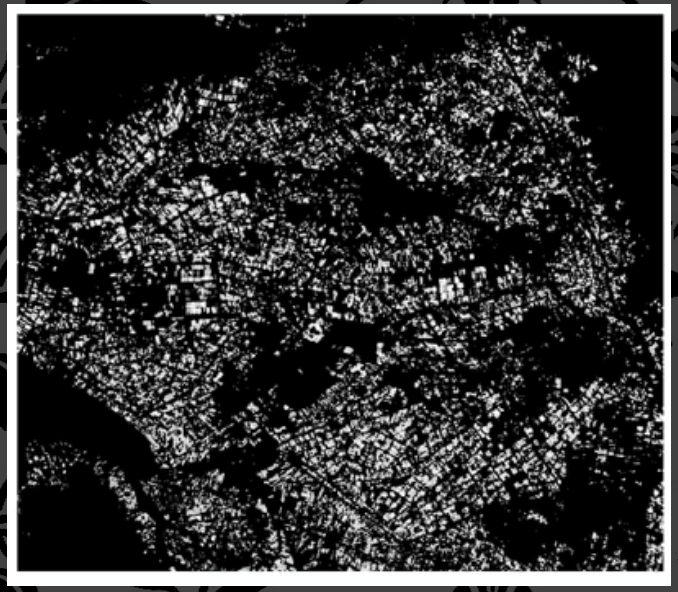
Bands	Wavelength (micrometers)	Resolution (meters)
Band 1 - Coastal Aerosol	0.43-0.45	30
Band 2 – Blue	0.45-0.51	30
Band 3 – Green	0.53-0.59	30
Band 4 – Red	0.64-0.67	30
Band 5 - Near Infrared (NIR)	0.85-0.88	30
Band 6 - SWIR 1	1.57-1.65	30
Band 7 - SWIR 2	2.11-2.29	30
Band 8 – Panchromatic	0.50-0.68	15
Band 9 – Cirrus	1.36-1.38	30
Band 10 - Thermal Infrared (TIRS) 1	10.6-11.19	100
Band 11- Thermal Infrared (TIRS) 2	11.50-12.51	100

The images types consider are:

1**. Binary images**

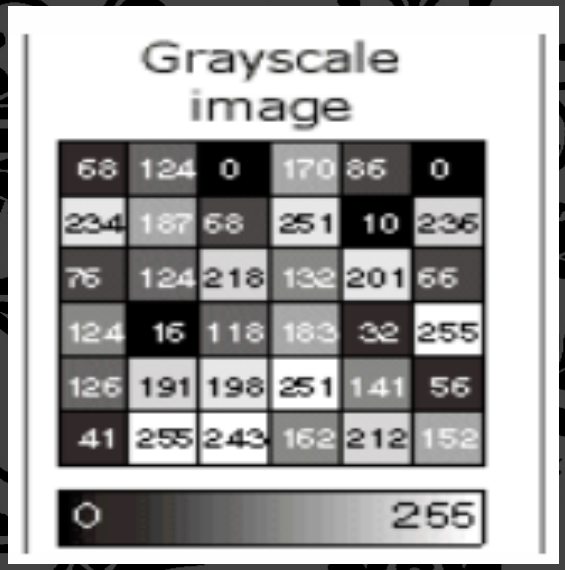
Binary images are the simplest type of images and can take on two values, typically black and white, or 0 and 1





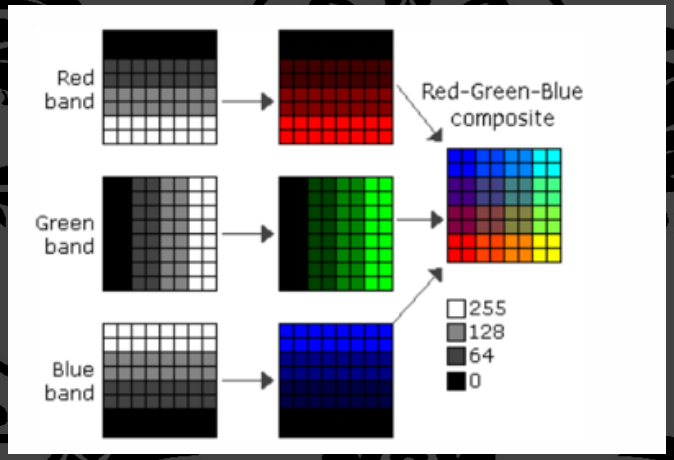
2. Gray-scale images

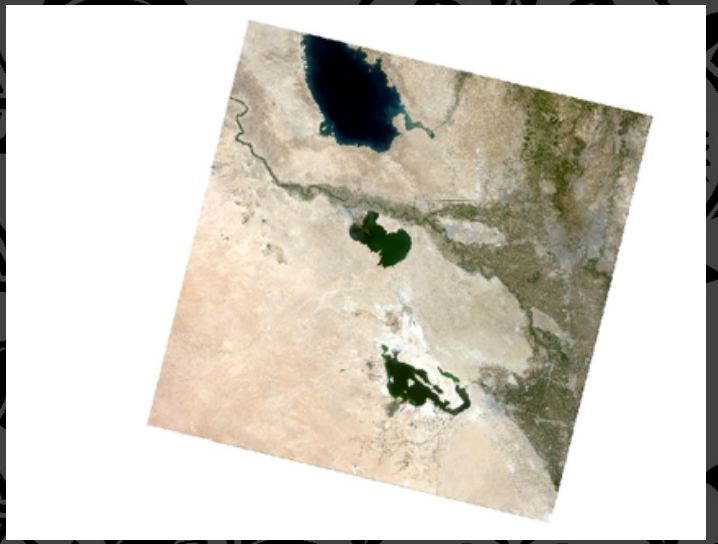
Gray-scale images are referred to as monochrome (one-color) images. 0- 256 different gray levels.



3. Color images

Color images can be modeled as three-band monochrome image data, where each band of data corresponds to a different color. The actual information stored in the digital image data is the gray-level information in each spectral band. Typical color images are represented as red, green, and blue (RGB images).



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