

You can do it! Remote Sensing Analysis

Part 4 : Combination of satellite data and ground data

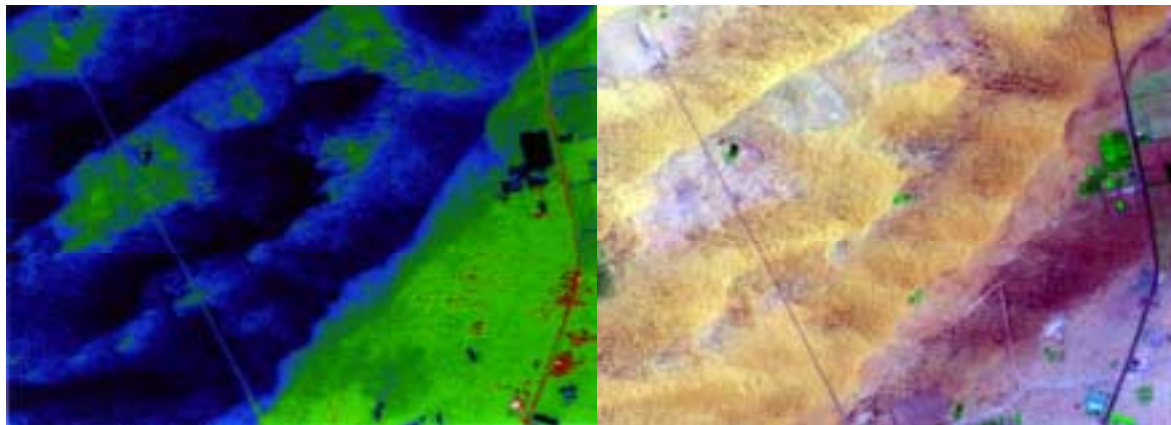
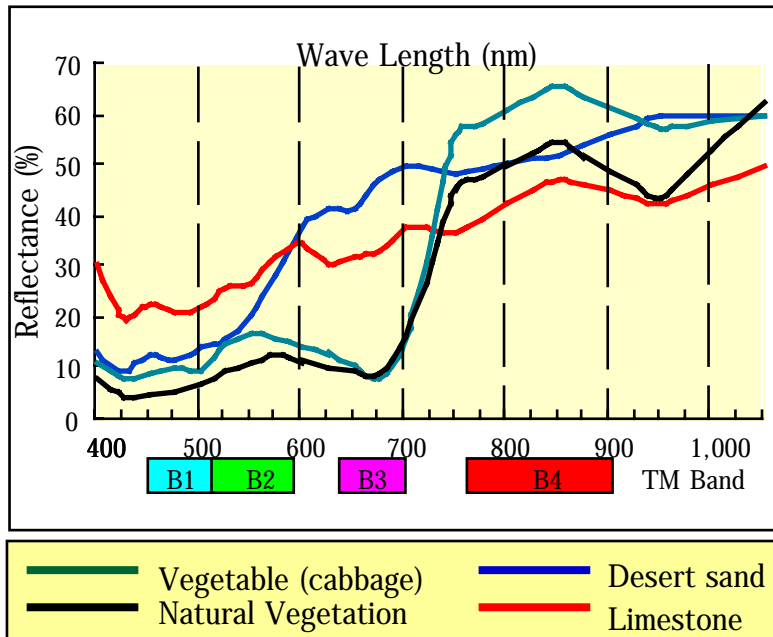
It is indispensable for Remote Sensing Analysis to use information on the ground for analyzing satellite data. Therefore, it is vital to collect ground information as much as possible. Ground information can be divided into two groups; visual and numerical as follows. Visual information is collected by observing the spot by naked



Visual information:
Land use, vegetation, soil, geological features, etc.
Numerical information:
Latitude, longitude, temperature, reflectance, etc.

eyes. So it does not need special equipments. However, it requires mechanical equipments to collect numerical information, such as thermometer to measure temperature, a GPS receiver to record latitude and longitude, etc. To measure reflectance of spectral diffraction, the

equipment shown in the photo above is used. The reflection rate measured by this equipment and the one taken by the satellite are compared and analyzed. The right figure shows four kinds of reflection rate measured in UAE. The reflection rate of plants increases at 650nm to 750nm wavelength. This tendency is obvious when plant grows rapidly because of its high vitality and having a large quantity of chlorophyll. The reflection rate of rocks and soils tends to increase as wavelength gets longer, and differs depending on the characteristics of rocks or soils. The photo below were processed to emphasize dune, using ground data of 500nm (band 2) and 750nm (band 4) of the TM band.



Analyzed satellite photo (2 bands) (left) and satellite photo by natural color (right)