Monitoring of open water bodies

Assignment: analysis of data for hydrological applications

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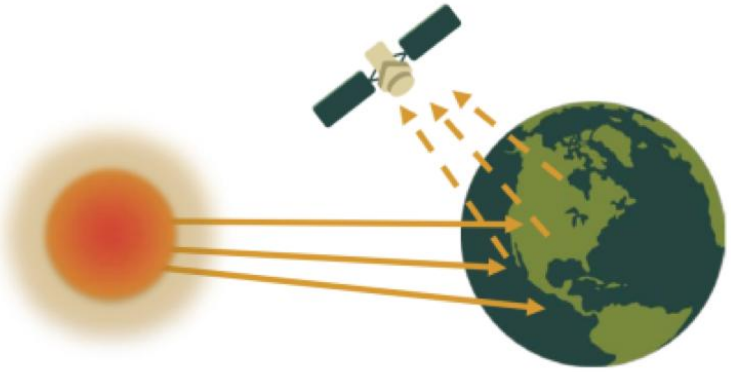
ACACIA WATER

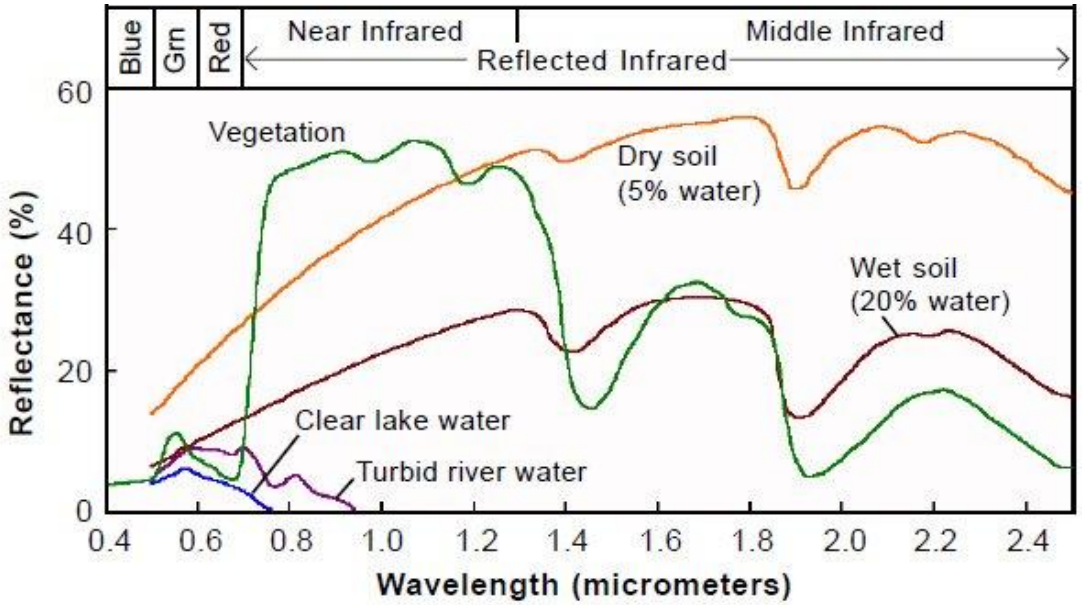
Temporal variations in reservoir size

- Yesterday short introduction about principles of Remote Sensing
- Now apply remote sensing!
- Monitoring of open water bodies
- Instructions can be found in the manual (section 2.1)



Sentinel-2 spectral signatures

- Spectral signatures show the **reflectance or emittance of a surface (or a pixel) across multiple wavelengths** of the electromagnetic spectrum
- Reflectance depends on type of surface and wavelength

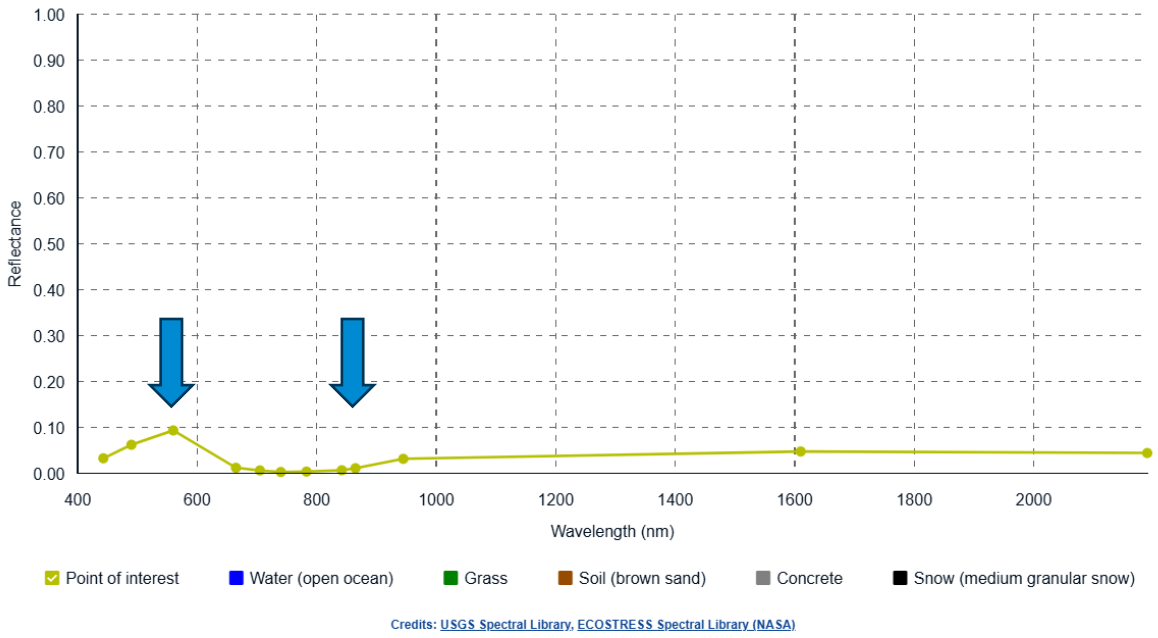


Spectral signatures

Spectral explorer: Sentinel-2 L2A

Kufranjah

Chart | Values

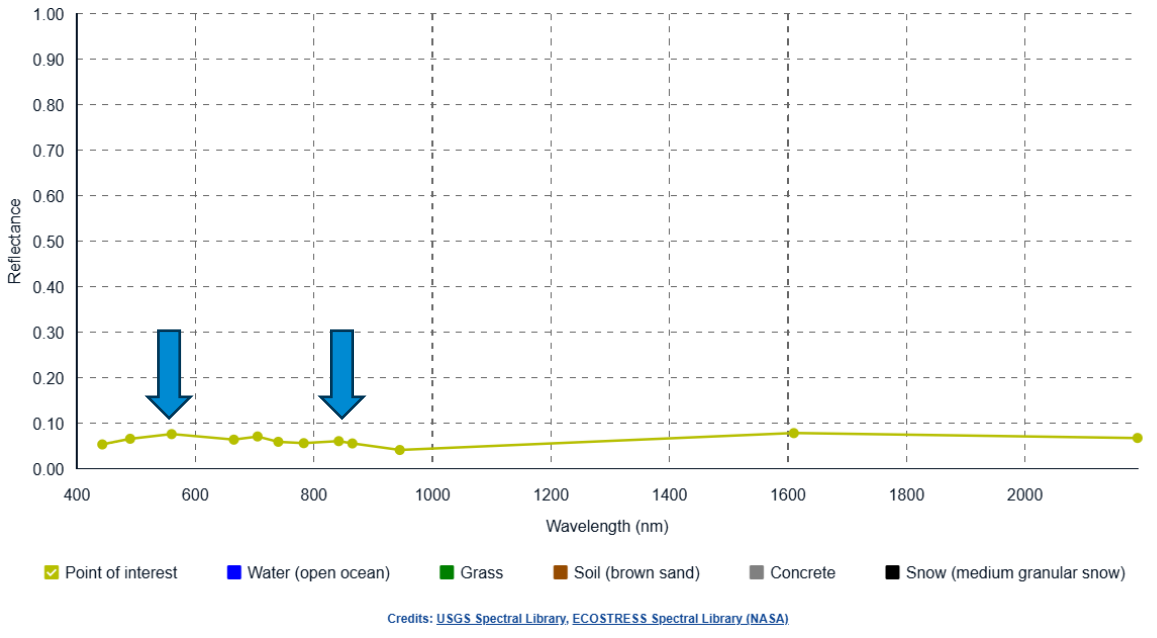


Credits: USGS Spectral Library, ECOSTRESS Spectral Library (NASA)

Spectral explorer: Sentinel-2 L2A

KTD

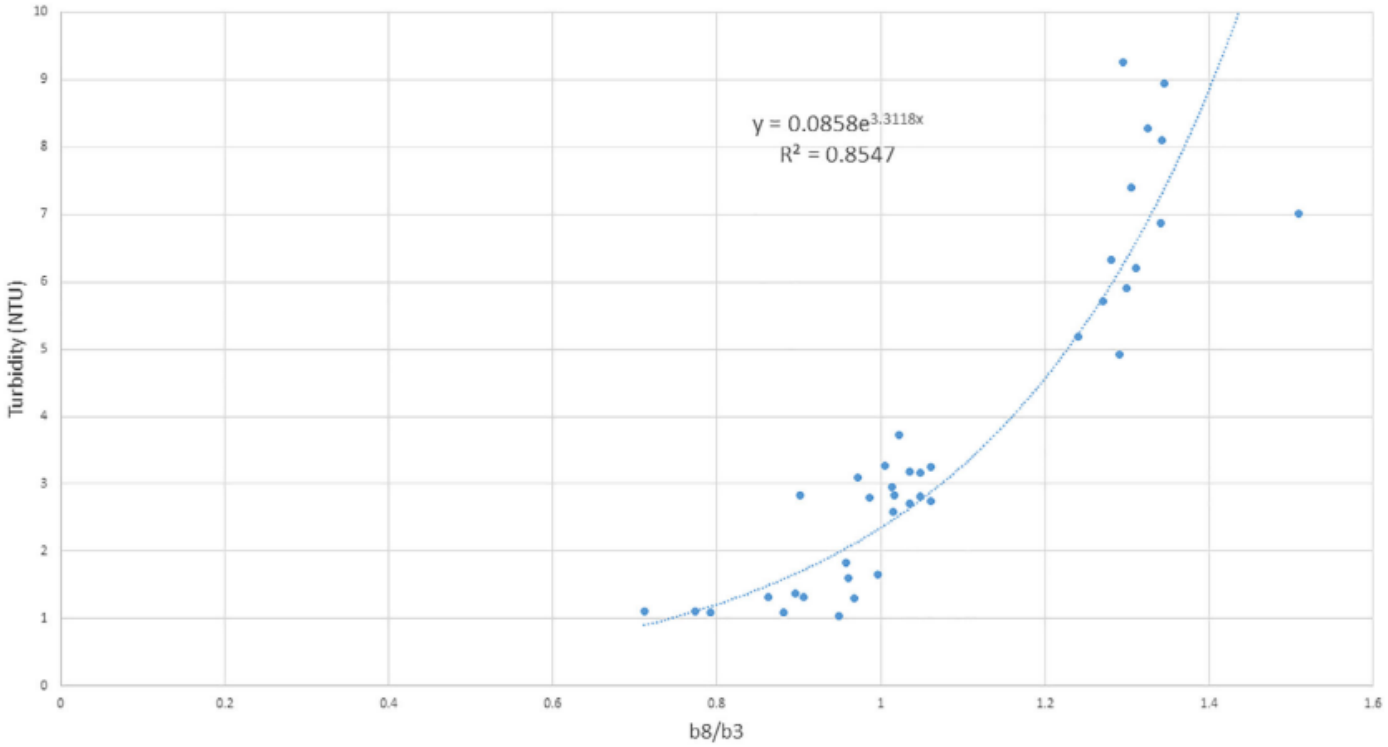
Chart | Values



Credits: USGS Spectral Library, ECOSTRESS Spectral Library (NASA)

Turbidity

- B8/B3 = NIR/Green ratio
- **Kufranjah:** higher reflectance in Green than NIR → B8/B3 < 1 → lower turbidity
- **KTD:** minor differences in reflectance Green vs. NIR → B8/B3 around 1 → higher turbidity
- Hussein, Assaf, & Abohussein, 2023



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