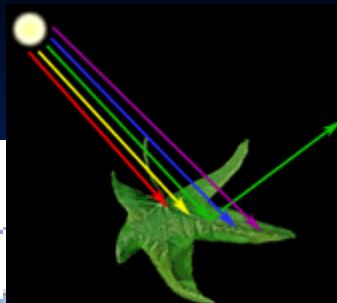


# Stress indication

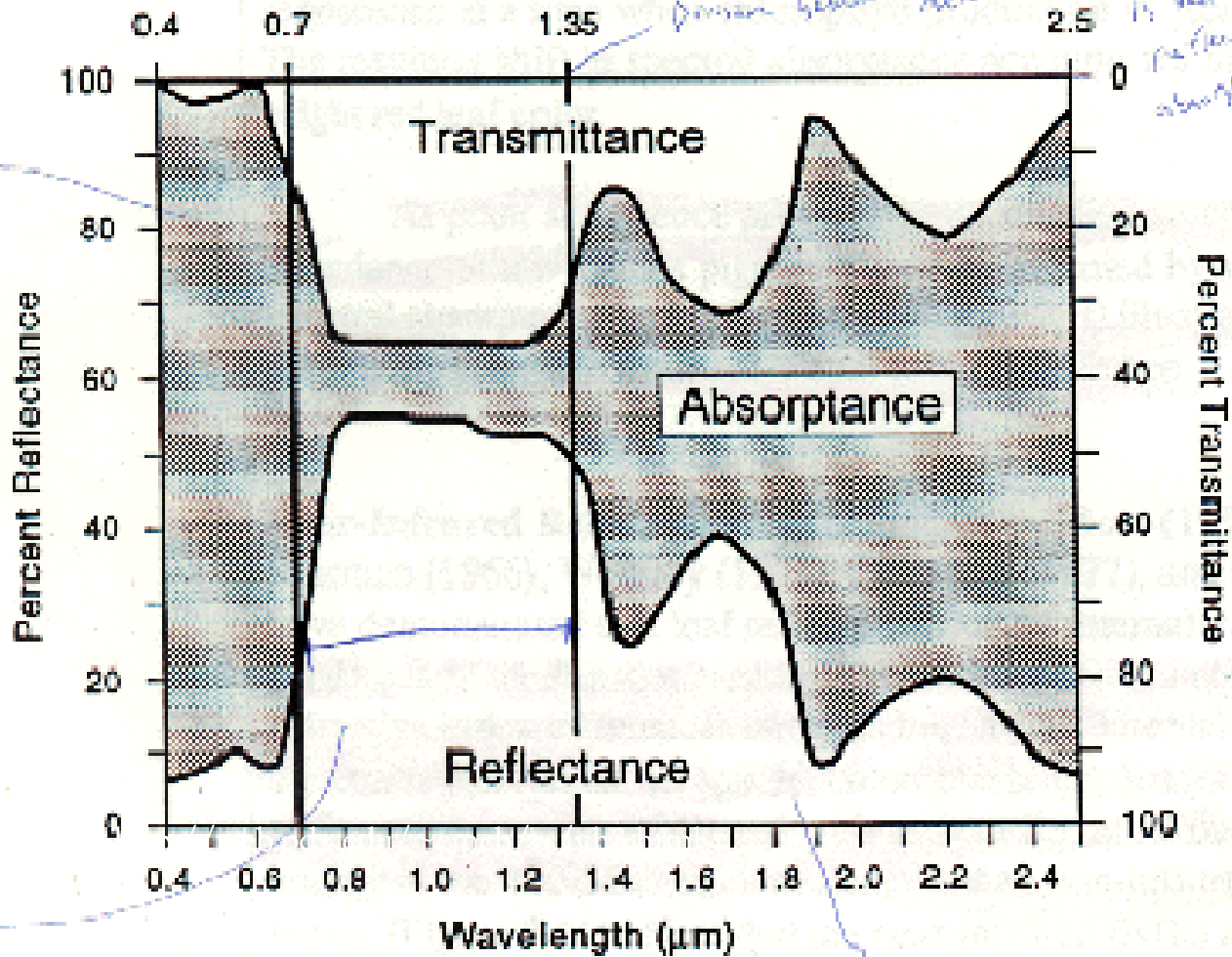
leaf, plant, population

Miloš Barták



# Spectral Partitioning by Vegetation

2.7



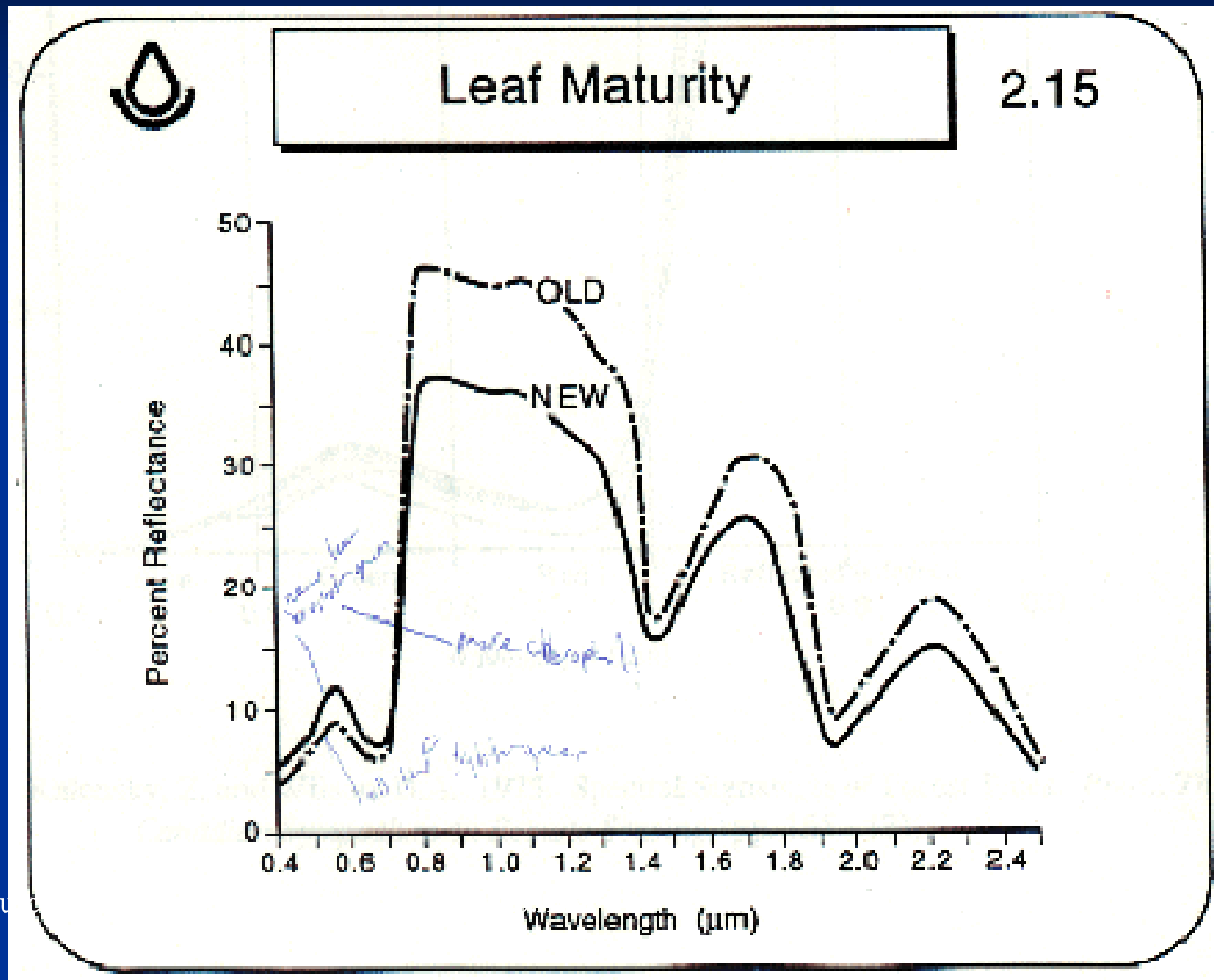
red

water

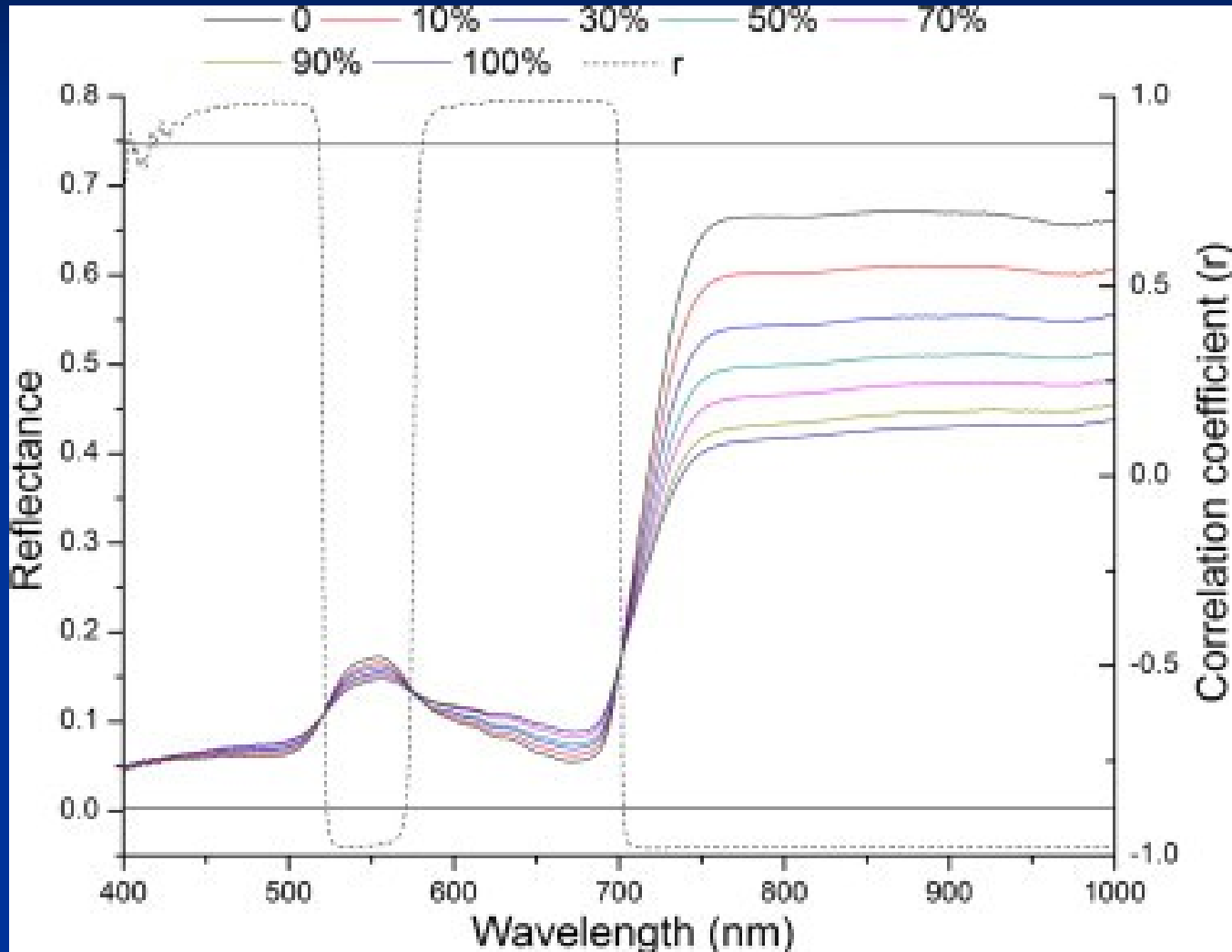
reflected

transmitted

# Spectral Reflectance



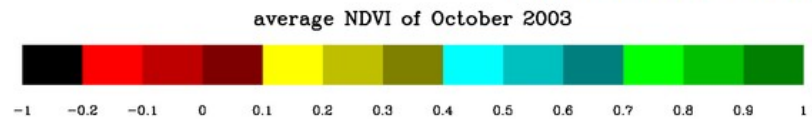
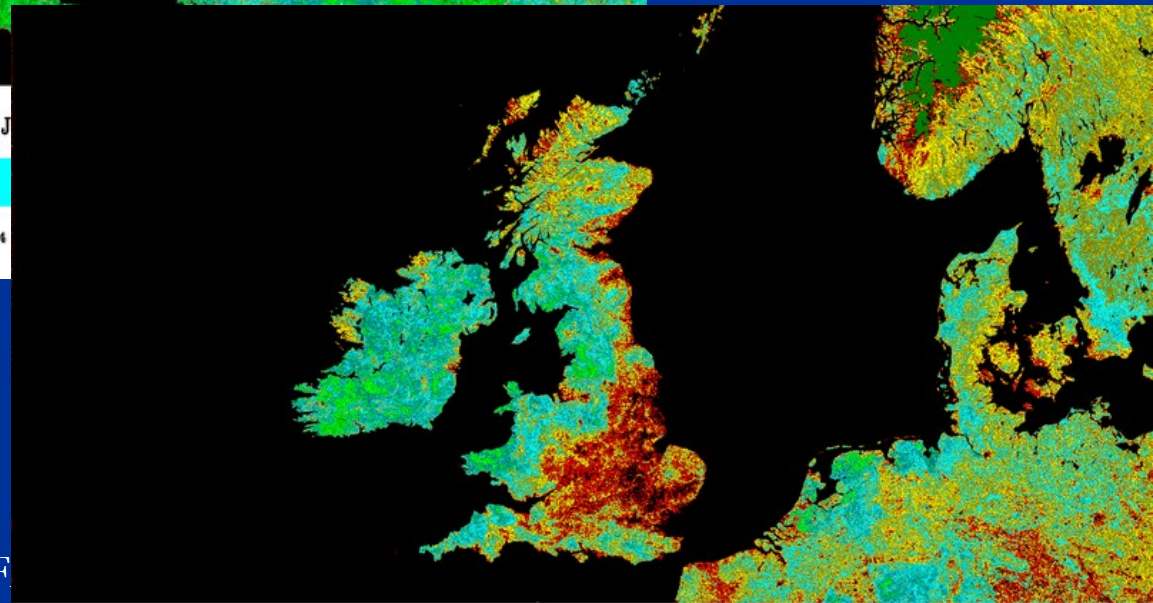
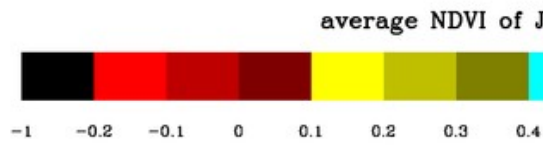
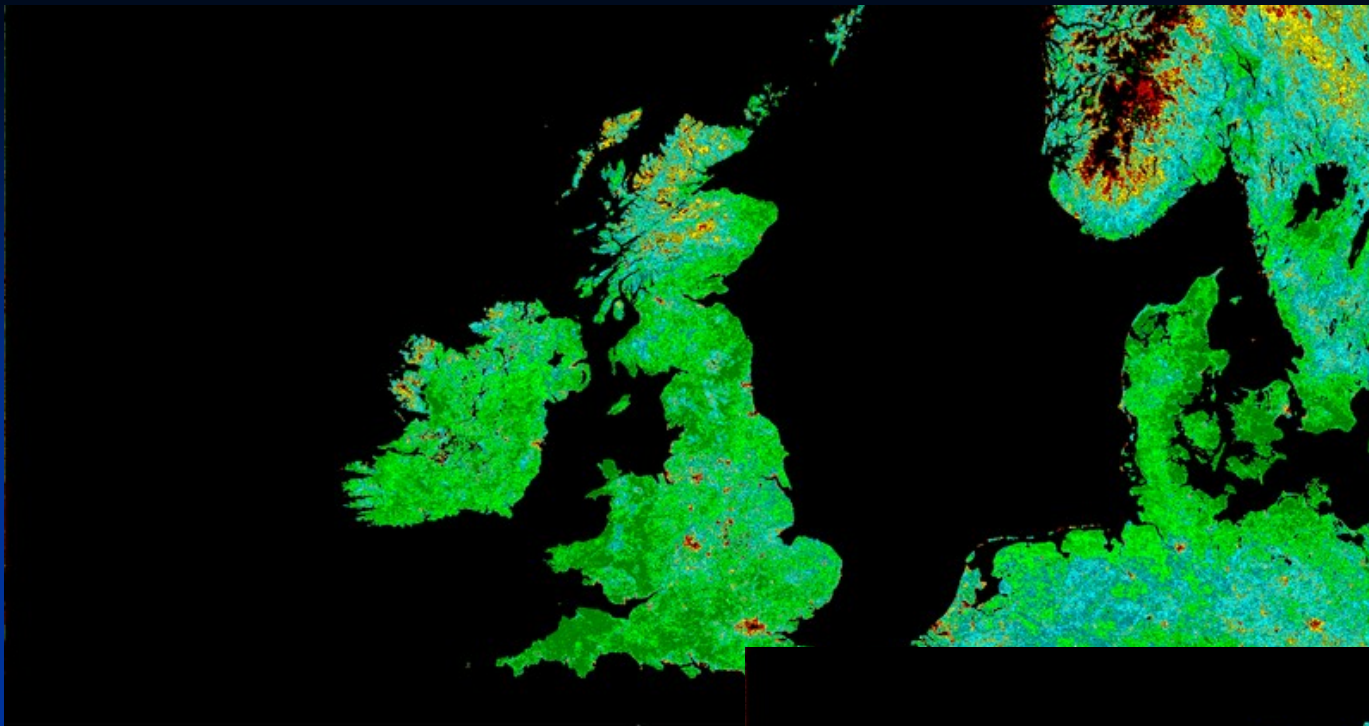
# Leaf spectral reflectance



# NDVI

- The **Normalized Difference Vegetation Index (NDVI)** is a simple graphical indicator that can be used to analyze remote sensing measurements, typically but not necessarily from a space platform, and assess whether the target being observed contains live green vegetation or not.

- Source: <http://web.pdx.edu/~emch/rs/vh3.html>



■ <http://en.wikipedia.org/wiki/F>

# NDVI

- The NDVI is calculated from these individual measurements as follows:



$$(R740 - R660) / (R740 + R660)$$

# PRI

## Photosynthetic reflectance index

$$PRI = (R_{570} - R_{531}) / (R_{570} + R_{531})$$

$$PRI = (R_{531} - R_{570}) / (R_{531} + R_{570})$$



# Vegetation indices

- **Poměrové indexy**

- Poměrové indexy dávají do vztahu jednoduchým nebo normalizovaným poměrem odrazivost povrchů v červené viditelné a blízké infračervené části spektra. Mezi nejčastěji používané poměrové indexy patří například: Jednoduchý poměrový vegetační index (RVI - Ratio Vegetation Index):

- 
- 

$$RVI = \frac{NIR}{RED}$$

$$(R740 - R660) / (R740 + R660)$$

- Normalizovaný diferenční vegetační index (NDVI - Normalized Difference Vegetation Index):

- 
- 

$$NDVI = \frac{NIR - RED}{NIR + RED}$$

- Transformovaný vegetační index (TVI - Transformed Vegetation Index):

- 

$$TVI = SQRT\left(\frac{NIR - RED}{NIR + RED} + 0.5\right)$$

## Reflectance of Spartina Leaves

