

Spectral reflectance of inland sebkhas in NE Spain



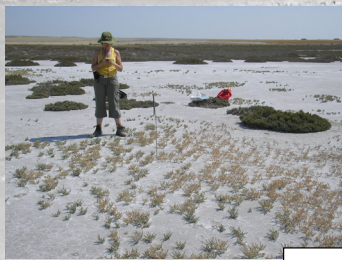
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Saline wetlands of Monegros in the Ebro basin (Spain) are high-priority habitats influenced by spatial and edaphic gradients determined by arid climate and extreme salinity.

Their surface is heterogeneous, including sparse vegetated spots and bare soil. The halophytes *Arthrocnemum macrostachyum* and *Suaeda vera* are common, as well as *Lygeum spartum*. The look of the bare surface changes quickly (ponding, moisture, efflorescence). The individual spectral properties of each cover have been studied on six wetlands for two years.

1. BIOPHYSICAL PARAMETERS



Mapping vegetation cover (%)

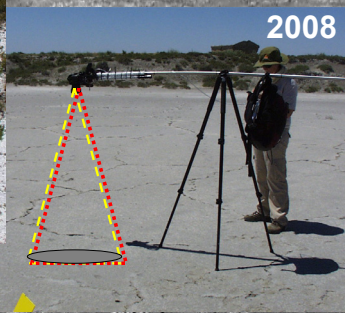
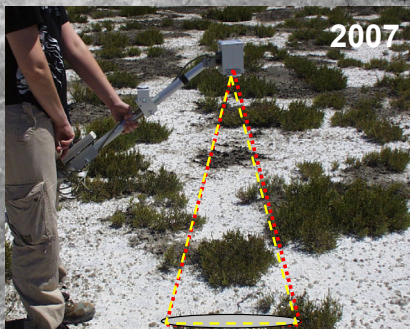


Soil parameters: Color and moisture (top layer)

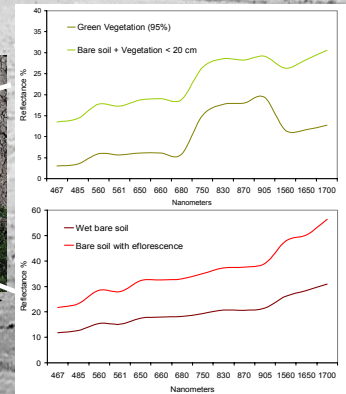
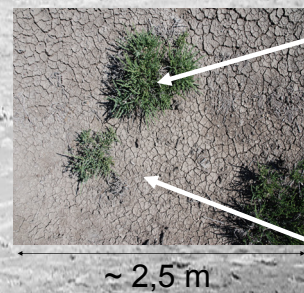
2. SURFACE REFLECTANCE

Spectrometer readings

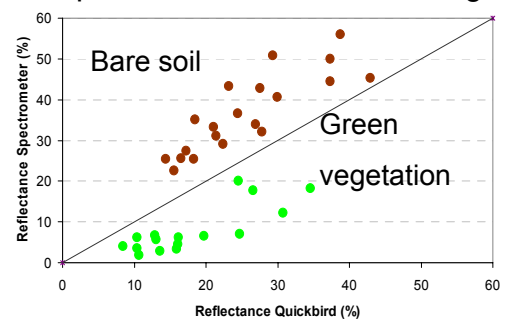
- 6 - 10 sites/transect
- 2 summers (July)
- Height ~ 1,5 m



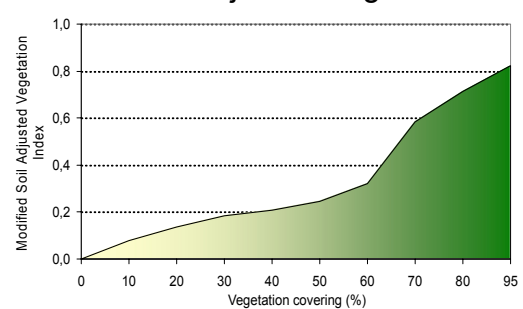
3. PRELIMINARY RESULTS :



Spectrometer / Quickbird image



Modified Soil Adjusted Vegetation Index



CONCLUSIONS

- Vegetation >20 cm-tall and +60% of covering shows good relation Spectrometer / Quickbird image ($R^2 \sim 1$).
- Light colors or senescent vegetation have similar reflectance to bare soil (>20%), and organic matter and moisture decrease a 10 % of reflectance.
- Subpixel approach is needed. The vegetation is underestimated due to low covering and high reflectance of soil in Quickbird images.

ACKNOWLEDGEMENTS

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