

Imaging Spectrometry for Management and Policy

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Imaging spectrometry is different than multispectral remote sensing, because molecular absorptions and constituent scattering characteristics of the surface and atmosphere are fully resolved. This allows derivation of quantitative physical parameters not possible with multispectral approaches. Imaging spectrometry derived parameters are delivered with units and uncertainties. Specifically, imaging spectrometry allows:

- 1) Unambiguous identification based on molecular absorption
- 2) Measurement of expressed concentration
- 3) Simultaneous measurement of several components
- 4) Delineation of spatial distribution of components
- 5) Monitoring components for change through time

These are "Remote Measurement" not "Remote Sensing" capabilities. In this paper brief examples are given of the quantitative use of imaging spectrometry in the disciplines: Ecology; Geology; Coastal and Inland Waters, Snow and Ice Hydrology; Atmospheric Aerosols and Gasses; Clouds; Biomass Burning; Hazards Assessment; as well as Satellite Calibration and Validation. Across these disciplines, imaging spectrometer derived parameters, with units and uncertainties, allow managers and policy makers to make accurate decisions based on "Remote Measurements".