Relevance of Earth Observation Information for the GEF

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Applications of Remote Sensing in GEF Projects

1. Spatial planning – Terrestrial and Marine
2. Monitoring Terrestrial, Coastal and Marine as well as vessels (*)
3. Forecasting freshwater availability- Groundwater, wetlands and lakes
4. Climate change models — Risk analysis and Mitigation measures
5. Identification of Drivers of Environmental Degradation and Risks— Landscape level
6. Measurements of Forest Cover – Binary (Deforestation, reforestation, afforestation)
7. Measurement of Degradation of Forest Cover and Other Biomes – Continuum
8. Targeting the Location of Protected Areas – e.g. Location of KBAs
9. Determination of vegetation “health” - Normalized Difference Vegetation Index (NDVI)
When are Remote Sensing Tools used at the GEF?
Integrated approaches to Water Resource Management

SCALING UP: Integrated water and environment management approach to the Liao, Hai, and Yellow River Basins

The Hai River Basin: New Irrigation Technology Strengthens Food Security

INTEGRATED SOLUTIONS for WATER, ENERGY, and LAND
Integrated approaches to Water Resource Management

Danube/Black Sea Basin Strategic Partnership on Nutrient Reduction
Monitoring approaches in forest conservation, restoration, and management
Identifying drivers of protected area degradation in Ria Lagartos Biosphere Reserve and Monarch Butterfly Sanctuary, Mexico

Analysis of high resolution commercial satellite data.
Identifying drivers of protected area degradation in Ria Lagartos Biosphere Reserve and Monarch Butterfly Sanctuary, Mexico

Analysis of high resolution commercial satellite data.
Comparing the effectiveness of GEF support to PAs in Mexico

Forest Change analysis based on the counterfactual sites obtained through propensity score matching
Assessing forest cover loss in GEF supported PAs

Forest Change analysis within the PAs and at varying buffer distance. Forest change analysis done for a total of 30,000 PAs across 147 countries.
Are the GEF supported Protected Areas also located in areas of high biodiversity?

Spatial analysis based on important biodiversity areas such as KEY BIODIVERSITY AREAS.
Temporal changes in vegetation productivity over Lake Victoria

Temporal decomposition of time series data; NDVI; Data from MODIS and GIMMS v3
Value for Money Analysis for GEF land degradation projects

Machine learning and propensity score matching using geospatial biophysical and socioeconomic data.

$7,500,000 carbon benefit (@USD12/ton carbon)

Geeta Batra, Anupam Anand, Dan Runfola
When “the rubber hits the road”
What do these species have in common?

- *Tapirus pinchaque*
- *Loxodonta cyclotis*
- *Crax alberti*
- *Gorilla gorilla*
The Empty Forest: Many large animals are already ecologically extinct in vast areas of neotropical forest where the vegetation still appears intact

Kent H. Redford

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