Agriculture

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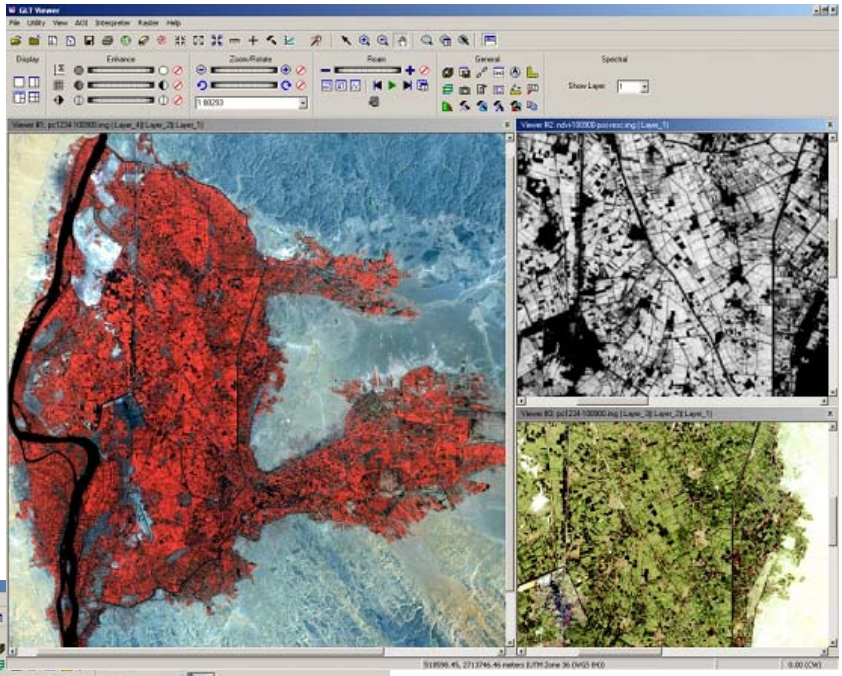
Project solutions provided by **MFB-GeoConsulting**

Monitoring of Irrigation in Upper Egypt – Komombo (15-meter pan-sharpened IR-color image; collected June 12, 2002)

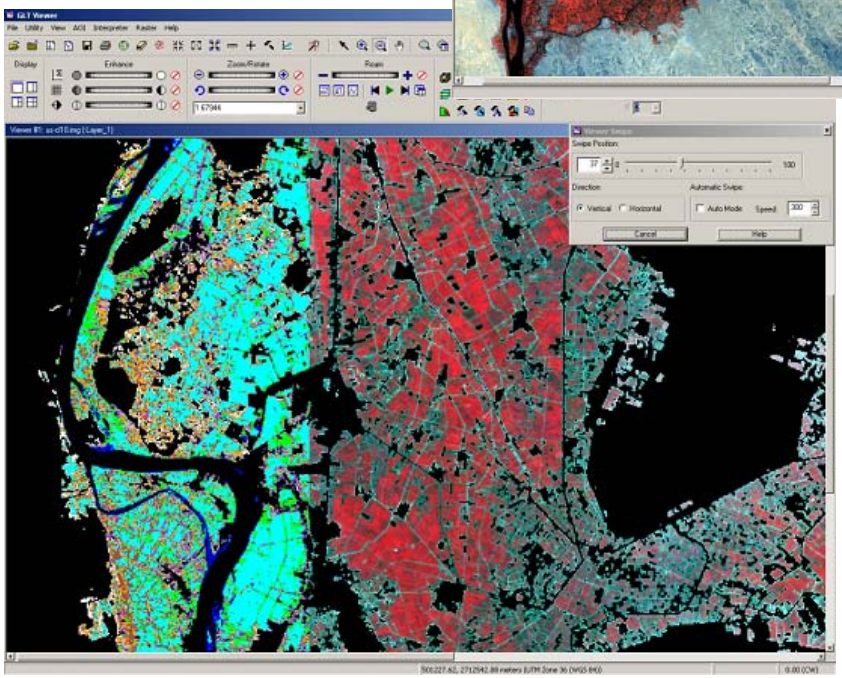
Goal: Extraction of two products from Landsat ETM+ data:

- NDVI image and sugar cane growth-vigor image (low, medium, high) derived from the NDVI images
- Cropping pattern image: sugar cane; summer cereals

All analyses were made using ERDAS Imagine Professional.



Credit: eurimage.com/mfb-geo.com/2002



Komombo - NDVI analysis for Landuse and Sugar Cain Plantation

- Multispectral remote sensing data are useful for water management and vegetation monitoring as they can provide information on the land cover and the amount and vigor of vegetation.
- Landsat-7 ETM+ data were suitable for this study.
- Four Landsat ETM+ images were used in this study: 06/22/00, 09/10/00, 06/12/02 and 10/02/02.

Credit: mfb-geo.com/2002

- NDVI images extracted from these satellite images showed that the photosynthetic activity was higher in September/October than in June reflecting the existing field conditions. In September/October, vegetation health seemed to be very good in most parts of the area. In June, some areas suffered significantly, may be through the lack of water.
- Using training sites acquired during field surveys it was possible to show that NDVI values indicate sugar cane production levels. The comparison June – September/October was very useful. To really monitor the development of sugarcane, it would be necessary to use more satellite images at regular intervals during the year (time series).
- A cropping pattern image identifying sugar cane and other crops was produced. Only for a very small part of the vegetated area it was not possible to distinguish recently planted sugar cane from other crops.

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Solutions in Geographic Imaging

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