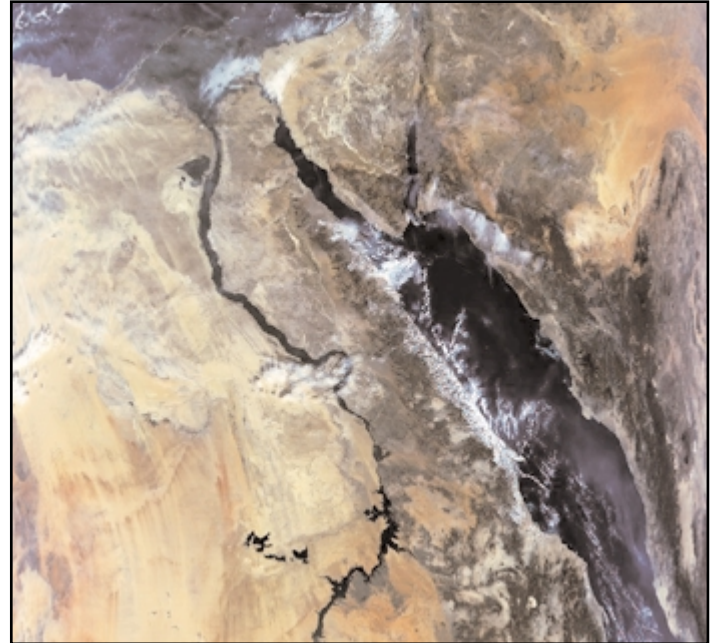




## features/benefits

- Affordable turnkey solution for reception and processing of EOS Terra and Aqua MODIS and future planned NPP and NPOESS satellite data built on Vexcel's proven ground station technology
- X-Y pedestal with no overhead cone-of-silence for complete hemispherical coverage. Low slew rates minimize wear and tear on gearboxes and mechanical components and therefore reduce maintenance costs
- Program track, using NORAD two-line elements and orbital model, with optional auto-track
- Optional sandwich foam core radome, hydrolam coated, impedance matched for reception of X-band transmissions around 8.2 GHz
- Compact design using drive-bay receiver and plug-in data capture cards – no rack-mounted equipment
- High specification, dual processor, off-the-shelf PC workstations running Linux or MS Windows, with low maintenance costs
- Fully automated scheduling, tracking, reception and processing, completely configurable through the use of processing schedules and scripts
- User friendly graphical user interfaces for all aspects of configuration, processing and visualization of MODIS and other data
- Choice of standard NASA GSFC, IMAPP or SeaDAS L0, L1 and L2 processors and data products
- Import of NASA GSFC, IMAPP and SeaDAS archived data products
- Automated or manual image re-projection and mosaicing to user-definable geocoded areas of interest in a number of different standard map projections

continued



*MODIS false colour composite of Egypt, the Nile and the Red Sea.*

# VxEos™

## MODIS Ground System

**Turnkey solution for EOS Terra and Aqua MODIS data reception**

## overview

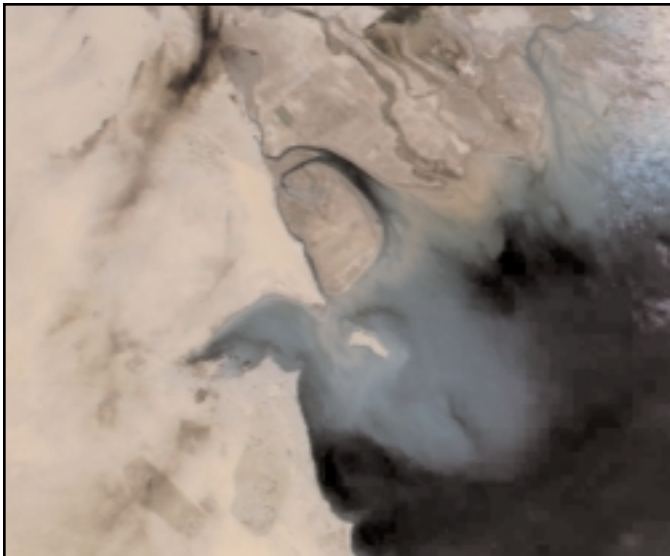
The VxEos™ Ground System is Vexcel's MODIS only ground system designed for users who want to receive and process data from EOS Terra and Aqua MODIS and the future planned NPP and NPOESS satellites.

Basic components of the system include antenna, pedestal, RF/IF electronics, data capture, processing and visualization system and ground system control software to automate the process of scheduling, tracking, reception and processing of MODIS data.

The system uses a software telemetry processing system to generate standard Level 0 Production Data Sets and either Vexcel's own MODPro™ and MODSci™ or NASA GSFC processors to generate standard L1B and L2 products.

## features / benefits

- Integrated, fully featured image viewer for visualization and processing of received imagery, including:
  - Multiple image windows for concurrent display of different images or channels,
  - Grey scale or false color composite display, both as single frames and as animation sequences
  - Interactive real-time zooming and panning of displayed imagery,
  - Re-projection to standard map areas,
  - Contrast & color palette enhancements,
  - Statistical measures and plots,
  - Convolution filters,
  - User definable vector, symbol and text annotations,
  - Geographic feature vector overlays and basemap underlays,
  - Export to standard bitmap formats (PNG, JPG, GeoTIFF, etc.)
- Programmers API for interfacing to received data and system libraries



MODIS false color composite showing smoke plumes from oil fields burning in Kuwait and southern Iraq.

## Optional Components

### Antenna and RF

- 2.4m parabolic reflector
- X-Y tracking pedestal for full hemispherical coverage with cone-of-silence, better than 0.1° pointing accuracy
- X-band LNA and down-converter for all frequencies from 7.8 to 8.5 GHz and an IF of 720 MHz
- System G/T ~23.9 dB/K
- GPS for accurate clock synchronization

### Environmental

- Temperature: -20 to +55 °C (operational)  
-30 to +60 °C (survival)
- Humidity: 0 to 100 % RH
- Wind: 80 km/h (operational)  
160 km/h (survival)

### Data Acquisition

- High specification 3.6 GHz Intel Xeon based PC, 1 GB RAM, 40+400 GB HDD, Linux or MS Windows
- Drive-bay DSP-based MODIS receiver
- High speed synchronous serial interface card
- Configurable software telemetry processor

### Data Processing

- High specification dual 3.6 GHz Intel Xeon based PC, 2 GB RAM, 40+400 GB HDD, 20" flat panel monitor, Linux or MS Windows
- Vexcel or NASA GSFC L1 and L2 processors

### Data Acquisition

- Sandwich foam core radome for increased protection against the elements
- 2.8m, 3.0m or larger parabolic reflector
- Dual L/X-band feed, down-converter, receiver and processors for NOAA HRPT/AVHRR reception and processing
- 6 TB+ Networked Attached Storage device
- 160/320 GB Super DLT tape drive for archive and retrieval of received data



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