

## MODIS Surface Resistance and Evapotranspiration (MOD 16)

### Product Description

This Level 4 product consists of Surface Resistance and Evapotranspiration (ET) parameters and has a temporal resolution of eight days at a spatial resolution of 1 km over the land surface only. The land Surface Resistance is an Aqua product that captures sub-optimum conditions produced by soil/atmospheric moisture deficits for vegetation photosynthesis and transpiration. The spatial resolution of these products is 1 km.

### Research and Applications

These two parameters are essential to global modeling of climate, water balance, and trace gases. In addition, they are required in estimating photosynthesis, respiration, and net primary production. The surface-resistance product is an Aqua (post-launch) research data product intended for real-time implementations. Practical applications of this product are for monitoring wildfire danger and crop/range drought.

### Data Set Evolution

The Surface Resistance product will be calculated using the MODIS Land Surface Temperature (MOD 11) and the MODIS modified vegetation index (MOD 13), and will be used along with incident radiation for computing the ET.

### Suggested Reading

- Dickinson, R.E., 1987.
- Goward, S.N., and A.S. Hope, 1989.
- Nemani, R.R., and S.W. Running, 1989.
- Nemani, R.R. *et al.*, 1993.
- Running, S.W. *et al.*, 1989.
- Running, S.W. *et al.*, 1994.

## MODIS Surface Resistance and Evapotranspiration Summary

Coverage: Global

Spatial/Temporal Characteristics: 1 km/8-day, yearly

Key Science Applications: Global water balance, net primary production

Key Geophysical Parameters: Surface resistance, evapotranspiration

Processing Level: 4

Product Type: Research, post-launch

Maximum File Size: 5.8 MB

File Frequency: 289/8-day

Primary Data Format: HDF-EOS

Additional Product Information:

<http://modis-land.gsfc.nasa.gov/products/products.asp?ProdFamID=3>

DAAC: EROS Data Center

Science Team Contact:

S.W. Running