DroughtView 2.0: A Satellite Based Vegetation Drought Monitoring Web Application

Drought is an ever-growing concern within the United States and Mexico. Extended periods without precipitation adversely affect agricultural production and create conditions prime for wildfire.

DroughtView (climate.arizona.edu/droughtview) provides a novel way of monitoring drought for the entire continental United States and the northern regions of Mexico. As a spatially and temporally dynamic geospatial decision support tool, DroughtView is an excellent educational introduction to the relationship between remotely sensed vegetation data and drought.

The application serves up Normalized Difference Vegetation Index (NDVI) and Enhanced Vegetation Index (EVI) data from two different sources. 250-meter 16-day composite Moderate-resolution Imaging Spectroradiometer (MODIS) imagery from 2000 to the present and 500-meter 8-day composite Visible Infrared Imaging Radiometer Suite (VIIRS) from 2012 to the present. Calculation of difference from average, previous period and previous year greenness products provide the user with a proxy for drought conditions and insight on the secondary impacts of drought, such as wildfire.

Climate data are also available to examine the relationship between precipitation, temperature and vegetation. Contextual data, such as watershed boundaries, are present to help users to focus in on their area of interest. Current users include decision makers from county, federal and state agencies, e.g. Private Ranchers, The Nature Conservancy, USDA FS, BLM, FWLS, etc.

The tool is mobile friendly allowing users to access the system while in the field. We will demonstrate the systems capabilities and tools live during the poster session. Expansion of DroughtView includes plans to add snow products, phenology data and plausible future climatic conditions.