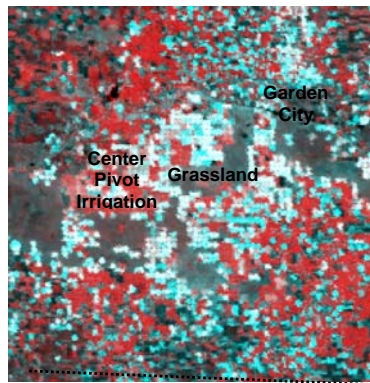


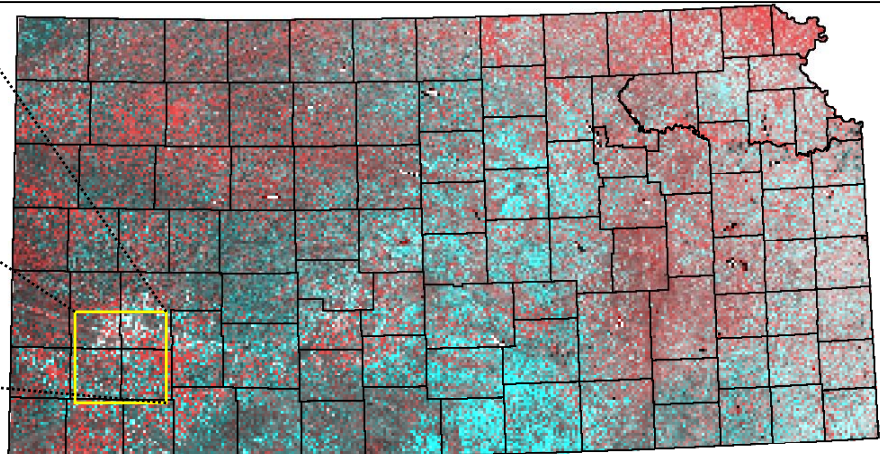


MODIS 250-Meter Vegetation Index (VI) Database

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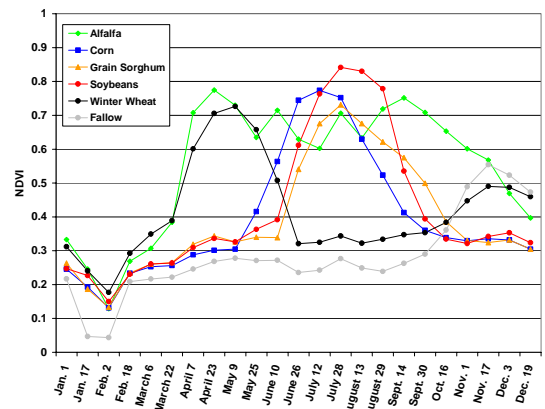
■ Summer Crops Alfalfa
■ Winter Wheat Grassland



Upper Left: Multi-temporal MODIS 250m VI composite image comprised of spring (April 23) and mid-summer (July 28) dates for southwest Kansas. Specific crop types, croplands under center pivot irrigation, and grasslands are clearly visible on the MODIS image.

Upper Right: Multi-temporal MODIS 250m VI composite image for Kansas illustrates the detailed land cover and cropping patterns detected at the state level in the MODIS data.

Right: Multi-temporal VI profiles of major crop types reflect each crop's unique crop calendar (phenology). Major phenology events of crops such as the green up (VI increase), peak greenness (maximum VI), and senescence (VI decrease) phases are detected for each crop.



MODIS (Moderate Resolution Imaging Spectroradiometer)

MODIS is a new EOS (Earth Observing System) sensor that provides global coverage of 250 meter (m) Vegetation Index (VI) data once every 16 days. The VI data are of science quality and available at a minimal cost. They represent a measure of the amount and condition of green vegetation. A complete time series of 16-day VI observations over an entire growing season can be used to map vegetation types and monitor vegetation conditions for large geographic areas (e.g., state or national level) in a time- and cost- efficient manner.

Objective

A database of MODIS 250m VI data spanning from March 1999 to present was created for the state of Kansas in support of agricultural mapping, modeling, and monitoring activities. The VI database is ideal for agricultural applications, given the large field sizes and well-defined crop calendars for the state. Landscape features such as individual fields and grassland acreages can be visually resolved at the 250m resolution (upper left) and unique multi-temporal VI responses can be detected for major land cover types at 16-day intervals (lower right). The multi-temporal VI information can be used to map detailed crop and grassland classes. It can also be used to monitor vegetation conditions within those classes and highlight areas impacted by drought, pest infestations, or extreme weather events (e.g., hail or flooding).

Applications

Current applications of the multi-temporal MODIS VI data include:

- crop and grassland mapping
- crop yield estimation
- vegetation condition monitoring
- habitat modeling.

