Moisture / Drought Maps

Current Conditions

Forecast

Image Archive

Data Archive

AVHRR NDVI Greenness

- VG-Visual greenness
- RG-Relative greenness
- DA-Departure from Average
- VG, RG, DA, MO (4 panel)
- ND Data
- Alaska
- EDC Web Mapping
- Regional Subsets (GACC)

US48
US48
US48

US48

Link
Link
Link

US48
US48

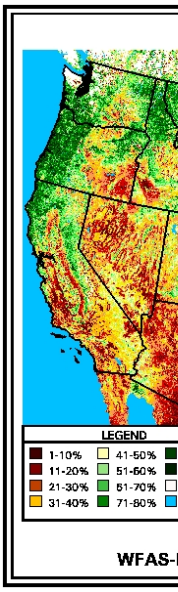
online

online

Three vegetation greenness maps are derived weekly from Normalized Difference Vegetation Index (NDVI) data observed by AVHRR satellites and provided by the EROS Data Center (EDC), U.S. Geological Survey. These maps are composited weekly and have 1.1-kilometer (0.6 mile) spatial resolution (Burgan and Hartford 1993, Burgan and others 1996, Burgan and Hartford 1996) .

- ND - NDVI - Normalized Difference Vegetation Index is the base data from which the following are derived.

- VG - Visual Greenness Maps - portray vegetation greenness compared to a very gree



n reference such as an alfalfa field or a golf course. The resulting image is similar to what you would expect to see from the air. Normally dry areas will never show as green as normally wetter areas.

- RG - Relative Greenness Maps - portray how green the vegetation is compared to how green it has been historically (1989-2003). Because each pixel is normalized to its own historical range, all areas (dry to wet) can appear fully green at some time during the growing season.

- DA - Departure from Average Greenness Maps - portray how green each pixel is compared to its average greenness for the current week of the year based on 1989-2003data.

Maps for ND, VG, RG, and DA are available for the current period. GIF image archives are available for RG and DA. The EROS Data Center has been applying new cloud screening and atmospheric correction algorithms to the images beginning in January of 2004. Another change to note is in the default code values for water and clouds. Water is now set at 254 rather than 255. Clouds, snow and barren are coded as 250 rather than 0. The historical series has also been reprocessed to the same standards. The complete archive of reprocessed historical data will become available on CD in 2004.

Current and archived RG, DA and ND data for this year are available online but US 'blocks' and full images preprocessed forWinDisp are no longer available as of March 2004.

Full US images are zipped with header, color, and projection files needed to view the data with image or map display software such as ArcExplorer or ArcGIS. The color table files have been adjusted to accomodate the code changes. The zipped files also include a readme file, an avenue palette and an avenue script for display in ArcView with the Spatial Analyst extension. The file name is formatted as:

ttmmddyy.zip

where 'tt ' represents an image type, 'mm ' is the month, 'dd ' is the last day of the composite period, and 'yy' is the last two digits of the year. For example, the normalized difference image ending March 25, 2003 is named ND032503.zip.

The image is a "bil" type, indicating the Band Interleaved by Line type of the image. However, the "bil" images can be easily imported to WinDisp using the Process -> Import -> Binary Image, then Process -> Header -> Edit keystrokes. The header information needed for WinDisp or other image display software follows.

Image type: 0, Generic
Projection: 6, Lambert Azimuthal
Height: 2889
Width: 4587
Latitude Center: 45.
Longitude Center: -100.
X Center: 2050.
Y Center: 752.
DX: 1000.
DY: 1000.

Alaska processes NDVI independently. Click on "Maps and Imaging" once at the Alaska Fire Service main page
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EDC is using the AVHRR greenness products in a web mapping service that includes shaded relief and other reference data.

Factors such as cloudiness, smoke or haze, and poor viewing angles can reduce the quality of the observed data. To compensate for this, several days' NDVI observations are composited for each pixel, with only the highest NDVI value observed during the composite period being saved. This greatly reduces the problems caused by cloudiness, but it does not entirely eliminate them.

If one of the maps appears to be affected by cloudiness, look at the image for one period before and one period after the current image. If an area exhibits suspiciously low vegetation greenness and shows higher greenness in the image before or after the current image, the current image is likely showing cloud or smoke contamination.

You will also see white areas in some images. These indicate clouds, snow, other very non-green surfaces. Often a "fringe," sometimes rather large, may be evident around cloudy pixels. Snowy areas viewed under clear conditions generally have a narrow band of surrounding low vegetation greenness.