

Identification\_Information:

Citation:

Citation\_Information:

Originator: USDA Forest Service

Publication\_Date: February 2005

Title: Hooker Fire occuring on the Sequoia National Forest - 2003

Geospatial\_Data\_Presentation\_Form: raster digital data

Publication\_Information:

Publication\_Place: Sioux Falls, South Dakota USA

Publisher: U.S. Geological Survey

Online\_Linkage: <http://edc.usgs.gov>

Description:

Abstract: These data products are derived from Landsat Thematic Mapper data. The pre-fire and post-fire subscenes included were used to create a Differenced Normalized Burn Ratio (DNBR) image. The DNBR image portrays the variation of burn severity within a fire. See the National Burn Severity Mapping web site at: [http://edc2.usgs.gov/fsp/severity/fire\\_main.asp](http://edc2.usgs.gov/fsp/severity/fire_main.asp) for information on details on fire severity mapping procedures.

Purpose: These data were created by the USDA Forest Service fire and fuels monitoring project to support monitoring of wildland fire and fire regimes. These data will allow better understanding of current fire regimes, improve the accuracy of fire perimeter data, and add spatial data on fire severity and complexity.

Supplemental\_Information:

Fire Name: Hooker

Agency: US Forest Service

Land Management Unit: Sequoia National Forest

Date of Fire: September 3, 2003

NIFMID Link (link to Forest Service fire history database): USF05132003000105

Type of assessment: Extended

Acres within Fire Perimeter as determined from the dNBR: 2394

Landsat Path and Row: 41/35

Pre-Fire Landsat Date/Scene ID: Landsat 5; August 22, 2003

Post-Fire Landsat Date/Scene ID: Landsat 5; August 8, 2004

Fire Perimeter: Hand edited original Region 5 fire history database perimeter using TM data.

Output Dataset Projection: UTM

UTM Zone: 11

Spheroid Name: Clarke 1866

Product List:

hook03b\_pretm.tif

Pre-Fire Landsat reflectance data subset, scaled by 400 and converted to integer(bands 1-5, 7 Geo-Tiff format)

hook03b\_postm.tif

Post-Fire Landsat reflectance data subset, scaled by 400 and converted to integer(bands 1-5, 7 Geo-Tiff format)

hook03b\_dnbr

Differenced Normalized Burn Ratio (DNBR) subset (ArcInfo Grid)

hook03b\_pr

Fire perimeter updated by hand digitizing DNBR(shape file)

Time\_Period\_of\_Content:

Time\_Period\_Information:

Multiple\_Dates/Times:

Single\_Date/Time:

Calendar\_Date: August 22, 2003 (pre-fire image)

Single\_Date/Time:

Calendar\_Date: September 3, 2003 (date fire began)

Single\_Date/Time:

Calendar\_Date: August 8, 2004 (post-fire image)

Currentness\_Reference: ground condition

Status:

Progress: Evaluation of methods in process

Maintenance\_and\_Update\_Frequency: As needed

Keywords:

Theme:

Theme\_Keyword\_Thesaurus: none

Theme\_Keyword: Wildland Fire

Theme\_Keyword: Normalized Burn Ration (NBR)

Theme\_Keyword: Fire Severity

Theme\_Keyword: USDA Forest Service

Theme\_Keyword: Landsat

Place:

Place\_Keyword\_Thesaurus: none

Place\_Keyword: Sequoia National Forest

Place\_Keyword: California

Place\_Keyword: Hooker Fire

Access\_Constraints: FTP data sets are available to any user.

Use\_Constraints: There are no restrictions on use, except for reasonable and proper acknowledgement of information sources.

Data\_Set\_Credit: USDA Forest Service

Native\_Data\_Set\_Environment: ERDAS Imagine, ARCInfo

Data\_Quality\_Information:

Positional\_Accuracy:

Horizontal\_Positional\_Accuracy:

Horizontal\_Positional\_Accuracy\_Report: These data were terrain corrected using a USGS digital elevation model with less than 1/2 pixel RMS error.

Lineage:

Process\_Step:

Process\_Description:

These data products are derived from Landsat Thematic Mapper data. A pre-fire scene and a post-fire scene are analyzed to create a Differenced Normalized Burn Ratio (DNBR) image. The DNBR image portrays the variation of burn severity within the fire.

The pre- and post-fire Landsat images are terrain corrected and geometrically rectified to the UTM projection. The images are further processed to convert bands 1-5 and 7 to at-sensor-reflectance. The Normalized Burn Ratio (NBR) is computed for each date of imagery using the following formula:

$$(\text{Band 4} - \text{Band 7}) / (\text{Band 4} + \text{Band 7}) = \text{NBR}$$

The differenced NBR is computed by subtracting the post-fire NBR from the pre-fire NBR:

$$\text{PreNBR} - \text{PostNBR} = \text{DNBR}$$

Higher DNBR values are correlated with more severe burns. The DNBR image is evaluated to determine the threshold value between burned and unburned areas. The perimeter of the fire is delineated using the DNBR image. The DNBR image, the pre-fire and post-fire TM images, and fire perimeter vector file are provided in digital format.

Spatial\_Data\_Organization\_Information:

Direct\_Spatial\_Reference\_Method: Raster

Raster\_Object\_Information:

Row\_Count: 454

Column\_Count: 432

Vertical\_Count: 1

Spatial\_Reference\_Information:

Horizontal\_Coordinate\_System\_Definition:

Planar:

Grid\_Coordinate\_System:

Grid\_Coordinate\_System\_Name: Universal Transverse Mercator

Universal\_Transverse\_Mercator:

UTM\_Zone\_Number: 11

Planar\_Coordinate\_Information:

Planar\_Coordinate\_Encoding\_Method: row and column

Coordinate\_Representation:

Abscissa\_Resolution: 30.000000

Ordinate\_Resolution: 30.000000

Planar\_Distance\_Units: meters

Geodetic\_Model:

Horizontal\_Datum\_Name: North American Datum of 1927

Ellipsoid\_Name: Clarke 1866

Semi-major\_Axis: 6378206.400000

Denominator\_of\_Flattening\_Ratio: 294.978698

Distribution\_Information:

Resource\_Description: Downloadable Data

Metadata\_Reference\_Information:

Metadata\_Date: today's date

Metadata\_Contact:

Contact\_Information:

Contact\_Organization\_Primary:

Contact\_Organization: USDA Forest Service, Region 5, Fire, Fuels and Aviation Mgmt.

Contact\_Person: Fire and Fuels Remote Sensing Specialist

Contact\_Address:

Address\_Type: 3237 Peacekeeper Way, Bldg. 200

City: McClellan

State\_or\_Province: California

Postal\_Code: 95652

Contact\_Voice\_Telephone: 916-640-1000