Identification_Information:
Citation:
Citation_Information:
Originator: U.S. Geological Survey
Publication_Date: 20060801
Title:
Kern, Highbridge East, Highbridge West and Quarry Fires
of Sequoia & Kings Canyon National Parks - 2005
Geospatial_Data_Presentation_Form:
Raster digital data.
Vector data are also available as ArcView Shape Files.
Publication_Information:
Publication_Place: Sioux Falls, South Dakota USA
Publisher: U.S. Geological Survey
Online_Linkage: http://edc.usgs.gov
Description:
Abstract:
The U.S. Geological Survey (USGS) has entered into a cooperative agreement with the National Park Service (NPS) to deliver satellite imagery and derivitive products centered on major fires that impact national parks and other federal lands. This data set was compiled at the request of a federal land management agency and is part of a suite of products generated for a specific fire.
See the National Burn Severity Mapping web site at:
http://edc2.usgs.gov/fsp/severity/fire_main.asp
Purpose:
The purpose of this project is to develop a robust mapping methodology and consistent data products that allow federal land managers and fire ecologists to evaluate and compare burn severity within individual fires and between fires across various ecosystems. These products will help land managers to more effectively plan, implement and monitor fire recovery activities.
Supplemental_Information:
Fire Names: Kern, Highbridge East, Highbridge West, Quarry
Agency: National Park Service
Land Management Unit: Sequoia & Kings Canyon National Parks
Dates of Fires:
Kern: 10/27/2005
Highbridge East: 10/24/2005
Highbridge West: 10/6/2005
Quarry: 9/13/2005
Type of assessment: Extended Assessment
Acres within Fire Perimeter:
Kern: 530
Highbridge East: 870
Highbridge West: 1500
Quarry: 390
Landsat Path and Row: 41/35
Pre-Fire Landsat Date/Scene ID:
Landsat 5; July 10, 2005/LT5041035000519110
Post-Fire Landsat Date/Scene ID:

Landsat 5; July 13, 2006/LT5041035000619410
Output Dataset Projection: UTM
UTM Zone: 11
Datum Name: NAD83
Spheroid Name: GRS80
Image subset Corner Coordinate
(center of upper left pixel, projection meters)
ULX: 336870 LRX: 382350
ULY: 4068510 LRY: 4015110
Image subset size:
#Rows: 1781
#Columns: 1517
Pixel size: 30 meters
Bounding Box:
North Lat: 36 45 07 N
South Lat: 36 16 18 N
East Long: 118 18 54 W
West Long: 118 48 52 W

Latitude and Longitude within Fire Perimeter:
Kern: Lat: 36 21 58 N Long: 118 23 45 W
Highbridge East: Lat: 36 27 33 N Long: 118 36 43 W
Highbridge West: Lat: 36 28 21 N Long: 118 38 19 W
Quarry: Lat: 36 34 59 N Long: 118 44 39 W

Fire Perimeter: Original perimeters were provided by Sequoia & Kings Canyon National Parks and were edited based on the dNBR and the postfire imagery.

For further information on NLAPS and Landsat TM data, please refer to the metadata documentation found on the USGS Clearinghouse website at:
http://www.fgdc.gov/clearinghouse/clearinghouse.html

Product List:

hiwe05b_pretm.tif
Pre-Fire Landsat data subset (bands 1-5,7 Geo-TIFF format)

hiwe05b_postm.tif
Post-Fire Landsat data subset (bands 1-5,7 Geo-TIFF format)

hiwe05b_dnbr
Differenced Normalized Burn Ratio (DNBR) subset (ArcInfo GRID)

hiwe05b_pi
Fire Perimeter (shape file)

hiwe05b_hist.xls
DNBR pixel count within the fire perimeter (excel file)

d413507050706
Full Scene DNBR (ArcInfo GRID)

Time_Period_of_Content:
  Time_Period_Information:
    Multiple_Dates/Times:
      Single_Date/Time:
        Calendar_Date: 20050710 (pre-fire image)
      Single_Date/Time:
        Calendar_Date: 20051027 (date Kern fire began)
      Single_Date/Time:
        Calendar_Date: 20051024 (date Highbridge East fire began)
      Single_Date/Time:
        Calendar_Date: 20051006 (date Highbridge West fire began)
      Single_Date/Time:
        Calendar_Date: 20050913 (date Quarry fire began)
      Single_Date/Time:
        Calendar_Date: 20060713 (post-fire image)
  Currentness_Reference: ground condition
Status:
  Progress: Complete
  Maintenance_and_Update_Frequency: as needed
Spatial_Domain:
  Bounding_Coordinates:
    West_Bounding_Coordinate: -118.48.52
    East_Bounding_Coordinate: -118.18.54
    North_Bounding_Coordinate: 36.45.07
    South_Bounding_Coordinate: 36.16.18

Keywords:
  Theme:
    Theme_Keyword_Thesaurus: none
    Theme_Keyword: burn mapping
    Theme_Keyword: imagery
    Theme_Keyword: fire
    Theme_Keyword: Landsat
    Theme_Keyword: National Park Service
  Place:
    Place_Keyword_Thesaurus: none
    Place_Keyword: Sequoia & Kings National Parks
    Place_Keyword: Kern
    Place_Keyword: Highbridge East
    Place_Keyword: Highbridge West
    Place_Keyword: Quarry
    Place_Keyword: California
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.
Point_of_Contact:
  Contact_Information:
    +001 605-594-6151 or (USA) 800-252-4547
    Contact_Organization_Primary:
      Contact_Organization: U.S. Geological Survey
    Contact_Position: CSR
    Contact_Voice_Telephone: +001 605-594-6151
    Contact_Address:

Address_Type: physical and mailing address
Address: 47914 252nd Street
City: Sioux Falls
State_or_Province: SD
Postal_Code: 57198-0001
Country: USA
Contact_TDD/TTY_Telephone: +001 605-594-6933
Contact_Voice_Telephone: +001 605-594-6151
Contact_Facsimile_Telephone: +001 605-594-6589
Contact_Electronic_Mail_Address: fsedc@usgs.gov
Hours_of_Service: 0800 - 1600 CT, M-F, -6 h GMT
Contact_Instructions: http://edc2.usgs.gov/fsp/severity/contact_us.asp

Data_Set_Credit: USGS and NASA
Native_Data_Set_Environment: Oracle, ERDAS Imagine, & ArcInfo
Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report:
Three on-board calibrators (two solar, one internal) provide an absolute accuracy of 5 percent, excluding band 6.
Logical_Consistency_Report:
These Landsat data are collected from a nominal altitude of 705 kilometers in a near-polar, near-circular, sun-synchronous orbit at an inclination of 98.2 degrees, imaging the same 183-km swath of Earth's surface every 16 days. The pixels representing the bands for the image are in the data set only once.
Completeness_Report: Fire perimeter was automated, (seed value 425, distance 325) with manual edits.

Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
Energy reflected from Earth's surface passes through a whisk-broom scanning system and all-reflective optics before being collected by the solid-state detectors at the focal plane.
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 variations of burn severity within the fire.

The Landsat images are terrain corrected and geometrically rectified to an Albers Conical Equal Area map projection using the National Landsat Archive Production System (NLAPS). The images are further processed to convert bands 1-5 and 7 to at-satellite-reflectance. The Normalized Burn Ratio (NBR) is computed for each date of imagery using the following formula:
(Band 4 - Band 7) / (Band 4 + Band 7) = NBR

The differenced NBR is computed by subtracting the post-fire NBR from the pre-fire NBR:
PreNBR - PostNBR = 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 a fire perimeter vector file are provided in digital format in the map projection used by the National Park Service.

Source_Used_Citation_Abbreviation: TM
Process_Date: 20060801
Source_Produced_Citation_Abbreviation: DNBR
Cloud_Cover: 10
Distribution_Information:
Distributor:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: U.S. Geological Survey
Contact_Position:
Principal Scientist
Land Cover Applications
Contact_Address:
Address_Type: mailing and physical address
Address:
47914 252nd Street
USGS EROS
City: Sioux Falls
State_or_Province: SD
Postal_Code: 57198-0001
Country: USA

Contact_Voice_Telephone: +001 605-594-6151
Contact_TDD/TTY_Telephone: +001 605 594-6933
Contact_Facsimile_Telephone: +001 605 594-6589
Contact_Electronic_Mail_Address: fsedc@usgs.gov
Hours_of_Service: 0800 - 1600 CT, M-F, -6 h GMT
Contact_Instructions: http://edc2.usgs.gov/fsp/severity/contact_us.asp
Distribution_Liability:
No warranty expressed or implied is made by the USGS regarding the use of the data, nor does the act of distribution constitute any such warranty.
Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Format_Name: Geo-TIFF
Format_Version_Number: 1
Digital_Transfer_Option:
Online_Option:
Computer_Contact_Information:
Network_Address:
Network_Resource_Name: http://edc2.usgs.gov/fsp/severity/download_data.asp
Digital_Form:
Digital_Transfer_Information:
Format_Name: DNBR ArcInfo GRID

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      Format_Version_Number: 1
    Digital_Transfer_Option:
      Online_Option:
        Computer_Contact_Information:
          Network_Address:
            Network_Resource_Name: http://edc2.usgs.gov/fsp/severity/download_data.asp
  Digital_Form:
    Digital_Transfer_Information:
      Format_Name: shape file
      Format_Version_Number: 1
    Digital_Transfer_Option:
      Online_Option:
        Computer_Contact_Information:
          Network_Address:
            Network_Resource_Name: http://edc2.usgs.gov/fsp/severity/download_data.asp
  Fees: No charge
  Ordering_Instructions: http://edc2.usgs.gov/fsp/severity/help.asp#ordering
  Turnaround: same day
Metadata_Reference_Information:
  Metadata_Date: 20060828
  Metadata_Contact:
    Contact_Information:
      Contact_Organization_Primary:
        Contact_Organization:
          USGS EROS
          Science & Applications Branch
      Contact_Position:
        Principal Scientist
        Land Cover Applications
      Contact_Address:
        Address_Type: mailing and physical address
        Address:
          47914 252nd Street
          USGS EROS
        City: Sioux Falls
        State_or_Province: SD
        Postal_Code: 57198-0001
        Country: USA
      Contact_Voice_Telephone: +001 605-594-6151
      Contact_TDD/TTY_Telephone: +001 605-594-6933
      Contact_Facsimile_Telephone: +001 605-594-6589
      Contact_Electronic_Mail_Address: fsedc@usgs.gov
      Hours_of_Service: 0800 - 1600 CT, M-F,  -6 h  GMT
      Contact_Instructions: http://edc2.usgs.gov/fsp/severity/contact_us.asp
  Metadata_Standard_Name: Content Standard for Digital Geospatial Metadata
  Metadata_Standard_Version: FGDC-STD-001-1998
  Metadata_Access_Constraints: none
  Metadata_Use_Constraints: none
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