Identification_Information:
Citation:
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Originator: U.S. Geological Survey
Publication_Date: 20070101
Title: Reed River Fire of Gates of the Arctic National Park & Preserve - 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 Name: Reed River
Agency: National Park Service
Land Management Unit: Gates of the Arctic National Park & Preserve
Date of Fire: 07/30/2005
Type of assessment: Extended
Acres within Fire Perimeter: 800
Landsat Path and Row: 76/13 and 75/13
Pre-Fire Landsat Date/Scene ID:
Landsat 7; July 31, 2002/LE7076013000221250 (76/13)
Post-Fire Landsat Date/ Scene ID:
Landsat 7; July 03, 2006/LE7075013000618450 (75/13)
Output Dataset Projection: Albers Conical Equal Area
Datum Name: NAD83
Spheroid Name: GRS80
1st Parallel: 55 00 00 N
2nd Parallel: 65 00 00 N
Central Meridian: -154 00 00
Lat of Origin: 50 00 00
Northing: 0.0
Easting: 0.0

Image subset Corner Coordinate (center of upper left pixel, projection meters)
ULX: -38370 LRX: -29820
ULY: 1916160 LRY: 1907280
Image subset size:
#Rows: 297
#Columns: 286
Pixel size: 30 meters
Bounding Box:
North Lat: 67 12 05 N
South Lat: 67 07 18 N
East Long: 154 41 05 W
West Long: 154 52 54 W
Latitude and Longitude within Fire Perimeter:
Lat: 67 09 37 N
Long: 154 47 01 W

Fire Perimeter: Manually digitized from Landsat image and dNBR

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:

reed05b_pretm.tif
Month/Year Pre-Fire Landsat data subset (bands 1-5,7 Geo-TIFF format)

reed05b_postm.tif
Month/Year Post-Fire Landsat data subset (bands 1-5,7 Geo-TIFF format)

reed05b_dnbr
Differenced Normalized Burn Ratio (DNBR) subset (16 bit ArcInfo GRID)

reed05b_pi
Fire Perimeter (shape file)

reed05b_hist.xls
DNBR pixel count within the fire perimeter (excel file)

d751307020706
Month/Year - Month/Year Full Scene DNBR (16 bit ArcInfo GRID)

Time_Period_of_Content:
Time_Period_Information:
Multiple_Dates/Times:
Single_Date/Time:
Calendar_Date: 20020731 (pre-fire image)
Single_Date/Time:
Calendar_Date: 20050730 (date fire began)
Single_Date/Time:
Calendar_Date: 20060703 (post-fire image)
Currentness_Reference: ground condition

Status:
Progress: Complete
Maintenance_and_Update_Frequency: as needed
Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: -154.52.54
East_Bounding_Coordinate: -154.41.05
North_Bounding_Coordinate: 67.12.05
South_Bounding_Coordinate: 67.07.18

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: Gates of the Arctic National Park & Preserve
Place_Keyword: Reed River
Place_Keyword: Alaska
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: 200701
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

        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: 20070105
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