```
Identification_Information:
  Citation:
    Citation_Information:
      Originator: U.S. Geological Survey
      Publication_Date: 20020601
      Title: Burnt Fire of Kings Canyon National Park - 2001
      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: Burnt
      Park: Sequoia/Kings
      Date of Fire: 7/30/2001
      Type of assessment: Initial
      Acres within Fire Perimeter: 1190
      Landsat Path and Row:  42/34
      Pre-Fire Landsat Date/Scene ID: Landsat 7;
      Sept. 29, 2000 / LE7042034000027350
      Post-Fire Landsat Date/Scene ID: Landsat 7;
      Oct. 18, 2001 / LE7042034000129150
      Output Dataset Projection:   UTM
      Zone 11
      NAD 27
      Clarke1866

      Image subset Corner Coordinate
      (center of upper left pixel, projection meters)
      ULX:  340412  LRX: 360032
      ULY:  4099831 LRY: 4083031
      Image subset size:
      #Rows    561
      #Columns  655
      Pixel size: 30 meters
      Bounding Box:
      North Lat:  37 01 10 N
      South Lat:  36 42 54 N
      East Long: 118 34 14 W
      West Long: 118 47 39 W
```

```
    Latitude and Longitude within Fire Perimeter:
    Lat  (N)           Long (W)
    36 57 33     118 41 46

    Fire Perimeter:  Manually digitized, interpretation of burn
    perimeter was difficult.

    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
    Information on Landsat 7 can be found at the Clearinghouse site
    and also at: http://landsat7.usgs.gov/

    Product list:

    burn01apretm.tif
    Pre-Fire Landsat TM Color Composite Image subset
    (bands 1,2,3,4,5,7 Geo-TIFF)

    burn01apostm.tif
    Post-Fire Landsat TM Color Composte Image subset
    (bands 1,2,3,4,5,7 Geo-TIFF)

    burn01a_dnbr
    Differenced Normalized Burn Ratio (DNBR) subset (ArcInfo GRID)

    burn01ap
    Fire Perimeter (shape file)

    dnbra_42-34
    Full Scene DNBR  (ArcInfo GRID)
Time_Period_of_Content:
  Time_Period_Information:
    Multiple_Dates/Times:
      Single_Date/Time:
        Calendar_Date: 20000929 (pre-fire image)

      Single_Date/Time:
        Calendar_Date: 20010730 (date fire began)
      Single_Date/Time:
        Calendar_Date: 20011018 (post-fire image)
  Currentness_Reference: ground condition
Status:
  Progress: Complete
  Maintenance_and_Update_Frequency: as needed
Spatial_Domain:
  Bounding_Coordinates:
    West_Bounding_Coordinate: -118.47.39
    East_Bounding_Coordinate: -118.34.14
    North_Bounding_Coordinate: 37.01.10
    South_Bounding_Coordinate: 36.42.54

Keywords:
  Theme:
    Theme_Keyword_Thesaurus: none
    Theme_Keyword: burn mapping
    Theme_Keyword: imagery
    Theme_Keyword: fire
    Theme_Keyword: Landsat
  Place:
```

```
      Place_Keyword_Thesaurus: none
      Place_Keyword: Kings Canyon National Park
      Place_Keyword: Burnt
      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:
    Landsat-7 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 manually digitized; interpretation of burn
    perimeter was difficult.

  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: 20020601
      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
          EROS Data Center
        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.
    The USGS will warrant the delivery of this product and will offer
    appropriate adjustment of credit when the product is determined unreadable,
    or when the physical medium is delivered in damaged condition.
    Requests for adjustment of credit must be made within 60 days from the
    date of this shipment from the order site.
  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: http://edc2.usgs.gov/fsp/severity/fire_main.asp
    Ordering_Instructions: http://edc2.usgs.gov/fsp/severity/help.asp#ordering
    Turnaround: same day
Metadata_Reference_Information:
  Metadata_Date: 20020703
  Metadata_Contact:
    Contact_Information:
      Contact_Organization_Primary:
        Contact_Organization:
          USGS EROS Data Center
          Science & Applications Branch
      Contact_Position:
        Principal Scientist
        Land Cover Applications
      Contact_Address:
        Address_Type: mailing and physical address
        Address:
          47914 252nd Street
          EROS Data Center
        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
```