



SMEX04 Landsat Thematic Mapper Imagery, Arizona, Sonora, Version 1

USER GUIDE

How to Cite These Data

As a condition of using these data, you must include a citation:

Jackson, T. and M. Cosh. 2008. SMEX04 Landsat Thematic Mapper Imagery, Arizona, Version 1. [Indicate subset used]. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. doi: <https://doi.org/10.5067/R5LI5YA9X8LV>. [Date Accessed].

Jackson, T. and M. Cosh. 2013. SMEX04 Landsat Thematic Mapper Imagery, Sonora, Version 1. [Indicate subset used]. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. <https://doi.org/10.5067/5RSOL3F0VBBO>. [Date Accessed].

FOR QUESTIONS ABOUT THESE DATA, CONTACT NSIDC@NSIDC.ORG

FOR CURRENT INFORMATION, VISIT <https://nsidc.org/data/NSIDC-0341>, <https://nsidc.org/data/NSIDC-0565>



National Snow and Ice Data Center

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1 DETAILED DATA DESCRIPTION

This user guide applies to the following SMEX04 data sets:

NSIDC-0341 (SMEX04 Landsat Thematic Mapper Imagery, Arizona)

NSIDC-0565 (SMEX04 Landsat Thematic Mapper Imagery, Sonora)

1.1 Format

Data are provided as GeoTIFF image files with associated TIFF world files (TFW) containing georeferencing information. GeoTIFF defines a set of publicly available TIFF tags that describe cartographic and geodetic information associated with TIFF images. GeoTIFF enables the referencing of a raster image to a known geodetic model or map projection. By using the GeoTIFF format, both metadata and image data can be encoded into the same file.

TFW files provide georeference information for the image with the same file name. Each TFW file is a text file with six numbers, described below:

Table 1 TFW Rows

Row	Description
1	the dimension of a pixel in map units in the x direction
2	rotation term for row
3	rotation term for column
4	the dimension of a pixel in map units in the y direction
5	x coordinate for upper left corner
6	y coordinate for upper left corner

1.2 File Naming Convention

Files are named according to the following convention:

TM5_MMDDYY.tif and TM5_MMDDYY.tfw

Example File Names: TM5_061104.tif and TM5_061104.tfw

Where:

MM	=	month
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DD	=	day
YY	=	year

1.3 Spatial Coverage

Southernmost Latitude: 29.33 ° N

Northernmost Latitude: 32.69 ° N

Westernmost Longitude: 111.40 ° W

Easternmost Longitude: 108.56 ° W

1.3.1 Spatial Resolution

The Landsat TM data are high-resolution 30 m data.

1.3.2 Projection and Grid Description

Universal Transverse Mercator (UTM) Zone 12.

1.4 Temporal Coverage

11 June 2004, 29 July 2004, and 30 August 2004

1.5 Parameter or Variable

Infrared Imagery (Band 4)

Visible Imagery (Bands 2 and 3)

1.5.1 Parameter Description

Bands 2, 3, and 4 as blue, green, and red respectively are used to generate false color images that can be used to identify land cover and vegetation.

Table 2. Landsat Coverage Details

File Name	Date	Landsat Number	Path / Row
TM5_061104.tif	11 June 2004	5	35 / 38 for Arizona 35 / 39 for Sonora

TM5_072904.tif	29 July 2004	5	35 / 38 for Arizona 35 / 39 for Sonora
TM5_083004.tif	30 August 2004	5	35 / 38 for Arizona 35 / 39 for Sonora

1.5.2 Sample Data Record

Figure 1 is a false color sample image of the Arizona area, File Number: TM5_061104.tif.

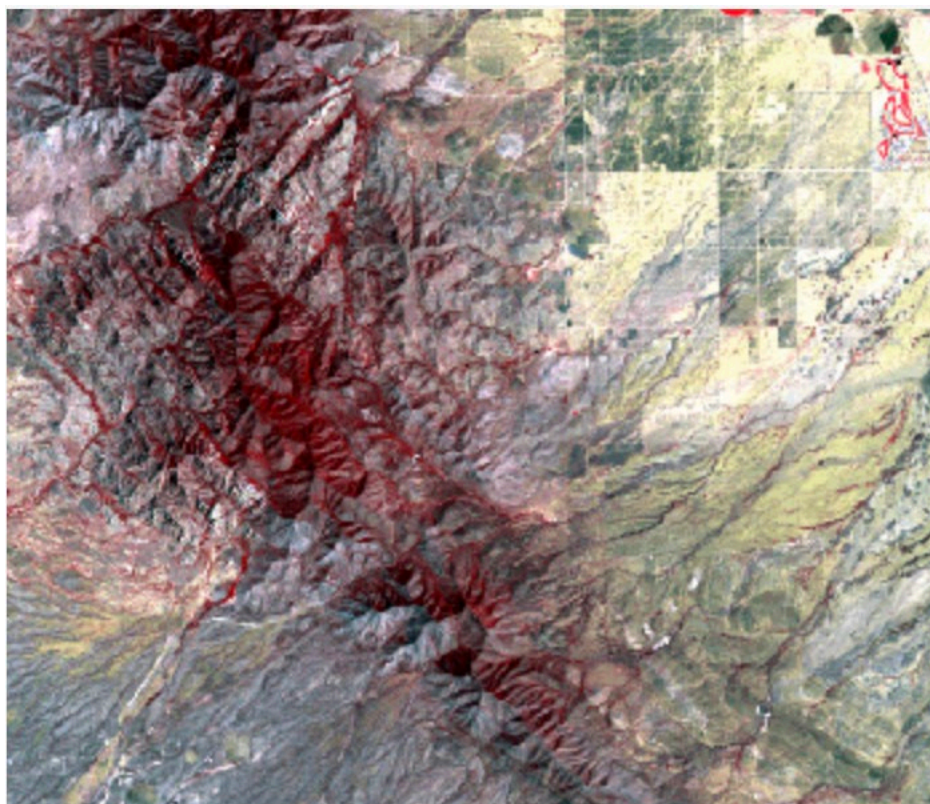


Figure 1. False Color Sample Image of the Arizona Area

2 SOFTWARE AND TOOLS

A program which recognizes the GeoTIFF file format is recommended for these images.

3 REFERENCES AND RELATED PUBLICATIONS

3.1 Related Data Collections

[AMSR-E/Aqua Data at NSIDC](#): AMSR-E standard products available at NSIDC.

3.2 Related Websites

U.S. Geological Survey (USGS). Landsat Missions. 1 May 2008. <http://landsat.usgs.gov/> 1 May 2008.

Sheffner, Ed. Landsat Program. 5 October 1991. <http://geo.arc.nasa.gov/sge/landsat/landsat.html> 1 May 2008.

4 CONTACTS AND ACKNOWLEDGMENTS

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5 DOCUMENT INFORMATION

5.1 Publication Date

1 May 2008

5.2 Date Last Updated

3 January 2022