

## Fort Larned National Historic Site, 2005 Color IR Photomosaic Metadata

### Identification\_Information:

#### Citation:

##### Citation\_Information:

Originator: USDA-FSA Aerial Photography Field Office

Publication\_Date: 20051223

Title: fols\_2005\_clip.tif

Geospatial\_Data\_Presentation\_Form: raster digital data

##### Publication\_Information:

Publication\_Place: Salt Lake City, Utah

Publisher: USDA FSA Aerial Photography Field Office

Online\_Linkage: C:\Projects\nps\FOLS\CD\Basemaps\NAIP\_2005\fols\_2005\_clip.tif

Online\_Linkage: [http://biology.usgs.gov/npsveg/fols/index.html#aerial\\_photo](http://biology.usgs.gov/npsveg/fols/index.html#aerial_photo)

### Description:

#### Abstract:

This data set contains digital ortho-imagery developed to support planning and delivery of USDA programs. The USDA field service centers use digital ortho imagery as a basic reference for conservation plans and soil survey. The imagery has a 1 meter ground sample distance (GSD) ortho imagery rectified to National Mapping Standards at the 1:24,000 scale. Imagery is based on a (7.5 x 15) or (7.5 x 11.25) minute quarter quadrangle with a 300 meter buffer on all four sides. Quarter quads imagery is formatted to the UTM coordinate system using NAD83. Each quad may contain as much as 10% cloud cover per tile. This file was generated by compressing quarter quadrangle tiles that cover a project area. MrSID compression, with mosaic option, was used. Target values for the compression ratio are (15:1) and compression levels (9) are used.

#### Purpose:

Imagery is used to meet USDA program requirements including conservation planning and soil survey. The interim product is a compressed mosaic. Users should be aware that the interim compressed mosaic may contain defects and have horizontal accuracy less than the specified tolerances.

### Time\_Period\_of\_Content:

#### Time\_Period\_Information:

##### Single\_Date/Time:

Calendar\_Date: 2005

Currentness\_Reference: Majority years of Photography Dates.

### Status:

Progress: Complete

Maintenance\_and\_Update\_Frequency: Irregular

### Spatial\_Domain:

Description\_of\_Geographic\_Extent: Fort Larned National Historic Site

#### Bounding\_Coordinates:

West\_Bounding\_Coordinate: -99.255243

East\_Bounding\_Coordinate: -99.174427

North\_Bounding\_Coordinate: 38.204349

South\_Bounding\_Coordinate: 38.166763

### Keywords:

#### Theme:

Theme\_Keyword\_Thesaurus: None

Theme\_Keyword: Digital Georectified Image

Theme\_Keyword: Mosaic

Theme\_Keyword: Georectified imagery

Theme\_Keyword: Quarter Quadrangle Centered

Theme\_Keyword: Georectification

Theme\_Keyword: Compression

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Theme\_Keyword: MrSID  
Theme\_Keyword: NAIP  
Theme\_Keyword: Compliance  
Theme\_Keyword: Aerial Compliance  
Theme\_Keyword: Farming

Place:

Place\_Keyword\_Thesaurus: Geographic Names Information System  
Place\_Keyword: Kansas  
Place\_Keyword: Pawnee County

Access\_Constraints: None

Use\_Constraints: None, The Originator asks to be credited in derived products.

Point\_of\_Contact:

Contact\_Information:

Contact\_Organization\_Primary:  
Contact\_Organization: USDA-FSA Aerial Photography Field Office

Contact\_Address:

Address\_Type: mailing and physical address  
Address: 2222 West 2300 South  
City: Salt Lake City  
State\_or\_Province: Utah  
Postal\_Code: 84119-2020  
Country: USA

Contact\_Voice\_Telephone: 800-973-3500

Contact\_Facsimile\_Telephone: 801-975-3529

Native\_Data\_Set\_Environment: Microsoft Windows XP Version 5.1 (Build 2600) Service Pack 2; ESRI ArcCatalog 9.2.0.1324

Data\_Quality\_Information:

Logical\_Consistency\_Report: None.

Completeness\_Report: None

Positional\_Accuracy:

Horizontal\_Positional\_Accuracy:

Horizontal\_Positional\_Accuracy\_Report: FSA Digital Orthophoto Specs.

Vertical\_Positional\_Accuracy:

Vertical\_Positional\_Accuracy\_Report: N/A 2d only

Lineage:

Source\_Information:

Source\_Citation:

Citation\_Information:

Originator: Aerial Photography Field Office  
Publication\_Date: 20051223  
Title: Gillespie, TX  
Geospatial\_Data\_Presentation\_Form: imagery

Source\_Scale\_Denominator: 40000

Type\_of\_Source\_Media: CD

Source\_Time\_Period\_of\_Content:

Time\_Period\_Information:

Single\_Date/Time:

Calendar\_Date: 2005

Source\_Currentness\_Reference: Majority Aerial Photography Date

Source\_Citation\_Abbreviation: MrSID compressed image

Source\_Contribution: Mosaicked County Image

Process\_Step:

Process\_Description:

Imagery was flown with Leica ADS40 digital sensors to capture 0.9m raw data. Raw data is then downloaded

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using Leica GPro software into 12 bit TIFF format. The raw TIFF imagery is then georeferenced and reprojected using GPS/INS 200Hz exterior orientation information (x/y/z/o/p/k) to allow stereo viewable imagery. This stereo viewable imagery is processed with the GPro/LPS automatic point matching algorithm to determine common match points every 2000 pixels across the imagery strip and 333 pixels along strip. This pattern includes dual rows of line ties to the adjacent line of imagery. The resulting point data is imported in Leica ORIMA and used to perform a full bundle adjustment of the imagery point data. Any blunders are removed, and weak areas are manually supplemented to ensure good coverage of points. Once the point data is cleaned and point coverage is acceptable vertical control points from the prior generation MDOQQ's are introduced in the corners and center of the block being adjusted. This control is used to perform any datum shift (x/y/z and rotation) to ensure the new adjusted imagery fits the existing MDOQQ reference imagery. The output from this bundle adjustment process is revised exterior orientation data for the sensor with any GPS/INS, datum, and sensor calibration errors modeled and compensated for. Using this revised EO data orthorectified image strips are created using the USGS DEM. The 10m DEM is used where available and 30m DEM is used elsewhere. The orthorectified strips are overlaid over the existing MDOQQ compressed files to ensure accuracy is met by a visual inspection and manually measuring features. Once the accuracy of the orthorectified image strips are validated the strips are processed with a NWG proprietary dodging package that compensates for the bi-directional reflectance function that is caused by the sun's position relative to the image area. This compensated imagery is then imported into Inpho's OrthoVista 4.0 package which is used for the final radiometric balance, mosaic, and DOQQ sheet creation. These final DOQQ sheets contain a 300m minimum buffer. These final DOQQ tiles are edge inspected to the existing MDOQQ sheets for accuracy validation. The final DOQQ tiles are then organized into directories based on the USDA provided county lists. A visual inspection is performed of the entire county to ensure all tiles are present and the radiometric quality of the county looks good. If the radiometric quality is acceptable the county is compressed to MG3 format using Lizard Tech's GeoExpress v5.0 with a compression factor of 15 and 9 overview levels. Once this compression is complete manual reviewing is performed to ensure satisfactory results. The associated CCM shapefile is created using ESRI ArcView 9.0 with the latest service packs.

Process\_Date: 20051223

Process\_Step:

Process\_Description: Metadata imported.

Source\_Used\_Citation\_Abbreviation: C:\Projects\nps\LYJO\NAIP\2005\imagery\compliance\_fsa\naip\_1-1\_2n\_s\_tx171\_2005\_1.sid.xml

Process\_Date: Unknown

Process\_Step:

Process\_Description: Metadata imported.

Source\_Used\_Citation\_Abbreviation: C:\DOCUME~1\Dan\LOCALS~1\Temp\xmlA7.tmp

Process\_Date: Unknown

Spatial\_Data\_Organization\_Information:

Indirect\_Spatial\_Reference: Gillespie, TX

Direct\_Spatial\_Reference\_Method: Raster

Raster\_Object\_Information:

Raster\_Object\_Type: Pixel

Row\_Count: 2077

Column\_Count: 3534

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: 14

Transverse\_Mercator:

Scale\_Factor\_at\_Central\_Meridian: 0.999600

Longitude\_of\_Central\_Meridian: -99.000000

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Latitude\_of\_Projection\_Origin: 0.000000

False\_Easting: 500000.000000

False\_Northing: 0.000000

Planar\_Coordinate\_Information:

Planar\_Coordinate\_Encoding\_Method: row and column

Coordinate\_Representation:

Abscissa\_Resolution: 2.000000

Ordinate\_Resolution: 2.000000

Planar\_Distance\_Units: meters

Geodetic\_Model:

Horizontal\_Datum\_Name: North American Datum of 1983

Ellipsoid\_Name: Geodetic Reference System 80

Semi-major\_Axis: 6378137.000000

Denominator\_of\_Flattening\_Ratio: 298.257222

Entity\_and\_Attribute\_Information:

Detailed\_Description:

Entity\_Type:

Entity\_Type\_Label: Band\_1

Entity\_Type\_Definition: Raster

Entity\_Type\_Definition\_Source: ESRI

Attribute:

Attribute\_Label: ObjectID

Attribute\_Definition: Internal feature number.

Attribute\_Definition\_Source: ESRI

Attribute\_Domain\_Values:

Unrepresentable\_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute\_Label: Value

Attribute\_Definition: Internal feature number.

Attribute\_Definition\_Source: ESRI

Attribute\_Domain\_Values:

Unrepresentable\_Domain: None.

Attribute:

Attribute\_Label: Count

Attribute\_Definition: Internal feature number.

Attribute\_Definition\_Source: ESRI

Attribute\_Domain\_Values:

Unrepresentable\_Domain: None.

Detailed\_Description:

Entity\_Type:

Entity\_Type\_Label: Band\_2

Entity\_Type\_Definition: Raster

Entity\_Type\_Definition\_Source: ESRI

Attribute:

Attribute\_Label: ObjectID

Attribute\_Definition: Internal feature number.

Attribute\_Definition\_Source: ESRI

Attribute\_Domain\_Values:

Unrepresentable\_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute\_Label: Value

Attribute\_Definition: Internal feature number.

Attribute\_Definition\_Source: ESRI

Attribute\_Domain\_Values:

Unrepresentable\_Domain: None.

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Attribute:

Attribute\_Label: Count  
Attribute\_Definition: Internal feature number.  
Attribute\_Definition\_Source: ESRI  
Attribute\_Domain\_Values:  
Unrepresentable\_Domain: None.

Detailed\_Description:

Entity\_Type:

Entity\_Type\_Label: Band\_3  
Entity\_Type\_Definition: Raster  
Entity\_Type\_Definition\_Source: ESRI

Attribute:

Attribute\_Label: ObjectID  
Attribute\_Definition: Internal feature number.  
Attribute\_Definition\_Source: ESRI  
Attribute\_Domain\_Values:  
Unrepresentable\_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute\_Label: Value  
Attribute\_Definition: Internal feature number.  
Attribute\_Definition\_Source: ESRI  
Attribute\_Domain\_Values:  
Unrepresentable\_Domain: None.

Attribute:

Attribute\_Label: Count  
Attribute\_Definition: Internal feature number.  
Attribute\_Definition\_Source: ESRI  
Attribute\_Domain\_Values:  
Unrepresentable\_Domain: None.

Overview\_Description:

Entity\_and\_Attribute\_Overview: 24-bit pixels, 3 band color (RGB) represent brightness values 0 - 255  
Entity\_and\_Attribute\_Detail\_Citation: None

Distribution\_Information:

Distributor:

Contact\_Information:

Contact\_Organization\_Primary:  
Contact\_Organization: USGS Center for Biological Informatics  
Contact\_Position: USGS-NPS Vegetation Mapping Program Coordinator  
Contact\_Address:  
Address\_Type: mailing and physical address  
Address: United States Geological Survey, Center for Biological Informatics  
Address: MS 302, Bldg 810, Room 8000  
Address: Denver Federal Center  
City: Denver  
State\_or\_Province: Colorado  
Postal\_Code: 80225  
Country: USA  
Contact\_Voice\_Telephone: 303 202-4220  
Contact\_Facsimile\_Telephone: 303 202-4219  
Contact\_Facsimile\_Telephone: 303 202-4229  
Contact\_Electronic\_Mail\_Address: gs-b-npsveg@usgs.gov

Resource\_Description: Downloadable Data

Distribution\_Liability:

The U.S. Geological Survey and the National Park Service shall not be held liable for improper or incorrect use of

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**Standard\_Order\_Process:**

**Digital\_Form:**

**Digital\_Transfer\_Information:**

Format\_Name: HTML

**Digital\_Transfer\_Option:**

**Online\_Option:**

**Computer\_Contact\_Information:**

**Network\_Address:**

Network\_Resource\_Name: [http://biology.usgs.gov/npsveg/fols/index.html#aerial\\_photo](http://biology.usgs.gov/npsveg/fols/index.html#aerial_photo)

Access\_Instructions: Internet Access

Fees: None

**Standard\_Order\_Process:**

**Digital\_Form:**

**Digital\_Transfer\_Information:**

Format\_Name: Compressed County Mosaic

Format\_Information\_Content: Natural Color

Transfer\_Size: 0.000

**Digital\_Transfer\_Option:**

**Online\_Option:**

**Computer\_Contact\_Information:**

**Network\_Address:**

Network\_Resource\_Name: None

**Offline\_Option:**

Offline\_Media: CD-ROM

Recording\_Format: ISO 9660

Fees: Contact the Aerial Photography Field Office for more information

**Metadata\_Reference\_Information:**

Metadata\_Date: 20080312

Metadata\_Review\_Date: 20080814

**Metadata\_Contact:**

**Contact\_Information:**

**Contact\_Organization\_Primary:**

Contact\_Organization: USGS-NPS Vegetation Mapping Program Coordinator

**Contact\_Address:**

Address\_Type: mailing and physical address

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Address:

U.S. Geological Survey, Center for Biological Informatics, MS 302,  
Room 8000, Building 810, Denver Federal Center

City: Denver

State\_or\_Province: Colorado

Postal\_Code: 80225

Country: USA

Contact\_Voice\_Telephone: (303) 202-4220

Contact\_Facsimile\_Telephone: (303) 202-4219

Contact\_Electronic\_Mail\_Address: gs-b-npsveg@usgs.gov

Metadata\_Standard\_Name: FGDC-STD-001.1-1999 Content Standard for Digital Geospatial Metadata, 1998 Part 1:  
Biological Data Profile, 1999

Metadata\_Standard\_Version: FGDC-STD-001-1998

Metadata\_Extensions:

Online\_Linkage: [http://metadata.nbii.gov/portal/community/Communities/Toolkit/Metadata/FGDC\\_Metadata/](http://metadata.nbii.gov/portal/community/Communities/Toolkit/Metadata/FGDC_Metadata/Profile_Name: Biological Data Profile FGDC-STD-001.1-1999)  
Profile\_Name: Biological Data Profile FGDC-STD-001.1-1999