

USDA-FSA-APFO Digital Ortho Mosaic

Raster Dataset

Thumbnail Not Available

Tags

FIPS 28001, Ortho Rectification, Quarter Quadrangle, Mosaic, Aerial Compliance, Adams, Compliance, MrSID, Compression, Digital Ortho Rectified Image, farming, Mississippi, NAIP, Adams CO., MS FSA, JPEG 2000

Summary

The NAIP imagery is typically available for distribution within 60 days of the end of a flying season and is intended to provide current information of agricultural conditions in support of USDA farm programs. For USDA Farm Service Agency, the 1 meter and 1/2 meter GSD product provides an ortho image base for Common Land Unit boundaries and other data sets. The NAIP imagery is generally acquired in projects covering full states in cooperation with state government and other federal agencies who use the imagery for a variety of purposes including land use planning and natural resource assessment. The NAIP is also used for disaster response often providing the most current pre-event imagery.

Description

This data set contains imagery from the National Agriculture Imagery Program (NAIP). The NAIP acquires digital ortho imagery during the agricultural growing seasons in the continental U.S.. A primary goal of the NAIP program is to enable availability of ortho imagery within one year of acquisition. The NAIP provides two main products: 1 meter ground sample distance (GSD) ortho imagery rectified to a horizontal accuracy within +/- 5 meters of reference digital ortho quarter quads (DOQQ's) from the National Digital Ortho Program (NDOP) or from the National Agriculture Imagery Program (NAIP); 1 meter or 1/2 meter GSD ortho imagery rectified within +/- 4 meters to true ground. The tiling format of NAIP imagery is based on a 3.75' x 3.75' quarter quadrangle with a 300 pixel buffer on all four sides. The NAIP imagery is formatted to the UTM coordinate system using the North American Datum of 1983 (NAD83). The NAIP imagery may contain as much as 10% cloud cover per tile. This file was generated by compressing NAIP imagery that covers the county extent. Two types of compression may be used for NAIP imagery: MrSID and JPEG 2000. The target value for the compression ratio is 15:1 for the 1 meter imagery and 60:1 for the 60cm imagery.

Credits

There are no credits for this item.

Use limitations

None, The USDA-FSA Aerial Photography Field Office asks to be credited in derived products. If defects are found in the NAIP imagery during the 1 year warranty period such as horizontal offsets, replacement imagery may be provided. Imagery containing defects that require the acquisition of new imagery, such as excessive cloud cover, specular reflectance, etc., will not be replaced within a NAIP project year.

Extent

West -91.692411 **East** -91.111794

North 31.819584 **South** 31.177814

Scale Range

Maximum (zoomed in) 1:5,000

Minimum (zoomed out) 1:50,000

[ArcGIS Metadata](#) ►

Topics and Keywords ►

THEMES OR CATEGORIES OF THE RESOURCE farming

* CONTENT TYPE Downloadable Data

PLACE KEYWORDS FIPS 28001, Adams, Mississippi, Adams CO., MS FSA

THESAURUS ►

TITLE Geographic Names Information System

[Hide Thesaurus ▲](#)

THEME KEYWORDS Ortho Rectification, Quarter Quadrangle, Mosaic, Aerial Compliance, Compliance, MrSID, Compression, Digital Ortho Rectified Image, farming, NAIP, JPEG 2000

[Hide Topics and Keywords ▲](#)

Citation ►

TITLE USDA-FSA-APFO Digital Ortho Mosaic

PUBLICATION DATE 2016-10-20

PRESENTATION FORMATS * digital map

[Hide Citation ▲](#)

Citation Contacts ►

RESPONSIBLE PARTY

ORGANIZATION'S NAME USDA_FSA_APFO Aerial Photography Field Office

CONTACT'S ROLE publisher

CONTACT INFORMATION ►

ADDRESS

DELIVERY POINT Salt Lake City, Utah

[Hide Contact information ▲](#)

RESPONSIBLE PARTY

ORGANIZATION'S NAME USDA-FSA-APFO

CONTACT'S ROLE originator

[Hide Citation Contacts ▲](#)

Resource Details ►

DATASET LANGUAGES English (UNITED STATES)

STATUS completed

SPATIAL REPRESENTATION TYPE * grid

GRAPHIC OVERVIEW

FILE NAME None
FILE DESCRIPTION None
FILE TYPE None

* PROCESSING ENVIRONMENT Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; Esri
ArcGIS 10.4.1.5686

ARCGIS ITEM PROPERTIES

* NAME Adams16.sid
* LOCATION file:///G:\NAIP2016\ccm\Adams16\Adams16.sid
* ACCESS PROTOCOL Local Area Network

Hide Resource Details ▲

Extents ►

EXTENT

GEOGRAPHIC EXTENT
BOUNDING RECTANGLE
WEST LONGITUDE -91.692411
EAST LONGITUDE -91.111801
SOUTH LATITUDE 31.17782
NORTH LATITUDE 31.819584

EXTENT

DESCRIPTION
Photography Source Image Dates.

TEMPORAL EXTENT

DATE AND TIME 2016-10-20

EXTENT

GEOGRAPHIC EXTENT
BOUNDING RECTANGLE
EXTENT TYPE Extent used for searching
* WEST LONGITUDE -91.692411
* EAST LONGITUDE -91.111794
* NORTH LATITUDE 31.819584
* SOUTH LATITUDE 31.177814
* EXTENT CONTAINS THE RESOURCE Yes

EXTENT IN THE ITEM'S COORDINATE SYSTEM

* WEST LONGITUDE 624594.000000
* EAST LONGITUDE 678727.800000
* SOUTH LATITUDE 3450823.200000
* NORTH LATITUDE 3521193.000000
* EXTENT CONTAINS THE RESOURCE Yes

Hide Extents ▲

Resource Points of Contact ►

POINT OF CONTACT

ORGANIZATION'S NAME USDA-FSA Aerial Photography Field Office
CONTACT'S ROLE point of contact

CONTACT INFORMATION ►

PHONE

VOICE 801-844-2922

FAX 801-956-3653

ADDRESS

TYPE both

DELIVERY POINT 2222 West 2300 South

CITY Salt Lake City

ADMINISTRATIVE AREA Utah

POSTAL CODE 84119-2020

COUNTRY US

E-MAIL ADDRESS apfo.sales@slc.usda.gov

Hide Contact information ▲

Hide Resource Points of Contact ▲

Resource Maintenance ►

RESOURCE MAINTENANCE

UPDATE FREQUENCY irregular

Hide Resource Maintenance ▲

Resource Constraints ►

LEGAL CONSTRAINTS

LIMITATIONS OF USE

In no event shall the creators, custodians, or distributors of this information be liable for any damages arising out of its use (or the inability to use it).

OTHER CONSTRAINTS

There are no limitations for access.

CONSTRAINTS

LIMITATIONS OF USE

None, The USDA-FSA Aerial Photography Field Office asks to be credited in derived products. If defects are found in the NAIP imagery during the 1 year warranty period such as horizontal offsets, replacement imagery may be provided. Imagery containing defects that require the acquisition of new imagery, such as excessive cloud cover, specular reflectance, etc., will not be replaced within a NAIP project year.

Hide Resource Constraints ▲

Spatial Reference ►

ARCGIS COORDINATE SYSTEM

* TYPE Projected

* GEOGRAPHIC COORDINATE REFERENCE GCS_North_American_1983

* PROJECTION NAD_1983_UTM_Zone_15N
* COORDINATE REFERENCE DETAILS
PROJECTED COORDINATE SYSTEM
WELL-KNOWN IDENTIFIER 26915
X ORIGIN -5120900
Y ORIGIN -9998100
XY SCALE 450445547.3910538
Z ORIGIN -100000
Z SCALE 10000
M ORIGIN -100000
M SCALE 10000
XY TOLERANCE 0.001
Z TOLERANCE 0.001
M TOLERANCE 0.001
HIGH PRECISION true
LATEST WELL-KNOWN IDENTIFIER 26915
WELL-KNOWN TEXT
PROJCS["NAD_1983_UTM_Zone_15N",GEOGCS["GCS_North_American_1983",DATUM["D_North_American_1983",SPHEROID["GRS_1980",6378137.0,298.257222101]],PRIME_M["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Transverse_Mercator"],PARAMETER["False_Easting",500000.0],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",-93.0],PARAMETER["Scale_Factor",0.9996],PARAMETER["Latitude_Of_Origin",0.0],UNIT["Meter",1.0],AUTHORITY["EPSG",26915]]

REFERENCE SYSTEM IDENTIFIER

* VALUE 26915
* CODESPACE EPSG
* VERSION 6.13(3.0.1)

[Hide Spatial Reference ▲](#)

Spatial Data Properties ►

GEORECTIFIED GRID ►

* NUMBER OF DIMENSIONS 2

AXIS DIMENSIONS PROPERTIES

DIMENSION TYPE column (x-axis)
* DIMENSION SIZE 90223
* RESOLUTION 0.600000 m (meter)

AXIS DIMENSIONS PROPERTIES

DIMENSION TYPE row (y-axis)
* DIMENSION SIZE 117283
* RESOLUTION 0.600000 m (meter)

* CELL GEOMETRY area
* POINT IN PIXEL center

* TRANSFORMATION PARAMETERS ARE AVAILABLE Yes

* CHECK POINTS ARE AVAILABLE No

CORNER POINTS

* POINT 624594.000000 3450823.200000
* POINT 624594.000000 3521193.000000
* POINT 678727.800000 3521193.000000
* POINT 678727.800000 3450823.200000

* CENTER POINT 651660.900000 3486008.100000

Hide Georectified Grid ▲

INDIRECT SPATIAL REFERENCING
Adams CO, Mississippi

GEORECTIFIED GRID ►

AXIS DIMENSIONS PROPERTIES

DIMENSION TYPE column (x-axis)
* DIMENSION SIZE 90223
* RESOLUTION 0.600000 m (meter)

AXIS DIMENSIONS PROPERTIES

DIMENSION TYPE row (y-axis)
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* RESOLUTION 0.600000 m (meter)

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CORNER POINTS

* POINT 624594.000000 3450823.200000
* POINT 624594.000000 3521193.000000
* POINT 678727.800000 3521193.000000
* POINT 678727.800000 3450823.200000

* CENTER POINT 651660.900000 3486008.100000

Hide Georectified Grid ▲

ARCGIS RASTER PROPERTIES ►

GENERAL INFORMATION

* PIXEL DEPTH 8
* COMPRESSION TYPE Wavelet (MG3)
* NUMBER OF BANDS 3
* RASTER FORMAT MrSID
* SOURCE TYPE continuous
* PIXEL TYPE unsigned integer
* HAS COLORMAP No
* HAS PYRAMIDS Yes

Hide ArcGIS Raster Properties ▲

[Hide Spatial Data Properties ▲](#)

Spatial Data Content ►

IMAGE DESCRIPTION

* TYPE OF INFORMATION image

BAND INFORMATION

* DESCRIPTION Band_1

* MAXIMUM VALUE 219.000000

* MINIMUM VALUE 0.000000

* NUMBER OF BITS PER VALUE 8

BAND INFORMATION

* DESCRIPTION Band_2

* MAXIMUM VALUE 204.000000

* MINIMUM VALUE 0.000000

* NUMBER OF BITS PER VALUE 8

BAND INFORMATION

* DESCRIPTION Band_3

* MAXIMUM VALUE 191.000000

* MINIMUM VALUE 0.000000

* NUMBER OF BITS PER VALUE 8

[Hide Spatial Data Content ▲](#)

Data Quality ►

SCOPE OF QUALITY INFORMATION ►

RESOURCE LEVEL dataset

[Hide Scope of quality information ▲](#)

DATA QUALITY REPORT - CONCEPTUAL CONSISTENCY ►

MEASURE DESCRIPTION

NAIP 3.75 minute tile file names are based on the USGS quadrangle naming convention.

[Hide Data quality report - Conceptual consistency ▲](#)

DATA QUALITY REPORT - COMPLETENESS OMISSION ►

MEASURE DESCRIPTION

None

[Hide Data quality report - Completeness omission ▲](#)

DATA QUALITY REPORT - ABSOLUTE EXTERNAL POSITIONAL ACCURACY ►
DIMENSION horizontal

MEASURE DESCRIPTION
NAIP Specifications

[Hide Data quality report - Absolute external positional accuracy ▲](#)

DATA QUALITY REPORT - ABSOLUTE EXTERNAL POSITIONAL ACCURACY ►
DIMENSION vertical

MEASURE DESCRIPTION
N/A 2d only

[Hide Data quality report - Absolute external positional accuracy ▲](#)

[Hide Data Quality ▲](#)

Lineage ►

PROCESS STEP ►
WHEN THE PROCESS OCCURRED 2016-10-20
DESCRIPTION

Flight planning was performed in Leica MissionPro over a buffered boundary covering DOQQ extents provided by the USDA. A 500m reduced resolution DEM file was used to determine ground heights. A targeted flight altitude of approximately 21,000 feet above ground level for native 60cm image acquisition with sidelap of 27% was used for flight planning parameters. Five Cessna Conquests and a Cessna 414 were utilized for acquisition, the seamline shapefile clarifies which aircraft were used for a given area. All aircraft were equipped with Leica ADS100 systems where utilized for data capture. The Leica ADS100 pushbroom sensor has been calibrated by the manufacturer as well as validated against a local calibration range. The calibration includes measuring the radiometric and geometric properties of the camera. These data are used in the Post Processing Software to eliminate the radiometric and geometric distortion. All aerial imagery was collected with associated GPS/IMU data. ADS collection requires high quality IMU data for processing and was critical for early access hosting of digital data to the web for USDA interim access and review. After early access web delivery was complete, all imagery was triangulated using Leica XPro in which the airborne GPS data was constrained to expected limits. To validate the accuracy of the block adjustment derived from GPS/IMU, sensor parameters and conjugate point measurements, photo identifiable ground control points were field surveyed within each State. These points were surveyed using GPS techniques to produce coordinates that are accurate to +/- 0.25 meters RMSE in XYZ. The GPS surveying techniques utilized assured that the coordinates are derived in the required project datum and relative to an approved

National Reference System. If the block does not fit the control points within specifications the pass and tie points were reviewed for blunders and weak areas. If, after these corrections were made, the block still does not fit the control well the GPS and IMU processing were reviewed. Once the block has proper statistics and fits the control to specifications, the final bundle adjustment was made. As AT points are frequently on man-made and other vertical features not included in the DEM, these ortho points can only be used to indicate regions of error by the clusters of points that predict excessive horizontal displacement. The final adjustments assure a high quality relative adjustment and a high quality absolute adjustment limited to the airborne GPS data accuracy. This process assures the final absolute accuracy of all geopositioned imagery. Both signalized and photo identified ground control were used to QC and control the IMU/GPS based aerial triangulation bundle block solution. Surdex Grouping Tool provides real-time updates of the USDA APFO Image Metrics. The image technician adjusts image correction parameters to bring the radiometric characteristics of large groups of images within the Image Metrics ranges. For each project area the highest resolution DEM or LiDAR was obtained and utilized for rectification of captured imagery. A visual inspection of the final DEM using color cycled classification by elevation and a shaded relief was performed to check for gaps, corruption and gross errors. The predicted horizontal error for each point was added as an attribute in the SURDEX enterprise database. An operator reviews ortho seams in areas these predicted errors indicate horizontal error in excess of the contract specifications. Any imagery errors introduced by source DEM required patching from an alternate perspective or strip of photography. Processing hardware used included various brands of survey grade GPS receivers, various brands and models of computers, RAID6 storage, calibrated monitors, various brands of monitor calibration colorimeters. Leica XPro was used for post processing of ADS pushbroom data, triangulation and orthorectification. SURDEX software was used to color correct and remove bidirectional reflectance, vignetting and other illumination trends. USDA APFO Image Metrics are measured and images corrected to conform to the Image Metrics using SURDEX software. GPS/IMU data was reduced to projected coordinates in the appropriate UTM zone using Inertial Explorer software from Novatel. Aerial Triangulation and orthorectification was performed using Leica XPro. SURDEX software was used to adjust for minor radiometric variation between adjacent images. SURDEX software was used to calculate the optimal seam path, check seam topology and create master tiles. SURDEX ortho software generates occlusion/smear polygons used during seam review of steep terrain. SURDEX software was used to visually inspect master tiles for seam and image defects. SURDEX software was used to project and cut final DOQQ image files from masters. SURDEX software was used to create CCM metadata. Lizardtech GeoExpress version 8.0.0.3065 was used to create the CCM image file. SURDEX software was used to perform final formatting, QC and naming of the DOQQ. USGS metadata parser software was used to validate the metadata. Various versions of Microsoft Windows were used in all phases of production. Grouping Tool was used again after DOQQ and CCM production to provide a quality assurance check. Individual DOQQ and CCM may not meet the USDA APFO Image Metrics ranges due to land cover. The goal is to have the state as a whole meet the Image Metrics. All products are reviewed by independent personnel prior to delivery. The delivery is checked for omissions, commissions, naming, formatting, specification compliance and data integrity.

[Hide Process step ▲](#)

[SOURCE DATA ►](#)

DESCRIPTION

Mosaicked County Image

RESOLUTION OF THE SOURCE DATA

SCALE DENOMINATOR 12000

SOURCE CITATION ▶

TITLE Adams CO., MS FSA
ALTERNATE TITLES MrSID Compressed Image
PUBLICATION DATE 2016-10-20

RESPONSIBLE PARTY

ORGANIZATION'S NAME USDA-FSA Aerial Photography Field Office
CONTACT'S ROLE originator

[Hide Source citation ▲](#)

EXTENT OF THE SOURCE DATA

DESCRIPTION

Majority Aerial Photography Date

TEMPORAL EXTENT

DATE AND TIME 2016-10-20

[Hide Source data ▲](#)

[Hide Lineage ▲](#)

Distribution ▶

DISTRIBUTOR ▶

CONTACT INFORMATION

INDIVIDUAL'S NAME Supervisor Customer Services Section
ORGANIZATION'S NAME USDA-FSA Aerial Photography Field Office
CONTACT'S ROLE distributor

CONTACT INFORMATION ▶

PHONE

VOICE 801-844-2922
FAX 801-956-3653

ADDRESS

TYPE both
DELIVERY POINT 2222 West 2300 South
CITY Salt Lake City
ADMINISTRATIVE AREA Utah
POSTAL CODE 84119-2020
COUNTRY US
E-MAIL ADDRESS apfo.sales@slc.usda.gov

[Hide Contact information ▲](#)

AVAILABLE FORMAT

NAME **Compressed County Mosaic**
FORMAT INFORMATION CONTENT **Natural Color**

ORDERING PROCESS

TERMS AND FEES **Contact the Aerial Photography Field Office for more information**

TRANSFER OPTIONS

ONLINE SOURCE
LOCATION **None**

TRANSFER OPTIONS

MEDIUM OF DISTRIBUTION
MEDIUM NAME **DVD**

HOW DATA IS WRITTEN **iso9660 (CD-ROM)**

TRANSFER OPTIONS

MEDIUM OF DISTRIBUTION
TRANSFER OPTIONS
MEDIUM OF DISTRIBUTION
TRANSFER OPTIONS
MEDIUM OF DISTRIBUTION
MEDIUM NAME **hard disk**

TRANSFER OPTIONS

ONLINE SOURCE
DESCRIPTION **None**

[Hide Distributor ▲](#)

DISTRIBUTION FORMAT

* NAME **Raster Dataset**

[Hide Distribution ▲](#)

Fields ►

DETAILS FOR OBJECT **Adams16.sid.vat** ►

* TYPE **Table**
* ROW COUNT **255**

FIELD **OID** ►

* ALIAS **OID**
* DATA TYPE **OID**
* WIDTH **4**
* PRECISION **0**
* SCALE **0**
* FIELD DESCRIPTION
Internal feature number.

* DESCRIPTION SOURCE
Esri

* DESCRIPTION OF VALUES
Sequential unique whole numbers that are automatically generated.

Hide Field OID ▲

FIELD Value ►

* ALIAS Value
* DATA TYPE Integer
* WIDTH 0
* PRECISION 0
* SCALE 0

Hide Field Value ▲

FIELD Count ►

* ALIAS Count
* DATA TYPE Integer
* WIDTH 0
* PRECISION 0
* SCALE 0

Hide Field Count ▲

Hide Details for object Adams16.sid.vat ▲

DETAILS FOR OBJECT Adams16.sid(Band_2).vat ►

* TYPE Table
* ROW COUNT 252

FIELD OID ►

* ALIAS OID
* DATA TYPE OID
* WIDTH 4
* PRECISION 0
* SCALE 0
* FIELD DESCRIPTION
Internal feature number.

* DESCRIPTION SOURCE
Esri

* DESCRIPTION OF VALUES

Sequential unique whole numbers that are automatically generated.

[Hide Field OID ▲](#)

FIELD Value ►

- * ALIAS Value
- * DATA TYPE Integer
- * WIDTH 0
- * PRECISION 0
- * SCALE 0

[Hide Field Value ▲](#)

FIELD Count ►

- * ALIAS Count
- * DATA TYPE Integer
- * WIDTH 0
- * PRECISION 0
- * SCALE 0

[Hide Field Count ▲](#)

[Hide Details for object Adams16.sid\(Band_2\).vat ▲](#)

DETAILS FOR OBJECT Adams16.sid(Band_3).vat ►

- * TYPE Table
- * ROW COUNT 247

FIELD OID ►

- * ALIAS OID
- * DATA TYPE OID
- * WIDTH 4
- * PRECISION 0
- * SCALE 0
- * FIELD DESCRIPTION
Internal feature number.
- * DESCRIPTION SOURCE
Esri
- * DESCRIPTION OF VALUES
Sequential unique whole numbers that are automatically generated.

[Hide Field OID ▲](#)

FIELD Value ▶

- * ALIAS Value
- * DATA TYPE Integer
- * WIDTH 0
- * PRECISION 0
- * SCALE 0

Hide Field Value ▲

FIELD Count ▶

- * ALIAS Count
- * DATA TYPE Integer
- * WIDTH 0
- * PRECISION 0
- * SCALE 0

Hide Field Count ▲

Hide Details for object Adams16.sid(Band_3).vat ▲

OVERVIEW DESCRIPTION ▶

ENTITY AND ATTRIBUTE OVERVIEW

24-bit pixels, 3 band color(RGB) values 0 - 255

ENTITY AND ATTRIBUTE DETAIL CITATION

None

Hide Overview Description ▲

Hide Fields ▲

Metadata Details ▶

METADATA LANGUAGE English (UNITED STATES)

METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset

SCOPE NAME * dataset

* LAST UPDATE 2017-01-24

ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0

LAST MODIFIED IN ARCGIS FOR THE ITEM 2017-01-24 07:39:41

AUTOMATIC UPDATES

LAST UPDATE 2017-01-24 07:39:41

[Hide Metadata Details ▲](#)

Metadata Contacts ►

METADATA CONTACT

ORGANIZATION'S NAME USDA-FSA Aerial Photography Field Office

CONTACT'S ROLE point of contact

CONTACT INFORMATION ►

PHONE

VOICE 801-844-2900

ADDRESS

TYPE both

DELIVERY POINT 2222 West 2300 South

CITY Salt Lake City

ADMINISTRATIVE AREA Utah

POSTAL CODE 84119-2020

COUNTRY US

[Hide Contact information ▲](#)

[Hide Metadata Contacts ▲](#)

Thumbnail and Enclosures ►

ENCLOSURE

ENCLOSURE TYPE File

DESCRIPTION OF ENCLOSURE original metadata

ORIGINAL METADATA DOCUMENT, WHICH WAS TRANSLATED yes

SOURCE METADATA FORMAT fgdc

[Hide Thumbnail and Enclosures ▲](#)

FGDC Metadata (read-only) ▼

CITATION

CITATION INFORMATION

ORIGINATOR USDA-FSA-APFO

PUBLICATION DATE 2016-10-20

TITLE

USDA-FSA-APFO Digital Ortho Mosaic

PUBLICATION INFORMATION

PUBLICATION PLACE Salt Lake City, Utah

PUBLISHER USDA_FSA_APFO Aerial Photography Field Office

DESCRIPTION
ABSTRACT

This data set contains imagery from the National Agriculture Imagery Program (NAIP). The NAIP acquires digital ortho imagery during the agricultural growing seasons in the continental U.S.. A primary goal of the NAIP program is to enable availability of ortho imagery within one year of acquisition. The NAIP provides two main products: 1 meter ground sample distance (GSD) ortho imagery rectified to a horizontal accuracy within +/- 5 meters of reference digital ortho quarter quads (DOQQ's) from the National Digital Ortho Program (NDOP) or from the National Agriculture Imagery Program (NAIP); 1 meter or 1/2 meter GSD ortho imagery rectified within +/- 4 meters to true ground. The tiling format of NAIP imagery is based on a 3.75' x 3.75' quarter quadrangle with a 300 pixel buffer on all four sides. The NAIP imagery is formatted to the UTM coordinate system using the North American Datum of 1983 (NAD83). The NAIP imagery may contain as much as 10% cloud cover per tile. This file was generated by compressing NAIP imagery that covers the county extent. Two types of compression may be used for NAIP imagery: MrSID and JPEG 2000. The target value for the compression ratio is 15:1 for the 1 meter imagery and 60:1 for the 60cm imagery.

PURPOSE

The NAIP imagery is typically available for distribution within 60 days of the end of a flying season and is intended to provide current information of agricultural conditions in support of USDA farm programs. For USDA Farm Service Agency, the 1 meter and 1/2 meter GSD product provides an ortho image base for Common Land Unit boundaries and other data sets. The NAIP imagery is generally acquired in projects covering full states in cooperation with state government and other federal agencies who use the imagery for a variety of purposes including land use planning and natural resource assessment. The NAIP is also used for disaster response often providing the most current pre-event imagery.

TIME PERIOD OF CONTENT

TIME PERIOD INFORMATION

SINGLE DATE/TIME

CALENDAR DATE 2016-10-20

CURRENTNESS REFERENCE

Photography Source Image Dates.

STATUS

PROGRESS Complete

MAINTENANCE AND UPDATE FREQUENCY Irregular

SPATIAL DOMAIN

BOUNDING COORDINATES

WEST BOUNDING COORDINATE -91.692411

EAST BOUNDING COORDINATE -91.111801

NORTH BOUNDING COORDINATE 31.819584
SOUTH BOUNDING COORDINATE 31.177820

KEYWORDS

THEME
THEME KEYWORD THESAURUS None
THEME KEYWORD farming
THEME KEYWORD Digital Ortho Rectified Image
THEME KEYWORD Mosaic
THEME KEYWORD Quarter Quadrangle
THEME KEYWORD Ortho Rectification
THEME KEYWORD Compression
THEME KEYWORD MrSID
THEME KEYWORD JPEG 2000
THEME KEYWORD NAIP
THEME KEYWORD Compliance
THEME KEYWORD Aerial Compliance

PLACE

PLACE KEYWORD THESAURUS Geographic Names Information System
PLACE KEYWORD Adams CO., MS FSA
PLACE KEYWORD FIPS 28001
PLACE KEYWORD Adams
PLACE KEYWORD Mississippi

ACCESS CONSTRAINTS

There are no limitations for access.

USE CONSTRAINTS

None, The USDA-FSA Aerial Photography Field Office asks to be credited in derived products.
If defects are found in the NAIP imagery during the 1 year warranty period such as horizontal offsets, replacement imagery may be provided. Imagery containing defects that require the acquisition of new imagery, such as excessive cloud cover, specular reflectance, etc., will not be replaced within a NAIP project year.

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 UNITED STATES

CONTACT VOICE TELEPHONE 801-844-2922
CONTACT FACSIMILE TELEPHONE 801-956-3653
CONTACT ELECTRONIC MAIL ADDRESS apfo.sales@slc.usda.gov

BROWSE GRAPHIC

BROWSE GRAPHIC FILE NAME None
BROWSE GRAPHIC FILE DESCRIPTION
None

BROWSE GRAPHIC FILE TYPE None

NATIVE DATA SET ENVIRONMENT

NAIP 3.75 Quarter Quadrangles mosaicked into a County format using data compression software. The target values for the compression ratio are 15:1 for the 1 meter imagery and 60:1 for the 60 centimeter imagery.

[Hide Identification](#) ▲

LOGICAL CONSISTENCY REPORT

NAIP 3.75 minute tile file names are based on the USGS quadrangle naming convention.

COMPLETENESS REPORT

None

POSITIONAL ACCURACY

HORIZONTAL POSITIONAL ACCURACY

HORIZONTAL POSITIONAL ACCURACY REPORT

NAIP Specifications

VERTICAL POSITIONAL ACCURACY

VERTICAL POSITIONAL ACCURACY REPORT

N/A 2d only

LINEAGE

SOURCE INFORMATION

SOURCE CITATION

CITATION INFORMATION

ORIGINATOR USDA-FSA Aerial Photography Field Office

PUBLICATION DATE 2016-10-20

TITLE

Adams CO., MS FSA

SOURCE SCALE DENOMINATOR 12000

TYPE OF SOURCE MEDIA External Media Types

SOURCE TIME PERIOD OF CONTENT

TIME PERIOD INFORMATION

SINGLE DATE/TIME

CALENDAR DATE 2016-10-20

SOURCE CURRENTNESS REFERENCE

Majority Aerial Photography Date

SOURCE CITATION ABBREVIATION

MrSID Compressed Image

SOURCE CONTRIBUTION

Mosaicked County Image

PROCESS STEP

PROCESS DESCRIPTION

Flight planning was performed in Leica MissionPro over a buffered boundary covering DOQQ extents provided by the USDA. A 500m reduced resolution DEM file was used to determine ground heights. A targeted flight altitude of approximately 21,000 feet above ground level for native 60cm image acquisition with sidelap of 27% was used for flight planning parameters. Five Cessna Conquests and a Cessna 414 were utilized for acquisition, the seamline shapefile clarifies which aircraft were used for a given area. All aircraft were equipped with Leica ADS100 systems where utilized for data capture. The Leica ADS100 pushbroom sensor has been calibrated by the manufacturer as well as validated

against a local calibration range. The calibration includes measuring the radiometric and geometric properties of the camera. These data are used in the Post Processing Software to eliminate the radiometric and geometric distortion. All aerial imagery was collected with associated GPS/IMU data. ADS collection requires high quality IMU data for processing and was critical for early access hosting of digital data to the web for USDA interim access and review. After early access web delivery was complete, all imagery was triangulated using Leica XPro in which the airborne GPS data was constrained to expected limits. To validate the accuracy of the block adjustment derived from GPS/IMU, sensor parameters and conjugate point measurements, photo identifiable ground control points were field surveyed within each State. These points were surveyed using GPS techniques to produce coordinates that are accurate to +/- 0.25 meters RMSE in XYZ. The GPS surveying techniques utilized assured that the coordinates are derived in the required project datum and relative to an approved National Reference System. If the block does not fit the control points within specifications the pass and tie points were reviewed for blunders and weak areas. If, after these corrections were made, the block still does not fit the control well the GPS and IMU processing were reviewed. Once the block has proper statistics and fits the control to specifications, the final bundle adjustment was made. As AT points are frequently on man-made and other vertical features not included in the DEM, these ortho points can only be used to indicate regions of error by the clusters of points that predict excessive horizontal displacement. The final adjustments assure a high quality relative adjustment and a high quality absolute adjustment limited to the airborne GPS data accuracy. This process assures the final absolute accuracy of all geopositioned imagery. Both signalized and photo identified ground control were used to QC and control the IMU/GPS based aerial triangulation bundle block solution. Surdex Grouping Tool provides real-time updates of the USDA APFO Image Metrics. The image technician adjusts image correction parameters to bring the radiometric characteristics of large groups of images within the Image Metrics ranges. For each project area the highest resolution DEM or LiDAR was obtained and utilized for rectification of captured imagery. A visual inspection of the final DEM using color cycled classification by elevation and a shaded relief was performed to check for gaps, corruption and gross errors. The predicted horizontal error for each point was added as an attribute in the SURDEX enterprise database. An operator reviews ortho seams in areas these predicted errors indicate horizontal error in excess of the contract specifications. Any imagery errors introduced by source DEM required patching from an alternate perspective or strip of photography. Processing hardware used included various brands of survey grade

GPS receivers, various brands and models of computers, RAID6 storage, calibrated monitors, various brands of monitor calibration colorimeters. Leica XPro was used for post processing of ADS pushbroom data, triangulation and orthorectification. SURDEX software was used to color correct and remove bidirectional reflectance, vignetting and other illumination trends. USDA APFO Image Metrics are measured and images corrected to conform to the Image Metrics using SURDEX software. GPS/IMU data was reduced to projected coordinates in the appropriate UTM zone using Inertial Explorer software from Novatel. Aerial Triangulation and orthorectification was performed using Leica XPro. SURDEX software was used to adjust for minor radiometric variation between adjacent images. SURDEX software was used to calculate the optimal seam path, check seam topology and create master tiles. SURDEX ortho software generates occlusion/smear polygons used during seam review of steep terrain. SURDEX software was used to visually inspect master tiles for seam and image defects. SURDEX software was used to project and cut final DOQQ image files from masters. SURDEX software was used to create CCM metadata. Lizardtech GeoExpress version 8.0.0.3065 was used to create the CCM image file. SURDEX software was used to perform final formatting, QC and naming of the DOQQ. USGS metadata parser software was used to validate the metadata. Various versions of Microsoft Windows were used in all phases of production. Grouping Tool was used again after DOQQ and CCM production to provide a quality assurance check. Individual DOQQ and CCM may not meet the USDA APFO Image Metrics ranges due to land cover. The goal is to have the state as a whole meet the Image Metrics. All products are reviewed by independent personnel prior to delivery. The delivery is checked for omissions, commissions, naming, formatting, specification compliance and data integrity.

PROCESS DATE 2016-10-20

[Hide Data Quality](#) ▲

INDIRECT SPATIAL REFERENCE METHOD
Adams CO, Mississippi

DIRECT SPATIAL REFERENCE METHOD Raster

RASTER OBJECT INFORMATION
RASTER OBJECT TYPE Pixel

[Hide Spatial Data Organization](#) ▲

HORIZONTAL COORDINATE SYSTEM DEFINITION
PLANAR
PLANAR COORDINATE INFORMATION
PLANAR COORDINATE ENCODING METHOD row and column
COORDINATE REPRESENTATION
ABSCISSA RESOLUTION 0.6
ORDINATE RESOLUTION 0.6
PLANAR DISTANCE UNITS meters

GEODETTIC MODEL
HORIZONTAL DATUM NAME North American Datum of 1983

ELLIPSOID NAME Geodetic Reference System 80
SEMI-MAJOR AXIS 6378137
DENOMINATOR OF FLATTENING RATIO 298.257

Hide Spatial Reference ▲

DETAILED DESCRIPTION
ENTITY TYPE
ENTITY TYPE LABEL Adams16.sid.vat

ATTRIBUTE
ATTRIBUTE LABEL OID
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
ATTRIBUTE LABEL Count

DETAILED DESCRIPTION
ENTITY TYPE
ENTITY TYPE LABEL Adams16.sid(Band_2).vat

ATTRIBUTE
ATTRIBUTE LABEL OID
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
ATTRIBUTE LABEL Count

DETAILED DESCRIPTION
ENTITY TYPE
ENTITY TYPE LABEL Adams16.sid(Band_3).vat

ATTRIBUTE
ATTRIBUTE LABEL OID
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
ATTRIBUTE LABEL Count

OVERVIEW DESCRIPTION
ENTITY AND ATTRIBUTE OVERVIEW
24-bit pixels, 3 band color(RGB) values 0 - 255
ENTITY AND ATTRIBUTE DETAIL CITATION
None

Hide Entities and Attributes ▲

DISTRIBUTOR
CONTACT INFORMATION
CONTACT PERSON PRIMARY
CONTACT PERSON Supervisor Customer Services Section
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COUNTRY UNITED STATES

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RESOURCE DESCRIPTION None
DISTRIBUTION LIABILITY

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STANDARD ORDER PROCESS
DIGITAL FORM
DIGITAL TRANSFER INFORMATION
FORMAT NAME Compressed County Mosaic
FORMAT INFORMATION CONTENT
Natural Color

DIGITAL TRANSFER OPTION
ONLINE OPTION
COMPUTER CONTACT INFORMATION
NETWORK ADDRESS
NETWORK RESOURCE NAME **None**

OFFLINE OPTION
OFFLINE MEDIA DVD-R
RECORDING FORMAT ISO 9660

OFFLINE OPTION
OFFLINE MEDIA USB Hard Disk
RECORDING FORMAT NTFS

OFFLINE OPTION
OFFLINE MEDIA FireWire Hard Disk
RECORDING FORMAT NTFS

OFFLINE OPTION
OFFLINE MEDIA Flash drive
RECORDING FORMAT Fat32 or NTFS

FEES Contact the Aerial Photography Field Office for more information

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METADATA DATE 2016-10-20
METADATA CONTACT
CONTACT INFORMATION
CONTACT ORGANIZATION PRIMARY
CONTACT ORGANIZATION USDA-FSA Aerial Photography Field Office
CONTACT ADDRESS
ADDRESS TYPE mailing and physical address
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CITY Salt Lake City
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POSTAL CODE 84119-2020
COUNTRY UNITED STATES

CONTACT VOICE TELEPHONE 801-844-2900

METADATA STANDARD NAME Content Standard for Digital Geospatial Metadata
METADATA STANDARD VERSION FGDC-STD-001-1998

[Hide Metadata Reference ▲](#)