

**USGS Emergency Operations
Hazards Data and Distribution System
Product Specifications and Services**

USGS EROS Center

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1.0 INTRODUCTION

USGS Emergency Response strives to ensure that the disaster response community has rapid access to timely, accurate, and relevant geospatial imagery, products, and services before, during, and after a disaster.

During the course of a major disaster response, the USGS may receive a variety of imagery and related derivative products for the Hazards Data Distribution System (HDDS), a single point-of-entry system that provides preview and download access for disaster-related data. These data will often consist of imagery data, image maps, vector overlays, and other products that have been developed specifically for the means of supporting the disaster response.

In order to expedite delivery from data providers, the imagery data and contributed products may be transferred electronically utilizing the USGS Data Sharing Portal (DSP) services. Appropriate metadata for the imagery and contributed products will be required for accurate information and will assist in managing the products. As a result, products will become geographically retrievable on HDDS and shared across the response community.

This document is a guide for DSP services and provides the specifications for the types of products and metadata that are required for HDDS.

2.0 HAZARDS DATA DISTRIBUTION SYSTEM PRODUCTS

HDDS will support a variety of data and format types and products that have certain metadata and georeferencing information supplied.

Data provided to HDDS are primarily categorized as either image data products or derived map products and documents. Both types of data products have specific metadata requirements to ensure they will be geographically retrievable.

File naming conventions may be alphanumeric, and lower and/or upper case. **No spaces or special characters are allowed.** Note: underscores are acceptable.

Metadata field names may also be lower and/or upper case.

2.1. Imagery Data Product Specifications

Imagery product format types supported may include Joint Photographic Experts Group (JPEG), Geospatial Tagged Image File Format (GeoTIFF), JPEG 2000, and Earth Resources Data Analysis System (ERDAS) Imagine formats. All imagery products are required to have supporting georeferencing information.

Each set of imagery products will have a corresponding metadata file name with a text file that has .meta as an extension.

A folder with the imagery products will include the .meta file at the same level as the folder when transferring to the USGS Data Sharing Portal.

The metadata file will include the Event Name, Agency, Vendor, Platform, Sensor, Acquisition Date, and Access fields.

- Event is a required field and identifies the event associated with the product(s). A list of current events can be found at <http://hddsexplorer.usgs.gov/rss>.
- Agency is a required field and identifies the agency, institute, or company that submitted the product(s).
- Vendor is a required field and identifies the agency, institute, or company that provided the product(s).
- Sensor is a required field and identifies the sensor or camera used in acquiring the imagery data.
- Acquisition Date is a required field and identifies the date the product was created. Note: Acquisition Date is not required for TIF or JPEG files that include the dates within the internal tags such as Exchangeable Image File (EXIF) tags.
- Access is a required field and identifies Public access for all users or Restricted access that is controlled on an event basis utilizing an access request process.

Field Format of Imagery.meta File

*Event=
*Agency=
*Vendor=
*Platform=
*Sensor=
*AcquisitionDate= yyyyymm or yyyyymmdd
*Access=Public or Restricted
**Denotes required fields*

Example

USGS_aerial_20150501 (folder)

USGS_aerial_20150501.meta (contents)

Event=201505_Flood_US

Agency=USGS

Vendor=Aerometric

Platform=Aerial

Sensor=Sony_DMC

AcquisitionDate=20150101

Access=Restricted

2.2. Map Product and Document Specifications

Map product types may include Joint Photographic Experts Group (JPEG), Moving Picture Experts Group (MPEG), Portable Document Format (PDF), Georeferenced PDF (GeoPDF), Shape files, Keyhole Markup Language (KML), and Keyhole Markup language Zipped (KMZ). Metadata documents may include text, spreadsheets, PowerPoint slides, and Word documents.

Each product file name will have a corresponding metadata file name with a text file that has .meta as an extension. Note: a product file may also include readmes or additional files when their file names have the same root filename as the product filename. The additional files will be included in the zipped HDDS product.

The metadata file may include Event, Submitting Agency, Vendor, Create Date, Product Type, Access, Version, Version Status Center Point, or Latitude and Longitude coordinates.

- Event is a required field and identifies the event of the product. A list of current events can be found at <http://hddsexplorer.usgs.gov/rss>.
- Submitting Agency is a required field and is the agency or institute submitting the product.
- Vendor is a required field and identifies the agency, institute, or company that has provided the data.
- Create Date is a required field and identifies the date the product was created.
- Product Type is a required 50-character field and briefly describes the product.

- Access is a required field and identifies Public access for all users or Restricted access that is controlled on an event basis utilizing an access request process.
- Source is a list of platforms or types of data used in the product.
- Version is a sequential number referencing the version number of the map or product available on HDDS.
- Version Status allows for retaining or replacing an existing HDDS product or map. “Replace” will hide the previous versions, whereas “Retain” will ensure all versions are available on HDDS.
- Center Point allows the entry of only center point latitude and longitude.
- Corner Coordinate allows entry of the bounding area in latitude and longitude.
- Note: Either the Center Point fields or the Corner Coordinate fields may be supplied. If no coordinates are available, the Event bounding area will be used.

Field Format of MapProduct .meta File

*Event=

*SubmittingAgency=

*Vendor=

*CreateDate=yyyymm or yyyymmdd

*ProductType= freeform (limit of 50 characters)

*Access=Public or Restricted

Source= freeform (a list separated by commas)

Version=1

VersionStatus=Retain or Replace

CenterPointLat=latitude in decimal degrees or degrees/minutes/seconds (DMS)

CenterPointLon=longitude in decimal degrees or DMS

ULLat=latitude in decimal degrees or DMS

ULLon=longitude in decimal degrees or DMS

URLat=latitude in decimal degrees or DMS

URLon=longitude in decimal degrees or DMS

LRLat=latitude in decimal degrees or DMS

LRLon=longitude in decimal degrees or DMS

LLLat=latitude in decimal degrees or DMS

LLLon=longitude in decimal degrees or DMS

**Denotes required fields*

Example

USGS_flds_assessment.pdf

USGS_flds_assessment.readme

USGS_flds_assessment.meta (contents)

Event=201505_Flood_US

SubmittingAgency=USGS

Vendor=Aerometric

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Source=Aerial,Landsat,SPOT
CreateDate=20150801
ProductType=flood assessment
Access=Restricted
Version=2
VersionStatus=Replace
ULLat=43
ULLon=-72
URLat=43
URLon=-70
LRLat=42.5
LRLon=-70.1
LLLat=42.5
LLLon=-71.8

3.0 DATA SHARING PORTAL CLIENT

There are two options available for transferring products electronically: 1) the DSP graphical interface or 2) secured FTP, referred to as FTP(S). The graphical interface is a single file (one at a time) upload capability, whereas FTP(S) supports folder or multiple file uploads. The volume of products may help determine the appropriate method of data transfer.

3.1. DSP Graphical Interface Transfer

The graphical DSP web site is at <https://datasharingportal.usgs.gov/log/in>.

DSP will require a USGS registered account for logging in. This account allows access to several USGS tools such as HDDS, EarthExplorer, and the Collection Management Tool (CMT). There is a Register link available on the web site for registration.

After logging in, there will be specific event folder names created for the disaster event. Select the appropriate event folder and upload the product and related metadata file; each file will require a separate transfer.

When there are several products with corresponding metadata files, they may be zipped into one file prior to uploading the products on the DSP.

Once the products are uploaded successfully, send an email with data transfer details to product_delivery@usgs.gov. This communication is required to initiate ingest of data into HDDS. A completion notification will be sent once the data is published on HDDS.

3.2. DSP FTP(S) Transfer

The FTP(S) site is <http://datasharingportal-incoming.cr.usgs.gov>.

An account and password are required for transferring products. If you do not have an account, send an email request to product_delivery@usgs.gov. The subject line should be "DSP account requested" with a brief explanation for the particular event and products.

Command line utilities such as curl or lftp are acceptable for transferring contributed products.

A number of desktop applications offer FTP(S) capability and include FileZilla, SmartFTP, and CoreFTP.

FileZilla instructions example

On Menu, select File/Site Manager/General tab.

Select New Site (may rename as USGS_DSP or another name).

Host = datasharingportal-incoming.cr.usgs.gov

Port = Blank (or 20 or 21)

Protocol = FTP

Encryption = Use explicit FTP over TLS if Available

Logon Type = Ask for password

User = Username provided Enter Username

Password = Enter Password

Select Connect

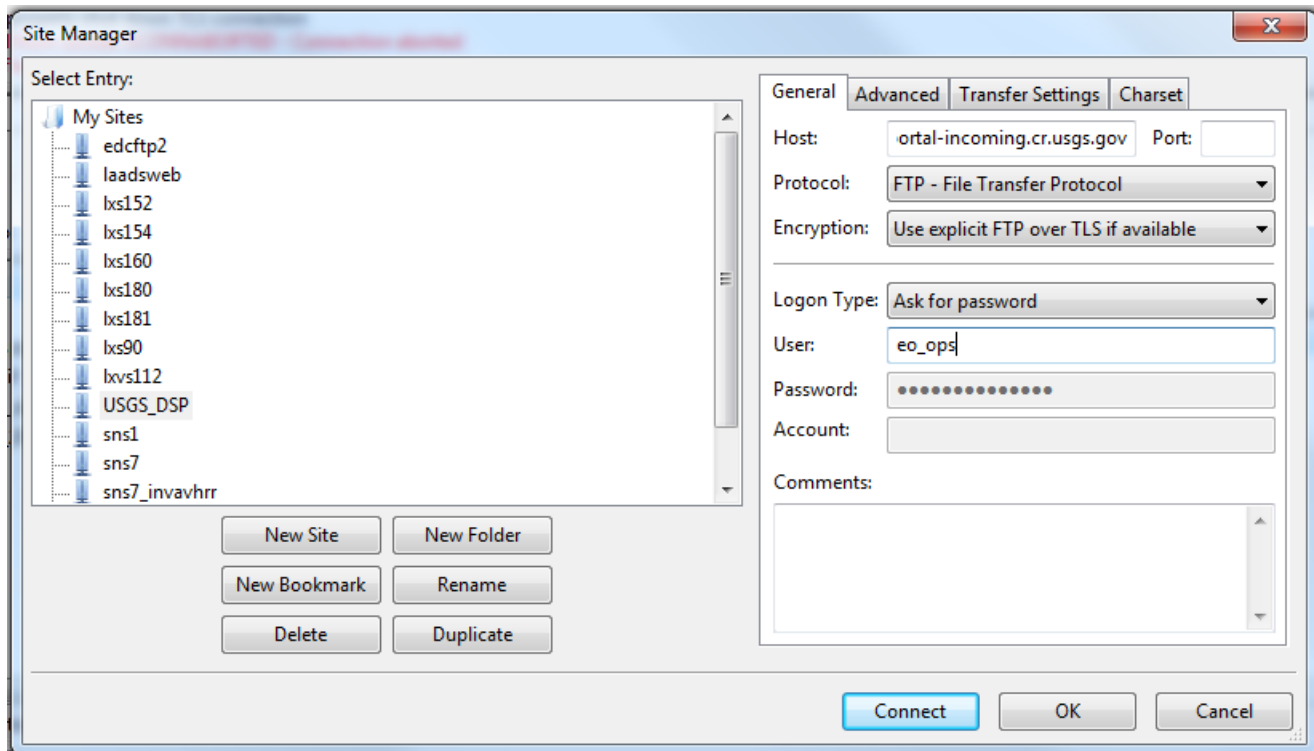


Figure 1 FileZilla Menu

On FileZilla, under Remote site: (right side)

Sub-folders may be created as necessary.

From Local site: (left side)

Navigate to the Windows folder containing the files to upload.

Drag a file to Remote site folder. The control key and left hand mouse button can be used to select multiple files for transfer. Another option is to drag a folder over (instead of single files).

Upload screen:

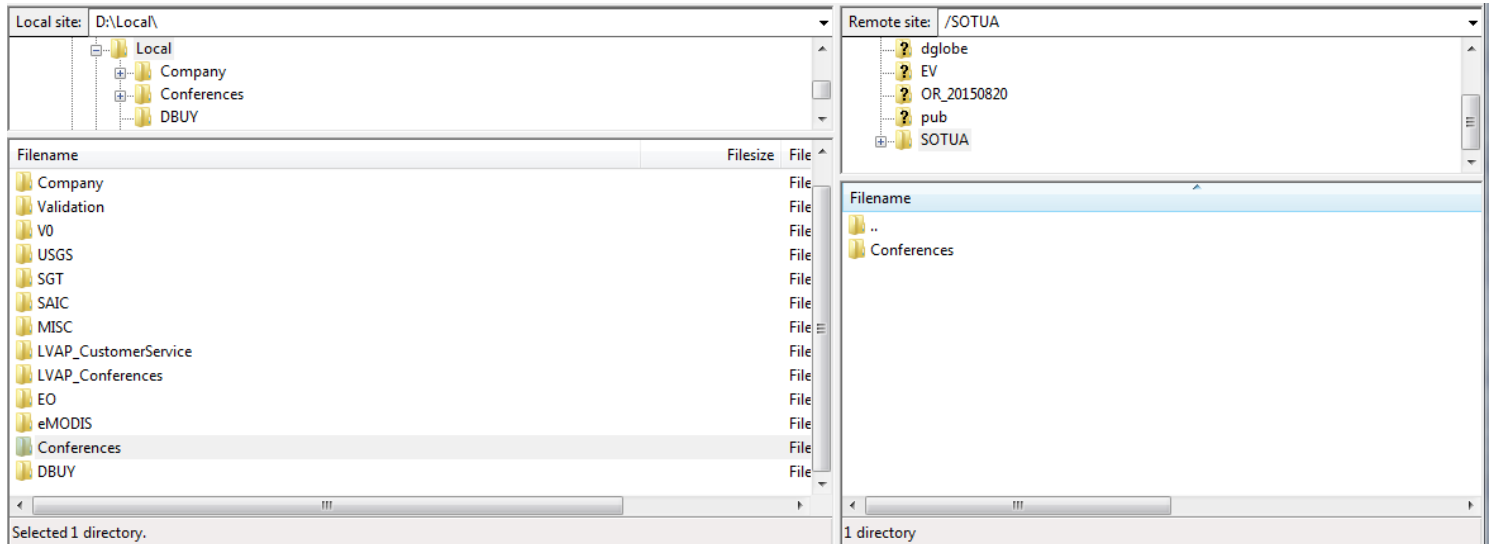


Figure 2 FileZilla upload

For future uploads using FileZilla

Select File/Site Manager.

Select Site (USGS_DSP for this example).

Select Connect, as the parameters have been automatically saved.

Once the products are uploaded successfully, send an email with data transfer details to product_delivery@usgs.gov. This communication is required to initiate ingest of data into HDDS. A completion notification will be sent once the data is published on HDDS.

4.0 ACRONYMS

DOI	Department of Interior
DMS	Degrees/Minutes/Seconds
DSP	Data Sharing Portal
ERDAS	Earth Resources Data Analysis System
EROS	Earth Resources Observation and Science
EXIF	Exchangeable Image File
GeoPDF	Geospatial Portable Document Format
GeoTIFF	Geospatial Tagged Image File Format
HDDS	Hazards Data Distribution System
JPEG	Joint Photographic Experts Group
KML	Keyhole Markup Language
KMZ	Keyhole Markup Language Zipped
MPEG	Moving Picture Experts Group
PDF	Portable Document Format
TIF	Tagged Image File
USGS	United States Geological Survey

APPENDIX A

Template for Imagery.meta

Event=
Agency=
Vendor=
Platform=
Sensor=
AcquisitionDate=
Access=

Template for MapProduct.meta

Event=
SubmittingAgency=
Vendor=
CreateDate=
ProductType=
Access=
Source=
Version=
VersionStatus=
CenterPointLat=
CenterPointLon=
ULLat=
ULLon=
URLat=
URLon=
LRLat=
LRLon=
LLLat=
LLLon=