# 201608\_Flood\_US

## Geospatial Information and Remotely Sensed Imagery

# Hazards Data Distribution System (HDDS)

http://hddsexplorer.usgs.gov/

Select Event: "201608\_Flood\_US" → click on "+ "and then "Search"

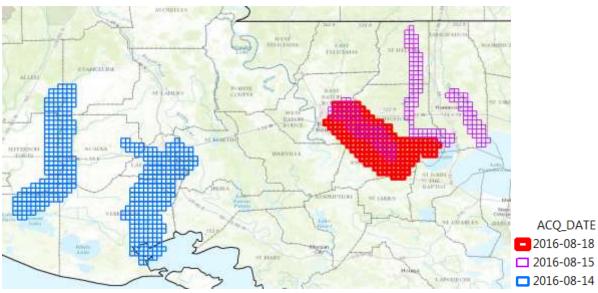
Download Shapefiles for image footprints

http://hddsexplorer.usgs.gov/data/list/disaster/201608 Flood US/shapefiles/index

Note: For the HDDS links, copy the links and paste them into your browser.

More information about HDDS: <a href="http://hdds.usgs.gov/hazards-data-distribution-system-hdds">http://hdds.usgs.gov/hazards-data-distribution-system-hdds</a>

## NOAA Aerial NAD83



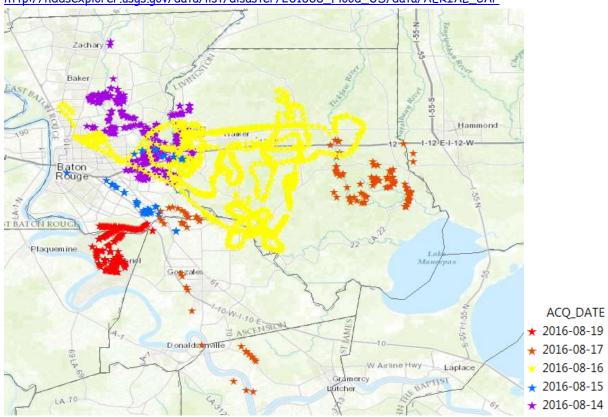
# NOAA Aerial WG584 (Frames)



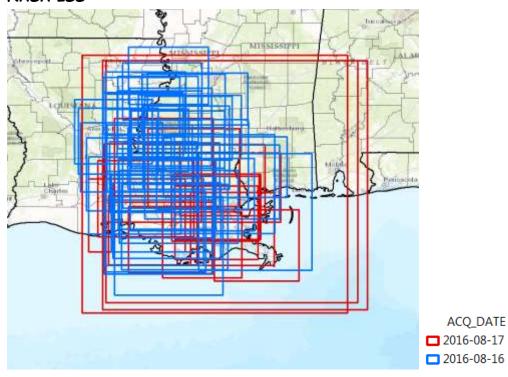
ACQ\_DATE ■ 2016-08-15

# Civil Air Patrol





## NASA ISS



# Landsat 8



# Landsat 7



# Sentinel 1





# International Charter Products 🎑 📤

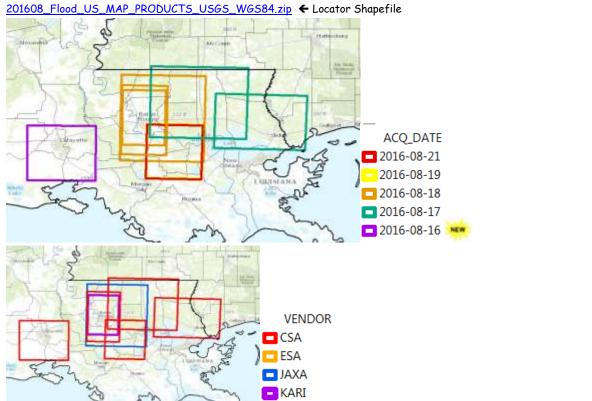


# Map Products WGS 84 📤



Geotif products created from imagery acquired under International Charter

http://hddsexplorer.usgs.gov/data/list/disaster/201608\_Flood\_US/data/MAP\_PRODUCTS\_USGS Product location



# Map Products NAD83 📤



Geotif products from JAXA imagery acquired under International Charter 201608 Flood US MAP\_PRODUCTS USGS\_NAD83.zip← Locator Shapefile



Radarsat 🛕 🔘



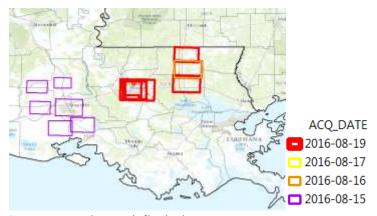
http://hddsexplorer.usgs.gov/data/list/disaster/201608\_Flood\_US/data/MAP\_PRODUCTS\_CSA



ESA Copernicus 📤



http://hddsexplorer.usgs.gov/data/list/disaster/201608\_Flood\_US/data/MAP\_PRODUCTS\_ESA



Time series products with flood polygons.

# MAP PRODUCTS Dartmouth Flood Observatory



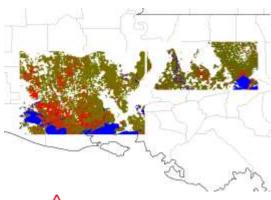
http://hddsexplorer.usgs.gov/data/list/disaster/201608\_Flood\_US/data/MAP\_PRODUCTS\_DFO



Map Products NASA 📤



http://hddsexplorer.usgs.gov/data/list/disaster/201608\_Flood\_US/data/MAP\_PRODUCTS\_NASA



NGA 📤

 $\underline{\text{http://hddsexplorer.usgs.gov/data/list/disaster/201608\_Flood\_US/data/MAP\_PRODUCTS\_NGA}$ MR00N30\_497433W090\_80737020160819000000000L00\_G000000000.zip ← Shapefiles MR00N30\_245106W091\_442527201608190000000MR00\_GU000000000.zip ← PDF Flood Assessment



## **HDDS** Restricted

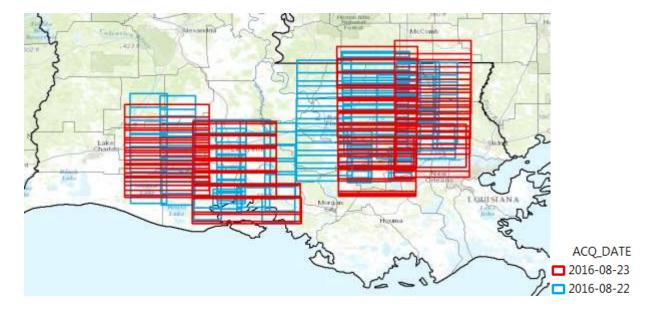
## Self-Register for HDDS Restricted. http://hddsexplorer.usqs.gov/

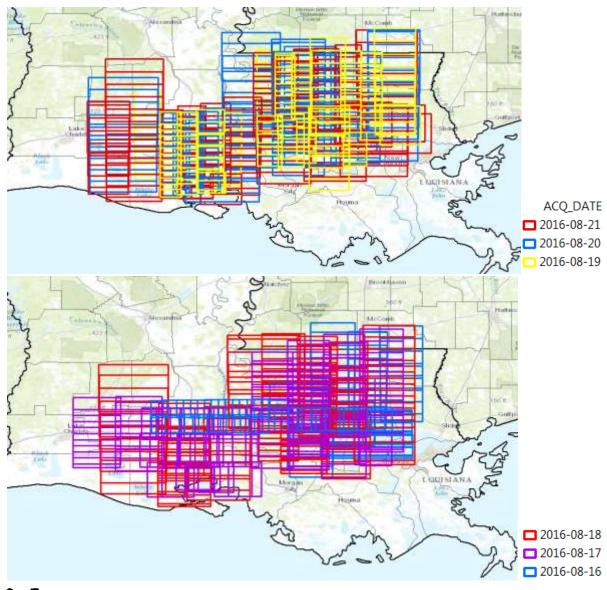
If you have not registered on either EarthExplorer or HDDS, click the register button in the top right corner of the screen and go thru the registration process. Once registered, you will have access to EarthExplorer and HDDS download capabilities. The first time you attempt to download restricted imagery, you will need to fill out an access request form for that event. Click on "Access" (upper right of HDDS screen), then select "To request access to restricted data click <a href="here">here</a>". Select event from menu. Once granted access, you can download restricted imagery. (note: in most cases the restricted area contains licensed imagery, not all requests can be granted.)

Questions on HDDS Contact: Brenda Jones <a href="mailto:bkjones@usgs.gov">bkjones@usgs.gov</a>

WorldView

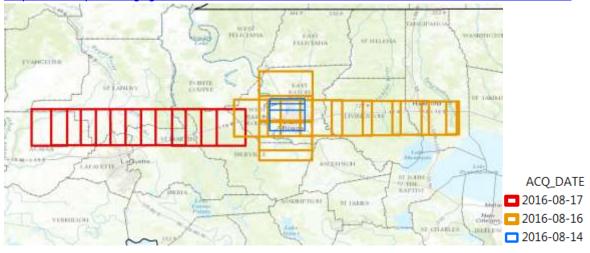
http://hddsexplorer.usgs.gov/data/list/disaster\_restricted/201608\_Flood\_US/data/WORLDVIEW\_NGA



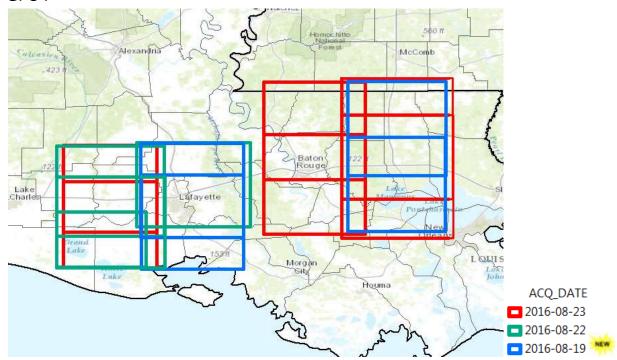


# GeoEye



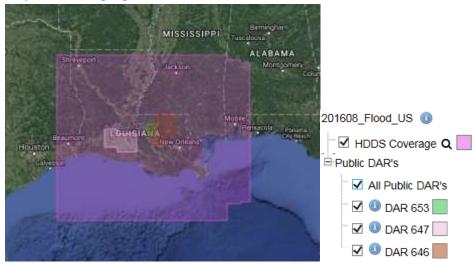


## SPOT



HDDS Emergency Operations - Collection Management Tool (area of interest for imagery collections)

http://cmt.usgs.gov/



End HDDS

## NOAA / FEMA

Yesterday's flight of the South Louisiana AOIs, for Bayou Vermilion and Vermilion River - Major Flooding (Crest 8/14 North; 8/15 South) and Bayou Nezpique and Mermentau River - Major Flooding (Crest 8/16). NOAA RSD began flights on 8/14/2016, per the FEMA Mission Assignment and expects to complete the follow-on AOIs as weather permits. Weather has precluded us from collecting more imagery and we are

willing to wait until weather improves however, the sky cover forecasts and local observations are not favorable.

## Bulk downloads:

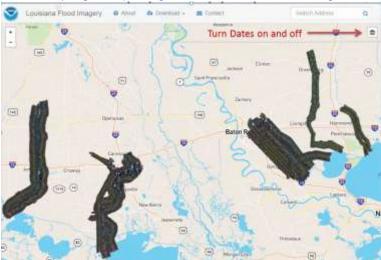
Aug 14:

https://ngsstoragepublicstr.blob.core.windows.net/download/20160814a\_JpeqTiles\_GCS\_NAD83.tar

- Aug 15\_Nadir: https://ngsstoragepublicstr.blob.core.windows.net/download/20160815aJpegTiles\_GCS\_NAD83.tar
- Aug 15 Oblique: https://ngsstoragepublicstr.blob.core.windows.net/download/20160815obOblique.tar
- Aug 18: https://ngsstoragepublicstr.blob.core.windows.net/download/20160818aJpegTiles\_GCS\_NAD83.tar

Web Map Tile Service: <a href="http://ngs-storm-viewer-web.azurewebsites.net/storms/tilesa/services/tileserver.php?/wmts">http://ngs-storm-viewer-web.azurewebsites.net/storms/tilesa/services/tileserver.php?/wmts</a>
WMTS Layer names: 20160814\_RGB, 20160815\_MOS, and 20160818\_RGB

Web Viewer: <a href="http://geodesy.noaa.gov/storm\_archive/storms/aug2016\_lafloods/index.html">http://geodesy.noaa.gov/storm\_archive/storms/aug2016\_lafloods/index.html</a>



Additional areas flown on August 18. In some area (e.g. Baton Rouge) you can toggle between August 15 and August 18,

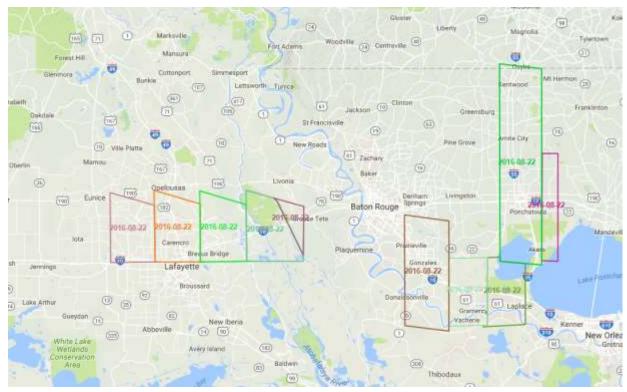
# NOAA Swipe Before and after imagery

http://oceanservice.noaa.gov/news/aug16/louisiana-flooding.html

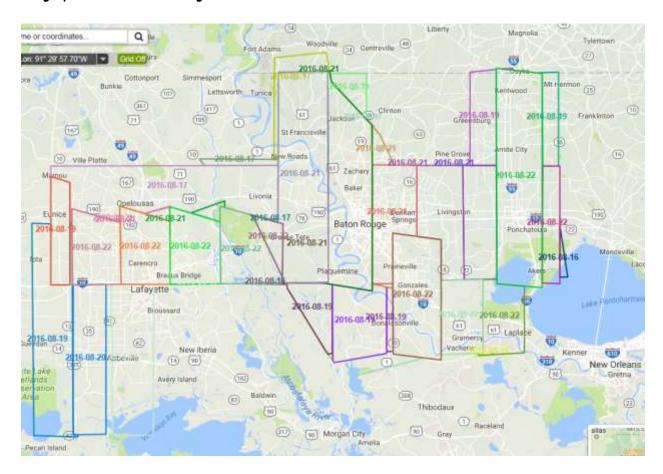
# Digital Globe Imagery

Digital Globe imagery is available orthorectified in the NGA funded EnhancedView Web Service. Users with .gov or .mil emails can self-register.

https://evwhs.digitalglobe.com/myDigitalGlobe/



Imagery available from 22 August 2016



Imagery available for the last 7 days.

# Eagle Vision

http://dev.evr2est.us/scenes/table\_and\_http://evr2est.us/



# FEMA CAP Imagery Viewer

The Select Event "LA - Flooding Aug 2016" works: http://apps.femadata.com/ImageEventsPublic/map.html

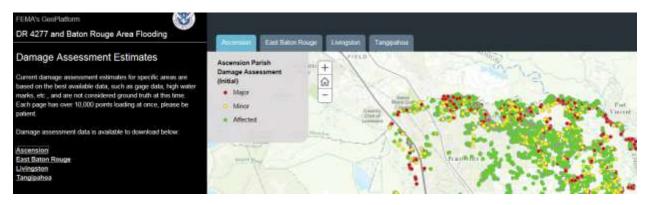


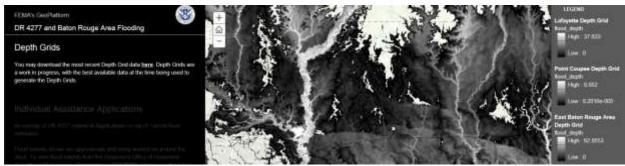
If you use the select function for LA - Flooding Aug 2106, the green markers are from 8/14/2016, 8/15/2016, 8/16/2016, 8/17/2016, and 8/19/2016.

FEMA DR477 Journal 📤



 $\underline{http://fema.maps.arcgis.com/apps/MapJournal/index.html?appid=efb5b1121e344e919784a2386c90ea01$ 







FEMA CAP imagery on GeoPlatform

## FEMA Rest Services

https://gis.fema.gov/REST/services/FEMA

# FEMA initial flood extents



https://data.femadata.com/DR4277\_Severe\_Storms\_Flooding\_LA/

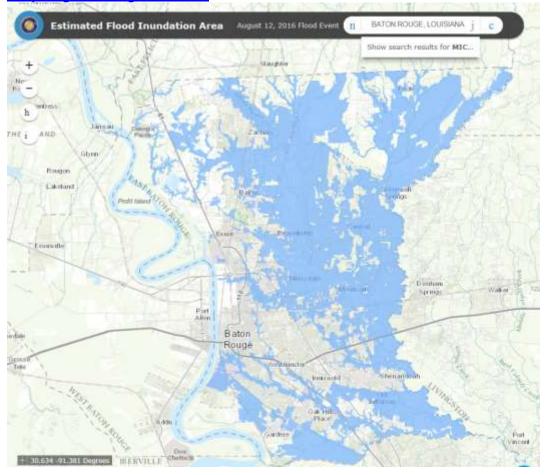
# City of Baton Rogue 📤



Estimated flood inundation area web map. <a href="http://gis.brla.gov/flood">http://gis.brla.gov/flood</a>

They intend on collecting public feedback, address all feedback and publish a new estimated inundation layer at the close of business each day.

# Also, we are now keeping track of debris collection operations in the app: <a href="http://gis.brla.gov/debris">http://gis.brla.gov/debris</a>



Baton Rouge Debris collection operations in the app: <a href="http://gis.brla.gov/debris">http://gis.brla.gov/debris</a>

LSU via GOSHEP:



http://services1.arcgis.com/fXHQyq63u0UsTeSM/ArcGIS/rest/services

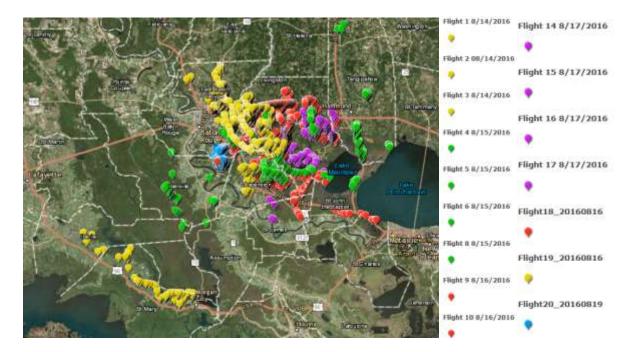
## **Services:**

- <u>AllFlights\_story</u> (FeatureServer)
- Ascension Flood Estimate 20160815A (FeatureServer)
- Assumption Flood Estimate 20160816A (FeatureServer)
- <u>CAP Flight 1 20160814</u> (FeatureServer)
- CAP Flight 10 20160816 (FeatureServer)
- CAP Flight 2 20160814 (FeatureServer)
- <u>CAP Flight 3 20160814</u> (FeatureServer)
- CAP Flight 4 20160815 (FeatureServer)
- CAP Flight 5 20160815 (FeatureServer)
- CAP Flight 6 20160815 (FeatureServer)
- CAP Flight 8 20160815 (FeatureServer)
- <u>CAP Flight 9 20160816</u> (FeatureServer)

- East Feliciana Flood Estimate 20160816A (FeatureServer)
- EBR Flood Estimate 20160815A (FeatureServer)
- FirstNet Comments (FeatureServer)
- Flight 11 20160814 (FeatureServer)
- Flight 12 20160815 (FeatureServer)
- Flight\_13\_20160816 (FeatureServer)
- <u>Flight 14 20160817</u> (FeatureServer)
- Flight 15 20160817 (FeatureServer)
- Flight 16 20160817 (FeatureServer)
- Flight 17 20160817 (FeatureServer)
- Flight 18 20160816 (FeatureServer)
- Flight19 20160816 (FeatureServer)
- Flight20 20160819 (FeatureServer)
- FwF4o (FeatureServer)
- Iberia Flood Estimate 20160816A (FeatureServer)
- Iberville Flood Estimate 20160816A (FeatureServer)
- <u>Lafayette Flood Estimate 20160816A</u> (FeatureServer)
- <u>Lake Arthur Flood Estimate 20160815A</u> (FeatureServer)
- Livingston Flood Estimate 20160815A (FeatureServer)
- Parishes LDOTD 2007 (FeatureServer)
- Pointe Coupee Flood Estimate 20160816A (FeatureServer)
- <u>St Helena Flood Estimate 20160815A</u> (FeatureServer)
- St\_Landry\_Flood\_Estimate\_20160816A (FeatureServer)
- <u>St Martin Flood Estimate 20160816A</u> (FeatureServer)
- Store Status Crowdsource Polling (FeatureServer)
- Stores (FeatureServer)
- Tangipahoa Flood Estimate 20160815A (FeatureServer)
- Vermilion Flood Estimate 20160816A (FeatureServer)
- West Feliciana Flood Estimate 20160816A (FeatureServer)

LA Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP)

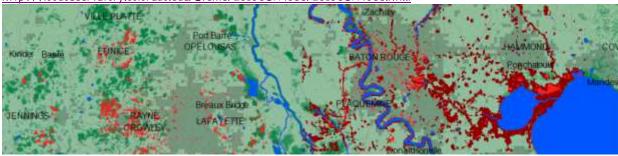
CAP ArcGIS Viewer https://www.arcgis.com/home/webmap/viewer.html?webmap=d550df47bc4949eea7d6898d1dfc1a16&extent=-92.2374,29.4127,-89.5458,31.339



# Dartmouth Flood Observatory 📤



USA Flooding, August 1-August 16, 2016 from NASA MODIS (August 1-18), NASA/NOAA VIIRS (August 15-17), Radarsat 2 (August 15); EO-1 (August 16), and Copernicus (COSMO-SkyMed, August 15, 2016). August 18, 2016). http://floodobservatory.colorado.edu/Events/2016USA4388/2016USA4388.html



The .shp or MapInfo flood polygons, also Geotifs and kmz versions. http://floodobservatory.colorado.edu/Events/2016USA4388/GISFiles/

- MapInfo/
- Shp/
- Copernicus/
- Sanmei Li GMU/

## NASA

KMZ file that contains flood extent maps derived from ALOS-2 data. http://aria-share.jpl.nasa.gov//events/20160816-Louisiana\_Floods/FPM/FPM\_ALOS-2\_2016-08-18 v0.5.kmz

Download the kmz file named Baton Rouge EO1....

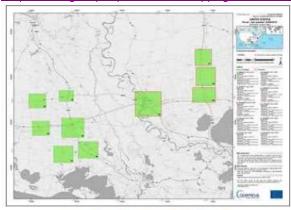
# International Charter Space and Major Disasters

The International Charter Space and Major Disasters was activated by US Geological Survey on behalf of the State of Louisiana for flooding in southern Louisiana . Products will be posted on the Charter website: http://www.disasterscharter.org

# Copernicus Emergency Management Service 📤



http://emergency.copernicus.eu/mapping/list-of-components/EMSR176



EMSR176 - Activation Extent Map

### [EMSR176] Lafayette: Delineation Map, Monitoring 3



Published: 2016-08-24 10:02 (UTC) Product version: v1 Map scale: 1:40000

Status:

Production finished, quality not assessed

### Downloadable items

PDF: 100 DPI 200 DPI 300 DPI JPEG: 100 DPI 200 DPI 300 DPI TIFF: 100 DPI 200 DPI 300 DPI Vector package: ZIP

#### [EMSR176] Abbeville: Delineation Map, Monitoring 3



Published: 2016-08-24 09:19 (UTC) Product version: v1 Map scale: 1:35000 Production finished, quality not assessed

## Downloadable items

PDF: 100 DPI 200 DPI 300 DPI JPEG: 100 DPI 200 DPI 300 DPI TIFF: 100 DPI 200 DPI 300 DPI Vector package: ZIP

## [EMSR176] Baton Rouge: Delineation Map, Monitoring 3



Published: 2016-08-24 09:14 (UTC) Product version: v1 Map scale: 1:50000

Status:

Production finished, quality not assessed

### Downloadable items

PDF: 100 DPI 200 DPI 300 DPI JPEG: 100 DPT 200 DPT 300 DPT TIFF: 100 DPI 200 DPI 300 DPI Vector package: ZIP

### [EMSR176] New Iberia: Delineation Map, Monitoring 3



Published: 2016-08-24 09:05 (UTC) Product version: v1 Map scale: 1:35000 Status: Production finished, quality not assessed

Downloadable items PDF: 100 DPI 200 DPI 300 DPI JPEG: 100 DPI 200 DPI 300 DPI TIFF: 100 DPI 200 DPI 300 DPI Vector package: ZIP

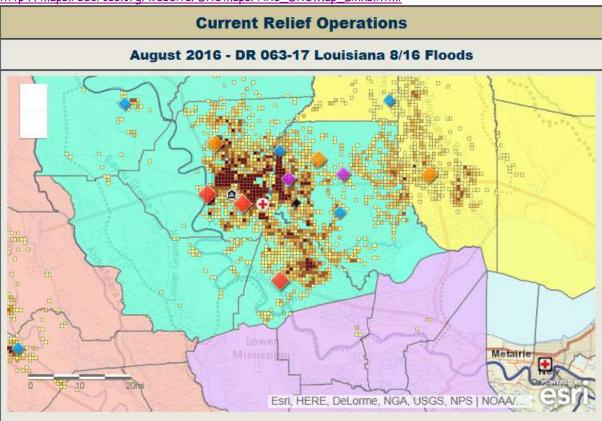
Sample of the 47 products available on the site.

# American Red Cross Maps

Red Cross Disaster Relief operation Catalog:



http://maps.redcross.org/website/DROmaps/ARC\_DROMap\_Links.html



## National Weather Service River Forecast Center

Observations and Forecasts - Web Service

http://water.weather.gov/ahps/

NWS New Orleans/Baton Rouge

http://www.srh.noaa.gov/lix/

## USGS

Water related Maps and GIS Data

http://water.usgs.gov/maps.html

http://waterdata.usgs.gov/nwis/rt

# **Humanity Road**

http://humanityroad.org/auglaflood/

## Social Media from Tom Malmay

- Geofeedia
- Storify https://storify.com/Tom\_Malmay/south-louisiana-flooding
- ArcGIS http://malma.maps.arcgis.com/apps/LiveMaps/index.html?appid=f1d7a03c87e64ab6a10ad3f5c82ccdca

## Louisiana Business Emergency Operations Center (LA BEOC)

http://www.labeoc.org/labeoc/welcome.aspx

Report Businesses Open or Closed Map Viewer (Crowd Sourced)

### Louisiana DOTD

http://wwwsp.dotd.la.gov/Pages/default.aspx

 $\frac{\text{http://hb.511la.org/\#roadReports?timeFrame=TODAY\&layers=allReports\%2CroadReports\%2Croadwork\%2CwazeReports\%2Croadwork\%2Croadwork\%2Croadwork\%2Croadwork\%2Croadwork\%2Croadwork\%2Croadwork\%2Croadwork\%2Croadwork\%2Croadwork$ 

Center Warnings % 2Cferry Reports % 2Cflooding

| Continue | Continue | Continue | Construction | Construction

## Entegy New Orleans Inc: Power Outage map viewer

http://www.etrviewoutage.com/external/nola.aspx?\_ga=1.184680425.1359188064.1471298228

## NASA Rainfall Measurements

https://pmm.nasa.gov/data-access/downloads/gpm

## Pre-Event NAIP Imagery:

2015 NAIP Coverage: Louisiana

To preview NAIP ortho imagery mosaics go to USDA Geospatial Data Gateway

- Click on green Get Data button
- At Step 1-WHERE, select state and then select county or counties
- Click the gray Submit Selected Counties button
- At Step 2-WHAT, click the green plus (+) icon for the Ortho Imagery year of interest then click the gray eye icon

## Add as an ArcGIS Server service:

- For each state, the most recent year of NAIP Imagery DOQQs is available on an ArcGIS server.
- The state based services can be added into ArcGIS Desktop by adding <a href="http://gis.apfo.usda.gov/arcgis/services">http://gis.apfo.usda.gov/arcgis/services</a> to the Add ArcGIS Server connection.
- Please note: This link will not work unless you are using ESRI's ArcGIS application.

Send comments, additions, and corrections to:

Glenn Bethel, USDA Remote Sensing Advisor

glenn.bethel@usda.gov (202)720-1280

If you would like to be on the distribution list, send me an email.