

US Forest Service

Caring for the land and serving people



Fire & Aviation Management

R5 FAM GIS Presentation

2015 GIS Coordinators Meeting

Fire & Aviation Management

Lorri Peltz-Lewis, GIS Coordinator,
Elizabeth Hale, GIS Analyst

Fire & Aviation Management, U. S. Forest Service





USFS R5 FAM GIS Lab

- Welcome Elizabeth Hale!
- Fire History – Thank-you Forests
- Data Standards – Fire & Aviation Hazards



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Incident Support – the equipment & pre-staging (North & South Ops:



**Working on new
plotters for
2015!!**





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GISS Hard Drive

Excel spreadsheet titled "GISS_HardDrive_Inventory_2014_0902_LPL.xlsx" showing a list of files and folders. The spreadsheet has columns for ID, THEME (Folder name), DATABASE NAME, TYPE OF DATABASE, DESCRIPTION, SOURCE, and COMMENTS.

	A	B	C	D	E	F	G
	THEME (Folder name) - Mag text = new 2014 v2 search also on NEV) Red text = new this year (2014 v1); Green highlight = comprehensive structure - use this!	DATABASE NAME - search on keywords or terms	TYPE OF DATABASE	DESCRIPTION - search on keywords or terms	SOURCE - where the database was obtained or who provided it	COMMENTS	
48	1_HELPME_TIPSHEETS	PlotterTA_USFS	Folder	USFS Technical Approval example on how to order plotters off of the BPA	Tyler Hackney	NEW 2014	
49	1_HELPME_TIPSHEETS	QRCodeTools - LOTS of items here including these files	Folder	QR or Quick Response code tools	Multiple	NEW 2014 (updated)	
50	1_HELPME_TIPSHEETS	AvenzaPDFMaps.pdf	File	How to use Avenza	Unknown		
51	1_HELPME_TIPSHEETS	ChipsFireMobileMap.mov	Movie	movie on how to use Avenza	CA Team 4		
52	1_HELPME_TIPSHEETS	FireGIS-2-PDF-maps-for-smartphones-and-tablets.pdf	File	PDF maps for smarphone and tablets	NPS	NEW 2014	
53	1_HELPME_TIPSHEETS	GeoPDF_Maps_For_iPhone_And_iPad.pdf	File	GPS-Enabled GeoPDF map on iPhone or iPad	Carl Beyerhelm		
54	1_HELPME_TIPSHEETS	Mobile_Mapping_Apple_iOS.pdf	File	Mobile mapping Apple iOS	USFS		
55	1_HELPME_TIPSHEETS	Mobile_Mapping_Apple_iOS_Droid_OS.pdf	File	Mobile mapping Apple iOS and Android	USFS		
56	1_HELPME_TIPSHEETS	Mobile_MFD_Process.pdf	File	GeoTIFF files for use with Mobile MDF App for Android Devices	Carl Beyerhelm		
57	1_HELPME_TIPSHEETS	QR Code Functionality for Wildland Fire Mapping.pdf	File	QR Code Functionality for Wildland Fire Mapping	Jarl Moreland		
58	1_HELPME_TIPSHEETS	qrcode_instructions_iap.pdf	File	Steps to use map - iPhone and iPad	CA Team 4		
59	1_HELPME_TIPSHEETS	USFS_AdminMaps_HowToUseOnSmartphonesAndTablets.docx	File	Downloading Administrative Maps	USFS		
60	1_HELPME_TIPSHEETS	RepairBrokenWorkspacePaths	Folder	Repair broken workspace paths - script runs in ArcGIS	Carl Beyerhelm	NEW 2014	
61	1_HELPME_TIPSHEETS	SimplifyClassifiedGrid	Folder	Tool to simplify classified grids	Carl Beyerhelm		
62	1_HELPME_TIPSHEETS	USNG_help	Folder	U.S. National Grid how to use - data is in REFERENCE folder.	USGS and others	NEW 2014 - US_National_Grid_Instructio ns.pdf	
63	1_HELPME_TIPSHEETS	0_TipsForTransitioningFromArcGIS 10.0_To_ArcGIS10.1_v4.docx	File	Tips for transitioning between ArcGIS versions	Lorri Peltz-Lewis and Rich Strazzo	Updated for ArcGIS 10.2.2	
64	1_HELPME_TIPSHEETS	1_QR_Code_HowToUse_QuickSteps.pdf & 1_QR_Code_HowToUse_QuickSteps.rtf	File	How to use QR codes.	Lorri Peltz-Lewis	NEW 2014	
65	1_HELPME_TIPSHEETS	2014_ArcGIS10_Training_Resources_V4.pdf & 2014_ArcGIS10_Training_Resources_V4.docx	File	ArcGIS training resources	Lorri Peltz-Lewis	NEW 2014	
66	1_HELPME_TIPSHEETS	2014_GIS_PreSeasonEmail.docx	File	GISS Pre-Season Email	Lorri Peltz-Lewis	NEW 2014 This is maintained and shared with all GISS NEW 2014	
67	1_HELPME_TIPSHEETS	2014_GPS_Resources.docx	File	Training resources for GPS	Lorri Peltz-Lewis		
68	1_HELPME_TIPSHEETS	2014_GSTOP_File_Namer.xlsx	File	GSTOP File Namer (another location for this!)	NWCG GSTOP team	Added in 2014	
69	1_HELPME_TIPSHEETS	HP1055_Plotter_Supply_Order_Form_and	File	HP1055 Plotter Supply Order form and			



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Incident Support – training completed/planned 2012-2015:

GIS Specialist for Incident Management:

- 2012 – 34 students trained
- 2014 – 42 students trained



Intermediate GISS:

- 2012 – Wildland Fire Training Center (24 – 18 virtual)
- 2013 – Wildland Fire Training Center (18 – 32 virtual)
- 2014 – Wildland Fire Training Center (25 – 42 virtual)
- 2015 – Wildland Fire Training Center (36 – 36 virtual)



GPS For Fire Management Management:

- 2012 – 2014 – 7 classes across CA over 230 students





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Incident Support – planning:

More Webinars – proposed so far:

- Cartography Tips & Tricks
- BAER – what is this and what GISS need to know
- GISS Hard Drive
- AGOL – issues and how tos?
- Etc...





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FAM GIS Lab Data – Fire Data Stewardship & Support:

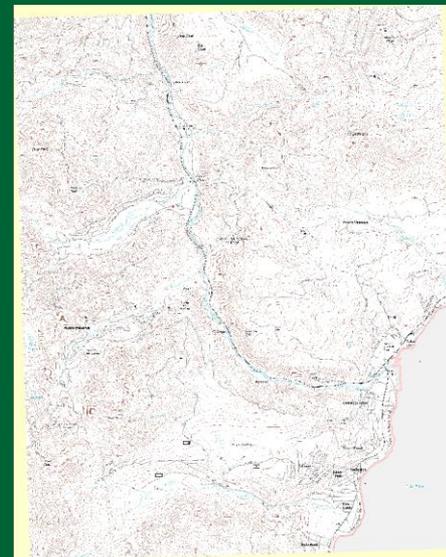
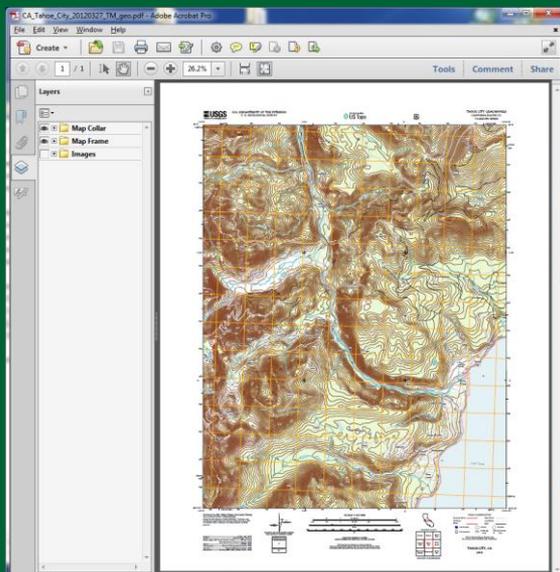
- Fire uses & consumes all imagery, all roads, parcels, ownership, etc.
- **Fire Retardant Avoidance** – Hydrology, Threatened, Endangered, Sensitive species – More later
- **Fire Perimeters & History (Standards – USFS & NIFC)**
- Fire Occurrence (FIRESTAT) – Point of Origin (Standards – USFS, NIFC, CAL FIRE)
- Fire Management Units (FMU) (Standards – USFS & NIFC)
- **Fire Base Stations**
- **Direct Protection Areas (DPA)** – All federal agency protection areas
- **Aviation Hazards (Standards – USFS & NIFC)**
- Wildland Urban Interface (WUI) (Standards – USFS & NIFC)
- Fire Engine Water Sources (Standards – USFS & NIFC)
- Burned Area Emergency Response/Rehabilitation
- Fire Ecology / Fire Severity Atlas / RAVG/Burn Severity
- Landscape data & Fuels – Strategic Decision Support
- And more to come.....



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Converting USGS GeoPDFs to GeoTIFFs:

- Old USGS quads are 60+ years old
- New USGS quads ArcMap can't open without specialized extension
- **Goal:** Convert all GeoPDFs to GeoTiffs for use on All Hazards
- Global Mapper – script to remove forest tint, clip to quad boundary, no imagery, no hillshade.





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Converting USGS GeoPDFs to GeoTIFFs:

Future Delivery – USGS Hazards Data Distribution System (HDDS) - <http://hddsexplorer.usgs.gov/> How to sheet available!

The screenshot shows the USGS Hazards Data Distribution System (HDDS) Explorer web application. The page features a navigation bar with the USGS logo and the text "science for a changing world". The main content area is titled "Hazards Data Distribution System (HDDS) Explorer" and includes a "Page Expires In 1:59:56" indicator. The interface is divided into several sections:

- Search Criteria Summary (Show):** Displays the current search parameters, including coordinates (49° 22' 56" N, 158° 33' 16" W) and options for "Options", "Overlays", "Map", and "Satellite".
- 1. Enter Search Criteria:** A section for defining search parameters, including:
 - Address/Place:** A text input field with "Show" and "Clear" buttons.
 - Coordinates:** A section for entering coordinates, with "Predefined Area", "Shapefile", and "KML" options. It includes a "Degree/Minute/Second" and "Decimal" format selector, a "No coordinates selected" message, and "Use Map", "Add Coordinate", and "Clear Coordinates" buttons.
 - Date Range:** A section for specifying a date range, with "Search from" (01/01/1920) and "to" (06/26/2014) fields, and a "Search months" dropdown menu set to "(all)".
- Navigation:** Buttons for "Events", "Additional Criteria", and "Results" are located at the bottom of the search criteria section.



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NIFC Enterprise Geospatial Portal (EGP) – Dashboard & Situation Analyst:

Also as Google Fire Globe & HTML 5 (mobile devices)

NATIONAL INTERAGENCY FIRE ENTERPRISE GEOSPATIAL PORTAL

FIRE EGP HOME ABOUT EGP NIFC HOME CONTACT US



Sign In
Username:
Password:
Log In

[Register New User](#)
[Reset Password](#)

Welcome
The Fire activities spatial data is available through the Access to Fire Globe (ATFG) repository which serves as the central repository for all fire data. AFF me estimat instruct

Refresh Data

Other Regions with incidents
Northern Rockies • Northwest • Southern
Southern California • Southwest

Nation Region

Northern California [Go to SA](#)

Info

Active Incidents

Name	Percent Contained	Acres Burned	ICS-209 Cost To Date	ICS Threatened Structures	Assigned Personnel
HAPPY CAMP COMPLEX	97 %	133k	\$88M	0	111
APPLEGATE	80 %	459	\$6.4M		

Cumulative Cost Comparison



Deployed Resources

- RAWFS
- Active Incidents
- Active Fire Perimeters
- Historical Fire Data
- USFS Historical Fire Data
- InciWeb
- NEXRAD Radar
- MODIS Fire Detection
- Resource Bases
- Federal Lands
- Administrative Boundaries
- USFS Hazardous Fuels Treatment
- US National Grid



layers

- Hybrid
- NAIP
- Quads
- Road
- Aerial
- Topo

- Active Incidents
- Active Fire Perimeters
- NEXRAD Radar
- NHSS Natural Hazards
- Wind Direction and Speed
- Resource Bases
- Backcountry Airfields
- FAA Aeronautical Charts
- Temporary Flight Restrictions
- Digital Vertical Obstructions
- Retardant Avoidance Areas
- Retardant Avoidance Hydro
- Military Training Routes
- Special Use Air Space
- Federal Lands
- Administrative Boundaries
- US National Grid

Notifications
Map Legend
Find Resources
Find Incidents
AFF Login
Printing
Find a Location
Lorri Peltz-Lewis :: **Logout**
Change Password



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Aviation Hazards Maps – all available on line in 2014 – THANK-YOU Forest GIS:

Aviation Hazard Maps Available
Use the QRcode to access the map using your mobile device.

Web, iOS, & Android usable – tip sheet(s) available:



PDF Maps

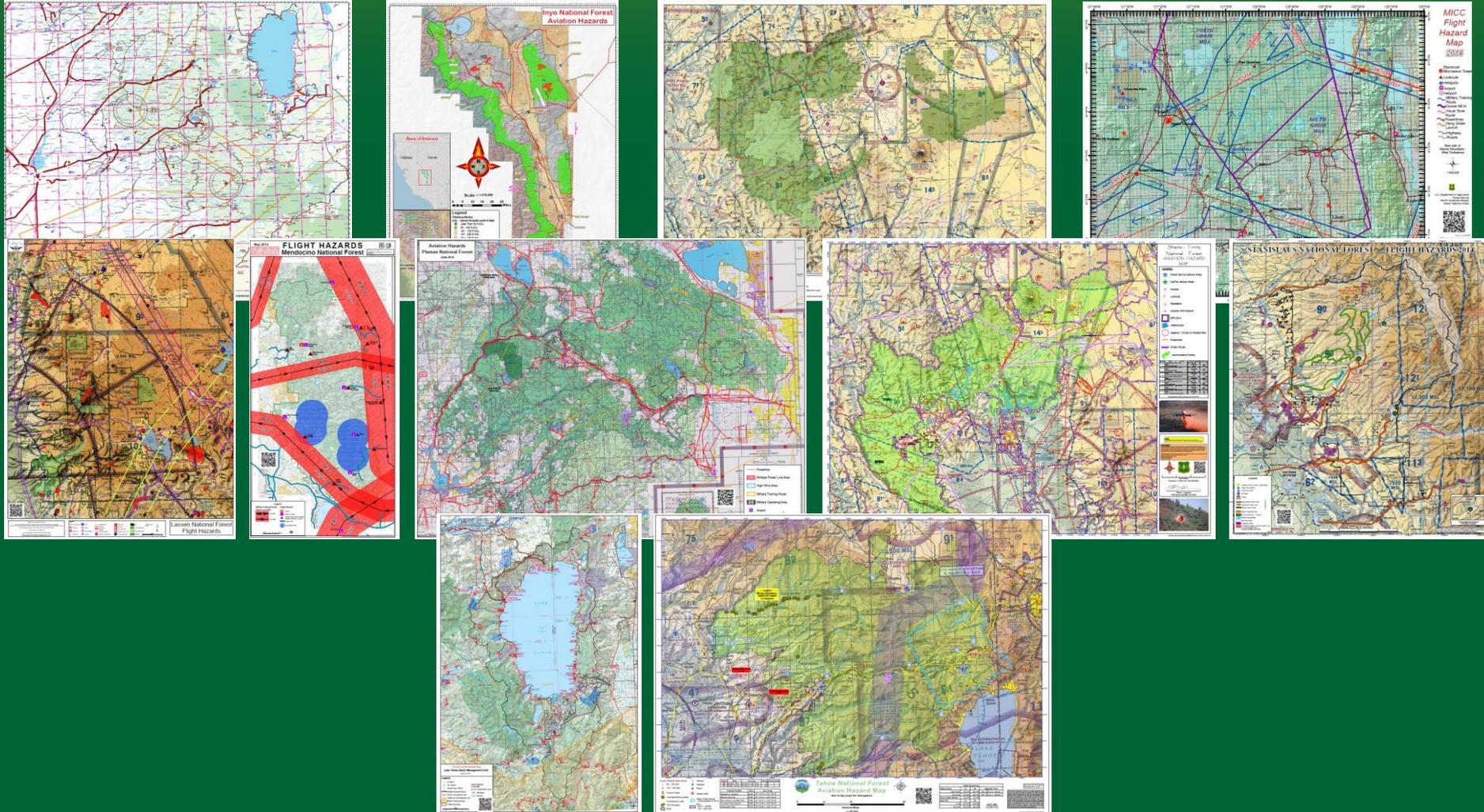
Get the App. Get the Map.®

- Winner of multiple awards including
- Best Map Product Worldwide in 2011
- Best Maps for Multimedia Application
- New Technology & New Media Award
- Technology Innovation Award for Mobile Mapping



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Aviation Hazards Maps – mixed standards in Region 5:



Aviation Hazards

- NIFC— survey completed, recommendations made – Standardization being developed.
- Sectionals downloaded will share soon
- USFS Visitor Maps de-collared
- DVOF/DAFIF – corrupted files found on portal, getting fixed and integrating new NWCG standards



Standardization of Aviation Hazard Mapping Update from NIFC

Summary for Fire & Aviation and GIS Communities
November 7, 2014

Status: A coordinated effort to standardize Aviation Hazard Maps is being undertaken by a focused task group comprised of NIAC, NWCG's Geospatial Subcommittee (GSC), and aviation subject matter experts. Action items have been identified which include but are not limited to:

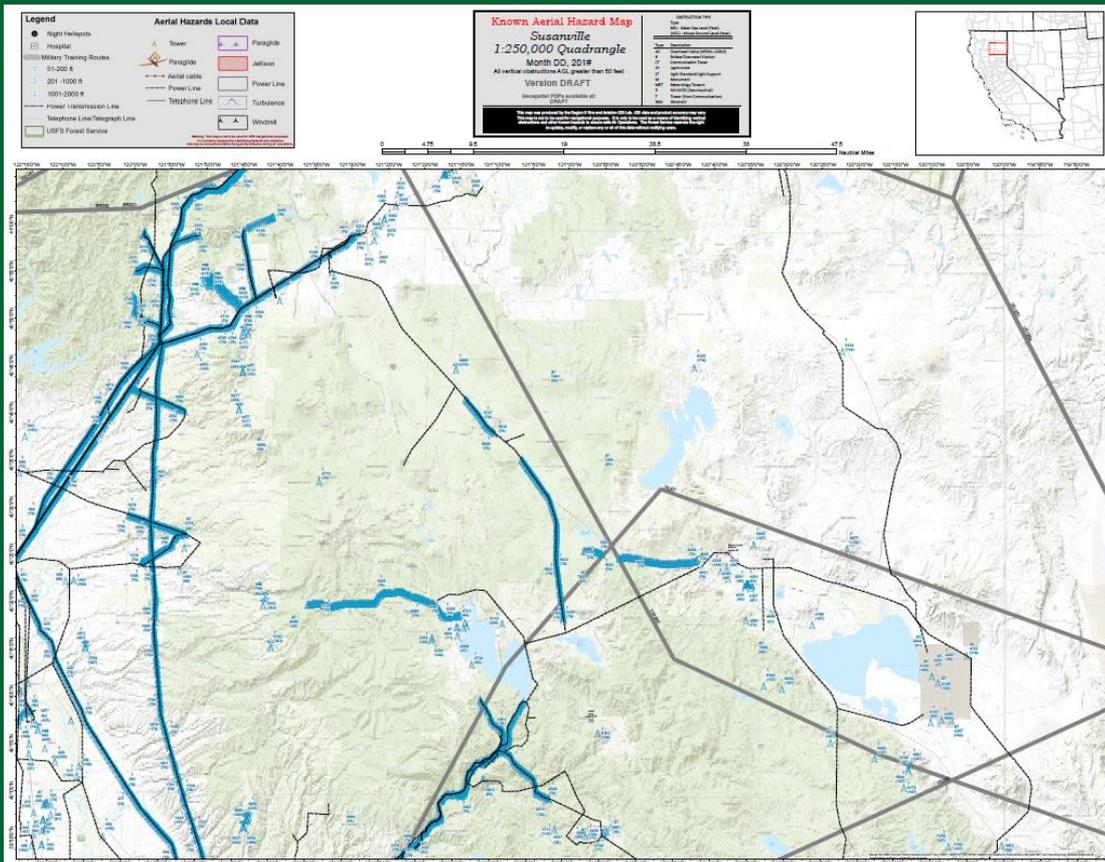
- **Defining minimum cartographic and data elements** (vertical obstructions) to be displayed on aviation hazard maps.
- **Establishing standard symbology for map elements.** Existing FAA symbology will be utilized, and be supplemented by Incident Command System symbology as needed. For non-standard map items (i.e. agricultural flying or spraying areas and ballooning areas), the FAA's Aviation Safety GIS department has provided advice on symbolization.
- **Establishing standard background or base imagery.** NIAC has decided to use VFR Sectional Charts as the standard base imagery for aviation hazard maps. Map making personnel must include the date range of validity for the sectional chart on the map, since sectional charts are updated every 28-56 days. Please note: this does not mean that flight hazard maps required annually will need to be updated every time new sectional is released, as long as the valid date range is clearly specified on the map.
- **Creating a simple Standard Operating Procedure/Guideline (SOP/SOG)** document that clearly defines standards for the field and those who create and use flight hazard maps.
- **Requiring that map products are georeferenced** for use with mobile devices.



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Aviation Hazards

- New product for 2015:





Mobile Technology Activities

Lightning Resources Tip Sheet

LightningMaps.org – <http://www.lightningmaps.org/realtime?lang=en> free lightning maps and applications – nice web application with apps for mobile devices (Android mostly). Zoom update – IE 11, Chrome, FireFox work with zoom, IE 8 does appear to work. Services here, but requires login/password – seems you can only get this if you have a station. On a mobile device? The link above is optimized for mobile devices. No downloading of data found.

Blitzortung.org –this is the data source for the above web tool. Also has an interface for viewing lightning data. http://www.blitzortung.org/Webpages/index.php?lang=en&page_0=30 Services are available, but password protected for participants only. It doesn't appear that you can zoom in. Same as LightningMaps.org above.

Intellicast.com –has a lightning strikes map at: <http://www.intellicast.com/Storm/Severe/Lightning.aspx> - this is also a static map that will not let you zoom in. The interactive map doesn't have lightning in it that I can see. No downloading of data found.

WeatherBug.com – has lightning maps at: <http://weather.weatherbug.com/lightning.html> - here you can type in a city name or zipcode (Use GO button to load) and you will get a closer picture of lightning in the area. No downloading of data found.

WeatherTap.com – lightning tracker/radar and more at: <http://www.weathertap.com/> – subscription fee \$8.00/month – test it for 2 weeks for free. Requires Java on PC, mobile iOS part of subscription, but not quite as robust.

ArcGIS Online – <http://www.arcgis.com/home/> worth keeping an eye on. There are some lightning services here, some work, some don't. Downloading not tested.

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QUESTIONS

Contact for more: lpeltzlewis@fs.fed.us

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