

US Forest Service

Caring for the land and serving people



Fire & Aviation Management

R5 FAM GIS Presentation 2015 IMT Meeting GIS Breakout

Fire & Aviation Management

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Fire & Aviation Management, U. S. Forest Service





Fire & Aviation Management

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



Working on new
plotters for
2015!!





GISS HARD DRIVE (1/3)

- Updates should be done by end of April.
- Send hard drives in notice will go out mid April
- Teams & CAL FIRE first priority
- Goal to complete all and return by May 15th
- Webinar on GISS Hard Drive will be mid- to late-May



GISS HARD DRIVE (3/3)

- CAL TRANS road data added back this year – much better database now!
- CAL FIRE THP Roads – new this year – county roads!
- National GACC Boundaries
- National Dispatch Boundaries (Federal)
- Fire Retardant Avoidance
- Hospital Heliports 2015 (California)
- Aviation Hazards
- USFS Ownership (USA) – BLM CA Land Status
- Contact lists – almost all updated or no change needed
- Fire History, Communities at Risk, etc.



Fire & Aviation Management

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...





Fire & Aviation Management

FAM GIS Lab Data – Fire Data Stewardship & Support:

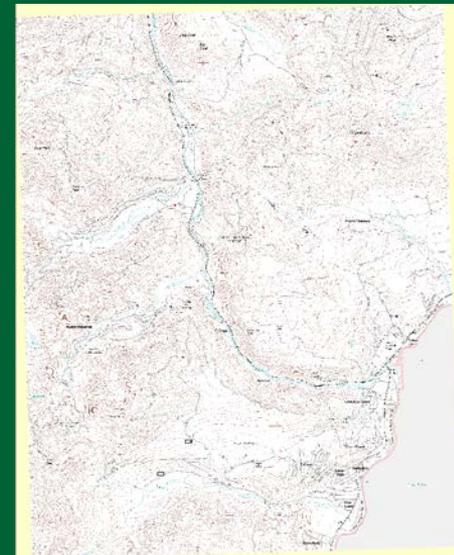
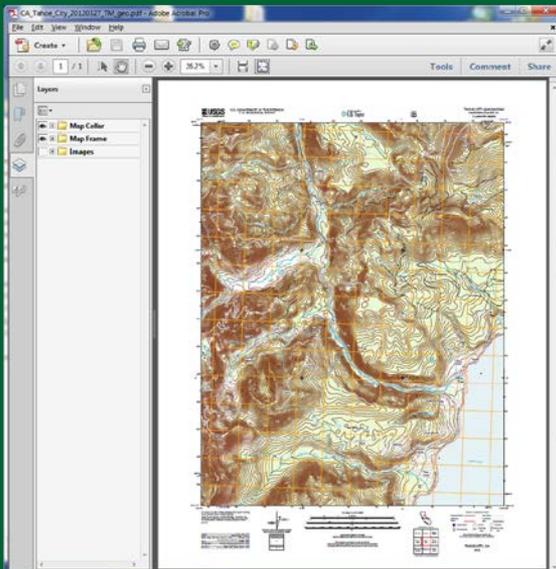
- Fire uses & consumes all imagery, all roads, parcels, ownership, etc.
- Fire Retardant Avoidance – Hydrology, Threatened, Endangered, Sensitive species – More later
- Fire Perimeters & History (Standards – USFS & NIFC)
- Fire Occurrence (FIRESTAT) – Point of Origin (Standards – USFS, NIFC, CAL FIRE)
- 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.....



Fire & Aviation Management

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.

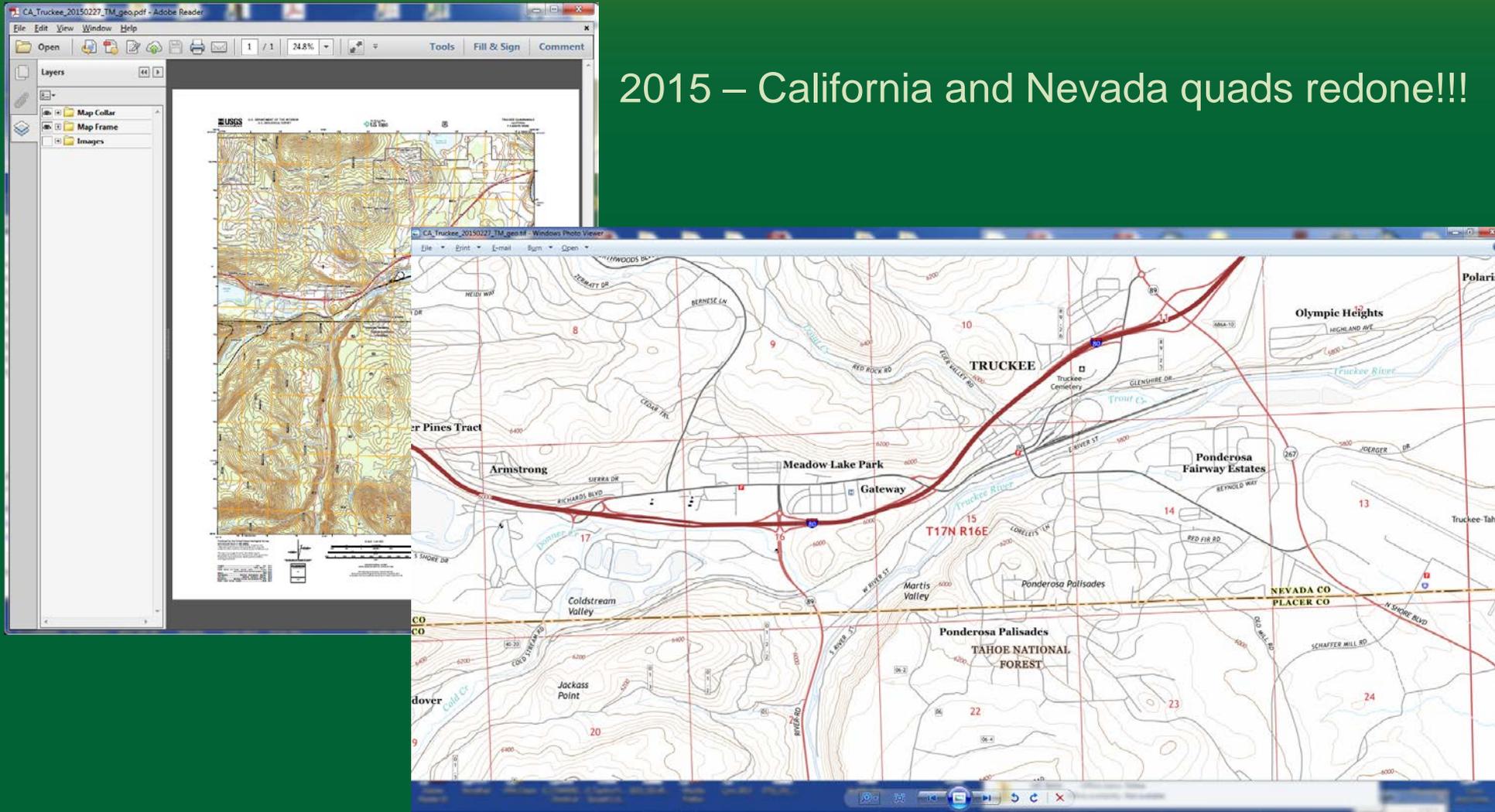




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Converting USGS GeoPDFs to GeoTIFFs (2/3):

2015 – California and Nevada quads redone!!!





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Converting USGS GeoPDFs to GeoTIFFs (3/3):

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

CA & NV will be added

The screenshot shows the USGS Hazards Data Distribution System (HDDS) Explorer interface. At the top left is the USGS logo with the tagline "science for a changing world". The main header reads "Hazards Data Distribution System (HDDS) Explorer" and includes a "Page Expires In 1:59:56" indicator. Below the header are navigation links for "Home", "Login", "Register", "RSS", "Feedback", and "Help". The interface is divided into several sections: "Search Criteria" (with sub-tabs for "Events", "Additional Criteria", and "Results"), "Search Criteria Summary (Show)", and "Clear Criteria". The "Search Criteria" section includes a "1. Enter Search Criteria" instruction, a text input field for "Address/Place", "Feature", or "Circle", and "Show" and "Clear" buttons. Below this are "Coordinates" options for "Predefined Area", "Shapefile", and "KML", with "Degree/Minute/Second" and "Decimal" radio buttons. A message states "No coordinates selected." with "Use Map", "Add Coordinate", and "Clear Coordinates" buttons. The "Date Range" section includes "Result Options", "Search from" (01/01/1920), "to" (06/26/2014), and "Search months" (all). At the bottom are "Events", "Additional Criteria", and "Results" buttons. The right side of the interface features a map of the United States with a search area highlighted in the Pacific Northwest. The map includes a "Search Criteria Summary" box showing coordinates (49° 22' 56" N, 158° 33' 16" W) and options for "Options", "Overlays", "Map", and "Satellite". A "100%" zoom level is indicated at the bottom right.



Fire & Aviation Management

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 data repository for the AFF management system.

AFF management system estimates and tracks fire resources.

Nation: Northern California Region: Go to SA

Info

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

Refresh Data

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



layers

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

- 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

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.

This image shows a map of the United States with QR codes placed over various states to indicate where aviation hazard maps are available. The QR codes are arranged in a grid-like pattern across the map.

Allegany National Forest (ANF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_allegany_2014.pdf	Lake Tahoe Basin (LTB) No:194543.gov/forest_services/2014/01/11/aviation_hazards_ltb_2014.pdf	Los Bernardino National Forest (LBNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_lbnf_2014.pdf
Carson National Forest (CNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_carson_2014.pdf	Lawson National Forest (LNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_lnf_2014.pdf	Northwest National Forest (NWNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_nwnf_2014.pdf
Cleveland National Forest (CNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_cleveland_2014.pdf	Los Padres National Forest (LPNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_lpfnf_2014.pdf	Sequoia National Forest (SNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_sequoia_2014.pdf
El Dorado National Forest (EDNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_eldorado_2014.pdf	Manzanita National Forest (MNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_mnf_2014.pdf	Sierra Trinity National Forest (STNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_stfnf_2014.pdf
East National Forest (ENF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_east_2014.pdf	Mojave National Forest (MNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_mojave_2014.pdf	Sierra National Forest (SNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_sierra_2014.pdf
Great National Forest (GNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_great_2014.pdf	Plumas National Forest (PNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_plumas_2014.pdf	San Sierra National Forest (SSNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_san_sierra_2014.pdf
Sierrita National Forest (SNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_sierrita_2014.pdf	Yosemite National Forest (YNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_yosemite_2014.pdf	Tahoe National Forest (TNF) No:194543.gov/forest_services/2014/01/11/aviation_hazards_tahoe_2014.pdf

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



PDF Maps

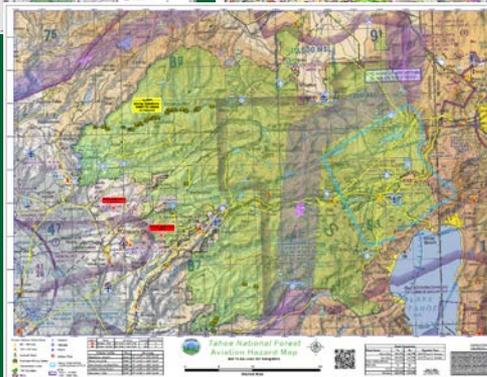
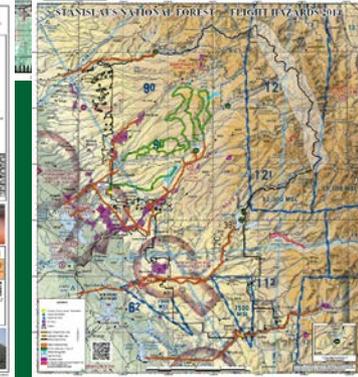
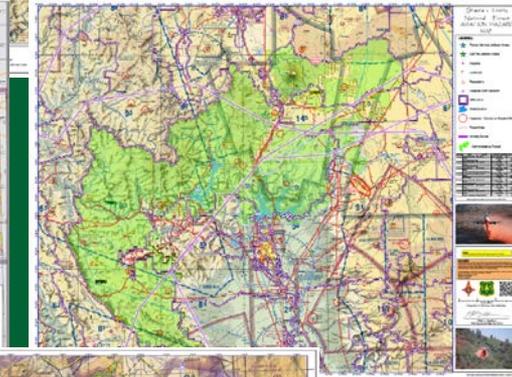
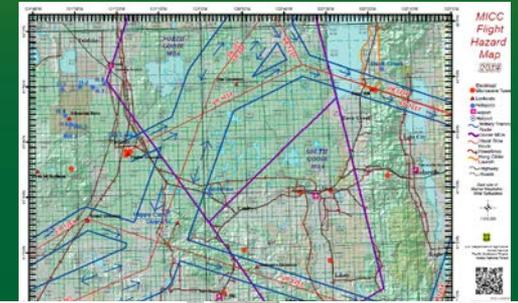
Get the App. Get the Map.®

- 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 be on 2015 GISS HD.
- USFS Visitor Maps de-collared – more coming!
- DVOF/DAFIF – downloaded, updated to NWCG standards, will be on GISS HD.



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:

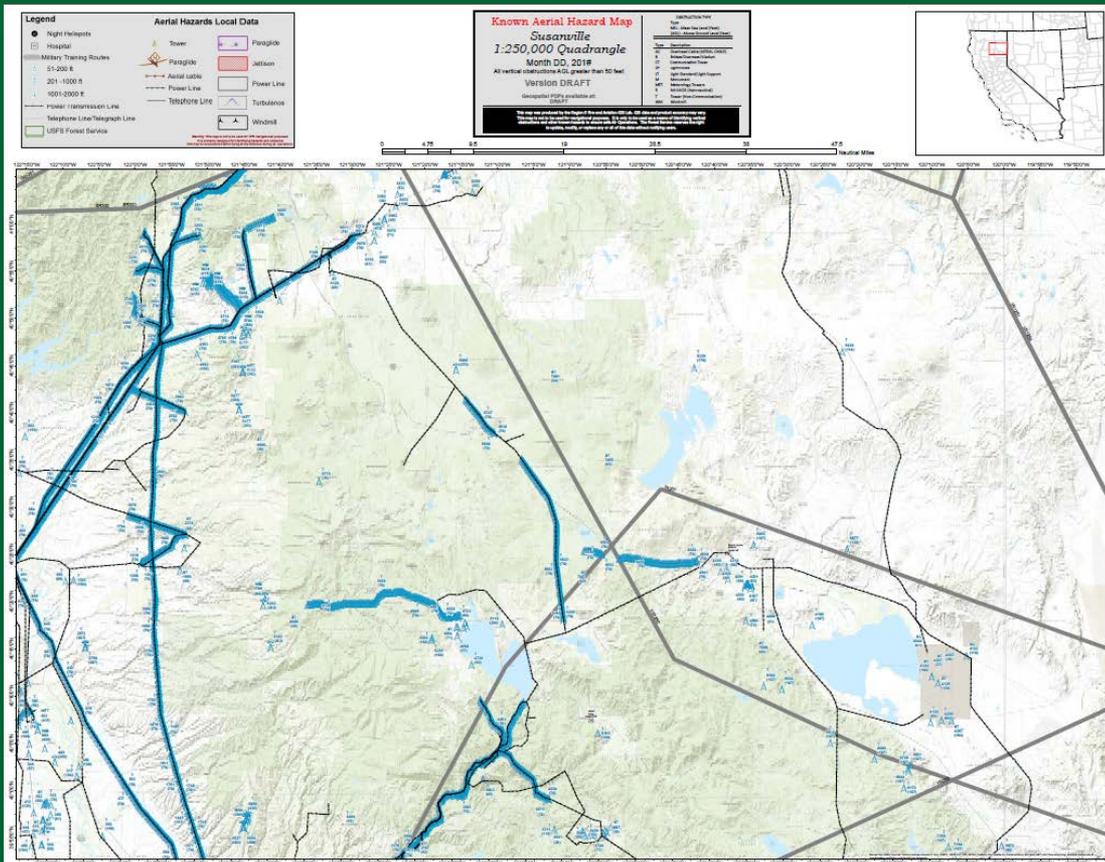
- **Defining minimum cartographic and data elements** (vertical obstructions) to be displayed on aviation hazard maps.
- **Establishing standard symbology for map elements.** Existing FAA symbology will be utilized, and be supplemented by Incident Command System symbology as needed. For non-standard 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 (Cont.)

New product for 2015:





MOBILE TECHNOLOGY ACTIVITIES

Lightning Resources Tip Sheet

[LightningMaps.org](http://www.lightningmaps.org/realtime?lang=en) – <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](http://www.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](http://www.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](http://weather.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](http://www.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) – <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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GIS SOP

A Publication of the
National Wildfire
Coordinating Group

GIS

STANDARD OPERATING
PROCEDURES ON INCIDENTS

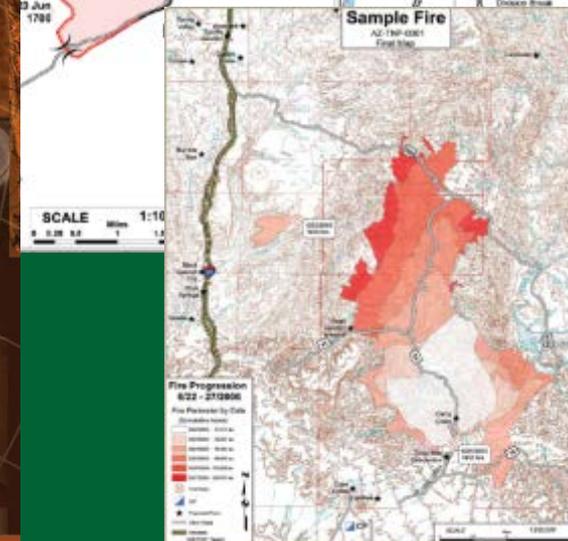
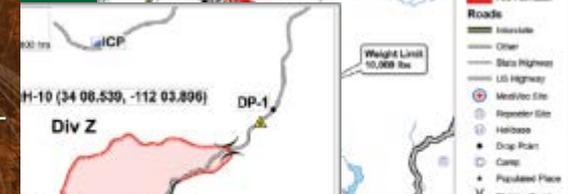


PMS 936

September 2014

2014 Final
out!

- FIMT_Template.mdb
 - History
 - Hist_AssignmentBreak
 - Hist_FireLine
 - Hist_FirePoint
 - Hist_FirePolygon
 - Hist_PerimeterSector
 - Incident
 - AssignmentBreak
 - FireLine
 - FirePoint
 - FirePolygon
 - PerimeterSector
 - FIMT_DeclinationSites
 - FIMT_FieldNames
 - FIMT_IncidentInfo
 - FIMT_LayerInfo
 - FIMT_PointInput



Aerial Photography

Computer Technology

GIS

Remote Sensing

Environmental

Digital Maps

Symbology



Fire & Aviation Management

Incident Support – Planning – GSTOP – Local & NIFC FTP:

Data Sharing, Backup, and Archiving:

FTP directory /Incident_Specific_Data/CALIF_N/
2014_FEDERAL_Incidents/ at ftp.nifc.gov

FTP directory /Incident_Specific_Data/ at ftp.nifc.gov. To view this FTP site in File Explorer: press Alt, click View, and then click Open F

To view this FTP site in File Explorer: press Alt, click View, and then click Open F... es Department of Agriculture compute

[Up to higher level directory](#)

05/17/2014 04:31AM	35,036	.htm	08/06/2014 03:47PM	Directory	CA LNF 0027 Campbell
12/30/2008 12:42PM	Directory	2008	08/05/2014 03:24PM	Directory	CA-ENF-023461 King
12/30/2008 02:17PM	Directory	2008	10/15/2014 01:16PM	Directory	CA-HIA-000211 Bald Hill
08/31/2012 09:44PM	Directory	2012	08/14/2014 12:55PM	Directory	CA-INF-001351 June
04/10/2009 11:31AM	Directory	2009	03/26/2014 12:01PM	Directory	CA-KNF-005497 Beaver
03/09/2010 12:21PM	Directory	2009 HISTORIC	08/10/2014 03:26PM	Directory	CA-KNF-005564 JulyComplex
02/11/2011 12:29PM	Directory	2010 HISTORIC	03/26/2014 11:56AM	Directory	CA-KNF-005575 Little Deer
02/27/2013 03:03PM	Directory	2011 HISTORIC	08/08/2014 06:47PM	Directory	CA-KNF-005956 Happy Camp Cmplx
02/25/2013 09:43AM	Directory	2012 HISTORIC	08/03/2014 03:38AM	Directory	CA-KNF-006000 Man
02/23/2015 01:03PM	Directory	ALASKA	03/26/2014 12:03PM	Directory	CA-LNF-3502 H-2 Eiler
01/07/2014 08:20PM	Directory	CALIF N	09/16/2014 08:44AM	Directory	CA-LNF-6479 Bald
05/08/2014 08:51PM	Directory	CALIF S		Directory	CA-MDF-000334 ModocJulyComplex
02/08/2013 05:51PM	Directory	California Statewide		Directory	CA-NOD-002798 Coleman
02/14/2014 03:17PM	Directory	EASTERN		Directory	CA-SHF-002299 Coffee
03/19/2015 12:18PM	Directory	GREAT BASIN E		Directory	CA-SHF-002404 Poison
05/19/2014 11:23AM	Directory	GREAT BASIN W		Directory	CA-SHF-002419 Rays
03/29/2015 10:02AM	Directory	N ROCKIES		Directory	CA-TMU-024385 Cascade
05/14/2013 10:53AM	Directory	NICC		Directory	CA-xxx-xxxx incident name 2
11/13/2014 03:11PM	Directory	PACIFIC NW			
05/28/2014 03:36PM	Directory	ROCKY MTN			
03/18/2014 12:24PM	Directory	SOUTHERN			
05/17/2014 04:31AM	Directory	SOUTHWEST			
05/17/2014 04:31AM	Directory	Training			
05/17/2014 04:31AM	Directory	WFSA's			

WATCHOUT: NIFC FTP site will be changing before the end of June 2015!



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Incident Support – GIS Watch Outs:

GISS Workload – good communication, planning output:

- Good communication
- Plan your deadlines and how long it takes to make the maps
- Set a good cut off time. WATCH OUT – NIROPS times
- Watch the workload – if you need to support mobile devices, get support (ArcGIS Collector included!)

Internet is necessary:

- Work with CTSPs and COMLs
- GISS needs to be segmented – uploads can be big
- 24 hr clock
- Incident timeline – trigger dates, bandwidth/data plan increases
- **QR codes** – multiple issues..... **WHY?**

DID YOU KNOW: Wireless Priority Service (WPS) – Government (Fed, State, Local, City, Tribal) – set this up! [More here:](#)
<https://www.dhs.gov/wireless-priority-service-wps>





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Incident Support – GIS Watch Outs (cont.):

GISS WATCHOUT – QR Codes:

How is the GISS creating them? Many pros/cons...

Create per file?

Create per map type?

Can they be shared with next team or not?

Are you buying into a DropBox, GoogleDocs, etc.?

What about the backhaul from the incident?

What is backhaul?

CTSP – solutions and ideas on this...





Fire & Aviation Management

ARCGIS ON LINE (AGOL) COLLECTOR

ArcGIS FEATURES PLANS GALLERY MAP SCENE HELP

Sign In

ArcGIS



Track-it : The Harford County Planning & Zoning



Smithsonian: The World is Full of Circles



Select Wildfire History in the NOAA/National Weather



Mountains of Fire: A 3D Tour of the World's Most Active

✓ Sign-up now

Get a free ArcGIS Online account and start making web maps today.

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Create a map that can be viewed in a browser, desktop or mobile device. Share it on a blog, via email, or embed it in a website.

👨‍💻 ArcGIS for Developers

Build custom web and mobile applications that incorporate your maps and data.

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ARCGIS ON LINE (AGOL) COLLECTOR (2/3)

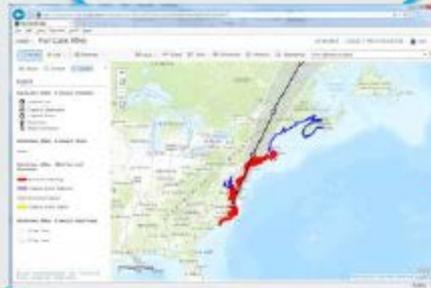
Web maps drive the configuration of ArcGIS apps



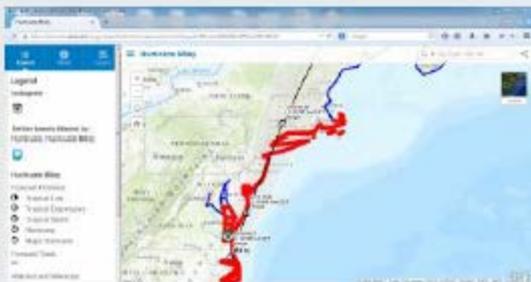
Impact Summary Map



Operations Dashboard



Web Map



Public Information Map



Collector



ARCGIS ON LINE (AGOL) COLLECTOR (3/3)

Web maps drive the configuration of ArcGIS apps

WATCHOUT – 2015 still limited testing:

No training available – being planned but not ready!

Special login needed – USFS, NPS, CAL FIRE

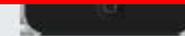
Higher work load – not easy to setup now

Esri Disaster Response can be called in – call for help!

Future state – yes this may be the norm...



Public Information Map



Collector



Fire & Aviation Management

HELP DURING SEASON – WHAT & HOW TO

- **HELP ME!** Lorri is available during season – call her on her cell phone – 916-995-3107 – especially USFS R5 Teams!
- **Tip Sheets/How To** Having an issue, can't find it on the GISS HD – contact Lorri – last year we developed 7 new tip sheets on how to work around problems the field was reporting!
- **Fixed a Problem?** Share with your colleagues! Many tip sheets came in from others in the field and Lorri shared these with the GISS email list and the Wildland Fire Lessons Learned.
- **Contract/Computer/Potter Help?** Contact Lorri ASAP!
- **Can't find a plotter?** Fire GIS Lab has 4 plotters that can be loaned out – they will be driven to the incident and picked up afterwards. Need to do a Resource order. We need to rent a van to get it out to you. Please contact Lorri if you need specifics for resource order!

US Forest Service

Caring for the land and serving people



Fire & Aviation Management

QUESTIONS

Contact for more: lpeltzlewis@fs.fed.us

Twitter: [@lapeltz](https://twitter.com/lapeltz)