

US Forest Service

Caring for the land and serving people



Fire & Aviation Management

R5 FAM GIS Presentation

Esri International Users Conference 2016

Fire & Aviation Management

Fire GIS Lab

**Lorri Peltz-Lewis, GIS Coordinator,
FAM, U. S. Forest Service**





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FAM GIS Lab – Presentation Overview:

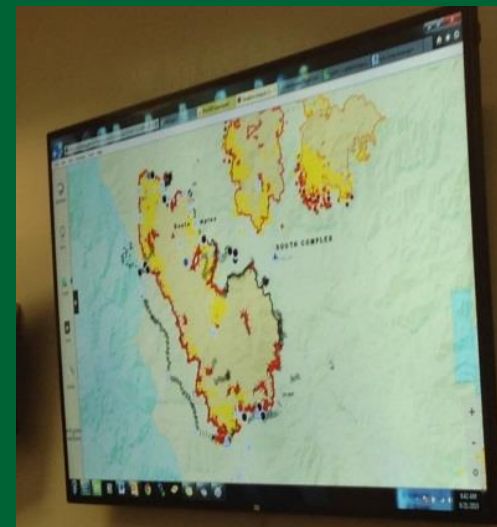
- Who the FAM GIS Lab Supports
- What the Lab does
- GIS Data & Products
- Training
- Mobile Technology development, testing and support
- Coordinate Watch Outs – Decimal Minutes, NAD/WGS, USNG
- How/Where to find out more



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FAM GIS Lab – support for:

- FAM Regional Office – Vallejo & McClellan
- Region 5 Forests – data aggregation, analysis
- NorthOps & SouthOps – Intel, Weather, Dispatch
- Type I & II Teams – primarily Plans – GISS & SITL
- Aviation – requested products & analysis
- National Support – NIFC, NWCG, etc.





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FAM GIS Lab – Pre-staging equipment & data:



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FAM GIS Lab – Pre-staging equipment & data:

USFS R5 HP z5400 plotters

Preparation for delivery to fire caches (1-3 North Ops; 4-6 SouthOps; 7 McClellan):

Plotter stands were removed. These could not be put into the box without damaging the plotter. They are at McClellan.



I fabricated wooden blocks with safety keys for the plotters to be placed safely on top of the crates. These will allow use of both paper rolls with 300' of paper in each roll. The plotters sit on top and the crate can easily be rolled around as needed.



USFS R5 HP z5400 plotters (continued)

I stained the wooden blocks black to match the crates, white stenciled to provide tracking and instructions were applied, additional packing and shipping information attached.



The crates were loaded with the plotters, all contents double checked, Cache Managers contacted and prepared for shipping.





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FAM GIS Lab Data –

- Fire uses & consumes all imagery, all roads, parcels, ownership, etc.
- **Aviation Hazards** - Standards – USFS & NIFC, Forest Maps, California Atlas
- **Fire Retardant Avoidance** – Hydrology, Threatened, Endangered, Sensitive species
- **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
- Wildland Urban Interface (WUI) (Standards – USFS & NIFC)
- Fire Engine Water Sources (Standards – USFS & NIFC)
- Burned Area Emergency Response/Rehabilitation
- And more to come.....





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FAM GIS Lab – Let's talk data:

- **GISS HD 2016 v1 –**
 - **2016 over 60% updated** – including data , tip sheets, software installs, licenses, training, etc.
 - **Size 1.27 TB** – team GISS' sending these in for loading
 - **Webinar Training (1 hr)** – to be scheduled in May 2016.
- **NEW– Timber Company Data & Contacts** – Thanks Rob Griffith and Steve Brink!
- **GISS HD – supported under FIRESCOPE MOU** – all Fire Agencies in CA participating. NOTE: Not common in other states or USFS Regions.





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FAM GIS Lab – GISS HD – a quick tour:



1_DocumentsTraining	Landcover
1_HelpMe_TipSheets	Logos
1_Sys	Municipal
Agency_Data	Ownership
Agriculture	Political
Biology	Population
Boundary	Recreation
Cultural_Resources	Reference
Ecology	Safety_Hazards
Elevation	Soil
Facilities_Landmarks	Survey
Fire_Fuels	Topo_Quads
Geology	Transportation
Hydrology	Utilities
Imagery	Weather

- **Red box –**
Policy documents, Training Materials, etc.
- **Green box – data, data, data**
How do I find what I need.... Next slide.
- **2016 Preseason webinar -**
<https://www.youtube.com/watch?v=CUhhwfl0vG8>



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FAM GIS Lab – GISS HD – a quick tour:



- 0_2014_GSTOP_2014_File_Namer_CA_vers.xlsx
- 0_2014_GSTOP_File_Namer_updt2014_0407.xlsx
- 1_GISS_DriveQuickPics_UPDATE_THIS.mxd
- 2014_ContactList_BIA.doc
- 2014_POC_MobileTech_2014v1.pdf
- 2015_ContactList_USFWS.pdf
- 2015_ContactsList_USFS_R5_GIS.xlsx
- 2015_GISS_Preseason_ReadyToGo.pdf
- 2015_GISS_Preseason_ReadyToGo_Email.docx
- 2016_ContactList_BLM.xlsx
- 2016_ContactList_CAL FIRE.xlsx
- 2016_ContactList_NPS.rtf
- 2016_ContactList_NPS_CAMOB Guide 2016.pdf
- 2016_ContactList_Timber_Owners.docx
- 2016_ContactList_Timber_SierraPacificIndustries.pdf
- 2016_ContactsList_USFS_R5_GIS.xlsx
- 2016_ContactsList_USGS.xlsx
- GISS_HardDrive_Inventory_20156_0422.xlsx
- HSIP Gold 2015 Data List.xlsx
- RentalContract_2015_Hartford Technology Rental Pre-Order Form.xlsx
- RentalContract_2015_Hartford_USDA_Agreement_AG-9J61-B-13-0100-MOD03-06292015.pdf
- RentalContract_2016 SmartSource BPA -9901.pdf
- RentalContract_2016 SmartSource Computer Order Form v04.20.2016.xlsx
- UnitIdReport_20150318.pdf
- USDA_FAMSAC_DataManagementPlan_GISSHardDrive_v01_2015_DRAFT.docx

Top of the drive -

Inventory XLS – drive organization, key words, use search (CTRL+F)

Contact Lists – all fire agencies & timber companies (Thanks Rob & Steve!)

Rental contracts & order forms



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FAM GIS Lab – GISS HD – Timber Company Data:



Timber data/info from multiple sources -

CAL FIRE – Timber Industry parcels

CA Forestry Association – Timber Company Contact list

Crane Mills – roads, contacts

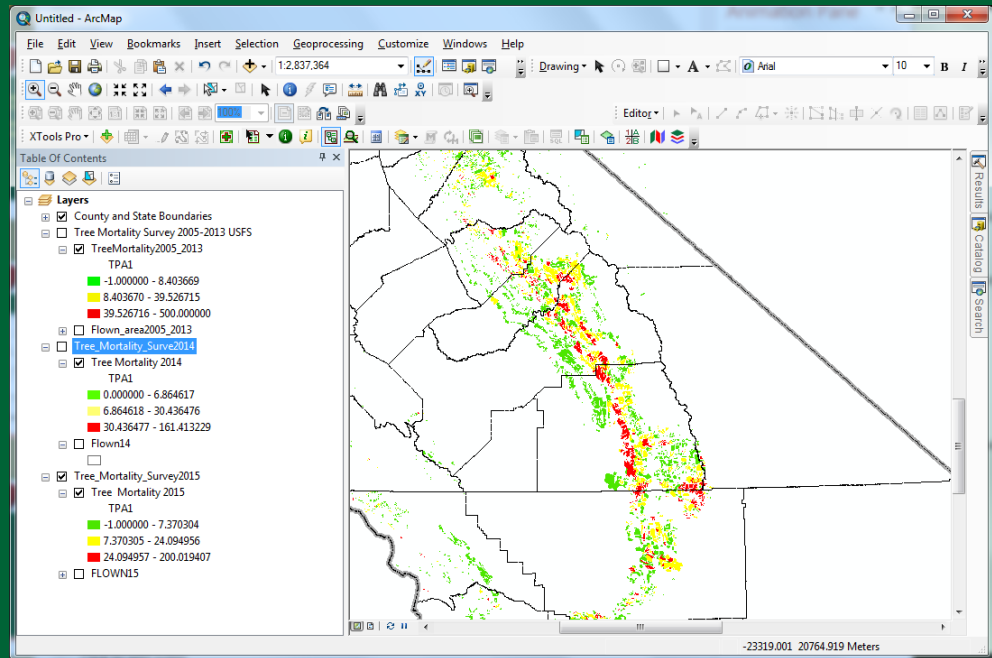
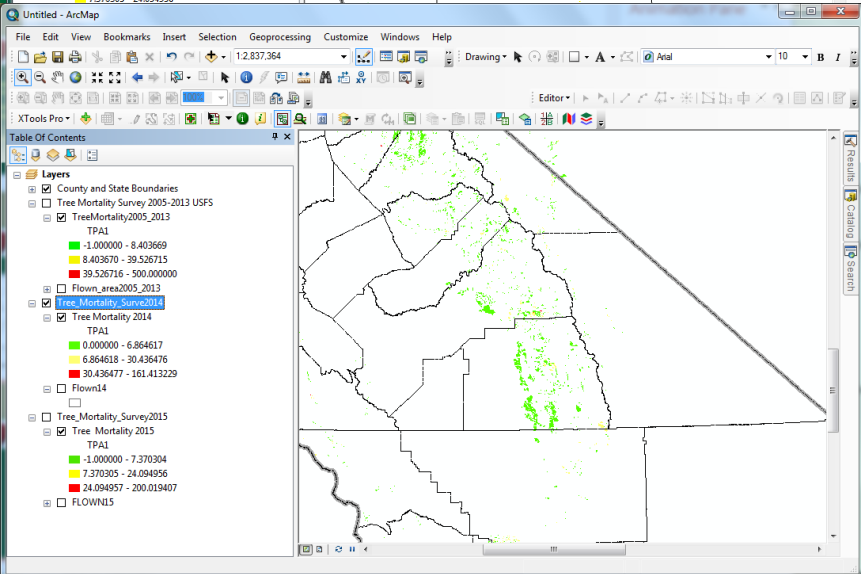
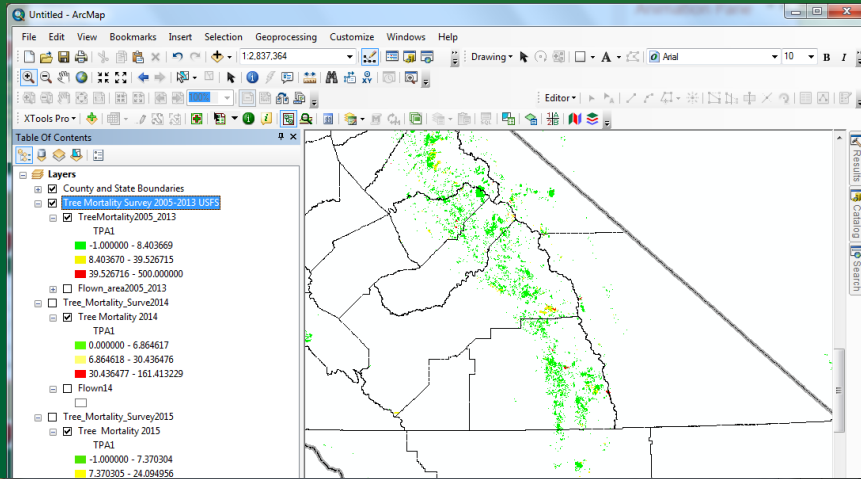
Fruit Growers Supply – roads, area contacts,

Sierra Pacific Inc. – roads, area contacts, gates, weather stations, water holes, fuel breaks, watersheds of interest (timber value, anadromous fish, spotted owls, archaeological sites), etc.



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FAM GIS Lab – GISS HD – Timber Mortality Data:





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FAM GIS Lab – GISS HD – Timber Company Data:



The image displays four overlapping windows of the ArcMap GIS software. Each window shows a different view of the same data, illustrating the process of layer management and visualization. The windows are titled "Untitled - ArcMap".

- Top-left window:** Shows the "Layers" panel with a list of layers including "Timber_SierraPacIndustries", "gate", "district - Contacts Available in Data", "station - repeater, weather (perm & waterhole - type unknown)", "road", "fuelbreak", "huc12_spi - 12-digit hydrologic unit", "Timber, Fish, Owls & Arch sites by watershed", "ownership - anadromous in watershed", "ownership - spotted owls in watershed", "ownership - archaeological sites in watershed", "ARCH_SITES", "ownership - potential timber value", "regeneration_unit", "regeneration_unit - even aged stand", "regeneration_unit - year of any pre-commercial timber", "Timber_FGS - Fruit Growers Supply Areas", and "Timber_CraneMills".
- Second window from top-left:** Shows the "Table Of Contents" panel with a legend for "ARCH_SITES" with three categories: "1 - 24", "25 - 72", and "73 - 209".
- Third window from top-left:** Shows the "Layers" panel with a list of layers including "Timber_SierraPacIndustries", "gate", "district - Contacts Available in Data", "station - repeater, weather (perm & waterhole - type unknown)", "road", "fuelbreak", "huc12_spi - 12-digit hydrologic unit", "Timber, Fish, Owls & Arch sites by watershed", "ownership - anadromous in watershed", "ownership - spotted owls in watershed", "SPOTTED_OWLS", "ownership - archaeological sites in watershed", "ownership - potential timber value", "regeneration_unit", "regeneration_unit - even aged stand", "regeneration_unit - year of any pre-commercial timber", "Timber_FGS - Fruit Growers Supply Areas", and "Timber_CraneMills".
- Bottom-right window:** Shows a map view with a grid overlay. The map displays the same data layers as the other windows, with some areas highlighted in cyan. The "Layers" panel on the left of this window shows the same list of layers as the other windows, with "ownership - archaeological sites in watershed" and "ownership - archaeological sites in watershed" checked.



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FAM GIS Lab - Training:

GIS Specialist for Incident Management – S-341

Intermediate GISS – 2012 – 2015, 2016– includes using mobile technology.

GPS For Fire Management – 2012 - 2015

Wildland Search and Rescue (WiSAR)

Unmanned Aerial Systems for Managers 2015

Webinars – GISS HD (May), more AGOL, BAER, etc.

****Training can be developed to meet specific needs – contact Lorri.**





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FAM GIS Lab Map Products:

- **Aviation Hazards Maps** – available at:

http://ftp.nifc.gov/incident_specific_data/calif_n/z_Aviation/

http://ftp.nifc.gov/incident_specific_data/calif_s/z_Aviation/



- **Fire Retardant Avoidance Maps** –

http://ftp.nifc.gov/incident_specific_data/calif_n/z_Aviation/0_FireRetardantAvoidance_USFS_R5_only/

- **Other products (Base Stations, DPA, web maps, etc.)**

http://ftp.nifc.gov/incident_specific_data/calif_n/z_Aviation/

http://ftp.nifc.gov/incident_specific_data/calif_s/z_Aviation/



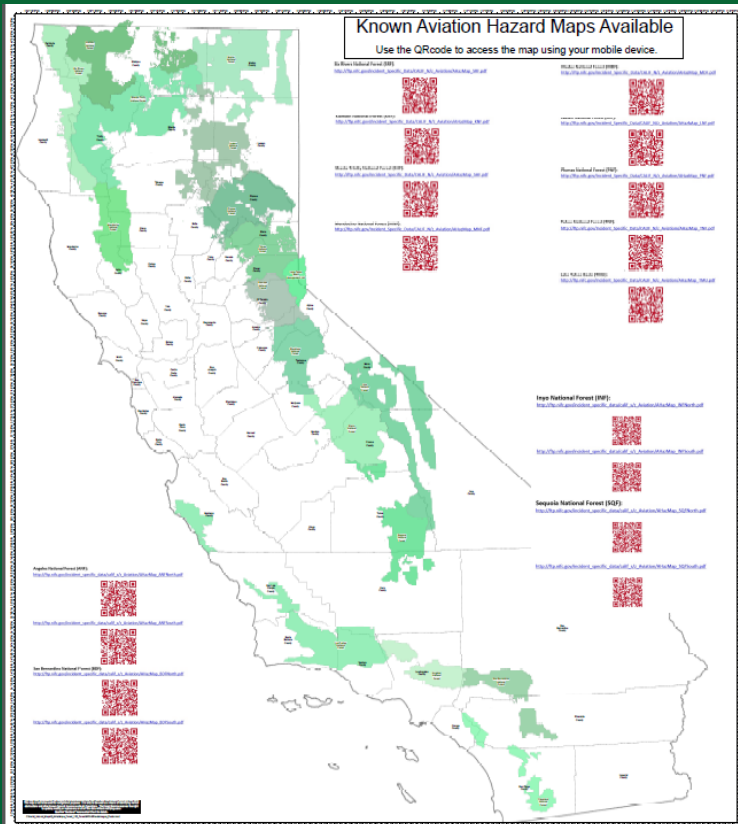


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Aviation Hazards by Forest – all available on line in 2016 –

poster updated for 2016

handouts updated - look for RED QR codes!



Known Aviation Hazards Maps 2016
Problem? Contact Lorri Pelto-Lewis lpelto@fs.fed.us 916-995-5107 - Updated 06/04/2016

Angeles National Forest (ANF): http://fs.fed.us/incident_specific_data/air/aviation/Angeles_ANF.htm.pdf	Inyo National Forest (INF): http://fs.fed.us/incident_specific_data/air/aviation/Angeles_INF.htm.pdf	Los Padres National Forest (LPF): http://fs.fed.us/incident_specific_data/air/aviation/Angeles_LP.htm.pdf
Cleveland National Forest (CNF): http://fs.fed.us/incident_specific_data/air/aviation/Angeles_CN.htm.pdf	Klamath National Forest (KNF): http://fs.fed.us/incident_specific_data/air/aviation/Angeles_KN.htm.pdf	Modoc National Forest (MDF): http://fs.fed.us/incident_specific_data/air/aviation/Angeles_MD.htm.pdf
Eldorado National Forest (ENF): http://fs.fed.us/incident_specific_data/air/aviation/Angeles_EN.htm.pdf	Lassen National Forest (LNF): http://fs.fed.us/incident_specific_data/air/aviation/Angeles_LN.htm.pdf	Mendocino National Forest (MNF): http://fs.fed.us/incident_specific_data/air/aviation/Angeles_MN.htm.pdf
Inyo National Forest (INF): http://fs.fed.us/incident_specific_data/air/aviation/Angeles_INF.htm.pdf	Lake Tahoe Basin (TMU): http://fs.fed.us/incident_specific_data/air/aviation/Angeles_TM.htm.pdf	Plumas National Forest (PNF): http://fs.fed.us/incident_specific_data/air/aviation/Angeles_PN.htm.pdf
Sequoia National Forest (SQF): http://fs.fed.us/incident_specific_data/air/aviation/Angeles_SQ.htm.pdf		

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



PDF Maps

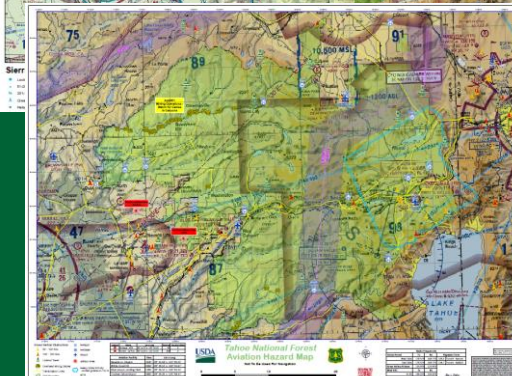
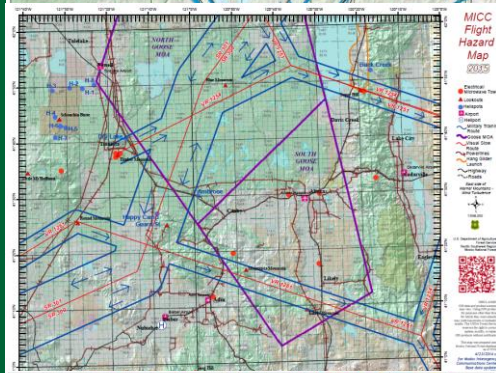
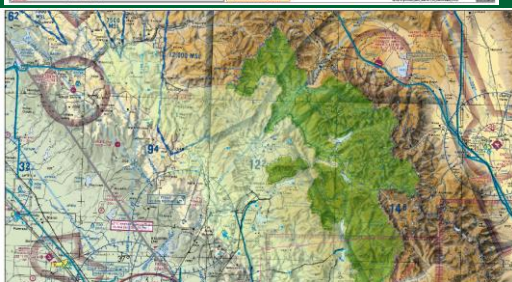
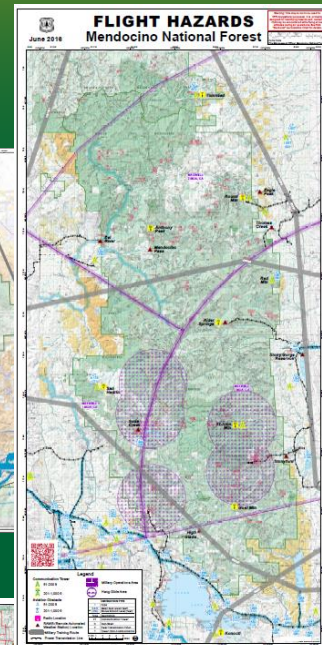
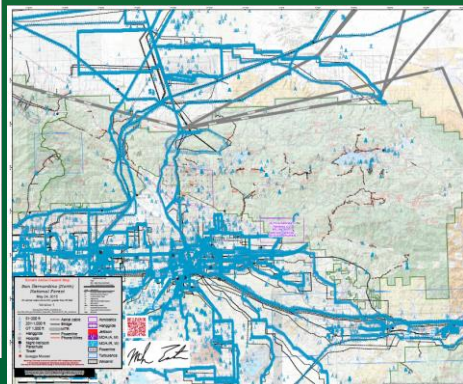
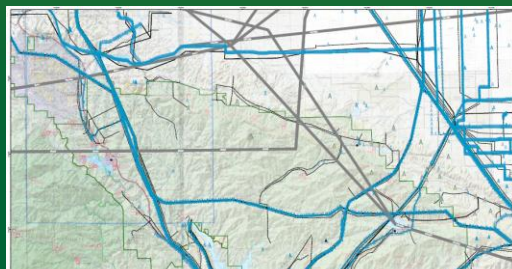
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 - Best Maps for Multimedia Application
 - New Technology & New Media Award
 - Technology Innovation Award for Mobile Mapping



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Aviation Hazards by Forest – 2016 mixed standards

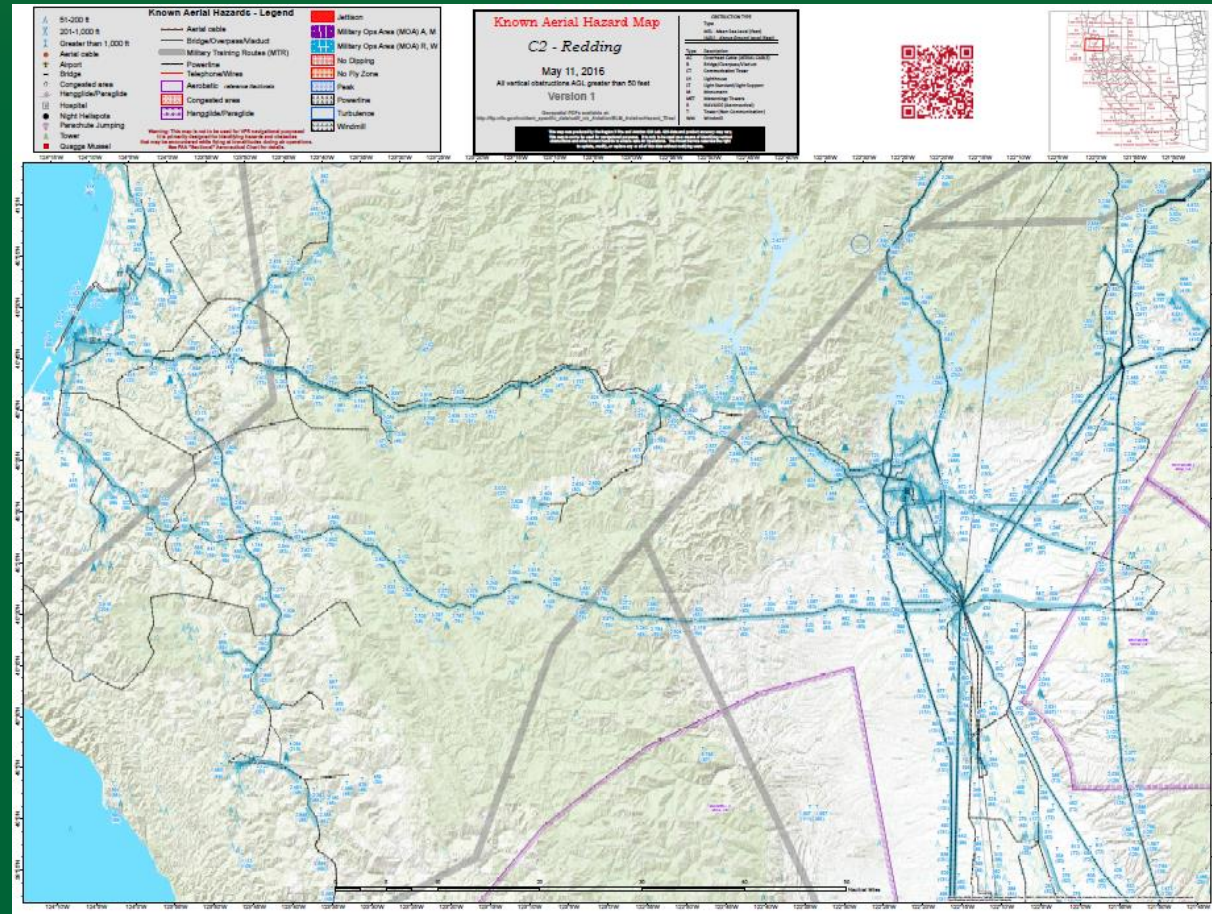
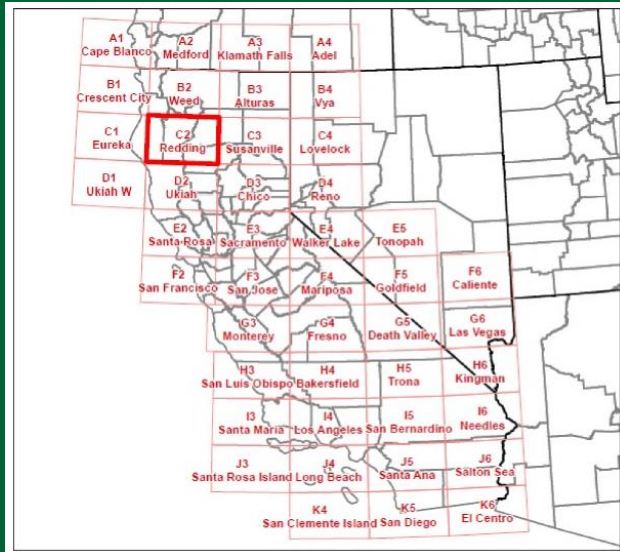




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Aviation Hazards Atlas for California –

look for RED QR codes!





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USFS ArcGIS On Line (AGOL)

USFS only currently – requires a login/password – contact Lorri for assistance:

<http://usfs.maps.arcgis.com/apps/webappviewer/index.html?id=18b55799031942ea8c0c10714ccdaf20>

You Tube training videos (open to everyone):

<https://www.youtube.com/watch?v=kU3Cd280n-I&list=PLT4uA21mNNvebdQaVacSPjC7fGC0XsjC3>

The screenshot displays the USFS ArcGIS On Line (AGOL) web application interface. The main window shows a map of the Bakersfield area with various fire hazard zones highlighted in red, orange, and yellow. The interface includes a navigation pane on the left with 'My Content' and a folder structure, a top navigation bar with 'USFS R5 FAM' and 'Fire GIS Lab' tabs, and a search bar. A smaller window on the right displays a welcome message and instructions for using the application.

USFS Region 5 Fire & Aviation ...

Welcome to the Pacific Southwest Region Fire and Aviation Management Web Site. Our mission is to provide safe, efficient and economical fire management while sustaining, protecting and restoring ecosystems.

This was developed by Lorri Peltz-Lewis from the R5 FAM Fire GIS Lab and is meant to support USFS staff needs to investigate, explore and understand the geospatial data the Fire GIS Lab creates, maintains, and provides for supporting planning, suppression, and restoration activities associated with our mission.

This is the first of many mapping applications to support R5 FAM. Others under development include:

- Fuels and Planning
- Fire Retardant Avoidance
- Aviation Hazards
- Night Flying Operations

Applications being investigated include:

- 1 - Calculate DPA - How many acres of DPA are within this incident?
- 2 - Find Fire - find historic fires for analysis purposes.

If you find you need specific data or an application for your needs please contact Lorri Peltz-Lewis at: 916-440-1009 or lorrip@usfs.gov

Need help or support? Go to the Fire GIS Lab website: <http://firegislab.usfs.gov/index.php>

Mobile Technology Activities

iPad demo if there it time...





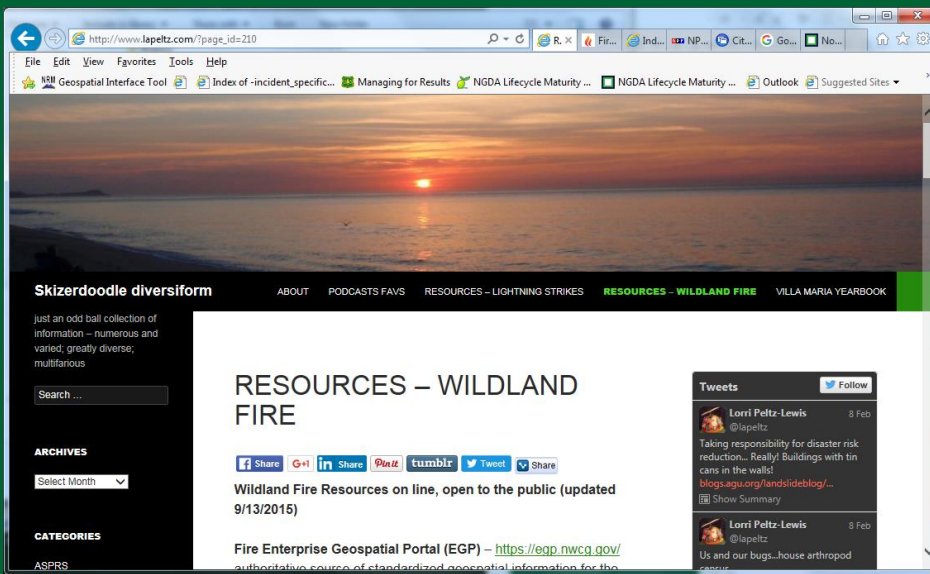
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QUESTIONS

Contact for more: lpeltzlewis@fs.fed.us

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

Blog: <http://www.lapeltz.com/>



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