



## GEOSPATIAL GTG Meeting Notes for Orlando Florida TASK GROUP (November 16 and November 19, 2003)

### **Attendees to November 16, 2003 Meeting:**

Susan Goodman, Chair, Bureau of Land Management  
Victoria Smith, Bureau of Land Management  
Brian Sorbel, Vice Chair, National Park Service  
Ed Delaney, National Park Service  
Ken Bottle, Fish and Wildlife Service  
Skip Edel, Colorado State Forest Service  
Sue McLellan, Florida State Division of Forestry  
Mike Long, Florida, Division of Forestry  
John Caffin, United States Forest Service  
Dorothy Albright, United States Forest Service  
John Hom, United States Forest Service  
Randy Mckinley, United States Geological Survey  
Liz Lile, United States Geological Survey  
Lisa Warnecke, consultant for State Governments and General Accounting Office  
Jeff Baranyi, ESRI

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### **Agency's Updates**

#### **USGS**

GeoMAC (<http://www.geomac.gov>) web application system has grown since 2000. In 2000 and 2001, all of the GeoMAC application was on one server. In 2002, there was a separate spatial server and then this year it used a Cisco switch that used load balancing technology called HAWS. The High Availability Web Services (HAWS) uses load balancing, has a fail-over capabilities, and has increased spatial processing, uses scripts to email and phone a system administrator to notify them of a failure.

Rocky Mountain Mapping Center is moving all of their ArcIMS base layer data from datum NAD27 to datum NAD83. Summer of 2003, a new ArcIMS site was tested called the Fire Data Ordering Site. The site used technology from the SANS company that provides the end user with seamless clipped out data of their area of interest. The site is located at <http://firedata.cr.usgs.gov>. You can login using Data03 as username and password.

The scan line corrector anomaly on Landsat 7 cannot be fixed. The EROS Data Center has begun to distribute the data with the scan line corrector anomaly in the last few weeks (<http://landsat7.usgs.gov/index.php>). Typically, the middle third of a Landsat scene is free of errors. In addition, Landsat 5 has begun to develop sporadic issues with data

swath capture. At this time, Landsat 5 is the critical workhorse for burn severity mapping. Other options for fire and burn severity mapping include:

ASTER (Advanced Spaceborne Thermal Emission and Reflection Radiometer) (<http://asterweb.jpl.nasa.gov/>) is a research satellite that could potentially replace Landsat. It is jointly managed by NASA and Japan. It takes 2 weeks to process the data in Japan. There is an expedited format data stream that can be processed in 12 to 24 hours. This satellite is mainly used for examining volcanoes and earthquakes.

MODIS (Moderate Resolution Imaging Spectroradiometer) (<http://modis.gsfc.nasa.gov/about/index.html>) data is 250 meter and can be used in fire as an initial location of a fire.

EO1 (Earth Observing-1) (<http://eo1.usgs.gov/>) data has too small of a footprint to replace Landsat.

SPOT ([http://www.spotimage.fr/html/\\_167\\_.php](http://www.spotimage.fr/html/_167_.php)) runs around \$8000 to \$10,000 a scene compared to \$2500 for Landsat.

There are some airborne efforts that do look promising. There was a Landsat data continuity effort that went out to bid by NASA. NASA rejected the only offer that bided.

**Action Item:** USGS' EROS Data Center and Forest Service's RSAC will write a white paper regarding Landsat issues and its effect on the fire program.

## **USFS**

IBM has put together a computer kit for incident support. The kit includes a high speed internet connection, laptops, printer, fax machine, satellite internet connection and wireless networking. These kits were deployed to the recent California fires. The kits are under a California Emergency Rental Agreement (ERA).

On the recent California fires GIS specialists were working with predicted services and running FARSITE. Predicted services are using GIS more and more.

ICS Tools – John Varner has finished a beta test and put a proposal up through Alice Forbes regarding creating ICS tools as a National Forest Service system. A training guide will be out in January. David Kelly has developed a transition course.

GIST training will be taught in both ArcGIS and ArcView. The class will focus on concepts, processes, and end products thus not teaching particular software.

## **BLM**

[Ftp://ftp.nifc.gov](ftp://ftp.nifc.gov) was used in some Geographic Areas and not in others. Feedback is needed from the field and team member to make it more effective. Some of the protocols need to be refined. Currently the ftp site has data for the 11 Western States. Other states can post data. John Varner could post ICS tools. Redundancy is needed. Contact Joan Nadeau if interested in posting data on the site.

Victoria Smith is continuing to work on the GIST Field Guide. She still needs maps for the field guide. BLM's Geospatial Strategic Plan will be having a conference call on December 4, 2003. More details to come. BLM now has a designated State GIS lead for all BLM states. ESRI helped with mapping the Southern California Fires.

There is a need to coordinate with the involved land management agencies when doing GIS support. Remote support once resulted in incorrect ownership data being mapped. Correct data was posted on <ftp://ftp.nifc.gov>. Some fires in Southern California could only load their perimeters to GeoMac upload forms. Redundancy is needed.

### **FWS – Fire leadership team meeting, listserv**

FWS has concerns regarding Landfire – pretty concerned about 30 meter resolution and that it will not be good enough for tactical decision. FWS believes it will be an important intermediate step and that it will be useful at that level. Ken Bottle is helping to put together a FWS wildland fire geospatial strategic plan. There will be no charter or a timeline. A USFWS Fire GIS website will be developed as an avenue for information dissemination. February 9-13, 2003 will be FWS National GIS workshop and wildland fire will have ½ day session at NCTS, Shepherdstown, VA. DOI collaborators will get a break in price. FWS would like to see presentations on GeoMAC, fuels, June Thormsgard and Dr. Z, and John Varner, and Karl Brown.

### **NPS**

NPS's GIS conference is the first week in December. More information is located at: <http://www.nps.gov/gis/odyssey/>.

Fire Program Analysis (FPA) (<http://fpa.nifc.gov>) – The NPS Wildland Fire Program has selected 22 priority parks to have data in place for the roll out of FPA's Phase Two. Doug Stephen, Pat Stephens and Ed Delaney and others will work on this project for NPS. The NPS will use FPA data standards as the baseline. The focus will be to look beyond the preparedness module's geospatial requirements (Fire Management Units and Dispatch Locations). The anticipated products for each of the priority parks include: Fire Management Units, Dispatch Locations, cleaned-up Fire Occurrence and Fire Weather data and FARSITE landscape files. The review teams went to Zion in August and are going to Buffalo River in December. The FPA Data Development project will run from January – June, 2004.

### **Western States**

Colorado had a couple of fires on Wednesday October 29, 2003 that burned 11 homes. Colorado is mostly working on a project called Front Range Fuels Treatment Partnership, an interagency project on the Front Range of Colorado to address hazardous fuels. GIS hazard assessments will focus on fuels hazards at the parcel level using 1m commercial satellite data.

### **Eastern States**

December 8 and 9, the 13 Southern States are getting together in South Carolina for a GIS Forestry workshop. Topics will include training and fire GIS activities. The Southern States are in need of pooling their resources and identifying common areas within fire and forestry management where collaboration would be mutually beneficial. Sue McLellan went to Kalispell, MT as an IRIN trainee. Currently, many of the IRIN's are not trained in ArcGIS. During the Montana fires, many of the IRIN's became trained in being able to heads-up digitizing in ArcGIS.

Southern State Risk Assessment is moving along as scheduled; the Fire in the South publication is being worked on and GIS data is being compiled from the participating States,. Florida Division of Forestry has a couple of GIS and Remote Sensing vacancies in Tallahassee. If interested, please contact Sue McLellan.

**Recommend** the GTG talk to the course instructors for NWCG's training regarding integration of geospatial technologies in wildland fire training and have a GTG liaison on the training group. FOBS and DPRO are up on the revision. SITL is up for next year. Five year cycle and are soliciting through the fire program.

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**GTG Inventory – handed out inventory results. These results will be posted on <http://gis.nwcg.gov>.**

**GIST** – Currently GPS for ICS is not appropriate for a GIST, but a GPS course is recommended.

**GTAG** – GTG will recommend to IRMWT to have GTAG as a work group under the GTG until it is officially under the training working group.

**GTG Information** –all draft documents will be posted on [gis.nwcg.gov](http://gis.nwcg.gov)

**Action Item:** Review GTG Charter and

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**LANDFIRE** (<http://www.landfire.gov/>) – presented by Matt Rollins

**LANDFIRE** needs guidance with data standards. Wildland Fire Leadership Council (WFLC) endorsed LANDFIRE – Currently a National management structure is being development for LANDFIRE. LANDFIRE is six times as large as any other research project. LANDFIRE provides mapped Fire Regime Condition Classes (FRCC), fuel

characteristics, and vegetation condition. LANDFIRE is a foundation for landscape and fire management planning based on current peer-reviewed scientific methods, and is fully repeatable. The National Fire Plan requires consistent, comprehensive, and impartial information. LANDFIRE will be at a national scale (considered mid scale in remote sensing terms) and provide consistent data and data tools for all.

LANDFIRE data will be using 30 sq. meter cell size imagery. It will be based on an ecosystem process-based approach and will be validated using both quantitative and qualitative models. LANDFIRE will be using the FRCC guide books. Joe Scott has developed new fire behavior model and new fuel loading models.

No direction has been given on to what the next zones that will be mapped after the prototype areas. This year, 6 additional areas will be done. Need to know what plot data is available. Currently plot data is a big limitation to project. Student Conservation Association (SCA) will be collecting data and using the forms on FIREMON webpage (<http://fire.org/firemon/>).

LANDFIRE budget is 8 million dollars for FY04. Of that 8 million dollars only 5 or 4 million appear to exist.

The Nature Conservancy will be working on field work. Nature Conservancy will lead the technology transfer. They have a proven track record with the fire learning network.

LANDFIRE will use STATSGO and topography data for soil depth and decomposition. Two potential vegetation type and for simulate fire regime across the landscape. Classification and regression equations. Used referenced data from gap. FIA is notorious for poor understory data.

LANDFIRE will have an executive committee.

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**Mike Long , State Forester for Florida**– is originally from Lock Haven, Pennsylvania. His introductory to geospatial technology occurred in Vietnam. He graduated from New York School of Environmental Science and Forestry in 1971 with a degree in Natural Resource Management. Mr. Long started chasing smoke at the age of 16 in 1962. He was on a hand crew for Utah State University in 1965 and 1966. We he started working for the state of Florida as a forester, forester did not fight fire. He was a fire boss in the old large fire organization and under the Incident Command System (ICS); he has been incident commander and an area commander. He has chaired fire weather advisor group that then became a work group under National Wildfire Coordinating Group (NWCG). He then served as the chair of the NWCG Incident Command Working Team. Worked on the National Fire Plan implementation and was on the selection panel that reviewed the Cerro Grande fire. Mike served as the only State representative on the 10 year strategy and on the state forester.

For the roles and responsibilities of NWCG, his goal for NWCG is improving fire business in a logical, efficient, and understandable manner. He will be the NASF Representative on NWCG.

His perspective on geospatial issue is that they are critical for a total fire program that includes mitigation, detection, suppression and extended attack. Geospatial tools are great tools; however, they are always being modified. Fire managers are very frustrated because they begin to learn on tool and then the technology changes. Leadership in fire and in Washington DC did not grow up with technology. There are concerns regarding the amount of coordination. We are all spending a lot of money. How much effort do we spend coordinating? Can we better coordinate? Biggest failure is putting enough effort on the front end. The states are struggling to get into the technology arena. Many are advancing like we did because of one or two individuals that take it on in addition to their real jobs and try to promote a direction for the organization. There is little discretionary funding in state budgets and almost no way to get new positions so for a state to be successful at getting involved it takes a champion within the agency that is willing to put technology as a priority above something else that exists. If we truly believe that we can do a better job through the use of geospatial technologies we find ways to place the priority there. The real question is where is the pay off?

GIS base layers can be used as statistics. If the tools are right and there is a lot of value. Factual, being quick and pretty, then that makes it reliable.

Donated computers are needed to the states for fire mapping and fire reporting.

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**Lisa Warnecke** is here with the Rochester Institute of technology (RIT). RIT is working on a project that was funded by NASA. This project uses remote sensed images and fundamental science to observe fires remotely. She did a needs assessment for RIT for this project. Ms. Warnecke background is in public administrative field. In the Chapter 2 of the report, it discusses fire direction and policy and has good overview of State and Federal stakeholder. Separate chapters emphasize fire for detection, mitigation, preparedness, suppression, and recovery. The report also included local government mitigation plan. GAO referenced the report that it talked about data. Joe Frost helped put together several organization charts.

Lessoned learned –

1. focus should be all geospatial technology
2. all phases of fire
3. strategy should be on intergovernmental
4. local government are not representative very well (enabling capabilities to help promote technologies).

Focused on issues and the problems identified in the past that exists today. One example was why are smoke jumpers and hotshots not using GPS units? Measure of success of

strategy will be surveying the State Foresters regarding the report and coming up with a framework for this technology.

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## **Jeff Baranyi**

Presentation is attached.

South Zone Multi-Agency Committee was shown ArcGlobe at a briefing and then began to understand the real benefit of geospatial technologies on incidents.

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## **Wednesday Afternoon 3-5**

Attendees:

Al Borup

Sue McLellan

Victoria Smith

Dorothy Albright

Liz Lile

Brian Sorbel

Skip Edel

Jeff Barayani

Finn Dahl

Ken Bottle

Susan Goodman

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**Jeff Baranyi** demonstrated Remote Disconnected Tools for ArcMap/ArcGIS. This provides checking in and checking out data using versioning and feature data class from a geodatabase.

**Demo of Fire Data Ordering ArcIMS Site** - Site allows the flexibility to get the data in the end user projection.

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**Update on the University of Montana Study** – Dorothy Albright went out to the Montana fires twice – One of the fires was the Robert Fire. This time we were verifying what we were hearing from GIST so the team visited ICS positions at the fires above the GIST. One GIST said he was successful because he could find everything on the internet. This individual had worked for ESRI for 4 years. Most individuals at the fires thought GIS was O.K., but if people above them did not know what to do with GIS data/maps, it was not accepted. Started interviewing users of data. Reason IC is not happy with GIS because SITL did not use GIS. Interviewing customers to see variety of how they were using the data. It appears that there are communication breakdown.

MAC Group – Up through area command and at the Forest Service Region 1 office, Anne RysSikora developed an ftp to post fire perimeters on. At one time there were 84 fires posting information to the site. <http://ftp.nifc.gov> site needs a password and this was an issue.

Fires were cleaning up their GIS data and then feeding the fires into the corporate system while fires were still going on. The plan is to follow the data from the fire to the corporate database. This winter the study will look at some of the fires that were visited the past two summers and find out how they are being implemented in land management planning (LMP) process. We call this, “Following the pixel.....”. This study follows sociology scientific study. Every interview is on tape and go back look at the transcripts of the tapes.

The University of Montana is requesting more feedback from the GTG.

**Action:** Review documents and identify areas where we can go with this study. GTG needs to send a letter to Lloyd Queen telling him how we are using the study.

Move meeting in April from Boise to Missoula because LANDFIRE and U. of Montana Study.

The study will help all stakeholders on what is happening to the data. This study will help guide an interagency geospatial wildfire strategic plan that will include user needs and the data flow model.

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## **FPA**

Handed out FPA Document called preparing data for FP. Joe Frost will recommend a full time position for geospatial position on FPA.

Judy Crosby was approved as the PMO liaison to the GTG.

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## **Geospatial Data Standards**

DAWG is currently looking at data item standards and not at holistic geospatial data standard. They are creating an institutional database of standards that you will be able to query geospatial data layer standards from. GTG will coordinate with John Varner regarding data standards.

**Action Item:** Continue creating geospatial data standards for daily fire perimeter and final fire area.

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## **SOP Work Group**

The GTG is establishing two subgroups of subject matter experts to develop standards for GIS on wildland fire incidents. The first subgroup will establish a recommended standard for ICS Symbology. Karen Folger has agreed to represent the NPS on this group. Ken Bottle (USFWS) will be the GTG liaison to the group and will begin to organize conference calls for the group early next year.

The second subgroup will establish Standard Operating Procedures for the GIST in wildland fire incidents. Anticipated products from this effort include standards for FTP procedures, directory structures; file naming conventions, team transition procedures and the minimum product expectations of the GIST on incident. Ed Delaney has agreed to represent the NPS on this group. Sue McLellan (Florida Division of Forestry) will be the GTG liaison to the group and will begin to organize conference calls for the group early next year. Charters are being developed for the two groups.

Sue McLellan, (FLDOF) will be initial chair. Suggested names for the work group are as follows:

Sean Triplett  
John Guthrie  
Dorothy Albright  
Luther Arizana  
Ed Delaney  
Miranda Miller  
Emmor Nile  
Dave Wischer  
Victoria Smith  
Susan Goodman

**Action Item:** December 10, 2002 - make corrections to SOP charter and letters.  
Dissemination and feedback loop needs to be defined

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### **GIS and GPS Training**

Are you interested in training? Please contact Victoria Smith. GTAG needs more people to be involved from all agencies.

**Next Conference Call:** Wednesday, January 21; 11:00 AM Mountain Time  
**Next meeting:** April 19 – 23; Missoula