

## FIRESCOPE GISS Workgroup Meeting

### Conference Call

December 3-5 2012 (Updated 12/3/12 – Version 0.01)

FTP site: <ftp://ftp2.fs.fed.us/incoming/r5/FAMSAC/Firescope/>

FIRESCOPE GIS SG site: <http://www.firescope.org/specialist-groups/gis/specialist-gis.htm>

**Attendees – Chris W, Chris I, Mark R, Lorri P-L, Chris C, Rich S, Kris H, Marc H, and John S**

#### **Announcements –**

Dec 13-14 – NAPSG West Coast Summit – Livermore, CA – attendance is full.

S-341 Training -

[http://www.nationalfiretraining.net/course\\_session/list/sort/coord\\_name/type/desc.html](http://www.nationalfiretraining.net/course_session/list/sort/coord_name/type/desc.html)

GPS for Fire Management – thinking about doing a class in Redding – who would Lorri coordinate with from CAL FIRE? **Action Item:** Lorri will announcement to Chris W and Rich S.

#### **Quick Summary:**

Mark Rosenberg elected Chair

Charter Updated

Plan of Work 2012 – Closed out

Plan of Word 2013 – Proposed ready for Task Group

Monthly Meetings move to 1<sup>st</sup> Thursday 10-Noon

Discussions:

- WebEOC – call for data for CALEMA GDB design effort
- HSIP Gold data review & request to release limited data – updated recommendations to DHS HIFLD team
- Wildland Pre-Plan Ad-Hoc – request for GIS support from CAL FIRE & local representatives
- DOI/NIFC Thermal Band Survey – review and comments provided
- GSTOP Update Status – Review status, new symbology, moving forward
- After Action Review Survey – review status, request more participation, identify issues, training needs identified (GISS Intermediate Class), survey is still open – please encourage your staff to participate:
- Issue Papers:
  - Open Geospatial Source – brainstorming, draft paper being prepared
  - All Hazards – discussion, redesign, new paper coming forth
  - ROSS Resource Ordering – discussion, new paper coming forth
  - USNG – discussion, CAL FIRE effort, new paper coming forth
  - NIFC FTP – discussion, new paper coming forth

Training being planned now:

- GISS Intermediate – Spring 2013
- GPS for Fire Management

Plan of Work – completed summary of 2011 and 2012, developed draft plan for 2013.

**Review & Accept Previous Meeting Notes** – August – November – Review & Accept  
Accepted August, September, October, and November meeting notes.

**Chair & Vice Chair Transition** – election for Vice Chair – Nominations & Election  
Discussed what the Vice Chair does, how much work and what is expected. The Vice Chair would take over as the Chair the following year – moving this to the last day.

**Election – Lorri Peltz-Lewis** – Lorri nominated Mark Rosenberg as the Chair for 2013, all voted in favor, no one was not in favor. The Vice Chair position is on hold until January. Mark would like to talk to any potential candidates before we move out on electing a Vice Chair.

**Review Charter** – reviewed and accepted in new format. DONE! Plan of Work reviewed – updates moved to the end of the meeting. Action Item – Lorri will finish updating 2012 Plan of Work and send it out for final review and acceptance.

**Liaison Updates** – Marc Hafner – FIRESCOPE is developing a new technologies group. Many tools are being considered and team members. Could be a melting pot of many different types of technologies, what's missing is standards and integration with the numerous existing groups. GIS SG letter on symbology is under review by the Task Group, Operations, and the Board. Next week's meeting should determine if the letter goes back to the team to send to NAPSG. Sounds like the Task Group really enjoyed looking over the recommendations from the GIS SG – the Task Group was in agreement with the symbology and recommendations. Aviation symbols were asked about and AFF symbols were provided. The GIS SG is not being tasked with this at this time, but we need to include AFF, AVL, PLI, etc. Existing standards is military symbology (Military Standard 2525) at [http://www.mapsymbols.com/ms2525b\\_ch1\\_full.pdf](http://www.mapsymbols.com/ms2525b_ch1_full.pdf)  
TrueTrack symbols

**CAL EMA WebEOC database** – Kris Higgs – [www.esi911.com](http://www.esi911.com) – Kris described the system, how it is used, the elements associated with it, and how CAL EMA is using this. ER Mapper hooked into the status board with point location. WebEOC can't do lines or polygons. Kris would like to find out what type of data is used locally that would be needed for emergency response to develop a geodatabase that would support multiple jurisdictions, standards, and response at the state level. Question to Chris C and Chris I – can you send me those databases that you feel are necessary for emergency response – this will centralize the data into the CAL EMA EGIS.

**Recommendations:** University Santa Barbara – Alan Glennon ([alan@geog.ucsb.edu](mailto:alan@geog.ucsb.edu)); CA Office of Spill Prevention and Response (OSPRO); DWR Flooding SOP; talk to Tom Gikas as well.

**Action Item:** Kris is asking for emergency management data, not base data, so she can evaluate for integration and development of a GDB for CAL EMA to use for emergency response.

### **HSIP Gold – review reduce attributes include all data in Freedom – Lorri Peltz-Lewis**

Lorri reviewed the process that she used to identify which HSIP Gold databases would be most valuable to All Hazards responses, what attributes would be of greatest interest, and what the priority was. The team reviewed the Low and Moderate priorities, modified these as needed and identified additional datasets that would be needed.

**Action Item:** Lorri will update the spreadsheet and send it back out to the team and the HFLD team working on this.

### **Open Source Issue paper – Mark Rosenberg – Brainstorming session**

- Why is a standard needed – web maps and mobile – discuss how these standards are similar the fire hose connector standards.
- Recognized standards out there
- What standards – OGC,
- See [www.opengeospatial.org/standards](http://www.opengeospatial.org/standards)
- See [http://www.opengeospatial.org/domain/gov\\_and\\_sdi](http://www.opengeospatial.org/domain/gov_and_sdi)
- See <http://www.opengeospatial.org/resource>
- How to prove they are following standards – are they compliant or not?
- Data Interoperability – import/export compliancy,
- Semantics and Ontologies
- Draft recommended standards – self testing and compliancy,
- Temporal over time issues – are you still compliant? Annual Reports?
- Examples of costs and impacts – from failed system
- Examples of costs and impacts of maintaining a compliant system
- Examples of systems that are OGC compliant
- Mobile devices and issues – Device agnostic OR works on all devices - Apple IOS, Android (numerous OS), Microsoft (Metro or Win8), and Blackberry – what are the concerns and issues with these devices.
- PostGIS –
- One solution is not the answer! Be open minded!
- What questions you should be asking as a manager! Should we develop a list of questions management needs to ask.... Can you pull in my feeds? Are you security compliant? How so?
- What questions you should be asking your end users! Computer staff!
- Security concerns!
- What is the flow of discussion on adopting/integrating these technologies into organizations?
- Adopting technology standards
- Define the requirements BEFORE selecting the device, platform, or operating system

- Job aid for managers
- What about best management practices for this effort?
- Examples:
  - o TriTech VisiCAD – [www.tritech.com](http://www.tritech.com) – used locally Santa Barbara, but no OGC mentioned on site, no how to's available
  - o ADASHI – [www.adashisystems.com](http://www.adashisystems.com) – same issues as above.
  - o Alataris by Northrup Grumman – CAL FIRE tools – same issues?
  - o Wildweb/WildCAD NWCG – same issues?
- Are CAD systems being developed with OGC compliance or not?
  - o NICS?
  - o Intterra?
  - o dtsWildfire.com?

We need to get this out for the new FIRESCOPE technology group.

April will work out, but we should get a draft out soon.

Recommendation: Put together an issue paper and job aid for managers.

Really need to have Tom Gikas involved in this process as well! If need be reach out directly to him for involvement and review.

**Action Item:** Mark will start drafting this out. Lorri assisting

### **All Hazards Issue Paper – Lorri Peltz-Lewis – Open Discussion**

- FIRESCOPE GIS Specialist Group does not have the expertise in other hazards to make an SOP
- FIRESCOPE GIS Specialist Group does not have the staff time to create SOPs for all hazards
- FIRESCOPE GIS Specialist Group agrees the GSTOP for wild land fire can provide guidance to other SOP's that may be developed by FEMA and should be considered as other standards are being developed for all hazards.
- Suggestion to use GSTOP as a starting point
- Wildfire agencies are among first responders for other hazards and it makes sense to use current SOP's for fire in developing other hazard SOP's.
- FEMA should work through subject matter experts in Fire, and other hazard SOP development.
- This issue paper is aimed to identify this course and leave the issue to communities equipped to address them.
- Chis Castillo volunteered to take a look at the SOP's for other hazard types.
- Chris Ingram concerned about SOP's being out of synch with each other if we don't deploy it this way.
- Lorri drew a diagram of an umbrella document to cover the overlap between SOP's and appendix for each hazard. They could also be grouped together i.e. water, land, weather
- Discussion about adding to the issue paper information about oversight/governing bodies for blessing and establishing qualifications for response to all other hazards. The groups that manage training and task books for ICS or USAR qualified personnel should lead efforts for SOP's that they would be asked to adopt.
- SEE NOTES in All Hazards Issue Paper version 0.3.

**Action Item:** Lorri will take another stab at rewriting this document and getting it out for review. Illustration on this may also help the understanding.

**Wildland Pre-Plan Ad-Hoc Working Group – Rich Drozen – presentation and request for assistance**

- Refer to documents sent to GIS Sub Group.
- Review previous plans implemented by diff. agencies
- Review common elements
- Review of target audience for each
- Review software for non-technical users to create pre-plan maps
  - o See identified standards in the WUI-pre-plan-report-6-12.docx
  - o Review of the required maps, required data and optional data.
  - o Utilized some GSTOP standards where possible
- Battalion Map: ->1:24k scale base map for see write up
- Target Map – for protecting a specific area
- Evacuation map for public use

Standard terminology, symbology and standards

Needs direction from US on map standards,

Example - LCES lookout or high points, fuel breaks and age/size, decision points for tactical consideration, decision points for tactical consideration, need standards to communicate this.

- Task FIREScope GSG to identify symbols for new terminology
- Define requirements for paper and electronic and paper mapping products.
- Define a repository for GIS data web portal concept. Google earth technical/ease of use level. Not a new PFE workload. Data collection and management eliminates PFE work additions.
- Data collection should be software neutral
- Allowing CAL FIRE to port data to a variety of outputs, not just paper maps.
  - o Paper GIS WUI pre plan maps
  - o Cal mapper
  - o NICS
  - o Terrain NavPro
  - o GE
  - o Garmins
  - o Geospatial PDF
- Contract with Vendor to supply a statewide web portal for data collection
- Developed list of approved software product to allow unit flexibility in choice of products
- Request Grant \$\$

Possibly a dual effort

- 1) Example - Set standards for symbology etc. using GSG expertise.
- 2) GIS will reach out to other agencies for reviewing their standards and needs

Want to avoid the binder method – these have retrieval issues, update issues

Need to pick symbols for paper and electronic map environments

- However not all agencies have the digital capabilities
- Spread it out on the truck

- Target is both audiences
- We reviewed previous symbols used by TCU (diamond/circle square triangle etc. for “Type” and a two letter Feature class code (WH for water hydrant).
- Update the CAL FIRE 7700 manual
- 5 complete sets of topos are the current requirement
- New requirement will be ‘GIS data’ and ‘E size’ maps for SRA/target areas (CALL FIRE)
- Ownership, DPA, wilderness are key data for pre-attack plans.
- Cost apportionment, sensitive areas.

### Next Steps for GIS Specialist Group

- Symbols
- Standard Maps
- Standard Data needs
- Repository
- Software standards

### Scale Driven symbol sets

Solicit information from FIRESCOPE member agencies for standard symbols

Evaluate the 3 maps and how they relate to GSTOP?

What is missed, omitted on the maps

Clarification on the possible need for viewsheds.

**Action Items:** Set up meeting with WUI ad hoc pre-plan working group (a sub-group) to work with a subgroup of FIRESCOPE GSG (Mark R, Chris Ingram, and Chris Castillo). The subject of our meeting will be data, data information requirements (attributes and codes) for each WUI pre-plan map.

### **ROSS Ordering Issues – Mark Rosenberg – information also being used toward the Wildland Fire Training Center (WFTC) request to Lorri to develop an issue paper discussing the 3-5 year training needs for GIS/GPS.**

Need to address

- How do we folks on ROSS?
  - Who are those having difficulty getting into ROSS
- Trainees getting fully qualified
  - We are spending money training people who don’t get qualified or have issues getting into ROSS
  - Issue with those having task book timing out
  - We need to pre-screen training applicants

Training for people on all levels of teams Type-1 – Type-3

Sponsorship of trainees in ROSS

1/3 of class is willing to go out on fires.

Said we have too many people trained. Get them qualified

Issue bringing task book to class initiated, but local gov’t must follow CICC

Another issue of ROSS not filtering down requests to local government

Chris Castillo offering to put together a map showing where all GISS are located

Training officer confusion of getting people on lists

Succession planning of GISS and issues relating to these resource-ordering issues

ANOTHER FORM OF ISSUES TO ADDRESS

1. Categories of People who don't get into ROSS
  - a. We spend money on resources
  - b. How do we get not fire GIS people into ROSS
2. Trainees fully qualified
  - a. Getting people qualified before task books time out
3. Pre-screen applicants
  - a. Folks who are taking assignments
4. Trainees that don't qualify and take assignments and clog the system
5. All entities handle things differently when managing ROSS ie USFS, Cal Fire, Local Gov't, others

Once you get into ROSS how do you get called out

Geospatial considerations to dispatching

Occurs in the Cal Fire world, but never gets down to Local Gov't

Name request is fine since it is a specialized position

Solutions

1. Create a map showing location of GISS in California and categories them as:
  - a. GISS vs. GISS (t)
  - b. ROSS vs. Not in ROSS
  - c. Etc.
2. Those willing to take assignments
3. List of qualified vs. trained resources
4. Names of qualified/trained resources into ROSS
5. How do we currently get Weather Specialists
  - a. Call When Needed (CWN)
6. Cal EMA Mission Tasking
7. S-341 cadre to submit to ROSS as a sponsor
8. Volunteer Fire Departments
  - a. People can get tied into a department and then fall under the contracts of that agency.

Resource: Chris Starnes – Cal Fire

Cal Fire Incident Management Team conference call

Priority trainee list is utilized by the teams in Cal Fire

**Action Items:** Draft Issue Paper for Resource Ordering Problems - Lorri

Chris Waters and Mark Rosenberg talk with Chris Starnes about ordering issues

**Action Item:** Lorri will use this information to round out the WFTC 3-5 year training plan for GIS and GPS requested by WFTC.

**Thermal Band Survey – Lorri Peltz-Lewis – Team review and comments:**

Offer to be beta reviewers to build a better survey. Not sure who all this is going to so think outside of the local box. The 4 pages of the survey are reviewed below.

General Recommendations:

1. Page 4 should be page 1. Gather more information on who the person is. See comments specific to page 4 below as well.

2. We are concerned with the open ended questions and comment fields. This will make the reviewers job difficult if you expect more than 20 surveys returned. Here are some suggestions:
  - a. Consider some options for doing priority rankings such as Borda count ranking these as 1, 2, 3, 4, and 5 ([http://en.wikipedia.org/wiki/Borda\\_count](http://en.wikipedia.org/wiki/Borda_count)) be consistent if you use 1 as highest.
  - b. Priority ranking would also be useful for this effort.
  - c. Other voting systems to get to what you want – proportional and semi-proportional may also be good ([http://en.wikipedia.org/wiki/Voting\\_systems#Multiple-winner\\_methods](http://en.wikipedia.org/wiki/Voting_systems#Multiple-winner_methods)).
  - d. Graphing option - If you are comparing 2 variables such as resolution and time (temporal) you can setup a graph representing each of these values and have the users select which is most important – give them 10 points to load.
3. Why is there a Rest on each question – can this be removed?

Page by Page review:

Page 1 should be renamed Pre-Fire Detection and should start with the Situational Awareness questions.

Question 1:

- Question needs to be reworded – “How soon after a fire has started would you want detection possible?”
- One option is to do 5 mins, 30 mins, 1 hr, 4 hrs, 24 hrs
- Or simple 3 categories: 5 mins, 1 hr, 24 hrs
- Rank this or weighted vote?
- Mindset of agencies differ, Cal Fire would want it immediately versus Park Service in a day or so.
- Better asked later in the survey – confusing as the first question.

Question 2:

- Spatial characteristics should be clarified – “At what acreage do you need the fire detected?”
- 0.25 rather than .25
- Weighting these would provide interesting results

Question 3:

- Add the following options:
  - Flaming fire front
  - Warming fire
  - Hot Engines
  - Burn Scar
- How do they sense growth potential? Curious about the science behind this. Or if they could detect it would you want it?
- How would metadata about the accuracy/effectiveness of these be communicated?

Question 4: add the following

- Email
- Text

Question 5:

- What is the purpose of question 5 – unclear as to why this is here.
- Make question number 1? Put all SA stuff at the top of this page.
- Define situational awareness and then comment field with additions to their definition.

Question 6: add the following

- Should have 1 hour option
- We should also add once per operational period – 6 hrs, 12 hrs, and 24 hrs, possibly 48 hrs

Question 7: add the following



- Burned area
- All of the above
- GIS file with fire perimeter

**PAGE 2 (Continue numbering – starting over at 1 is confusing)**

Question 1: Should this be combined with page 1 question 7?

- Consistent on numbering small to large
- Does not address at what time of day question
- Add Real-Time option

Question 2:

- Too wide open
- Add options
- Define what you mean by traditional? BAER, Natural color, hyper spectral? Not sure what is meant.
- Reword question with what traditional “standard” products – opportunity to educate here
- Concerned that you’ll get so many responses here that this won’t be useful.

**Page 3**

Question 1:

- Remove word traditional, define what you mean by traditional
- Will have a mass of responses
- Add options here – maybe combine with page 2 question 2?
- Reword question with what traditional “standard” products – opportunity to educate here

**Page 4 – this should move up to the first page...**

Question 1:

- Ask about them on first page
- Needs to include all possible positions – what about option for trainee vs qualified?
- Be consistent on use of terms – maybe use spelled out name and ROSS abbreviation

Question 2:

- Ask on first page
- Maybe a link to a map for this since some folks may not know....

Question 3:

- What is the purpose of this question
- Not everyone will be familiar with these fuel models causing a lot of research/frustration.
- Can this be simplified?
- Provide a web link to what these are so you can also educate the folks taking the survey.

**Action Item:** Lorri has sent this over to Susan Goodman at DOI and requested the FIRESCOPE GIS SG be included in additional beta tests of the survey. DONE!

**GSTOP Update Review and report out – Rich Strazzo**

Review of FIRESCOPE proposal to NWCG – GSTOP for new completed line symbology for

-Completed hand line (Chain link – Ovals)

-Completed Line on Road (Black line on one side of a road symbol. The side with the black line on it is the side of the road with the fire on it)

- Proposed Hand Line (Ovals linked with a straight line)

- Discussion of the symbols
  - o Is the completed line on road too close to the open fire line symbol, when in Black and white?

### **After Action Review 2012 – Lorri Peltz-Lewis**

Lorri review the survey summary results and simple take-aways from the status of the survey at this time.

Training is still identified as one of the greatest needs.

Broadband card access – Lorri understands that Verizon and AT&T will provide broadband cards for free to incidents. The CTSPs are aware of this, contractors are aware of this, but the GISS do not have this available.

Action Item: Internet seemed to be working better this year, but curious as to what the status is with the COMS team working on this.

Action Item: Lorri will review this further to see if there are other issues with the GISS Hard Drives, additional data requests, etc.

Action Item: Lorri will reopen the survey for continued feedback. Lorri will send out the summary for additional reviews by the FIRESCOPE team.

Action Item: GIS Intermediate Training class – Rich Strazzo will start ramping up to hold this again in 2013. Lorri will assist as coordinator.

Action Item: Marc – who do we work with regarding the broadband card access for GISS staff?

### **US NATIONAL Grid Issue Paper – Rich Strazzo, Lorri Peltz-Lewis, & team**

- NAPSG working with FEMA to implement.
- SAR teams use it, and adopted it
- based on utm and the military coordinate system
- pushing to be used as main 'grid' for all first responders
- fire gis folks need training on what this is and how to use it, how it works

Issue paper to outline:

- it is out there and becoming a national standard
  - state and local fire service needs to train to it in case it is used on an incident
  - lack of training will result in problems when it is encountered on an incident
  - used for navigation, search pattern implementation and tracking
  - fire service is not well prepared to utilize UNG.
  - some resistance to adoption
  - concerns that they may tie federal funding to this requirement
- See draft issue paper from Strazzo.

Discussion:

- Lorri overview of the potential issues and interest from the GIS management community.
- identify what issues fire service will have.
- identify concerns and make recommendations

Discussion regarding moving forward as individual agencies and in concert

- CWCG
  - impact to operations
  - no proposal to change current procedures
  - how does this affect the agencies in the field
  - as a mapping product no big deal, we can overlay
  - as members of FIREScope – as the GIS group we should outline the potential impacts to operations (air, sar, cad, etc.)
  - identify how it will impact us in ops and from a GIS implementation
  - this needs to be implemented from a OPS or SAR perspective
- Waters – we need to move this forward under FIREScope GIS and drop off at the TASK FORCE to understand.

Lorri Peltz Lewis said she would take this issue paper and edit it and return to the group for review by the January meeting.

NICS discussion – Larson was not able to join us for this

- review of NICS progress and capabilities as they relate to GIS
- Overview of NICS direction, functions etc. a digital command platform
- rapid update of Incident information for the incident command and general staff
- crews would be outfitted with GPS and broadcast into NICS for improved situational awareness
- some discussion about the ‘more general’ nature of the drawings in NICS as compared to the more precise implementation of drawings in GIS.
- some discussion about issues associated with accuracy of GPS tracks for fireline delineation and a general agreement that more accurate ‘clean up’ and final line delineation is needed for legal determination of such things as cost apportionment, damage assessment etc .
- general discussion/overview of NICS As a data hungry beast, particularly for base maps or other agency data (DPA,SRA, Retardant avoidance areas, etc).
- General discussion of trading information back and forth between GIS and NICS.
- General discussion of attribution of data and features in NICS for improved documentation, after action review, integration into Corporate GIS databases, improved query and analytics across single and multiple data layers. Providing richer information, more timely to support Incident Commanders decision making.

**Action Item:** Chris Waters and Mark Rosenberg will get approval for releasing the CAL FIRE Issue Paper written by Rich Strazzo last year to share to Lorri.

**Action Item:** Lorri will write up the Issue Paper for FIREScope GIS SG to review and come to consensus on. Chris Castillo offered to assist.

## Meetings –

**2013 Meetings** – Proposed – First Tuesday of each month – Going with 2<sup>nd</sup> Thursday 10-Noon

- January 10

- February 14
- March 14
- April 11
- May 7-9 - Face 2 Face in Sacramento
- June 13
- July 18 – ESRI Conflict.
- August 8
- September 12
- October 10
- November 14
- December 3-5 - Face 2 Face in Riverside?

**Plan of Work** – Completed 2011 and 2012 accomplishments for close out.

Discussions regarding 2013 plan of work – see also the Plan of Work 2013 document.

OGC Issue Paper – see discussion above.

WUI Pre Plan Committee – see discussion above

GISS Hard Drive updates – Lorri working on and delivery dates set.

All Hazards Issue Paper – see discussion above

ROSS Resourcing and WFTC Training Issue Paper – see discussions above on ROSS as well

Action item – LPL to put a survey together for Trainees and qualified GISS to answer

- Use current lists of students as the target audience
- See who is still available/not timed out
- Use as a WAY TO evaluate how many trainees we have available and create a 3-5 year training plan for WFTC and others.

Intermediate GISS Class

- Identified need for a refresher for the S-341 under CAL FIRE and USFS. Focus on qualified GISS staff. other requirements for folks who have not been on incidents.
- What about making this a certified class? This might add too much overhead, for now overhead is very low. Rich develops the class with approval from CAL FIRE, Lorri provides location and coordination, Concern that this need would up the ante for this class to attain that level of credit worthiness for certification of official ICS positions.
- Lorri will include this in the WFTC training plan.
- Connect the ROSS and training plan issues – we can't get the folks out on the fire, thus we cannot get a new training class ... if it is helpful.
- Action Item Kris will research training & refreshment requirements including FEMA, NWCG, CAL EMA, CAL FIRE, etc and report out to FIRESCOPE GIS SG team – added as an item on the action plan.

USNG Issue Paper – see discussion above

GSTOP Reviews and Comments – see discussion above

Task Book update – see discussion with GSTOP

NIFC FTP Site issues

:

-original issue paper was going to address incident data posting and directory structures and pass words/access issues

-FIREScope GSG is recognizing a this is a major communication node from fires to GACC and public (geomac).

- this is also recognized as a vulnerable asset and needing to be improved (better security, better access, better backups, better access, dedicated support, and strong commitment from those providing the services for agencies.)

Action Item: Rosenberg will raise this issue with his NWCG representative (Chris Waters).

Action Item: FIREScope will do an issue paper here

-it may be necessary for FIREScope to implement a capability incase the NIFC folks decide to pull the plug on the FTP site (which I keep hearing rumors about from our federal partners)

-issues with file format (shape file v.s GDB) and how this causes problems (transferring data up, and down from the server... they corrupts the data)

Review remote sensing - continuation of ongoing work see Plan of Action

Develop GIS interagency forum – need to define this better later in the year

This is a very very very very ambitious plan of work (QUOTE FROM ROSENBERG, DECEMBER 5<sup>TH</sup> 2012)