

## ***National Predictive Service Subcommittee (NPSS) Meeting***

### **Meeting Notes**

**Location:** Briefing Room, National Interagency Coordination Center

**Meeting Dates:** February 9-11, 2010

#### **Members Present:**

- Robyn Heffernan – BLM/NICC – Fire Weather Program Representative – NPSS Chair
- Dan O'Brien – NPS/NWCC – Intelligence Coordinators Representative – NPSS Vice Chair
- Tom Wordell – FS/NICC – Fire Analysts Representative
- Jennifer Zeltwanger – NWS, National Weather Service Representative
- Daniel Chan – Georgia Forestry Commission, NASF Representative
- Tim Mathewson – for BLM/RMCC – GACC Meteorologist Representative
- Charlie Leonard – FS/NICC – Intelligence Program Representative
- Rex McKnight – BLM/NV State Office, Geographic Operations Group Liaison

#### **Members Absent:**

- Neal Hitchcock – FS/NIFC – NMAC Representative
- Kim Christensen – FS/NICC Manager – NICC Representative
- Kenan Jaycox – USFS/SWCC – GACC Center Managers Representative
- John Barborinas – BIA – Field Level Fire Managers Representative
- Dan Smith – NASF, NWCG Liaison

#### **Guests:**

- Katy Madrid-Hipke – Chair, Geospatial Subcommittee
- Herb Arnold – RAWS Depot
- Roshelle Pederson – Chair, Fire Reporting Subcommittee (FRSC)
- Ed Delgado – Meteorologist, EGBCC (via Conference Call)
- Shelby Sharples – Meteorologist, EGBCC (via Conference Call)
- Brian Henry – Meteorologist, NRCC, FWSC Chair (via Conference Call)

**Notetaker:** Lani Williams – Boise Dispatch Center

#### **Meeting Agenda Topics:**

1. Welcome and Introductions
2. Approval of Meeting Notes From October 2009 Meeting
3. Debrief on Annual Predictive Service Meeting
4. Update from Meteorologist and Intelligence Working Groups
5. Review of Outstanding Action Items

6. Update from NPSS Chair on Status of FY2010 Budget and Projects
7. Budget Requests for 2010 NPSS and 2011 NWCG
  - a. Sit209 Redesign
  - b. Corporate Database
  - c. Marketing
  - d. Geospatial Web Portal
  - e. Fuels/Fire Behavior Conference
  - f. Other
8. NPSS Funding Allocation Discussion/Decisions
9. Bin Items
10. Eastern Seasonal Assessment Workshop 2010 Review and Future/National Seasonal Assessment Workshops
11. Update from Fire Reporting Subcommittee (FRSC)
12. Update from Fire Weather Subcommittee (FWSC)
13. Update on ROMAN Migration to WIMS
14. Sit209 Redesign Status (Jeff Whitney's Common Operating Picture (COP))
15. Interim Fire Reporting – ICS209
16. Standard Position Description Update and Discussion
17. Cognos Reports Working Groups
18. Functional Areas Workshop
19. Next Generation 7-Day Significant Fire Potential
20. Fire Potential Index (FPI)/Fire Probability
21. Gridded Monthly Seasonal Fire Forecasts
22. Update on Voltree
23. Predictive Services Unit of the Year Award
24. Bin Items
25. Commissioning Documents
26. NPSS Membership
27. Updates from the Geospatial Subcommittee
28. Next Meeting Logistics and Agenda Topics
29. Bin Items

**Exhibits:**

- A. Action Items, Decisions and Meeting Topics
- B. NPSG Project Funding
- C. MWG State of the Union
- D. FWSC Presentation
- E. WIMS and ROMAN Integration Plan (need electronically)
- F. Next Generation 7-Day Significant Fire Potential Outlook
- G. Forecasting Large Fire Probability
- H. Remote Sensing/Fire Weather Support
- I. Predictive Services Unit of the Year Award Program (need electronically)
- J. Experimental Gridded Monthly/Seasonal Forecast Model

**Tuesday, February 9, 2010****Agenda Item: Welcome and Introductions and Meeting Logistics – Robyn Heffernan**

Robyn welcomed everyone and covered the meeting logistics and the agenda; which will focus on the budget and budget requests as well as commissioning documents under the new National Wildfire Coordination Group (NWCG) structure.

**Agenda Item: Approval of Meeting Notes from October 2009 Meeting – Robyn Heffernan**

The meeting notes were approved and will be posted to the NPSS website.

**Agenda Item – Debrief on Annual Predictive Services Meeting – Robyn Heffernan, Tim Mathewson and Dan O’Brien**

The Annual Predictive Services Meeting was held November 16-20, 2009 in Lake Tahoe, Nevada. Some of the topics discussed were:

- Geospatial Program and opportunities with the Geospatial Portal
- The sharing of information using existing technologies (Twitter, chat)
- Organization of Predictive Services into Functional Areas – This concept was well received and has resulted in the scheduling of a facilitated workshop in Boise at the end of the month to develop the organization.
- Next Generation of the 7-Day Product
- Intelligence Management Unit – Jeff Whitney’s Presentation
- Wildland Fire Decision Support System (WFDSS) relationship with Predictive Services – *Need to develop a relationship with WFDSS/become more engaged; identify a Liaison.*
- Integration of the Smoke Tool into WFDSS
- Future of the 7-Day Product – *Generated good discussion but no real plan of action*
- Weather Information Management System (WIMS) User Assessment

➔ **Action Item 242:** Develop a formal relationship with the WFDSSD Development Team; add a representative to NPSS as a Liaison Member.

**Responsible:** Robyn Heffernan

**Due Date:** March 15, 2010

**Agenda Item: Update from Met and Intel Working Groups**

Meteorologist Working Group “State of the Union” – Tim Mathewson (Exhibit C)

- Two Year Vision

Most of the bullets and objectives were accomplished within the first year

- Provide Leadership for the Geographic Area Meteorologists
- Improve Forecast Products
- Lightning Workshop – *Workshop was held last May*
- Remote Sensing and Application Center (RSAC) Products
- New Marketing Team – *The team has been successful – completing: pin, logo and brochure. They are currently working on the video.*

- Multi-Media Briefings – *There are four to five Geographic Area Coordination Centers utilizing Camtasia and/or other multi-media sources for their briefings.*
- Visit Geographic Area Coordination Centers – *Tim has visited Southern Area, Eastern Area, Northern Rockies and Rocky Mountain Geographic Area Coordination Centers. He would like to visit the remaining Geographic Areas, including Alaska, to familiarize himself with their local procedures.*
- Track Action Items – *Shelby Sharples maintains a spreadsheet to track the Action Items.*
- Redefine Annual Meeting/Workshop – *Tim believes that the change in format and the involvement of a cadre at the Geographic Area level has been beneficial and involved more people.*
- Funding
- Transparency
- Understanding Local and National Program Needs
- Routine Updates from National Programs
- Geographic Area Coordination Center Visits
- Communication
- Updates from each of the Geographic Areas
  - Alaska Interagency Coordination Center:
    - New Format for Alaska Daily Weather Briefing
    - RAWs Station Location Errors
    - Training Tools for Alaska Fire Weather Patterns
    - Westwide Risk Assessment (WIZ) – *From the Western Governors Conference*
    - Training
    - Working with Alaska Fire Science Consortium – expand delivery of fire science studies to fire and land agencies
    - Would like to see gridded FX-Net
  - Southern California Coordination Center:
    - Upgrade web with interactive graphics
    - Research – Correlating large fires with critical weather events – *Other Geographic Areas are doing this as well*
    - Refining multi-media briefings
    - GIS Training
    - Training
    - Preparing for annual meeting
  - Northern California Coordination Center:
    - Updating training material
    - Training (8-15 classes)
    - Research on Pacific Lightning Events
    - Marketing Team (Brenda Belongie, Marva Willey)
    - 7-Day Improvement (Steve Leach)
    - Operations (Biggest Spot Load)
  - Northwest Area Coordination Center:
    - Hosted 4-day Pacific Northwest Fire Behavior Workshop

- Study relating resource commitment to Dryness Levels (DLs) (John Saltenberger and Isaiah Hirschfield)
- Tweaking Global Forecast System (GFS) regression equations to improve Lightning Level forecasts per Predictive Service Area (Terry Marsha)
- Updating Fire Occurrence Database (Terry Marsha)
- Working on several projects related to the Fire Behavior Subcommittee (John Saltenberger)
- Western Great Basin Coordination Center:
  - Working on multi-media briefing for 2010
  - Implementing fuel status page to support National Weather Service Red Flag Warning Program
  - Fuel Moisture Database
  - Project-Fire Globe-Smart Fire
  - Research/Development: Lightning forecast tool from workshop (High Risk)
  - XMING: X-Windows software to display Direct2Drive (D2D) graphics on multiple computers
  - Training
- Eastern Great Basin Coordination Center
  - Online 7-Day (Ed Delgado)
  - Corporate Database (Shelby Sharples)
  - Reinstate DL and SPC Lightning Probability
  - Lightning Project Forecast Tool (High Risk)
  - Fuel Status/Fuel Moisture Database – Helping other Geographic Areas to implement
  - Training
- Northern Rockies Coordination Center
  - Implementation of Fuel Status/Fuel Moisture Database
  - Implementation Multi-Media Briefing
  - Involved in Fire Weather Subcommittee (Bryan Henry)
  - RAWS Maintenance Issues
  - Improve Daily Outlook Product
  - Experimental Self Weather Briefing
  - Training
- Southwest Coordination Center
  - MDI
  - Part of Southwest Fire Consortium
  - Extended Ventilation Index
  - Climate Research (Rich Naden)
  - RAWS/WIMS Help Page
  - Research – Displaying Products on Handhelds
  - Fire Environment Working Team (Chuck Maxwell)
  - Training
- Rocky Mountain Coordination Center
  - Research/Development – Reconfiguring 7-Day Using NARR data from Matt Jolly and utilizing NDFD for output

- Updating Fire Occurrence Database
- Multivariate Correlation/Regression Studies for Large Fire Occurrence and High Risk
- Redefining Daily Outlooks to include DLs
- Redefining Multi-Media Briefing
- MWG Chair duties – Involved in multiple meetings, projects, etc
- Training
- Eastern Area Coordination Center
  - Implementing multi-media briefing
  - Implementing Day 1-Day 2 Outlook, utilizing ARCMAP
  - Training (15-20 Annually)
- Southern Area Coordination Center
- One-Plus Year Vision
  - Implement, Test and Verify New 7-Day (RMA)
  - Statistics Training
  - Statistics Workshop (Quantify High Risk)
  - Next Generation 7-Day
  - Functional Areas
  - Marketing Team Video
  - Improve/Standardize Multi-Media Briefings
  - Visit Remaining Geographic Area Coordination Centers
  - Annual Meeting (Maintain Workshop Environments)
  - Continue to push for transparency

#### Intelligence Working Group – Dan O’Brien

- The need for a National Data Steward or Data Analyst has been identified
- Cognos After Action Review – Cognos is the software that has been identified by the Forest Service for agency reporting, including the Resource Ordering and Status System (ROSS). However, ROSS was never designed for data analysis and does not lend itself to be effectively analyzed through Cognos. In addition, there have been problems with the implementation of Cognos; the program requires extensive training and there have been performance issues with the training sessions. Performance and “timeout” issues continue. Additional Cognos Training Sessions have been scheduled:
  - Denver, Colorado      March 29-31, 2010
  - Ogden, Utah              April 6-8, 2010
  - An additional session is being scheduled to be held for the Southern and Eastern areas.
  - These are being designed as “Train the Trainer” Sessions
  - Three levels of reports are available:
    - Canned Reports – general reports
    - User Community – reports written for that community and can be shared
    - Analytical Reports – For the “Super User” that is highly qualified in query studio
  - The Reports Committee is being established and Dan O’Brien is the Chair. They are currently working on their Charter and providing side boards for the user communities.

- Fire Reporting – interim reporting guidelines are in the National Interagency Mobilization Guide regarding reporting fires that do not meet 209 criteria
- Decision Support – The group is also looking to at providing products that can assist the National Multi-Agency Group/Geographic Multi-Agency Groups.

**Agenda Item: Update from NPSS Chair on Status of FY2010 Budget and Projects**  
(Exhibit B)

New funding opportunities now exist through the NWCG Recharter. While NPSS continues to receive a small amount of funding; projects have the opportunity to be submitted through NPSS to NWCG for direct funding.

Projects funded through NWCG:

- National Fuel Moisture Data Base (\$15,000) – Ed Delgado; hoping to use existing contract through San Dimas; there may be issues with funding limits.
- GIS Web Portal (\$14,000) – Robyn Heffernan and Kim Kelly; through the Remote Sensing and Applications Center.
- Predictive Services Corporate Database – Shelby Sharples and Dan O’Brien (\$10,000); Statement of Work is still needed. This is an RSAC project centered on lightning data; it still needs to be determined if this is a duplicate or a standalone project.
- Gridded Seasonal Assessment Forecast Product (\$75,000) – Tom ??? Westerling and Tom Wordell; need to secure contract mechanism.
- Gridded 7-Day Pilot Proof of Concept Project (\$15,000) – Tim Mathewson and Matt Jolly; uses National Digital Forecast Database data for National Fire Danger Rating System outputs; a holistic approach to verification and value of using a gridded type system versus a point type system.
- Online Web Based 7-day Product (\$70,000) – Ed Delgado and Robyn Heffernan.

Eastern National Seasonal Assessment – Funded	\$ 3,000 (was not used)
Western National Seasonal Assessment – Funded	\$ 4,000
2011 Annual Predictive Services Meeting – Funded	\$ 4,000
Facilitation for Functional Areas Session – Funded	\$12,000
Statistics Training for National Seasonal Assessment Workshop	\$ 1,500 (Tim Brown)
Travel and Per Diem	\$ 1,500 (notetaker)
Awards	\$ 5,000

- Additional Budget Requests need to be evaluated based on merit and priority to fund internally or send on to NWCG as budget requests for 2011 funding.
- Past practices have included holding \$10,000-20,000 for spring requests; this practice may not be advisable this year under the new budget process.

**Agenda Item: Budget Requests for 2010 NPSS and 2011 NWCG** (Conference Call)

- *Sit209 Redesign* – Charlie Leonard and Katie Madrid-Hipke  
This is a planned redesign of the Sit/209 program. It would be a major program overhaul that is past due (the current program has outlived its design life and does not meet the needs of incidents, the intelligence community and the users of the data).

The Committee is looking to all sources for funding and has made a request through NWCG as well from other entities including Federal Emergency Management Agency (FEMA).

- ***The Sit/209 Redesign is a larger project than NPSS can fund in its entirety. Agreed to fund \$8,000 for the short-term.***
- ***Corporate Database – Shelby Sharples***

This project would create a location to store Predictive Service created products and to work with a variety of data types. Shelby has met with Sean Triplet and Dan Irwin. Funding is needed to develop a business case.
- ***North American Regional Reanalysis (NARR) Data – Shelby Sharples***

This proposal is to fund a subset of the NARR dataset for the Predictive Services Corporate Database. Desert Research Institute currently stores this data in a non web-accessible format. DRI would gather and deliver data elements that are deemed necessary by NPSS members for data needs analysis. DRI will continue to stream this data to the Predictive Services Corporate Database indefinitely as it becomes available. Additional information is needed before a decision can be made.
- ***Predictive Services Marketing Video – Tim Mathewson***

The Predictive Services Marketing Team has coordinated the development of Predictive Services brochures and logo pins, which have been distributed to interagency audiences and customers at both the local and national levels. Additional marketing is required to reinforce the role of Predictive Services within the fire management agencies and to audiences that have recently started utilizing Predictive Services products.

  - ***Agreed to fund at \$7,000.***
- ***National Fuel Moisture Database – Ed Delgado***

This proposal would provide additional functionality and a more stable and secure environment to the existing National Fuel Moisture Database. Proposed additions and enhancements in future versions include but are not limited to: Multiyear graphical comparisons, sorting/mapping by fuel type, export of metadata, add fuel loading data, improve security features such as password encryption, redefine queries and graphing capabilities.

  - ***Recommend: Proposal seek funding through the Fuels Subcommittee.***
- ***7-Day Operational Preparations System – Ed Delgado***

Phase 2 of the project will have the system ready for national implementation. System redundancy will ensure continuity of services especially during the core of the fire season. Operational requirements for support services will be established. Future enhancements and upgrades include but are not limited to: using multiple sources for input, verification system, user customizable outputs products, database expansion for support of new Predictive Services products and programs.
- ***GIS Web Portal – Robyn Heffernan***



This project would provide for the operations and maintenance of the Predictive Services Geospatial Portal website currently hosted at RSAC and provide for some new development. ([psgeodata@fs.fed.us](mailto:psgeodata@fs.fed.us))

- *Fire Environment One-Stop Shop Web Portal – Rick Ochoa*  
 Both Predictive Services and National Weather Service user surveys have indicated a strong need for a “one-stop shop” web portal to access information related to fire weather, fire danger, fuels and similar information. This proposal is modeled after the air quality web portal that was recently developed for smoke management. The web portal would focus on fire environment information and would allow users to quickly and easily (with a likely Google Earth interface) find such items as fire weather and Predictive Services forecasts, observations, fuels data, observed and forecasted fire danger and related information for user-defined locations. This web site would not attempt to serve every bit of fire environment data, but would initially serve the most commonly used data.
- *ROSS Reports Management Group (RRMP) – Dan O’Brien*  
 The RRMP was formed to improve the efficiency and effectiveness of the ROSS/Cognos reporting system through oversight, training and education. This proposal seeks funding for the state partners to travel and attend meetings and group functions.
 
  - *Agreed to fund at \$4,000.*
- *Fuels and Fire Behavior Conference – Charlie Leonard*  
 This proposal is seeking funding to provide promotional information to the upcoming conference. This could include: poster development, brochure, pins and other promotional materials.
 
  - *Agreed to fund at \$3,000.*

Project	2010	2011	2012	2013
ROSS Reports	4,000 Funded			
PS Video	7,000 Funded			
Fuels/Fire Danger Conference	1,000-5,000 Funded at 3,000			
NARR Data	<del>20,000</del>	15,000 (adjusted request based on updated information)		
Online 7-Day		50,000	50,000	
Sit/209	25,000 Funded at 8,000	25,000	25,000	25,000
Corporate Data Base		25,000-35,000 (for Business Case)		
GIS Web Portal		15,000	15,000	15,000

Live Fuel Moisture	25,000 <i>Recommend to seek funding through the Fuels Subcommittee</i>			
NFMD		15,000	15,000	15,000
One-Stop Shop Webpage		60,000	10,000	10,000

Unfunded proposals will be submitted to NWCG for future funding.

- Prioritization – Need/Nice to Have
- NARR Data – Need
- Online 7-Day – Need
- Sit/209 – Need
- GIS Web Portal – Need

**Wednesday, February 10, 2010**

**Agenda Item: Eastern Seasonal Assessment Workshop (ESAW) 2010 Review and Future/National Seasonal Assessment Workshop (NSAW)**

The ESAW was released last week; the workshop was held January 26-28, 2010 in Shepherdstown, West Virginia. The Western Workshop will be held April 20-22, 2010, at the NOAA facility in Boulder, Colorado. A statistics workshop will be held during the first day. There will be some funding commitment for these workshops, primarily to support travel for state employees. The workshops generally require about \$4,000 each with an additional \$10,000 funding from National Oceanic and Atmospheric Association (NOAA).

This year presented some challenges in scheduling and travel. The Southwest Geographic Area was unable to attend the ESAW this year due to a schedule conflict, which they hope to have resolved for next year. It is also becoming more difficult for state employees to travel outside their state, even when funds are provided. A proposal to hold the ESAW as a virtual meeting and hold one annual meeting in the western United States was met with resistance. These workshops continue to provide valuable information which is being used in decisions regarding resources.

It may be possible to increase participation if the workshops(s) were held at alternate sites. It may also be possible to hold the workshop, of parts of it, virtual for those individuals who are unable to travel. Increased outreach would also have the potential to increase participation.

**Agenda Item: Update on Fire Reporting Subcommittee (FRSC) – Rochelle Pederson**

The Subcommittee is currently in the information gathering and sharing stage. Issues still exist regarding data standards as well with fire occurrence data and duplicate reporting as identified with Fire Program Analysis (FPA). Tim Brown, at DRI is developing a proposal for performing historical data clean-up and establishing a source; he will be presenting his suggestion to the community in March. The Subcommittee continues to attend as many meetings as possible to understand the needs of the business community and to better coordinate with others. They continue to work on clarification of terminology issues, with a response due back to the Branch Coordinators this Friday.

The Unique Incident Identifier, identified by Fire Occurrence Reporting Subcommittee (FORS) is close to implementation. There is still work for FORS to do.

**Agenda Item: Update from Fire Weather Subcommittee (FWSC) – Bryan Henry (Exhibit D)**

Updates on Outstanding RAWs Issues and Projects

- Projects
  - Issue #1 RAWs Noncompliance
  - Issue #2 WIMS – WFMI (ASCADS) Station Location Issues
  - RAWs Data Backup Initiative
  - Lightning Contract
- Issue #1 RAWs Noncompliance
  - Station Maintenance Issues
    - The Interagency Wildland Fire Weather Station Standards and Guidelines state on page 35, paragraph 2:  
In order to ensure accurate weather readings, a program of annual (+/- 45 days from installation or previous year's maintenance date) RAWs maintenance/calibration is required. Every NFDRS RAWs must receive, at a minimum, one annual onsite maintenance visit by either the local user or contracted personnel to ensure sensors are within calibration standards and verify site and station conditions.
  - Statistics
    - Currently 2480 total RAWs exist
    - 306 are listed on the RAWs Noncompliant List
    - This is 12% of the network
    - This is actually a lower than normal number
  - The Problems
    - Noncompliance issues have existed for years
    - Policy has “no teeth” to assure compliance
    - Data quality issues may have an impact on fire operations (Cramer Fire)
  - The Proposal
    - Sent a letter up to NWCG requesting that the following addendum be made to the maintenance policy...  
If annual maintenance has not been performed by the deadline (which is the one year anniversary date of the previous year's maintenance plus 45 days), then the station owner will be notified that maintenance must be

completed and logged within 30 days or the station will be disconnected from the network until such maintenance has been performed.

- Note:
  - If a station has to be temporarily shut down, the data will still be recorded and archived
  - It will not be lost – *liability with utilizing bad data*
  - Under extreme circumstances, a temporary waiver (final decision extension) may be granted
- Benefits and Thoughts
  - Will reduce potential liability
  - Will ensure the accuracy of fire danger indices that use RAWs data as input
  - Allows for regional RAWs program managers to more effectively manage their programs
  - Does not add to the workload of field personnel
  - Is inaccurate data really helpful?
- Issue #2
 

It has been made know that the station location discrepancies exist between WIMS and WFMI (ASCADS) for a significant number of stations across the country.

  - Thoughts
    - The solution may not be all that difficult
    - Could solve a nationwide problem with a few lines of code.
    - Interagency communication and collaboration is the key!
  - Proposed Solution
    - Problem was discussed in depth at the Fire Weather Subcommittee meeting
    - Learned that it may be possible to establish a bridge between the two systems
    - Bridge would get the two databases “talking” to each other
    - Would require that one database be the “system of record” – *WFMI would be the system of record and station owners would be given one year to verify the data*
    - The program bridge would run and sync up all latitude/longitude, elevation and aspect information between the two databases for any given station.
  - Solution
    - Once corrections have been made WIMS personnel will open a bridge between the two systems that will automatically sync the location information in the databases.
    - Added Benefit
    - This solution should also correct location issues in other databases as well
    - Integrity of the Weather Data will not be affected
- Other Projects
  - Lightning Contract handled by Linnea Keating and Herb Arnold (FEOU) came in under budget at \$168,000
  - S-491 to COMET (*for course development*)

- Standardization of WIMS ID Number Assignment Process
- RAWs Standards Research (30 foot versus 20 foot winds) (*outsourced to a graduate student*)
- Update of Fire Weather Handbook (*to be completed by November 1, 2010*)
- RAWs Backup Network (via DRI) (*might cost near \$75,000*)
- Lightning Verification Project
- *Discussion:*
  - *The Fire Danger Subcommittee had an alternate proposal to contract out RAWs maintenance to a contractor and bill the agencies. There were potential problems with the proposal; including: the potential lack of available contractors and possible problems associated with billing agencies.*
  - *Not every Geographic Area has a RAWs Coordinator.*
  - *The first step is to receive a NWCG decision and then they will determine how to best implement the plan.*
  - *In defining the data, the datum also needs to be identified.*
  - *A method of tracking the stations needs to be established to determine if the data has been verified.*

**Agenda Item: Update on ROMAN Migration to WIMS – Tom Wordell (Exhibit E)**

ROMAN is a program that was initiated at the field level and quickly gained acceptance and popularity. It was originally funded by the Bureau of Land Management and has recently been funded at a base level through the Forest Service. Current funding has not provided for additional development. Through a long process, a Business Case was developed and NWCG has granted approval to integrate ROMAN under WIMS, which is currently scheduled for a technology refresh.

Phase 1 (Stabilization Phase) involves server movement and is currently in process, to a test site at National Information Technology Center (NITC). Once ROMAN is operational on the test environment new capability will be added from MesoWest. ROMAN will continue to be supported by the National Weather Service and the University of Utah. Once the system is proved, it will be moved to an operational server and the test server will serve as the backup. (Phase 1 Timeline 7/1/2009 – 3/1/2010)

Phase 2 (Integration Phase) will involve provide the linkage between ROMAN and WIMS. (Phase 2 Timeline 3/2010 – 3/2010).

Ed Delgado remains the Business Lead and Robyn Heffernan will become the Project Manager.

**Agenda Item: Sit209 Redesign Status (Jeff Whitney’s Common Operating Picture (COP)) – Charlie Leonard**

The Needs Analysis and Business Case were completed in December; the vendor was Common Thread. They are currently looking for funding sources. They are looking to partner with additional audiences and are working with Jeff Whitney’s COP for their input and feedback. The

project is expected to take two to three years to complete once funding is secured. Dan Irwin is the Program Lead, but the programming would be accomplished by a contractor.

**Agenda Item: Interim Fire Reporting – ICS209 – Charlie Leonard and Dan O’Brien**

The issue of collecting and quantifying information on incidents that are not meeting the 209 thresholds, with the absence of Wildland Fire Use remains a challenge. A group from the National Center Managers has developed interim guidelines; which are included in the National Interagency Mobilization Guide. Any managed incident greater than 72 hours under any strategy, other than full suppression will require a 209; which will be updated weekly or when a significant event occurs. Under the new criteria a greater number of incidents are likely to be included intermittently on the Incident Management Situation Report (IMSR). An attempt is also being made to gauge the potential resource commitment.

**Agenda Item: Bin Item**

Terms Spreadsheet – Robyn Heffernan

- The Terms are categorized by:
  - Strategy(S)/Goal(G)/Tactic(T)
- Terms Missing from Spreadsheet:
  - Fire Occurrence
  - Fire Type
- Which Terms Impact Predictive Services:
  - All
- Overarching Impacts:
  - Predictive Services Handbook
  - Various Mobilization Guides
  - Sit 209/User Guides and Fire Reporting Systems
  - Interagency Standards for Fire and Fire Aviation Operations (Red Book)
  - Fire Weather Handbook
  - Fire Weather Station Standards
  - Webpages
  - Charter, Intent and Commissioning documents
  - Training Courses
  - Annual Operating Plans
  - NWS Directives – Red Flag Criteria
  - WIMS
  - ROMAN
  - Incident Meteorologist (IMET)/Handbook and Training Materials
- There is a process to change terms within the glossary, but it does not include a process to release the information to the field.

➔ **Action Item 243:** Respond to the email to evaluate terminology and their impacts to Predictive Services.

**Responsible:** Robyn Heffernan

**Due Date:** February 12, 2010

**Agenda Item: Standardized Position Descriptions (PD) Update and Discussion**

- Fire Analysis Position – This PD is in draft and has been sent to the Center Managers for their feedback.
- Intelligence Positions (GS-9 and GS-11) – These PDs have been edited by Charlie Leonard and forwarded to Kim Christensen.
- Meteorologist Positions – Susie Stingley-Russell has made initial contact to work on these PDs.

**Cognos Reporting Working Groups – Charlie Leonard**

This group has also been referred to as the ROSS Reports Management Group (RRMG). The Intelligence Working Group has organized this group to provide National management oversight to the ROSS-Cognos reporting system. The Group establishes business rules governing Cognos reporting, advises and consults on standard reports and report filing/retrieval systems, coordinates training and provides training oversight and provides leadership to a National cadre of users and super-users that administer and utilize standard and specialized reports for current and archived data.

The group is still in the formation phase is will hold its first meeting in the spring.

**Agenda Item: Action Items Tracking Table – Robyn Heffernan (Exhibit A)**

The Action Item Tracking Table was updated.

- Action Item 151 – Pending until the Strategic Plan is revisited.
- Action Item 197 – The responses have been received, Marva is compiling the results; this is existing skills and talents and training that has been taken.
- Action Item 206 – Still needs follow-up; this is a slightly different questionnaire than 197; this is what courses Predictive Services is teaching.
- Action Item 207 – Pending until the Strategic Plan is revisited.
- Action Item 211 – Kim is working with appropriate Fire Directors to resolve the issues.
- Action Item 213 – Robyn has sent an email to Paul Schlobohm, the Fire Weather Subcommittee and the Fire Danger Subcommittee; she has not received a response.
- Action Item 215 – Tom received letter in December, material should be posted in the spring 2010.
- Action Item 218 – The topic was discussed at the Center Manager meeting, while a consensus was not reached they did agree to improve compliance to 80%.
- Action Item 220 – Ongoing, AWIPS 2 is still in development, there will be a two year lag for the thin client.
- Action Item 221 – This was discussed at the annual meeting; they did not develop a plan to go forward, however Action Item 242 was tasked.
- Action Item 222 – Unknown status
- Action Item 223 – The network analysis is not yet completed, expect it to be completed in September 2010.

- Action Item 225 – Need to check status with Susie.
- Action Item 227 – No staffing or funding was discussed.
- Action Item 228 – Eastern Great Basin and Northwest Geographic Areas still need MOS equations; DRI has committed to have them by April 2010.
- Action Item 236 – Tom will add link: [inws.wrh@noaa.gov](mailto:inws.wrh@noaa.gov)
- Action Item 240 – To be completed during Functional Area Workshop.

**Agenda Item: Functional Area Workshop – Robyn Heffernan**

Discussions on how to increase participation in the Predictive Service Program has lead to the proposal to organize Predictive Services by Functional Areas. This proposal was discussed at the Annual Predictive Services Meeting and a workshop is scheduled at the end of February to develop it. This will be a facilitated discussion, without an agenda; since the outcome is dependent on what the group decides. Shari Shetler will also be included for discussions related to the Strategic Plan.

Need to confirm that the individuals that are attending have the authority to make decisions for their respective Geographic Areas.

➔ **Action Item 244:** Contact Kenan Jaycox to obtain Center Managers support and understanding in the decision making process that will be adopted during the Functional Area Workshop.

**Responsible:** Robyn Heffernan

**Due Date:** February 19, 2010

**Agenda Item: Next Generation 7-Day Significant Fire Potential – Tim Mathewson (Exhibit F)**

Next Generation 7-Day Significant Fire Potential Outlook

- Purpose of the 7-Day Fire Potential Purpose:  
Estimate the daily large fire risk (Fire Potential) for predetermined zones across the RMA for a 7 day period by assessing the following:
  - Daily probability for occurrence of a new large fire and/or
  - Daily potential for significant new growth on an existing large fire
  - Strategic resource allocation
- Initial Steps (Step 1)
  - DRI:
    - DRI tasked to develop RAWs MOS for all stations in the RMA (Nationally)
    - Initializes off the 1300 NDFRS observations from RAWs
    - Regression equations developed for each point using climate dataset (Fuzzy Math)
    - Developed “Bias”
    - Forecast utilizes GFS
  - GACCS:



- Developed Predictive Service Areas (PSAs) based on minimum relative humidity correlation from RAWS climate dataset
  - Topography
- Step 2
  - Using ARCMAP, separate historical fire data by PSAs
  - Define Large Fire Size
- Step 3
  - Subjectively defined Large Fire Size for each PSA
    - 85<sup>th</sup> percentile
    - 90<sup>th</sup> percentile
    - 95<sup>th</sup> percentile
  - What size fire may have impact on local and national resources?
  - Urban interface issues?
- Step 4
  - Separate and analyze historical NFDRS RAWS Data by PSA
  - Determined best correlation to large fire occurrence
- Step 5
  - Correlation (r) of NFDRS variables and historical fire occurrence to find best correlation
  - Develop Distribution Table (Matrix) containing fire occurrences (All, Large Fires), and best correlated NFDRS values.
  - Dryness Level (DL) Index is derived from Ratio of Large Fire Activity to Total Fires and their NFDRS Break Points
  - Three Simple Dryness Index Categories Developed
    - Moist – 1
    - Dry – 2
    - Very Dry – 3
  - Utilize 1300 observations for initialization
  - Utilize MOS (Developed by DRI) to forecast NFDRS values (DLs)
- Next Step (Tom Rolinski)
  - Fire Potential Program
  - Interactive Excel Spreadsheet
  - Populates the program by ingesting MOS Data and Dryness Level
  - Include “High Risk” Days
- End Product
  - Map shows area where forecast is valid
- Why consider another dataset or scheme to measure large fire potential?
  - DRI initialization scheme solely dependent on 1300 RAWS/NFDRS
  - 2008 Fire Season: 40% of RAWS in the RNA had complete NFDRS datasets
  - Some improvements in 2009
  - RAWS Network and PSA resolution – What’s good enough
  - Plains RAWS datasets deficient
  - Deficient Plains RAWS program has resulted in “No Forecast Area” for more than half the RMA and other portions of the country
  - No large fire potential for areas that have “fire occurrence”
  - Other Considerations:

- Utilize the latest technology and science
- Matt Jolly scheme offers precipitation duration
- Higher resolution products
- Continue evolution/development of product
- Initialization somewhat unknown
- Build a Grid
  - Utilize ARCMAP to build a grid (resolution?)
  - Use existing RAWS points
  - “Course” approach across the plains
  - “Fine” approach in complex terrain
- Utilizes output from the North American Regional Reanalysis (NARR) – 32 km resolution
  - Used for Fire Program Analysis
  - Improved to an 8 KM gridded weather dataset
  - 30 year dataset
  - Output is fw9 format to be utilized using fire family plus
  - Climate database of fuel variables
  - Improved PSAs
  - Possible geospatial approach
- Developed PSA boundaries based on minimum relative humidity correlation (r)
- Used a mosaic approach (r = .88-.96)
- Utilized ARCMAP for boundaries
- Increased the number of PSAs (21 to 86)
- Overlay fire data
- Add and breakout fire occurrence by PSA
- Define “significant” fire for each PSA
- Correlate NFDRS variables to fire occurrence
- Develop DLs and break points
- New point forecast developed for each RAWS using NDFD and NFDRS equations
- New method allows for MOS at pre-determined points (other than RAWS locations)
- Utilizing NDFD generate point forecasts (for each point) that supports DL
- Consider other models to generate output
  - Moist – 1
  - Dry – 2
  - Very Dry – 3
- ERC curves
- Experimenting with DL at a unit level
- Develop subzones within the UCR
- Develop historical NFDRS dataset using fw9 data and FFP for each point (or group)
- Correlate NDFRS variables to large fire occurrence and determine DL breakpoints
- Future considerations
  - Is the gridded approach the future? Geospatial

- Implementation in other GACCs? 7 Day, Daily Outlooks – lost vision of 7-Day
- Timeline for implementation
- Future High Risk Workshops? Multivariate?
- Future verification?

**Agenda Item: Fire Potential Index (FPI)/Forecasting Large Fire Probability – Tom Wordell (Exhibit G)**

Forecasting Large Fire Probability – *Use FPI as an example of how the process could be used (Robert Burgan, founder of NFDRS)*

Using satellite, gridded weather and historical fire data with a fire potential index (FPI), to provide spatial and temporal forecasts of large fire probabilities.

- Model that incorporates satellite and surface observations to depict relative fire potential at national or local scales (Burgan et al. 1997)
- The FPI is derived from
  - A Maximum Live Ratio Map
  - A Relative Greenness Map
  - An Extinction Moisture Map
  - A 10 hour Fuel Moisture Map
- The FPI
  - Has a 1 k spatial resolution
  - Is scaled from 1 – 100
- The FPI equals 0 when:
  - The 10 hour moisture timelag fuel moisture equals the moisture of extinction
- The FPI equals 100 when:
  - The relative greenness indicates fully cured and the 10 hour timelag fuel moisture equals 2%
- Fire Probability Maps
  - 95<sup>th</sup> Percentile upper bound on the number of ignitions in the coming week. Ignition is defined as a fire at least one acre in size.
  - Probability that an ignition will grow to exceed 100 acres in size.
  - 95<sup>th</sup> Percentile upper bound on the expected number of 100 plus acre fires in the coming week.
  - Probability of at least one 5000 plus acre fire in the coming week.
  - Research takes federal fire database and strips out fires that are less than one acre.
- Logistic Regression Forms Basis of Analysis
  - Explanatory Variables
 

The explanatory variables used in the logistic regression are:

    - Fire Potential Index
    - Spatial Location
    - Julian Date
    - Fire Cause (Lightning or Human)
  - Statistical Model
    - Estimates three probabilities using logistic regression:
      1. Probability of an ignition at a given location and date (PI).

2. Probability of a large fire (greater than 100 acres) given ignition (cPL).
  3. Probability of a major fire (greater than 5000 acres).
  4. Expected number of fires greater than 100 acres.
- Updates for 2010
    - Modified images so colored areas correspond to probability (e.g. no longer based on expected fires per 1,000,000 pixels)
  - Opportunities for 2010 and Beyond
    - Collaborate with Bob Burgan and Haiganoush Preisler to:
    - Include and do regression analysis on NARR and ERC-G data.
    - Link to Phillip Bothwell's lightning forecast product to incorporate forecasted ignition events.
    - Analyze methodology against fuel dryness parameters.

This is an example of some of the other efforts and potential to collaborate with ongoing researchers.

**Agenda Item: Update of Voltree – Herb Arnold (Exhibit H)**

Remote Sensing/Fire Weather Support

- Interagency RAWs Network
  - Approximately 2000 Fixed, Remote Weather Stations
  - Approximately 300 Portable Weather Stations
  - Publicly available data
  - Interagency ownership
  - RSFWSU and commercial support
  - Weather Data Elements:
    - Wind Speed/Direction
    - Air Temperature
    - Relative Humidity
    - Precipitation
    - Solar Radiation (per NFDRS Standards)
  - Interagency Fire RAWs
    - Fire and All Risk Incidents (NFES Kit 5869)
    - 42 Kits are available
    - Dispatched with two technicians
    - Employed by Incident Meteorologist (IMET)/Fire Behavior Analyst (FBAN)
- New System, Equipment and Capabilities
  - Wildland Fire Management Information
    - WFMI – Weather
      - One of three WFMI Modules (Weather, Lightning, Fire Reporting)
      - Replaced ASCADS (December 2009)
        - Hosted at National Interagency Fire Center
        - Feeds ROMAN, WIMS, Western Region Climate Center

- Planned Station Maintenance Interface – FY10/11?
- New Fire RAWS Acquisition
  - 45-50 Unit Purchase – *Interagency funded, will be competitively bid and will probably not be purchased for the 2010 season*
  - New Technology – laptop independent
  - Durability Specification
  - Growth Potential – additional sensors/capabilities
- Voltree JAVELIN Project – *pulls useful power from vegetation*
  - Proof of concept test and evaluation for FY10
  - A new tool for Fire Weather Data Collection?
  - JAVELIN FY10 Field Test
    - Operational vice technical evaluation
    - 25 JAVELINS Purchased
    - 5 JAVELINS per Fire RAWS (FRWS)
    - Availability target is May 1
    - Normal Fire RAWS request and deployment
    - Employed per IMET/FBAN recommendation
    - RAW data available via WFMI – Weather
    - Successful test may lead to wider employment
  - JAVELIN Issues
    - Cost/Benefit compared to additional FRWS
    - Data Presentation
    - Employment Guidelines
    - Optimal Parameters – *What is really needed?*
- Smoke Monitor Project
  - Existing Smoke Monitor Efforts – *have been fragmented, both agencies had a pool of datarams for measuring smoke*
  - Desire to centralize, modernize, link to Fire Management
  - Six new smoke monitor units to be available through NFES catalog for FY10 season
  - Satellite data distribution – *use of GOES for transmission*
  - Via WFMI or Vendor Product
  - Successful use in FY10 may lead to interagency program
  - Smoke Monitor Issues
    - Standards (Air Quality/Safety/Health)
    - Power requirements
    - Operators
    - Establishment of interagency program?

**Agenda Item: Predictive Services Unit of the Year Award Program – Rick Ochoa (Exhibit I)**

The Predictive Services Unit Award was displayed. The purpose is to recognize Predictive Services units for their achievement in improving the Predictive Services program. The Unit of the Year trophy will be awarded at the Annual Predictive Services meeting and will remain at the

awarded office for one year, at which time a new recipient will be awarded. Rick also distributed the award criteria and nomination form for review.

- ➔ **Action Item 245:** Review criteria and nomination form for the Predictive Services Unit of the Year Award Program.  
**Responsible:** Rick Ochoa  
**Due Date:** February 28, 2010

**Agenda Item: Gridded Monthly Season Fire Forecast – Tom Wordell (Exhibit J)**

The project is currently developed for California and is being expanded to cover the western United States.

Experimental Gridded Monthly/Seasonal Forecast Model

- NWCG has funded Predictive Services to develop a gridded monthly/seasonal forecast model. This is being done in conjunction with UC Merced.
- This model will cover the western United States, be spatially explicit and utilize vegetation, topography, fuel type, hydroclimate, population density, fire history, suppression costs and other variables to estimate probabilities of large fire occurrence and departure from normal.
- Model being developed to provide an OBJECTIVE approach to forecasting large fire activity.
- Model output will be compared with current Monthly and Seasonal outlook products being produced by Predictive Services to determine if it has better or less skill.
- Model should meet the needs of decision makers, so feedback is needed
- URL: <https://wildfire.ucmerced.edu/forecast>

**Thursday, February 11, 2010**

**Agenda Item: Next Meeting Logistics and Agenda Topics – Robyn Heffernan**

*Future Meetings:*

- Next Meeting
  - When: April 13-15, 2010
  - Where: Virtual Meeting
  - Agenda Topics
    - Results of Functional Area Meeting
    - Strategic Plan
    - Survey Results – Marva Willey/Shelby Sharples
    - Additional Budget Proposals for NWCG
    - Standard PD Update and Discussion – Kim Christensen
    - Fire Weather Subcommittee Update – Bryan Henry
- Fall Meeting
  - When: October 4-8, 2010

- Where: Portland, Oregon
- Agenda Topics
  - Follow-up on Gridded Verification – Tim Mathewson

**Agenda Item: Bin Items**

*Update on NARR Data – Shelby Sharples*

The cost associated for the proposal is for the human time to extract the data. FPA did not pay for the data either, only for the value added by reducing it to eight kilometers.

The size of the database is dependent on the data elements requested.

**Agenda Item: Commissioning Documents – Robyn Heffernan**

A draft of the NPSS Commissioning Documents was reviewed. Charlie Leonard followed the format from the Fire Environment Committee and pulled information from the existing NPSS Strategic Plan and Predictive Services Handbook to complete the draft document. Additional edits may be needed following the Functional Area and Strategic Plan discussion.

*Discussion:*

- *Need to add WFDSS Liaison. (See Action Item 242)*
- *Need to add a Research Liaison.*
- *The new template does not capture all of the items that were in the previous charter. Should there be Standard Operating Procedures as well?*

- ➔ **Action Item 246:** Send the Commissioning Documents out for review and feedback.  
**Responsible:** Robyn Heffernan  
**Due Date:** February 28, 2010
- ➔ **Action Item 247:** Develop and circulate an Interest Announcement for a Research Liaison to NPSS.  
**Responsible:** Rick Ochoa  
**Due Date:** February 28, 2010
- ➔ **Action Item 248:** Talk to Paul Schlobohm regarding a template for standard operating procedures which would include items included in the previous charter.  
**Responsible:** Robyn Heffernan  
**Due Date:** March 15, 2010

**Agenda Item: NPSS Membership and Terms – Robyn Heffernan**

Previous discussions referenced implementing a slow transition for replacing members, Kennan Jaycox (USFS), Center Manager from the Southwest Area Coordination Center is the new GACC Center Manager Representative.

John Barborinas stated at the last meeting that he would stay on through the Spring 2010 meeting as the Field Level Fire Managers Representative.

Rex McKnight is able to remain as the Geographic Operations Group Liaison, has his term as the Geographic Area Chair is through fall 2011.

➔ **Action Item 249:** Solicit names from John Barborinas and others for the Field Level Fire Managers Representative to NPSS.

**Responsible:** Robyn Heffernan

**Due Date:** March 31, 2010

**Agenda Item: Updates from Geospatial Subcommittee – Katy Madrid-Hipke**

- Geospatial Governance Study: The study was originally funded by the Forest Service; the Department of Interior has agreed to supplement the funding to include modifications, expansion of the study to include more stakeholders. The first round of interviews with stakeholders was complete and they are in the process of identifying 20 additional stakeholders from all agencies. The study is still scheduled to be completed October 1, 2010.
- Recharting as a Committee – The Geospatial Task Group is currently attempting to become its own committee or moving under another committee that is closer to the fire business they serve. For example: RAWs Data Standards have not been identified; this is one issue they would be able to tackle if they were closer.
- Data Standards
  - Fuels Treatment Data Standard – still attempting to vet through the Fuels Committee. May need to have the Data Administration Working Group (DAWG) involved.
  - Fire Camp Data Standards, developed in the Northwest Geographic Area are being forwarded to the DAWG.
  - Predictive Service data layers (PSA, Dispatch Boundaries, GACC Boundaries) were discussed at the last meeting.
  - Wildland Fire Geodatabase – schema is being developed for wildland fire data, specifically as it pertains to integration into a geodatabase, with a heavy input from WFDSS; should be useful to the overall community.
- Homeland Infrastructure Foundation – Level Data (HIFLD) – Attended the Homeland Security meeting at Gowen Field a few weeks ago; 150 attendees. The HSIP data (350 layers to expand to 500) while potentially very useful to the fire community, has some access/distribution restrictions that would need to be addressed. The information can only be accessed in an emergency so it would not be available for preplanning.
- WFMI Lightning –
  - Arc GIS Server Migration – Pending
  - No new enhancements to the lightning web functionality that are not inherently part of the ArcGIS Server upgrade. (ESRI will not support new releases of ArcIMS on UNIX)
  - The new site will be easier to navigate and to change views, turn on and off layers. The functionality available currently in WFMI will remain part of the upgraded program.
  - Vaisala, the previous vendor, was part of the United States National Lightning Detection Network (USNLDN). The oldest and until recently only network with 100 sensors conus-wide that returned information on location, polarity and amplitude. Accuracy's "median value" is around 500 meters.



- WSI is part of the United States Precision Lightning Network (USPLN) data is updated twice as often as the previous vendor. Accurate up to 250 meters. They provide lightning strike data (as opposed to Vaisala's distribution of mainly lightning flash data).

*Discussion:*

- *FX-Net contains Vaisala data, which is retained by NOAA. The data will be available to download from FX-Net.*

➔ **Action Item 250:** Contact Jeb Stewart to explore the potential ability to extract Vaisala data from FX-Net.

**Responsible:** Robyn Heffernan

**Due Date:** March 15, 2010

Meeting Adjourned

DRAFT