

**Fire Danger Working Team
Seattle, WA
June 12-14, 2001**

The fifth meeting of the Fire Danger Rating Working Team was held at the Silver Cloud Inn, Seattle, WA. The first day and a half of the meeting was held jointly with the Fire Weather Working Team. Attendees are listed on the accompanying roster.

NW Regional Modeling Consortium

Chris Hill, MIC, NWS-Seattle

The consortium was initiated 9 years ago. The MM5 model was modified and applied to Pacific NW, offering real time local environmental prediction. Numerous partners were involved.

Blue Sky Consortium

Sue Ferguson, USFS Research Scientist, PNW Seattle

Her group, FERA: Fire and Environmental Research Applications, has three components: Climate variability, air quality, and mesoscale modeling. The Blue Sky Consortium has tuned the MM5 model for the Pacific NW. Consortium will be able to provide near real-time forecasts for smoke dispersion. Air quality regulators will be able to use the information to help guide their decisions.

A field user would enter information into the regional standard prescribed burn database. This information would be used to model emissions, dispersion, and help assess downwind smoke impacts. Plans are: Prototype 2000-2001, PC version in 2003, with possible national application 2004.

FS support of Modeling Consortiums

Patti Hiram – USFS Fire Air Quality Specialist, Fire and Aviation, Washington DC

Forest Service Research providing seed money to start these consortiums. FY01 Funds were committed to Seattle, California, and the SE to help develop consortiums. Plans for consortiums covering central states (Michigan), the SW, and intermountain region are in the works.

California Consortium

Francis Fujioka, PSW Research-Riverside, and Chris Fontana, USFS Meteorologist, Redding.

Firescope, the California FWWT, and California Air Resources Board (ARB) are working together to develop a similar consortium in California and probably include State of Nevada. Plans are that this consortium will be directly involved with go, no-go prescribed burn decisions by State ARB regulators.

National Interagency Fire Weather Program

Rick Ochoa, NIFC Fire Weather Program Manager

The purpose of the program is to promote the safety of firefighters and the public, assist fire management, work with fire danger and weather station networks, increase fire weather information, evaluate fire weather services, provide predictive services and facilitate proactive movement of resources. The NWS will continue to provide local information such as: spot forecasts, red flag warnings, briefings and consultations.

The Department of Interior will be hiring 20 Meteorologists for GACC support. Plans are for a Fire Weather Program Manager and Fire Weather Meteorologist at most GACCs. The Program Manager will be responsible for training, fire danger, fire weather, RAWS, etc. The meteorologist will be primarily responsible for products.

GACC meteorologists will provide fire weather, fire danger products, assessments. It will be a strategic role. The Mets will explain the differences from the weather products received from WFOs, NCEP, Storm Prediction Center, et al. They will facilitate coordination. Each GACC will work with NWS and develop how the interaction and coordination should work.

Discussion:

GACC-level programs will be different around the country. There is a need to define how GACCs integrate with modeling consortiums. Define overlap, coordination, products and services.

Also need to define incident meteorologist (IMET).

Fuels Inventory Research

Roger Ottmar - Research Forester, Pacific Northwest Research Station (PNW), Seattle

Sam Sandberg - Project Leader, PNW Research Station, Corvallis

Natural fuel loading photo series – This will include all fuels across the US. It will link photo series and fuel characteristic classes to the landscape. Five of the six types have been completed. The SW fuel types to be out in July.

Phase II Will include the rest of the veg types.

Phase III will include NE US – now a Joint Fire Sciences proposal, and holes in western veg types and riparian areas.

Fuel Characteristics Classification (FCC) – This will be a national system. It will be a system for classifying all wildland fuel beds according to a set of inherent properties necessary to predict fire behavior and fire effects. It will be used for the next generation of fire effects and fire behavior modeling, but FCC outputs will not directly drive fire behavior models or NFDRS. Models will be web-based so user can determine FCC. There will be the future capability of loading FCCs unique to your area and putting them on your laptop.

Fire Weather Annual Operating Plans

Russ Gripp-USFS Fire Planner, Klamath NF, Yreka, CA. Wayne Mitchell – California Department of Forestry and Fire Protection – Santa Rosa.

Discussion:

Pete Guilbert- California Department of Forestry and Fire Protection-Sacramento has copies of 3 GACC Annual Operating Plans (AOP).

Should the AOPs be made with the GACCs or individually with states and NWS? How to address the scope of coverage for the AOP? Should the Fire Danger Operating plan be a separate document or together? NWS participate too? Not all GACCs have fire weather working teams. Should there be a geographic area agreement, then develop AOP and sub-geographic AOP or State?

Issue: Do all GACCs have agreements with the NWS? Do all GACCs have AOPs with the NWS?

Should all GACCs have agreements and AOPs with the NWS?

Mitchell: AOPs should be built from bottom up. There are a lot of things that can be solved at the field level. The GACC meteorologist should organize the agreement for the GACC.

PNWCG FWWT agreement took 16 months to get signed off. It identifies standards and requirements with NWS.

Dick Bahr has the new draft agreement developed last Thursday with NWS and Ochoa.

NWS meteorologists and the interagency fire meteorologists at the GACCs and NIFC work together to ensure fire agencies receive consistency in the fire weather watches, warnings, routine and non-routine forecasts.

Agency meteorologists should work with other meteorologists to ensure consistency to customers. Goal is to maximize firefighter safety and to coordinate services.

Validation routine for forecasted obs and real obs

Larry Bradshaw via Pat Andrews: No progress due to inadequate data. Weather database only holds trend forecasts for a year.

FDWT discussed standards 1.5 yrs ago. Developed a standard. Bradshaw thought validation was possible, but found out that we didn't have sufficient data to do statistical analysis.

FDWT: Validation is on task list. We will not create another task group to accomplish everything because Rick Ochoa will be doing verification with NWS over winter 2001-2002.

RAWS update

Phil Sielaff - BLM RAWS Program Manager, NIFC

High Data Rate (HDR) Data Retrieval

Discussion:

The current data transmission on RAWS stations is 100 baud. There is a transmission every three hours. HDR will go to 300 baud with hourly transmissions. 180 stations/channel at a minimum.

Shorter window (15 seconds rather than 60), so 4 platforms could fit through window.

HDR is 300 baud. State agencies are buying new transmitters. USFS and BLM are following NFDRS 2000 standards. They will transmit hourly and 6-second window, 1 ob per hour. 1 channel high data rate. At the 45 to 15 of each hour, we're stacking everyone in. 12 transmitters per minute. If we're using weather stations for fire behavior then it will be every 30 minutes. This makes the data volume too large for current WIMS and ASCADS.

HDR – what will it do? Testing 5-6 second windows. Allow all NFDRS reporting stations time slots at or near the top of the hour.

ASCADS can ingest 1 ob/hr. ASCADS is going through re-design. There is a need to have FDWT and FWWT involved in ASCADS re-design.

High data rate has an extra header in the broadcast. The input sequence is changed. Testing the new to the old to see if it can decode the data.

Transmitters provided by 2 vendors. It will work on Handar = Visala (sp). FTS, Campbell.

July 02 baud rate switched to 300 baud. Can get switchable transmitters now at the same price.

USFS has 50-60 ready to go on-line. They are FTS stations that are ready to switch to GOES.

Low data rate will be good for 10 more years. No need to buy new right now unless requirements change.

Data recovery: current system is using local readout ground station (LRGS) in Boise. It has no redundancy.

Proposal: direct readout ground station (DRGS), and next generation ASCADS would be able to provide to any station. \$125k for NOAA port and \$25k for downlink.

NIFC Fire RAWS

In fire season 2000, fire RAWS were deployed on large fires. Total Fire RAWS: 9 fire RAWS, NWS micros, and NPS Micros.

Not resolved: Should we modify remaining micro REMS to fire RAWS? Not addressed.

Who should do it, and who pays? The cost is \$6300 per station.

Training for Deployment as cache item: Minimum qualifications for Fire RAWS tech skills are RAWS operator, RAWS tech.

There is a demonstrated need to develop a task book. Present to IOS working team. It would be a technical specialist. There are people interested in becoming qualified in this position.

There is limited availability for fire season 2001 due to limited staffing. BLM can meet 1 request. MAC must get involved when the second request comes in.

Fire RAWS should advance to next stage: convert REMS to Fire RAWS. Apply for an NFES number. Establish qualifications.

RAWS web page

Kolleen Shelley- FS RAWS program manager, Clearwater NF

Web page has been very successful. <http://www.fs.fed.us/raws> There have been 350 hits per week, 70 hits per day, M-F. Customer service and Help Desk calls are decreasing, because the information is posted on the web.

Wednesday June 13, 2001

WIMS re-engineering update

Mike Barrowcliff – FS Fire Information Systems, NIFC, and Russ Gripp, Fire Planner, Klamath NF.

Discussion:

Began with Y2k, and the obsolete version of Oracle,

3-phase strategy for WIMS

Phase I. Change user interface to a web-based system, and upgrade oracle database.

FDWT task group chaired by Russ G. is overseeing the effort.

Jeff Barnes heads up the development group.

On June 5, 2001 web version of WIMS went on-line.

Current WIMS users will be able to easily convert to the new system.

It is compatible with Netscape 4.7 and IE 5

A draft users guide has been developed and is posted on the website.

The NFDRS black box is running on the web server. It is very efficient. We are no longer paying for mainframe costs for NFDRS run-time. Costs on mainframe are for database retrieval and storage.

The billing process for WIMS has been erratic at KC.

There are other web apps at KC – so we are expecting 50-75% bill reduction from KC.

The costs of running fire danger rating calculations are reduced.

KC is the USDA national computer center, so they must charge for services.

Larry Bradshaw reports that re-platforming routines on the NFDR certification are running smoothly.

We need to take a closer look at how the 88 system is running on WIMS.

URL for WIMS application: <http://www.famweb.nwcg.gov>.

FAMweb has multiple applications from USFS FAM. Situation, occurrence, AMIS. NWCG domain to treat Phase II and III as a NWCG project. No longer just USFS.

No migration to new Oracle version after support expired on the mainframe. But it is Ok -both systems are running. Need to figure out when we flip the switch. Costs are still associated with the Legacy system at least until end of July. Oracle database migration will be winter 2001-2002, Nov/Dec, with security issue. Internet security at KC used to get 6 hacks/month. Now it has 1600 hacks/month, mostly from Eastern Europe and Eurasia. Each Department has Cyber security offices.

Next generation FDR is aligning with re-engineering. Preliminary discussions are beginning on Phase II. USFS is Minus \$200,000 on WIMS budget. Tried to do parallel Phase I and II. Took extra month, so Phase II

and III delayed to next FY. It will be chartered through NWCG. It needs project manager and organization identification.

WIMS on Web:

Users are acclimating well to the new system.

Password is oracle password that is the same as all other web applications.

WIMS new user ID associated with the old ID.

Will have an ICS-209 component on the SIT report. W/Firescope R5.

USFS was paying for NWS access to the server. It is now easy for the NWS to sign in.

There were gateway problems with large volumes of users/data at same time.

NWS users have different user access, but still can use AWIPS telecommunications gateway.

ROSS project - Browser differences forced them to make changes.

Joint Meeting adjourned

The combined group separated into the prospective working teams at noon on June 13. Following are the minutes from the Fire Danger Working Team.

The NWCG wants a representative from every working team to meet with the Publications Working Team. The chair has agreed to fill that position.

Paul Schlobohm reported that the January meeting in San Antonio with the NWCG Executive Committee went very well. They seemed impressed with our efforts in fire danger rating.

WIMS Reengineering, continued – Mike Barrowcliff.

Discussion:

The new web based version of WIMS is up and running. The address is <http://famweb.nwcg.us/wims>. There will be a transition period from the legacy system to phase 1 of the new system. Both systems will be supported until September 30, 2001. Users, however, will see a significant cost saving if they switch soon as the new system costs half as much to run. There was a tech note sent out to the WIMS user group.

Action:

Mike Barrowcliff will produce a letter for Paul Schlobohm's signature to send out through the NWCG. Mike will search for other mailing lists as well.

Even though the change to the new system is a simple process, there is a need for a plan for it. The FDWT recommends a combination of: 1) a 1-2 page cookbook document for dissemination, 2) a schedule of exact times to call a help number, 3) names of geographic area contacts to provide assistance. Doug Bright will put together a list of contacts to recommend to the GACC's for the provision of support for the changeover. We will coordinate through Neil Hitchcock and the GACC conference call.

Phase 2 – Mike Barrowcliff wants to be sure WFAS and WIMS are aligned. Fire Research will work closely with the project to insure the integration takes place. A WIMS project manager is needed. Larry Bradshaw will be the WFAS project manager. Phase 2 will define the requirements of the new system. Phase 3 will be the implementation. US Forest Service will still be the lead agency, but it will be an NWCG sanctioned project.

Action:

Revise 2004 budget to include one more year for WIMS task group.

Fire Behavior – There was discussion on whether the FDWT should take on responsibilities concerning fire behavior leadership. Currently, there is a Fire Behavior Advisory Committee under the Training Working Team. The consensus of the FDWT is that the fire behavior leadership would involve different people. There is a concern whether FDWT could handle the additional workload. We need to keep our current charge. We do need to keep close ties and work closely with fire behavior groups. The FDWT recommends a Predictive Services-like umbrella group connecting Fire Danger, Fire Weather, Fire Use, a new Fire Behavior WT, and perhaps other working teams. The Chair will express our concerns to Dave Cleaves.

Role and Future of FDWT - There was a short discussion on the role of the FDWT and research in the future development of fire danger rating and how this relates to WIMS and the NFDRS model. At present this process seems a little muddled. The decision was to make this a major discussion item at our next meeting, and to include Dave Cleaves and possibly others.

ASCADS – Ken Reninger. BLM IRM group. BLM is in the process of upgrading ASCADS. It will stay in a web environment. They will look at the standardization of data in an interagency environment. Ken is currently in the process of hiring a contractor. It will take 18-36 months to complete. FDWT expressed interest in ASCADS evolution from the connectivity and interagency user perspectives. FDWT suggested that there be a task group put together similar to the WIMS group and that BLM looks at NWCG sponsorship for the project. The working team would need to know in the next couple of months what the budgetary needs would be.

Actions:

Paul Schlobohm will inform the FWWT chair of this discussion. FDWT will provide Ken with names for potential task group members. FDWT will recommend a scope from a fire danger rating perspective.

Fire Research – Pat Andrews, Fire Sciences Lab. Implementation of the new 10-hour algorithm has not been resolved. It is probably a small correction and Larry Bradshaw will work on it when he gets back to full time. In the fall, WIMS will have the 1 and 10 hour algorithm updates installed. Gary Curcio would like to see fuel temperature as an output as it is useful in prescribed burning in North Carolina.

WFAS – NDVI should be a better product because EROS is improving the images. However, the previous years' images need to be updated so they can be compared correctly to this year. This won't be completed until next year, thus rendering departure from normal and relative greenness inaccurate for 2001.

There are over 1000 sites that provide a link to WFAS. It is currently being redesigned. The quick links are tighter, archive maps are animated and there is the ability to compare products from different years. Gridded NFDRS forecasts will remain under the experimental heading until FDWT OK's the change. There will be the ability to customize the site. Also, there will be additional weather sources, better methods for spatial danger rating, higher resolution products, new satellite information for fuel moisture and fire potential throughout the day, and additional products for decision making. They will develop and apply methods for evaluating spatial fire potential in relationship to fire activity.

Action:

Within the next month, FDWT members and other interested parties should check out the proposed changes and provide input to Pat. The proposals are on www.fs.fed.us/cgi-bin/cal_disp.cgi.

WIMS costs – Mike Barrowcliff - The cost of WIMS has been around \$750,000 per year. Watershed and Air has covered \$180,000, Fire and Aviation \$85,000, and users have paid for the rest of it. WIMS will be taken off

the mainframe and put on a server, which will greatly reduce costs to the point where user costs could be eliminated.

NE Compact report – Joe Kennedy, New York State. A 430,000acre blowdown, the big ice storm and the Long Island fire have changed the way fire is perceived in New York. The Compact has started a working team for fire danger and fire weather. Fire danger use has increased, but there is still a long way to go. They have a good working relationship with the National Weather Service.

The Hub – Kolleen Shelley – The Hub will be retired in November 2005. The weather station standards will be posted on the NWCG web site next week.

Snotel – The folks from NRCS talked to the FDWT at the December 1999 meeting in Portland. They are proposing adding their Snotel weather station network into WIMS. The working team did not receive it very enthusiastically, but NRCS is continuing to pursue it. The main concern is the siting of the stations and the \$1500 per year maintenance cost. The Fire Sciences Lab at Missoula is looking at using additional weather sources for spatial fire danger rating calculations, so there might be a use for them in the future. The NRCS appeared to be promoting these stations for NFDRS applications that may not be possible.

Action:

Patti, Paul Schlobohm and Kolleen will put together a letter to this effect by June 22 for FDWT review.

Watershed and Air WIMS Assessment – Tom McClelland – The final draft is out for review. It embraces the reengineering and suggests some alternatives. The working team expressed a concern about it not being a business driven study.

Action:

Tom will E-mail a copy of the report to team members. Comments to Tom are due July 15, 2001.

RAWS Assessment and Upgrade Information – Tom McClelland. Work is just beginning on the project. The working team recommended that Dr. Karl Zeller come to the next meeting to discuss the effort and gather input. Dr. Zeller will send out information before the next meeting.

Membership - Steve Dunlap has changed jobs in CDF and has resigned as a team member. Pete Guilbert has been recommended by CDF as a replacement. Chairman Schlobohm is waiting to hear from the western states NASF. There is still the need to fill the field person member slot. We should have a tech rep from ASCADS added to the group. Ken Reninger will fill that slot for now. It was suggested that we add a tech rep from the DOI meteorologists. We will ask Rick Ochoa for a candidate. Pat Andrews will be added as a technical representative from the Fire Sciences Lab in Missoula. It was suggested that in the future we invite as a guest an Intel person from the representative GACC covering each meeting location.

US Forest Service weather program member status – There was considerable discussion about the role of the USFS Fire Weather Program in the working team. The recommendation of the team was to have the Fire Weather Program be represented by a technical advisor. Paul Schlobohm will write a letter to Watershed and Air requesting that Tom McClelland be allowed to attend in that capacity.

FDWT Roles and Responsibilities – We need to put together a task group to work on roles and responsibilities of members and tech advisors in the operating plan. Tim Sexton (in absentia), Paul Schlobohm and Gary Curcio volunteered to work on this. The Chair will send a copy of the revised charter to NWCG for signature after it has been reviewed by the membership.

S-491 Update – The development has taken longer than planned because of the need to change course developers in mid process. There was a reference CD ROM created includes all references previously provided in hardcopy, plus databases and software related to course exercises. Final materials should be out for final field review in the fall of 2001. Update: there will be another beta test in the fall. Review materials will follow.

FireFamily Plus Update/1988 NFDRS – Larry Bradshaw (via Pat Andrews) is looking for input in the next two months for the updating of FireFamily Plus. There was discussion of the 88 NFDRS. There is a lot of work on maintaining them, but they don't seem to get a lot of use in WIMS. FireFamily Plus doesn't run analysis very well with it because the greenness factors are not archived. There is also the concern that the 1988 NFDRS is not getting used much.

Action:

The regional reps were assigned the responsibility of finding out which versions are used in their regions and if the users are happy with them.

IFPL – Industrial Fire Precaution Level – There are some inconsistencies with the new web based WIMS. PNWRG will work to reconcile the problem.

Fire Weather Forecast Zone Numbers – Some NWS offices are not using the convention for numbering. The policy is for them to contact Jeff Barnes whenever a new zone number is needed.

Data Administration Working Group Proposal – Al Borup. The NWCG IRM Program Management Office (PMO) is proposing the formation of a Data Administration Working Group (DAWG). Each NWCG working team and associated group will delegate a person to serve as data steward to represent that team's business data needs and serve as a member of the DAWG. The DAWG will work together to build an enterprise data model that represents the information needs for the entire wildland fire community. The DAWG will use existing data standards as appropriate. Data standards will be published in the NWCG IRM-PMO Repository and made available to all interested parties. The repository will provide a single source for NWCG standards. NWCG project teams will utilize published standards with any variations from the standards approved by DAWG. The DAWG will also manage changes to existing data standards. Working teams, existing systems and projects will be notified so that issues and impacts will be identified and resolved.

Gary Curcio gave a presentation on how some NWS offices in the Eastern Region have automated the point-forecast entry into WIMS.

Gary also handed out the draft Business Plan and Operating Principles. Give feedback to Gary.

Website. The team website was briefly discussed. The Executive Committee of FDWT will draft a list of needs for team review.

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