

**Fire Danger Working Team
Oct 31-Nov 2, 2000
Maui High Performance Computing Center
Kihei, Maui, HI**

Tuesday, 8 a.m.

The fourth meeting of the Fire Danger Working Team was held at the Maui High Performance Computing Center Kihei, Maui, HI.

Members and advisors in attendance included Steve Dunlap (Western States, CA), Tom McClelland (USFS, Watershed & Air; proxy for Bonnie Mason), Al Borup (NWCG IRM), Linnea Keating (USFS, Watershed & Air), Gary Curcio (Southeastern States, NC; WT Chair), Paul Schlobohm (BLM, WT Executive Secretary), Doug Bright (USFS, Region 6), Doug Anderson (20 Northeastern States, Minneapolis, MN), Francis Fujioka (USFS, PSW Research Station), Russ Gripp (USFS, Region 5, Northern California Provinces), Larry Bradshaw (USFS, Rocky Mountain Research Station), Jeff Barnes (USFS, Fire & Aviation Management) and Patti Hiram, (USFS, Fire & Aviation Management). Members and advisors not in attendance were Bonnie Mason (USFS, Watershed & Air,), Tim Sexton (NPS), Paul Stokols (NWS) and NWCG team liaison Dave Cleaves (USFS). Tim Brown, (Desert Research Institute, DRI) attended as a guest.

Pat Moore (recorder) was unable to attend; recording was done by Larry Bradshaw.

The meeting was arranged by Francis Fujioka of the Riverside Fire Laboratory and hosted by Steve Karwoski and Candace Shirley of the Maui High Performance Computer Center (MHPCC). Many thanks to Francis for arranging a great series of presenters doing high quality and highly pertinent research on fire weather and fire danger problems. Our thanks also to the Computer Center for great facilities and refreshments.

Mr. Karwoski gave the group some background to the MHPCC which was established in 1993 as a Department of Defense Air Force Research Laboratory. Its initial mission was twofold:

- Assist in image processing of images from the islands astronomical observatories, and
- Encourage economic development and increase technology awareness on the islands.

Its computing facilities were designed as a scalable parallel experiment and the facility now has some 800 IBM processors in an array of configurations. There are two 160 processor clusters and several with 32. The center has multi Giga Flop capabilities.

Current activities in addition to the observatory image processing include daily local weather models.

Agenda items

The tentative agenda that was sent out prior to the meeting was reviewed. Bin items/additions were:

National Fire Plan

20 BLM Meteorologists
Preparedness includes RAWs & WIMS
FDWT & TIB Progress

Approval of Minneapolis Minutes-Paul Schlobohm

The minutes of the June 6-8 meeting from Minneapolis were approved via email consent in July and acceptance was reconfirmed. There was no other discussion.

Vision Statement- Paul Schlobohm

The vision statement that was left to the executive team to synthesize from the work of Francis, Paul and Larry was completed and is on the Workings Team's section of the NWCG home page.

Gary reported that NWCG has approved the Minnesota version of the Charter with the changes requested by them. No copy was distributed but the current version is on the NWCG homepage. There was discussion on the concerns that Steve raised in Minneapolis about state membership specifics being removed from the main charter. NWCG wants those details in a team operating plan.

Action: Executive team develop draft Team Operating Plan for Spring meeting.

10-hour algorithm status-Borup/Bradshaw

Discussion

At the Minnesota meeting Bradshaw presented the successful results of the current NFDRS vs. Nelson Model results at the 120 BLM RAWs stations in 1998 along with an issue paper with four options to perform a System Impact Test. Gary Curcio wrote a letter for to John Gephard (this was an action item) asking for BLM cooperation in performing the test on the Weather Web Page side of the BLM ASCADS in Boise.

Al Borup and his replacement, Keith McGillivary (Borup has a new job), implemented the code that Bradshaw sent. The implementation went smoothly and the addition of the Nelson model (1, 10, 100, and 1000 virtual sticks) had virtually no impact on the **processing performance** of ASCADS data on the BLM Weather Web page. In this context the results of the System Impact Test showed there should be no time degradation or serious computation costs in implementing the model in WIMS. This determination was the goal of this test.

However there was an obvious problem in the model output. There is a seemingly random problem in that some stations do not respond to changing weather observations and track linearly to model maximum values and stay there. Stations without this aberration tracked well with automatic fuel moisture sticks. Borup reported that only about 1/3 of the stations tracked well and 2/3's "pegged out" at model maximum values. With the summer fire season and Borup's new job, no further analysis was done on the implementation problem. Bradshaw will work with Collin Bevins (model programmer) and McGillivary to identify the problem, which Bradshaw suspected was something quite elemental.

There was a question on how easily the transition from BLM Weather Web Page to WIMS would be. Borup reported that the BLM Web Server environment was similar to that of WIMS (AIX and Oracle 8) so it should go smoothly.

Francis reported that Ralph Nelson was working with David Weise on a couple of prescribed burns by the Army in Oahu, Hawaii, and collected hourly samples of Guinea Grass for fuel moisture. This grass is a thick grass about 2 meters high and has the dimensions of a 100 hour fuel. He was successful in getting runs of samples from 48 to 72 hours.

Action:

- 1. Determine and correct the implementation of the model on BLM web page.**
- 2. Design and make needed changes in WIMS**
- 3. Define database modifications in WIMS/NIFMID**
- 4. Write a follow-up letter to Gephard asking for continued cooperation and assistance from Keith McGillivray.**

WIMS Re-engineering-Jeff Barnes

Presentation and handouts:

1. Wims/Web Project Management Plan
2. Wims/Web Security Report--Draft
3. Wims/Web Draft Operations and Systems requirements Specifications
4. Wims/Web Draft Test Plan

This summer the task order for Phase 1 of the WIMS reengineering project was awarded to Enterprise Integration Corporation (EIC). EIC is doing the project management and has sub-contracted the technical portions of the project to Avatech. Avatech also performed the independent Y2K certification test on WIMS at NITC-KC. The total award amount was \$460 split between two fiscal years, funded by USDA, FS, WO, Fire & Aviation Management. The target completion date is the 17th of March, 2001. Jeff Barnes is the project manager and COR on the contract. The web-based application will be installed on an F-50 IBM Server with an Oracle Internet Application Server. The IBM mainframe will remain the computational engine for phase 1 using Oracle (8i) database.

Milestones to date:

- Sep 18: Phase 1 Strategy Plan Complete
- Oct 20: Published Project Plan

Current Work:

Defining security requirements and defining system resource specifications, both due out the 1st week of November.

Other milestones:

- Dec 2000: Design documentation and publish test plan.
- Jan 2001: Deliver components for testing
- Feb 2001: System test
- Mar 2001: Complete testing and integration

Jeff discussed project Risks. The biggest is scope creep. The work breakdown structure has

been defined and only 3 items will be added:

- Implementation of Nelsons dead fuel moisture model
- User's Guide
- Systems Administrators Guide.

Discussion--Security

Russ: Is security going to become more or less of an issue? Current levels of security are already stumbling blocks.

Jeff: Security is not going away and may be identified in a new presidential directive. Task group can give feedback. There may be new level of security that does not allow a repeat password for 4 cycles.

Group: WIMS user id's and passwords are shared and written all over the place already so security is out the door anyway.

Francis pointed out there are more difficult levels of security to work with and it could be worse.

Discussion—Transition & Training

User ID's and passwords will roll forward. There was much discussion of the problems of the initial WIMS implementation and not wanting to repeat. The finish date of March 17th was discussed and how much longer the existing WIMS could go to facilitate development of training since there is no way to have it done properly by then. Two impact groups were identified—current users and new users. Since this is basically just a transition of the application to a Web interface, impacts on current users should be minimal. The biggest task is to market the change so users will be aware of it.

Prototype web pages can be ~~viewed~~ viewed at <http://famweb.usda.gov>. Select the WIMS button and follow information on the screen. www.avatech-usa.com/wims

Action: Task group of Patti, Doug, Larry, and Russ will pool ideas and recommend marketing strategy for pre-advertisement of WIMS/Web. Boise group will implement the strategy.

Report from Task Group: Immediately put a "WIMS" link on the F&AM Web Apps page (FAMWEB):

<http://famweb.usda.gov/>

*All general marketing and advertising of phase one of WIMS re-engineering (Web Based Application) will **reference only the above link.***

The new WIMS link connects to a new "Phase 1" web page located at:

www.fs.fed.us/fire/planning/nist/???

DRAFT DRAFT **FDWT-October 31 – November 2, 2000** **DRAFT DRAFT**
This page will be maintained by the Boise Fire & Aviation Application Support Staff and have a one page “brochure” of the transition with active links to project management documents, the task group, and demonstrations of the new web-based WIMS as they become available. It is very important that this page be current with Phase One developments and milestones.

The group also compiled an extensive distribution strategy through various mailing lists, national meetings, working teams, etc. Patti will format this and make available to Russ and his task group. (See attachment 1.)

WIMS/NIFMID Task Group Schlobohm/Gripp

Discussion

Since the June meeting work has proceeded in establishing the task group *to provide oversight and guidance for WIMS/NIFMID re-engineering project*. Russ Gripp is the chair. The charter was reviewed again to add an NWS member and change the date in the duration section from July 2000 to January 2000. Members at this point are:

Mary Lynch, BLM, Alaska Fire Service
Pete Guilbert, CDF
Dave Christiansen, Wisconsin, DNR
Larry Bradshaw, FS Research

Still looking for reps from the Southeast (state or DOI) and the weather service.

(Additional members added shortly after this meeting: Ed Delgado, NWS; Clive Cross, Texas Forest Service; and Marlina Hovorka, Big Cypress NPS)

Jeff suggested creating an MOU up front with each person to ensure the time commitment is recognized and approved by supervisors since this is a 3 year duration group. Patti noted that members may phase through after the first phase.

Action Item: Put state task group travel in 3rd year out budget.

Watershed & Air Activities-Tom McClelland

Presentation

Tom stated 98% or more of the activities in the weather program are related to fire.

WSA has commissioned two studies.

1. Raytheon Corp. to do an assessment of WIMS and its data and communications architecture. WSA wants to get out of paying for CPU cycles on the IBM mainframe and wants to do WIMS more efficiently. Basically: What do we have? What do we want? How to get it? This will be complete by end of calendar year 2000.
1. The second study is a RAWs System National Assessment to inventory the current stations and sensors that are providing data through WIMS.

Tom also discussed the organization of the staff units in Washington and said he has suggested a detached unit that would stress meteorological support and assessment of NWS services to fire agencies.

Discussion

Gary: His view of the eastern program that both users and the NWS are messing up the program and as a result it is a 'pot luck' program. He suggested the National MOU be very specific and broad in it's description of NWS services, then local users could back off as needed.

Larry: Could you bring the statements of work to the Fire Weather Working Team meeting next week? Gary suggested the Fire Danger Team get copies also.

Action:

Tom will share statements of work for both studies with Fire Danger and Fire Weather Working Teams.

Tom will share results of the studies with the Working Teams.

RAWS Program Updates- Linnea Keating

Linnea informed the group the NWCG parent group has approved the NFDRS Station Standards.

Linnea distributed a RAWS Tech Note on Winterizing AWS stations for group information and comment.

Comments from Thursday's follow-up.

Tim (DRI) said Greg McGurdy with the Western Regional Climate Center (WRCC) wanted all data, even bad data, indicating that knowing the station is covered with snow is valuable data to somebody.

Conclusion is unclear. Users should choose either or, not both.

Action: Kolleen will send out WIMS transmit time TIB (Technical Information Bulletin)

Action: Team members get comments on Winterizing AWS TIB to Kolleen by November 14th.

On the WIMS Hub, a contract is in place with REMSOFT to provide Watch Dog functions and Automated Alerts when the Hub is down. There is also funding for a CPU upgrade.

GOES high data rate is getting closer and a company, Siemac has developed a transmitter that

has been tested for certification. There was discussion that once two vendors have transmitters certified NESDIS will no longer assign new 100 baud time slots. High data rate will allow more transmissions/hour if desired.

Borup reminded the group that ASCADS will not process (**distribute**) more than hourly data.

Discussion

Patti said they need a drop dead date for the Hub.

Also need a drop dead date for 100 baud transmitters.

Action: Patti will present draft HUB phase-out plan at next meeting.

Team Publications-Paul Schlobohm

Paul referred to the three publications that had been sent out for review.

Gaining a Basic Understanding of the NFDRS (Used by S-491)
A Managers Guide to the NFDRS
NFDRS User's Guide

Paul suggested that the most relevant and applicable part of the User's Guide is the instructions for doing the green up in NFDRS. He also felt that everything in the Manager's Guide and User's Guide was repeated in Gaining a Basic Understanding. He suggested moving the green up discussion from the user's guide into gaining an understanding and dropping the User's and Manager's Guides.

Action: Gaining a Basic Understanding will be kept with addition of green up information by next meeting. Publication should be electronic, not PMS.

There was then general discussion on WIMS training mostly focussed on the Web-Based WIMS and what training will be required.

Monitoring National Fire Danger and Seasonal Severity-Paul Schlobohm

This topic started by asking Francis about the status of the Severity Project that was presented in Minneapolis. Francis reported that the weather modeling component of the seasonal severity forecasting research was making good progress, but the fire severity modeling was problematic, and under review.

Paul reported he will attend the National Intelligence Meeting in two weeks in Santa Fe where he will report on NFDRS updates and other topics. Tim Brown will also discuss long range climate outlooks forecasts.

There is a desire among the Geographic Area's to provide a more consistent look and content among their Web Sites and specifically a more consistent approach to longer range fire potential

Francis raised the issue that continually surfaces in these topics and that is how information is used to leverage decisions.

Tim asked if the working team could write a letter in support of long range climate work. This brought discussion back to last meeting where it was decided the best way to do this was not with letters of support but by making sure these topics are in our strategic plan and list of products we are supporting/monitoring.

Action: New objective in Goal #5. Support work in long range fire potential assessments and add “promoting advances...” as a project in our strategic plan project list.

Review Priority Task List From Minneapolis Meeting—All

1. WIMS Re-engineering. See above on WIMS re-engineering. (Barnes)
2. Dead Moisture model implementation. See discussion above. (Borup/Bradshaw)
3. WIMS Costs.

Bradshaw reported what he found in FS Manual on FS responsibility for NFDRS program. Did not find legislation with specific authority.

Forest Service Manual. Section 5100, Fire Management. 5120 Preparedness...

5124 Fire Danger Rating. A fire management system that integrates the effects of existing and expected states of selected fire danger factors into one or more qualitative or numerical indexes of an area's fire protection needs (NWCG, NFES 1832, PMS 205).

5124.02 – Objective. To provide information on current and predicted fire danger and, thereby, facilitate effective use of prevention and fire management resources.

5124.03 – Policy. Use the National Fire Danger Rating System to determine fire danger.

5124.04 – Responsibility. The Director, Fire and Aviation Management, Washington Office, is responsible for the operation and maintenance of the National Fire Danger Rating System and for the coordination of these activities with the National Interagency Coordination Center at Boise, Idaho. Line officers are responsible for ensuring that adequate training and facilities are made available to support National Fire Danger Rating System operation.

The point of this topic is to address the way WIMS will operate in the future in a more automated state. The issue is people will not be logging in to create “O” type observations. Instead data streaming through will automatically be converted to NFDRS numbers. Bradshaw suggests this should be paid off of the top as a Forest Service cost of **“operating and maintaining the NFDRS.”**

Action: Jeff will report the average yearly total cost of running WIMS.

Action: Larry will continue work on issue paper.

Discussion on these was tabled until Thursday. Below is Thursday's summary.

1. Long Range. Discussed above. Square 1. New Objective in Strategic Plan.
2. WRCC Proposal. In new BLM National Agreement with WRCC. Not signed yet.
3. Network Analysis. In progress via McClelland.
4. WFAS Expansion. Unfunded.
5. NDVI-Live fuel moisture study. Unfunded.

There was quite a bit of discussion on numbers 7 & 8. Gary had conversation with Dave Cleaves who suggested the environment may have changed and the JFS board may be open to looking at these proposals again in light of the new money and some other things. Gary wanted to push to get them funded. Bradshaw thought re-submitting them was really up to the Principal Investigators—they may not want, or be able to get the same partnerships back together. This may particularly be the case on the WFAS proposal in conjunction with the University of Montana. Discussion came back to the strategic plan and that maybe the FDWT should write a letter to the JFS outlining the NFDRS weaknesses and research needs. Then maybe JFS would put a more specific RFP out and would have better array of proposals to select from.

1. Haines Index. Funding is on track and the Fire Congress in San Diego is going to have a Haines Forum. Participants include Scott Goodrich (State of Florida), John Saltenburg (NWS), Paul Werth (USDA, FS), Chuck Maxwell (NWS), Brian Potter (Forest Service Research), Ed Brotack (University), and Donald Haines (USFS, retired). Total attendance at conference is estimated at about 300.
1. 100-hr, 1000-hr improvement. Progressing. Bradshaw passed out 125 mm (5") log fuel moisture traces from Slapout OK.
1. Pubs on strategic plan. Consolidate to single "Gaining...."
2. Other Topics.

Tuesday's meeting was adjourned at 5:30 p.m.

Wednesday, November 1st 8 a.m.

Wednesday was dedicated to presentations on local weather, fire danger, and fire behavior research in Hawaii and was emceed by Francis Fujioka. Guests were introduced and Francis gave a background of Fire Danger Rating in Hawaii which dates back to 1974 when Bob Burgan and others created a rating system whose indexes were distributed to the Civil Defense, Police, Forestry Divisions and local Fire Departments. There were 14 weather stations and the system used Civil Defense and FAA communications networks and a Naval Computer. Now they are using the Regional Spectral Model (RSM) to compute FWI at 10-km resolution on an operational basis. The FWI is like the BI in fine fuels.

Presentations:

Dr. Duane Stevens, Dept. of Meteorology, University of Hawaii and Kevin Roe, MHPCC.

Duane and Kevin discussed mesoscale models, use of MHPCC and parallel processing issues.

Dr. Stevens outlined the Hawaii Weather Climate Modeling Ohana (HWCMO). Cooperators include the computer center (MHPCC), University of Hawaii, Scripps Institute, National Weather Service (Washington and local offices) and USDA, Forest Service (Pacific Southwest Research Station), and the Pacific Disaster Center. The work is focused on small-scale weather prediction with a Pacific Perspective. It starts using the NCEP 72 hour global forecast as the initialization grid then nests to 10 and 2 km grids. The surface boundary smoothness of the Ocean allows them to leap directly from the global grid to 10-km. The 2-km grid models use time steps on the order of a few seconds. They use the Mesoscale Spectral Model (MSM) in a 'faux' parallel mode (a processor is used for each island's forecast) but are moving to MM5 because it is better for actually running in true parallel. Dr. Stevens demonstrated the Web Site that display the real time output from the HWCMO project along with the archived forecasts. The web site url is: www.mhpcc.edu/~wswx

Note: The day of, and the day after their presentation locations on the Big Island received record rainfall amounts—as much as 26 inches in 24 hours and the entire Island chain received rain for about 36 hours. We were not forewarned...

Q: Paul S. asked about forecast verification.

A: Nothing holistic—standard problem of using point measurements to verify large grid network forecasts. But are using measurement systems during Army prescribed burns to do some verification work. Scripps is working on long-term climate average verification with a single forecast model.

Q: Steve asked if they had plans to augment the islands AWS network.

A: \$\$\$\$

Kevin illustrated two examples of generating wind fields for fire models (Farsite). One was on an 'archive' fire in Yosemite (Ackerson) and the other was more of a real-time product for the Little Pistol Creek Fire this summer on the Payette National Forest in Idaho. The model is the MM5 which is scaleable, relocatable, and "easier" to run massively parallel. Kevin showed some performance statistics using from 1 to 16 SP's (IBM Scalable Processors). At 16 SP's a 5 hour forecast took 16 minutes at 27-km resolution and 40 minutes at 3-km. Kevin also informed us that MM5 is morphing into MM6 via a new model called Weather Research & Forecast Model

www.wraf.org or www.wrf.org

Their Vision for 2001:

Fast Weather Models
Global Data Ingest Systems
Relocatable Grids
Internet communication to field sites for Farsite Users.
Improved display graphics.

Challenges:

Weather Model Optimization
Coupling of weather and fire models. (Not atmospheric-fire interactions but using weather models to provide a one-way data flow to fire behavior models.)
Data Coverages (Vegetation/Land Use/Terrain)
Inclusion of local observations into model.
Training for operational use (there are 500 MM5 users).

Andy Beavers, Colorado State University. Andy is working for the Army. The work focuses on site specific Fire Danger Modeling at an Army Training site in the Makua Valley, a rain-shadow location on the west side of Oahu. Training has been going on there since the 40's and fires are a problem. Fifty percent caused by tracers. At risk are 30 Threatened and Endangered Species and Army is threatened with shut down if they don't get a handle on fire occurrence because non-native species overtake fire areas. They are in a consortium to use "best available fire science." They've done a lot of fuel sampling, fuel model development and prescribed burning to generate site specific fuel models. Andy showed a short video documenting a couple of the prescribed fires in the Guinea Grass. They have 3 RAWs stations in the 4,200 acre training site and are running an hourly fire danger rating system with site specific fuel models which have been correlated to NFDRS models.

Wayne Ching, Hawaii State Department of Forestry.

Mr. Ching gave the group background on the department of forestry and demonstrated the fire website (www.state.hi.us/dlnr/dofaw/fmp) where programs on fire prevention, education, pre-suppression and suppression are described. Hawaii has about 100 fire fighters doing ½ fire work and ½ other forestry projects. State land in Hawaii averages about 180 fires/year and burn about 20,000 acres. There is lightning but few lightning caused fires. They have not lost any residences to fire but the fire in the Urban Interface has become more of a problem the past 5 years. The NWS has recently offered to provide spot weather forecasts (a first). They have 4 RAWs stations they maintain with grants from USFS, Region 5.

Jack Menassian, NPS Pacific Islands Fire Management Officer.

Jack challenged the technological preparedness of the High Performance computer center by presenting a 35-mm slide show. Hawaii is the most isolated archipelago in the world and has huge ecological diversity, often within just a few miles. The evolution of fire here is unlike the

mainland where species are fire dependent. Here, some native species have levels of fire “adaptation” but alien species are more fire “dependent” and usually out compete native species after a fire disturbance. They have been doing research burns to help the native fire adapted species return and have a native species recovery vegetation plan.

Locally the natural ignition sources are lightning and lava. Peak burning period is usually around 10 a.m. before sea breezes get established and critical RH thresholds vary between 40 and 60 percent. The molasses grass burns better green than cured due to resin content.

Jack further challenged the high tech environment with his “new moon” RX fire scheduling system for burning Mesquite. Burning is done at night with a backing fire and nocturnal winds stay light to calm during the new moon lunar phase.

Dr. Tim Brown, DRI.

Dr. Brown gave presentations on the WRCC hourly RAWs climatology proposal; the Great Basin Fire Weather Station Network study; and hourly NFDRS project; ensembles of long-lead climate outlooks; and the Accelerated Climate Prediction Initiative.

Hourly RAWs Climatology. This is the proposal that Paul Schlobohm distributed in June. The funding has been covered in the National Agreement with BLM and DRI but the Agreement has not been signed yet. Two PC’s will handle the product and the databases (data and metadata) are being re-worked in support of this project.

Great Basin Fire Weather Station Network Analysis. Jointly funded by USFS, R4 (primary funding) and the BLM Great Basin. Area covers NV, UT and parts of ID, WY, AZ. 31 people responded to a user survey. This was considered a good response rate. Draft report is completed and under review by Paul Schlobohm (BLM) and Tenna Biggs (FS). Fire related use accounted for about 85% of the survey use of weather data. Decisions are made by two groups—short term or long term (pre-suppression). Consistency among survey responders was “don’t move existing stations.” Objective scheme looked at spatial correlation of temperature and precipitation regimes. Correlation decrease with distance. Elevation similarities are significant.

Hourly FDR. California fire agencies are funding the use of the RAWs data stream to prototype computation and display of hourly NFDRS values based on existing Fire Danger Rating Areas. Will be displayed on a password protected CEFA website.

Ensembles of Climate Forecasts. International Research Institute is collecting monthly climate forecasts from around the world and working on ways to display the forecasts, the variations in forecasts, and the averaged forecasts. Working on verification and utilization studies. Water resource and utility companies are potential big users. Integration in fire management will require much different way of decision making.

Accelerated Climate Prediction Initiative. Consortium of Scripps, Los Alamos, Pacific NW National Lab, NCAR, DRI(?) and Naval Post Graduate School. Involves 200-year climate simulations at 6-hour intervals. There is a Wildfire Applications Component. DRI will compute an Ignition Component/ERC blended frequency distribution. Implication of increased CO2 will be assessed and decade-level assessments of risk/opportunity of wildfire/rx fire activities may

Dr. David Weise, Prescribe Fire Research, USDA, Forest Service, Riverside Fire Lab.

Dr. Weise described fuel inventory, fuel modeling and fuel moisture modeling projects throughout the Islands. He also described the development of fire risk maps being developed in conjunction with Andy Beaver's work for the Army in the Makua Valley. Cooperators include the Army, the State of Hawaii, USDA Research Labs (PSW, PNW, RM-Missoula). The PNW (Ottmar) is doing extensive field work to develop a database of fuels characteristics. Work is funded by the Joint Fire Sciences (JFS). Missoula (Nelson) is testing his new dead fuel moisture model on the Fountain and Guinea grasses found in the islands. Hourly data was collected over a couple of days.

Dr. Weise gave some summaries of the extent and breadth of the research currently and potentially being funded through the JFS. Governing board may be open to letters from Working Teams describing research needs.

The meeting was adjourned at 5:30 p.m.

Future Directions-All

Discussion

Paul Schlobohm led this discussion with an affirmation that our vision statement is our general direction. He passed out a summary from the 2000 National NFDRS training course where John Deeming, Bob Burgan, and Jack Cohen reviewed the current system and each made suggestions of, “knowing what you know now” how would you change the basic NFDRS.

All three had disparaging remarks to make about the live fuel moisture model. Francis questioned two of their (Deeming, Burgan) suggestions to drop wind. Gary and Francis both spoke of regional use of the KBDI.

It seemed as though even though the developers were inclined to simplify, the users at the table were not quite ready for it.

Ultimately the discussion returned to issues of scalability. And this is within the realm of the unfunded (by JSF) proposal to expand and refine the Wildland Fire Assessment System (WFAS).

Francis talked about the new research funding that is available and that there soon may be several Regional Consortia for Mesoscale Modeling to support various fire management needs. He suggested the group consider “Given new modeling tools in the next few years” what can we do with them and how will we use them? Good guidance on those fronts will help drive the research and development. As you move from fire weather to danger to behavior you have multiple scales of data requirements. How much resolution do you want? How quickly do you need an answer? Who are your clients?

Bradshaw suggested that we are probably much closer to being able to do the nesting and scaling with the weather side of the problem than the fuels. He noted that if you are going to correctly go to higher scales of resolution, you need the detailed fuels and topography data to correctly “lump” to coarser scales. Weise retouched on the fuels classification work by Ottmar. Bradshaw noted there’s quite a huge leap of technology, art and faith in making trustable fuel models for input to fire behavior models from fuels characteristics. As an example he pointed to the Makua Valley work here in Hawaii from yesterday’s presentations. The Guinea Grass stands 2 meters high yet the “fuel model” that fits the observed fire behavior has a 1.7 foot fuel depth. Weise agreed that this final loop may not be in the scope of what Ottmar’s group is doing. He suggested we invite someone from PNW (Ottmar/Sandburg) to give us a presentation.

Action: Try to arrange representation by Ottmar at our next meeting. Meeting in Seattle?

Francis brought the discussion back to mesoscale modeling and user needs. He noted current operational environments (HI = 10 km, CA/NV = 10 km, PNW = 29 to 4 km.)

Question by Francis: How do we determine the points of diminishing returns?
Steve D.: Define clients, list clients needs.

David W.: Sounds like you're trying to define the business model for fire weather/danger.
Al B. : Agrees.

Jeff Barnes consolidated a lot of this conversation with a list of needs

- Needs to happen soon
- Can't get bogged down on needs list
- Cost, timelines, and scope will affect success
- Could revisit old AFFIRMS->WIMS->Future Business Model requirements
- Use Watershed & Air report for business requirements of future
- User Needs
- Problem of Support and Funding
- Fire Weather Working Team coordination
- Prescribed Fire Perspective is important

Doug Bright: Is weather modeling used for prescribed fire or fire danger?

Francis: Both and them some. Escapes and smoke issues.

Action: Lifecycle plan for NFDRS. 1) Client and needs. 2) Future products. List known problems and best solutions. Business model. Add to strategic plan and action/project list.

Task Group: Steve D. & Patti H. will head this up. Weather, live fuel moisture models, clients, vegetation, modeling needs. ASCADS update. Keep within vision statement.

Next the discussion went to decision skills and the desired future condition. How are we going to move from a point based mentality to a spatial mentality. This was identified as a co-issue between the fire weather and danger working teams.

Francis noted that a large amount of money will be available over the next few years for building capability. This could be used to build the infrastructure to support fire management. We need to coordinate R&D at the Geographic Areas.

2 minute versus 10 minute winds.

What are the impacts?

Operations?

Climatology?

North Carolina has 4 sites with data for 45 days as close to ASOS as possible.

Redding did side by side test. When test was set up, NWS maintenance on ASOS eliminated RH biases that Redding Fire Weather was documenting.

Russ. Cuff record study showed BI's were not different enough to change a decision.

Need to take on a broader evaluation study with a good study design.

NWS wants to simplify and generalize products.

Francis plays devils advocate. Given average worst case consideration a 2 min value will be greater than a 10 min value and risk classes may bump up.

There is much consternation about communications, or lack there of, NWS decisions, and their effects on users.

Does the fire weather program in CA need to keep the NWS?

USFS pays NWS \$350K to \$500K to support fire weather services (eg. weather obs training, ob station visits, agency training, on-site Met. services, and other special services as requested)

Action: Larry and Tom carefully listen in participate in NWS presentation to FWWT.

Action: Letter through FDWT that we want input to the National MOU between fire agencies and the NWS. (This has not yet been signed by the NWS for over 11/2 years as of our knowledge.)

Action: Patti and Larry will monitor progress towards National MOU.

FDWT Team Logo—Paul Schlobohm.

Several examples by Sue Peterson on meeting note book. After discussion the big one took top honors with a couple of modifications:

- Add NWCG near FDWT title
- Add NFDRS above pocket card on computer screen
- Add a smoke column on the plateau

Action: Paul will work with Sue Petersen and provide updated design.

Webmaster Needs

Discussion:

Gary approached Bill Rush to see if Sue Peterson (Boise Systems Support) could be the team's web master. Bill deferred to Barrowcliff as the approval person. Al Borup discussed that the IRM working team recently discussed using the NWCG's Program Management Office's (PMO) new data repository coordinator (Allen Dietz) in that capacity for the NWCG homepage. The NWCG homepage is not keeping current. This would impose consistency and standards. Doug Anderson told about a dedicated web person for the Great Lakes Fire Compact. There was general agreement that you need someone whose job, or a portion thereof, is dedicated to keeping up with the team business. As time allows just is not cutting it.

(Note: After meeting adjournment Al receive word from Barry Mathias, PMO director, that the idea of having Allen Dietz stepping in was not going to fly.)

Deadline for course materials was November 1st and was met (barely). They have 20 participants scheduled for 1st test course for January 2001 in Atlanta, GA. 2nd test course will be in May, 2001 in Boise, ID.

Priority Task List—revisited—see recap on first day.

Fire Danger Working Team Presentation to NWCG in January, 2001.

2-Hours. Represented by the executive committee (Gary/Paul), Task Group Chair (Russ), research (Larry), and incoming vice chair (Doug).

Brainstorming came up with following outline

Introduction

History, Vision, How NFDRS and the FDWT fit into the big picture. Danger rating is everywhere.

Successes/Accomplishment

Firefighter Safety: Pocket Card, Trust, Station Standards
Communication: WFAS, Training, Operating Plans

Current Issues:

Automated Weather Processing Needs. The Hub; Solar Radiation, removal of risk indexes, new dead fuel moisture model
WIMS Re-engineering
Reviewing/monitoring emerging technologies and science. (Internet, NDVI, etc)
Cooperation on issues with NWS and Fire Weather WT.
Funding structure of WIMS.
Haines Index

Emerging Issues:

Live fuel moisture
Fire Danger Business needs study
Long range forecasts and resource allocation
Confidence intervals on forecasts and NFDRS numbers
Scalability in time and space
Gridded Weather (Missoula NWS & Fire Lab Prototype)
Integration of fire behavior/fuel models.

Summary

- Redesign of ASCADS. BLM expected to be agency-centric. Working teams should request interagency input.
- Co-location of next meeting.
- Point weather to spatial products

Bin Items—All

20 Meteorologists for the BLM. Nobody knows much about this. Positions will be located at the GACCs.

Operating Plan. By the executive team.

Business Requirements Study

Team Leadership

Gary's term has expired. Paul will assume chair position. State rep should be next vice-chair. Doug Anderson was nominated and seconded. Elected by unanimous vote. Changes will take place when NWCG approves.

Team Membership.

Team still needs a line officer who is an active participant in fire management. Gary will write a short "position description" for members to circulate.

Next Meetings

Co-located meeting with FWWT. June 11-15, 2001. (This time was agreed to by the FWWT at their meeting the following week) Possibly in Seattle. Would like presentation from Ottmar;s group. Final location to be determined.

Action: Larry will contact Roger Ottmar for representation

Year out. November 26-30. Location to be determined.

Closeout:

Adjourn: The fourth meeting of the Fire Danger Working Team was adjourned at 5:30 p.m.

L. Bradshaw, R. Gripp, P.Hirami/Nov 1, 2000

DRAFT
Communications Plan for WIMS Phase I

Focus on WIMS Phase I, March 16, 2001

Focus on current WIMS users rather than new WIMS users

Notification Mechanisms

National/Regional meetings (Ops, Fuels, Coordinators, Intelligence, R3/R4 Fuels, etc)
Banner messages on the websites (WIMS, NWCG, each agency's internal site, NIFC, GACC, etc.)

State reps

State foresters (State Fire Supervisors)

FBAN net

GACCs

Regional FAM computer contact list out of NIFC

RO contact list

RAWS mailing list.

WIMS message board

Letter to NWCG

Stokols - NWS

Fire supervisors for 20 Eastern states. Rest of US?

Lead instructors in Regional areas for NFDRS.

NFDRS program mgrs at Regional/State level.

Fire Weather Working Team.

Training web page

NASF fire committee

DMS messaging system (part of ROSS Master mailing list).

 Link from FAM web page to preview sample storyboard

 Link from existing WIMS to sample storyboard

Notification Message

1 Page brochure (html) to have highlights – Russ to work with Jeff B.

 Announce WIMS' facelift

 WIMS transition to web-based interface

 WIMS veterans should have no problem with new WIMS.

 User ID and Password are same. Data will transfer.

 Make it clear that there are future developments for Phase II/Phase III.

 Task group identified to ensure user needs met throughout development.

 Users Guide

 WIMS veteran training? (On-line in .pdf format, CD ROM, etc)

 Rookie training (same formats + regional hands-on session?)

 Hot link to Gripp on the storyboard site.

Add counter on page to see how many hits we get.

Task Group

WIMS Rookie training

Re-do WIMS training package on-line. Also .pdf files for downloading.

Refresher training for retreads?

Task group to work on Phase II and III.

Users guide

Feedback on storyboard

Reminder bar

DRAWS, DOBS, etc. Don't abbreviate, write out acronym

FASTPATHS

Station ID -drop down menu displays all stations you have owner/user on. Add-in monitored sites? SIG groups?

Lets ask about cookies.

No black screen for Russ

Bigger fonts

Other Training Needs

FDWT needs to take a position that the Regions take on WIMS training. FDWT provide structure for the rookie training – recommended course outline and topics.