

IST and FPA Discussion Topics for November 2-3, 2010 in Boise, Idaho

Attending: Tom Quigley, Mark Finney, Mike Bevers, Karen Short, Brent Timothy, Bill Breedlove, Joe Frost, Jaymee Fojtik, Cal Gale, Sue Weber, Kole Berriochoa, Steve Carty, Darwin Pruisner, Terri Knauth, Craig Thompson, Danny Lee (joined via conference call each day to add his comments and concur with outcomes/results)

The following notes represent the primary result of the discussion for each topic area.

1. Ignition Data Update – Kole and Karen
 - a. Added in 3k FS records (completed with errors/pending)
 - b. Added in 5k with too strict spatial data criteria (e.g., coordinates in water)
 - c. Field now reviewing data; updates will occur as needed – FES (Fire Event Scenario) will be updated after missing state data is generated
2. Missing Ignition data – Brent
 - a. “Bootstrap” methodology – Brent to explain in English general terms
 - b. Conference Call with Keith Smith and Dan Smith to update them on ignition data and filling in missing ignition data – Kole
 - c. Evaluate results with and without the bootstrapped data – Discuss with Sate Reps. – Kole and Karen
3. Reasonableness Tables – Bill and Karen
 - a. Range of Values – AC burned and Cost by fire size class
 - b. Meeting Thursday (11/4) to continue discussion; the group will report back to the larger group via email
 - c. Mike write up what are we trying to get at – “at the end of the day” for discussion 11/3 (note – Mike provided a draft document for discussion purposes)
4. FWA Boundaries – Cal and Kole
 - a. Recommend using Federal Protection area boundaries – their use should address 90% of the issues
 - b. Need to revise/replace the FWA white paper – assigned to Cal – Due Spring of 2011
 - i. The white paper update is for the 2013 FWA changes and documentation available for the review process
 - c. FWA changes required by the end of November
 - d. About 1/3 of the FWAs want to change their FWA boundaries
 - e. Cal and Sue report that their interactions with FPU’s suggest the proposed changes should address known issues with FWA boundaries
5. FSIM update – Mark
 - a. Revised the FSIM interface to use input file structure
 - b. Nearly ready now – Stu Britton has it now
6. Gridded Weather for use in FSIM – Mark
 - a. Mark provided IBM with files for the interim approach that uses gridded weather
 - b. 8 sq km grid in the centroid of the FPU
 - c. The weather is synchronized national weather
 - d. File contents can be identified using the FPU code
 - e. Not corrected for the wind speeds and relative humidity
 - f. Need to associate the station catalog with FW9

- g. Create F-Risk file for FSIM
 - h. Karen and Mark will run it and evaluate the results
 - i. DRI will be correcting the NARR data at a future date – when the data is available Mark will evaluate the weather
7. Ignition Grid
- a. Ignition density frequency (number of large fires/sq km/year)
 - b. Will consider using the ignition grid rather than a single assumed ignition density for the entire FPU
 - c. Number of large fires (defined as 300 acres or larger)
 - d. 27 km resolution
 - e. Consider using the ignition density grid as well as a uniform ignition probability
 - f. Normalizes the values in the grids they fall in – not using the exact density
8. Fire Ignition Generator – Kole
- a. Boohar delivered software (Automated FIG) and it looks good
 - b. Ran the fires we had through and it looked good
 - c. Concerns have been raised regarding the “fire season”
 - d. Adding more fires (state fires) shortens the fire season based on 90% of fires
 - e. Fire Season is based on all the fires in the FPU
 - f. May consider using the federal fires only or creating an option to input the fire season directly
 - g. Will rerun the FIG once the state missing data are ready to add to the records
 - h. Prevented fires were tripled so that the FIG generates enough fires to cover the negative prevention (or preparedness) option scenario
 - i. Start and stop date for the fire season – preparedness staffing season – use the preparedness staffing season to get dates rather than 90% of the fires that occur
9. IRS Module – Kole, Sue, and Mark
- a. Sensitivity Update – met October 18th – Bighorn and planners – did a plus and minus run for every variable
 - i. Completed 30+ runs for 10 FPUs
 - ii. Expect recommendations/final report by late November 2010
 - iii. Considering settings that affect production, ROS, model parameters
 - iv. Do not expect a long development period following sensitivity reports and recommendation
10. Large Fire Module
- a. Logistic Regression – Brent and Mark
 - i. ~probability of a large fire based on Wx – conditional on weather
 - ii. Weighted regression does not appear to improve the model
 - iii. No change is suggested based on the exploration that took place
 - b. Stage One – Brent and Mark
 - i. RLF – haven’t been able to run any tests yet – waiting on Stu
 - ii. Code given to Stu Britton to incorporate into the code
 - iii. Random number generator is less random – which is good – enables the same fire locations to be run for related FSIM runs
 - iv. LANDFIRE data for the SE has been delivered – data is being prepared for use in FPA models

- v. Changes that will alter outcomes from Stage One include: RLF, LANDFIRE change, FIG change, IRS fires
 - vi. A new output from FSIM is now possible a shapefile of the outer edge of final fire size for each fire
 - 1. Saves the outer perimeter of the fire outcomes in Stage One – the specific area that burns from each ignition. Will enable each fire to be examined if desired.
 - 2. Facilitates some geospatial analysis that we haven't been able to do before.
 - 3. One file that includes the shape of the fires (polygons) in the FPU and each one per FSIM run
 - c. Stage Two – Brent and Mark
 - i. Calibration of Stage Two depends on outcomes of IRS and Stage One – need more results before more progress is possible.
 - ii. Stage Two calibration will not be completed until July 2011
 - d. Cost Projection – Brent
 - i. To validate that we are using the SCI (that the model is correctly projecting costs) we will use historic fires to run through the cost projection model
 - ii. Consider using cost per acre grid from historic fires or current/current to apply to all alternatives rather than calculating the cost/acre for each alternative
11. Support Working Team (SWT) – Joe and Jaymee
- a. 8 candidates have been identified – 6-8 months for their time in the next year
 - b. FS – hiring detailers – advertised – NTE 1 year
 - c. After the first year the need for such a team beyond that year will be examined
 - d. Initial meeting week of December 6th
 - e. Expect a January/February meeting with IST involvement
 - f. Sue Weber the technical team lead
 - g. Coordinating group – Joe, Jaymee, and Sue
12. Spatial Fuels – Mike and Craig
- a. 3 options under development
 - b. Creating a prototype of each option using 2 Florida FPUs
 - c. If all goes well the implementation would be available in July 2011
 - d. May reduce the options to 2 rather than 3 by combining option 1 and 2 together
 - e. Still need to figure out how to address the changes that occur in the absence of treatments in succession – nothing in place right now to solve this problem – Karen will prepare a simple description of what is needed to evaluate this option
 - f. Will evaluate the effect on IRS outcomes
 - g. Will run treated landscapes through FSIM
 - h. Intent is to build the long term treatment boundaries (20 year) and then each alternative is a subset of the larger amount of treatment area selected
13. LANDFIRE – Joe
- a. LANDFIRE is on schedule
 - b. Will try to get HI and AK moved up by one month (delivery in July)

- c. OG has agreed to the recommendation to move forward with using the LANDFIRE Refresh data as it becomes available
 - d. FPA Board of Directors is the governing board of LANDFIRE
 - e. LANDFIRE data requires Re-Projection – Need to consider the effect of this on Stage One and Stage Two
 - f. Karen to rewrite the paper on options and discuss Wednesday November 10th
14. Severity – Joe
- a. Persist the validation run - validation run will include severity resources
 - b. Do severity resources stay in for the budget runs?
 - c. Consider making a run without severity resources to evaluate the contribution of severity resources
 - d. Develop a discussion paper for consideration by OG in January 2011 – Joe will develop the paper in collaboration with the interested parties
 - e. Could consider how to model national resources, severity, large tankers, jumpers, etc. Treat severity as one of the national resources
15. System-wide Calibration – Mark and Brent
- a. Consider combining A,B, and C fire size classes for purposes of calibration
 - b. Consider identifying the FWAs included vs excluded in analysis early so the area to be included can guide input information and calibration processes
 - c. A process to explore calibration has been developed
 - d. Need to see results by size class of changes in fires due to changes in IRS, LANDFIRE, LFM code, etc.
 - e. Finish System-wide calibration in July 2011 – intermediate updates and testing will begin in January 2011 (SE and NW)
16. Fires other than full suppression – needs additional discussion on how to model wildfire being managed for something other than full suppression – the current logic does not model it well
- a. Less than full suppression fires needs additional discussion on how to model
 - b. Put on agenda for the Feb/March 2011 IST meeting
17. Next FPA IST meeting
- a. January 5, 6, and morning of the 7th in Boise
18. WUI Layer
- a. Keep it on the IST lists for further thoughtful discussion – not ready today to discuss
19. HVR Layer
- a. Keep it on the IST lists for further thoughtful discussion – not ready today to discuss
20. Successional Changes in Vegetation
- a. Consider how to use the LANDFIRE succession and treatment transition information – changes in fuels that occur with treatment or with no treatment
 - b. Brent Karen and Craig – paper out on what is needed by 11/15/10
21. Staging Two System and the Development System
- a. Sitting on the docks at EROS
 - b. 2 configurations
 - i. One in Denver and one at EROS
 - ii. One development (Denver) and one staging (EROS Data Center)

- iii. Development System - Support the Development of FPA – computing power supposed to be equal to EROS
- iv. Staging 2 – production system for FAMWEB, WIMS, ROSS....pre-production to FPA
- v. Still have staging at NITC
- vi. Darwin will share hardware specifications and architecture of the new systems
- vii. Joe will share initial design specs
- viii. Mike and Mark will stay connected to the conversation regarding the systems

22. FPA school

- a. OG and possibly a few others (maybe two from MAT)
- b. January 11th – 14th
- c. 1/10 – afternoon – run through in Boise for FPA School
- d. 1/11 – 8am to noon LANDFIRE introduction
- e. 1/11 – afternoon FPA School
- f. 1/12 – all day FPA School
- g. 1/13 – all day Goal Programming
- h. 1/14 – OG Meeting
- i. Draft outline by November 23rd for the FPA School

23. External Review

- a. Keep it on the IST lists for further discussion
- b. Needs discussion – not ready today to discuss