

## 11/3/22 Transcript of Question and Answer Discussion

### Fuels Community of Practice

Kim Ernstrom, Bre Schueller, Nicole Valliant, Josh Hyde

Part 1: Editing Landscapes in IFTDSS

Part 2: Using IFTDSS for Contingency and Holding in a Burn Plan

[10:24 AM] Schueller, Brianna -FS

Note on Landscape Masks for editing, they can be "hand drawn" directly on the map with the Create/Edit Shapes widget in IFTDSS OR they can be shapefiles that you upload in to IFTDSS.

[10:24 AM] Duran, Lara - FS, GRAND JUNCTION, CO

When modifying the surface fuel model of the underlying raster using the boundary of a vector polygon, what happens on the back end to the raster? Is the whole raster cell changed?

[10:26 AM] Duran, Lara - FS, GRAND JUNCTION, CO

Ok got that. But is the entire cell changed if the vector polygon splits the raster?

[10:27 AM] Vaillant, Nicole -FS

If the vector intersects the raster cell, the change is applied to the full pixel

Edited

[10:28 AM] Croft, Jennifer -FS

No- it shouldn't. If your polygon splits a raster, the rule only applies to the portion inside the polygon.

(1 liked)

[10:29 AM] Vaillant, Nicole -FS

@Jen, that is not how it works in IFTDSS it's an intersection. So if any of the raster cell is inside the vector, the cell will be updated.

(4 liked)

[10:30 AM] Croft, Jennifer -FS

Thanks Nicole! smile

(1 liked)

[10:30 AM] Kostrzewski, Craig -FS

Will the program allow for the original 13 models as well? What about 2-dimentional?

[10:31 AM] Schueller, Brianna -FS

Yes, IFTDSS includes the 13 fuel models as well.

[10:32 AM] Duran, Lara - FS, GRAND JUNCTION, CO

If we already have a customized surface fuel model raster layer, can we substitute/upload that for the default Landfire raster(s)? Sorry for the basic questions...haven't used this program yet.

[10:32 AM] Schueller, Brianna -FS

Can you clarify what you mean by 2-dimensional?

[10:33 AM] Kostrzewski, Craig -FS

2-dimensional is an option in Behave where one can combine 2 fuel models into a landscape.

[10:34 AM] Schueller, Brianna -FS

Great question, Lara. At this time, no, you cannot upload customized fuel model layers you may have for your home unit. This is a request we get often though.

[10:34 AM] Croft, Jennifer -FS

Duran, Lara - FS, GRAND JUNCTION, CO yes you can upload shp files you have edited

[10:36 AM] Vaillant, Nicole -FS

**Kostrzewski, Craig -FS**

2-dimentional is an option in Behave where one can combine 2 fuel models into a landscape.

Craig, each pixel can only be assigned a single fuel model. When BEHAVE+ let's you use two it does two independent calculations. If you need that information you would need to generate 2 landscape, 1 for each FM change you would like.

[10:38 AM] Osborne, Kevin -FS

**Vaillant, Nicole -FS**

Craig, each pixel can only be assigned a single fuel model. When BEHAVE+ let's you use two it does two independent calculations. If you need that information you would need to generate 2 landscape, 1 for each FM change you would like.

Given this, is there a way to get an overall average rate of spread?

(2 liked)

[10:39 AM] Osborne, Kevin -FS

The benefit of Behave is that ability to get a generalized value for your burn plan. It is really hard to get 'the number' for a burn plan with the wide variety of rates of spread / flame lengths across the entire burn unit in IFTDSS

[10:39 AM] Osborne, Kevin -FS

Any thoughts on how to translate that whole landscape to a burn plan?

[10:40 AM] Morfin, Victor -FS

CONTAIN is may be old/outdated but gives us clear numbers for staffing in Northern Arizona timber (and other types). Still looking for a similar product from IFTDSS. Tuned in

[10:41 AM] Schueller, Brianna -FS

**Osborne, Kevin -FS**

Any thoughts on how to translate that whole landscape to a burn plan?

Kim is going to cover some of this yet in the presentation. IFTDSS does have a summary report for the Fire Behavior output for your burn unit.

(2 liked)

[10:43 AM] Kostrzewski, Craig -FS

Behave can accept 2 variables with ranges

[10:44 AM] Schueller, Brianna -FS

**Morfin, Victor -FS**

CONTAIN is may be old/outdated but gives us clear numbers for staffing in Northern Arizona timber (and other types). Still looking for a similar product from IFTDSS. Tuned in

Kim will demo how to get at some of this with IFTDSS and we hope to get some feedback from this community on how we can incorporate/automate it in the future in the system.

[10:47 AM] Pasquale, Richard -FS

I have asked IFTDSS to output the 13FM multiple time on differing landscapes and never received the data in the landscape report.... Just to confirm IFTDSS can report out 13 FM in a landscape report?

[10:47 AM] Osborne, Kevin -FS

we better find our spot fires before they are 2 acres!

[10:48 AM] Osborne, Kevin -FS

What Kim is showing is not the 2 resources combined

[10:48 AM] Schueller, Brianna -FS

**Pasquale, Richard -FS**

I have asked IFTDSS to output the 13FM multiple time on differing landscapes and never received the data in the landscape report.... Just to confirm IFTDSS can report out 13 FM in a landscape report?

Yes, Richard, IFTDSS should summarize FM 13 in Landscape Reports.

[10:48 AM] Osborne, Kevin -FS

that example is either 20 OR 10.5

(1 liked)

[10:49 AM] Osborne, Kevin -FS

to combine the 2 resources you would need to put 30.5 in the production rate box

(1 liked)

[10:51 AM] Duran, Lara - FS, GRAND JUNCTION, CO

There are some raster data products out there that can estimate ember production and ember source. We have some of that data so maybe there is a way to incorporate that info into the software analysis methodology.

[10:52 AM] Schueller, Brianna -FS

**Duran, Lara - FS, GRAND JUNCTION, CO**

There are some raster data products out there that can estimate ember production and ember source. We have some of that data so maybe there is a way to incorporate that info into the software analysis methodology.

We would like to learn more about this, Lara. Let's connect offline.

(1 liked)

[10:56 AM] Kostrzewski, Craig -FS

For modeling fuels outside of the burn unit can the program create a buffer around the burn polygon of a certain distance or would we have to draw or upload a unique polygon?

[10:57 AM] Schueller, Brianna -FS

**Kostrzewski, Craig -FS**

For modeling fuels outside of the burn unit can the program create a buffer around the burn polygon of a certain distance or would we have to draw or upload a unique polygon?

At this point you would have to create a separate polygon to get at that data but this is a great idea to consider as an enhancement to the application in the future.

(1 liked)

[11:00 AM] Croft, Jennifer -FS

I see places I definitely DONT want to lose the unit, may indicate a need for deeper cooling black along that line

[11:00 AM] Schueller, Brianna -FS

**Kostrzewski, Craig -FS**

For modeling fuels outside of the burn unit can the program create a buffer around the burn polygon of a certain distance or would we have to draw or upload a unique polygon?

I should also point out that you do get outputs for the entire landscape (areas outside of the burn unit) summarized in a report and viewable on the map. So, technically you get outputs outside of the burn unit boundary as it is, but it is in the shape of the box you created to pull your landscape rather than a buffered area around your unit. Hope this makes sense.

(2 liked)

[11:00 AM] Bowne, Elise -FS

These two layers though would not reflect the changes we made to the landscape though, correct? Are they based on the 2020 Landfire data? I couldn't see that in the metadata.

The layers are the PCL and the following one.

[11:02 AM] Schueller, Brianna -FS

**Bowne, Elise -FS**

These two layers though would not reflect the changes we made to the landscape though, correct? Are they based on the 2020 Landfire data? I couldn't see that in the metadata.

No, the SDI and PCL layers are coming directly from the RMA Service so will not reflect edits made in IFTDSS to the landscape.

(1 liked)

[11:03 AM] Kostrzewski, Craig -FS

I would suggest an option be added for the user to input eye level wind as well, as an option.

(2 liked)

[11:04 AM] Osborne, Kevin -FS

MTT is very similar to Short Term Fire Behavior (STFB) in WFDSS if anyone is familiar with that

(1 liked)

[11:05 AM] Schueller, Brianna -FS

**Kostrzewski, Craig -FS**

I would suggest an option be added for the user to input eye level wind as well, as an option.

As of now the models do not take eye level winds so we did not include those as an input option, however, we could convert those in the system behind the scenes.

(1 liked)

[11:06 AM] Schueller, Brianna -FS

**Bowne, Elise -FS**

These two layers though would not reflect the changes we made to the landscape though, correct? Are they based on the 2020 Landfire data? I couldn't see that in the metadata.

I am not sure about LF version for PCL and SDI. We would need to reach out to that group if it is not clear from their Metadata.

[11:08 AM] Duran, Lara - FS, GRAND JUNCTION, CO

Is it possible to also modify fuel moistures for escape or spot fires?

[11:08 AM] Schueller, Brianna -FS

**Osborne, Kevin -FS**

MTT is very similar to Short Term Fire Behavior (STFB) in WFDSS if anyone is familiar with that

MTT (Short Term in WFDSS) is the same as MTT Fire Spread in IFTDSS. There are a few bug fixes we have in IFTDSS that WFDSS doesn't have yet but they are virtually the same.

[11:10 AM] Schueller, Brianna -FS

**Duran, Lara - FS, GRAND JUNCTION, CO**

Is it possible to also modify fuel moistures for escape or spot fires?

You would have to model those separately, but yes, you could do that as individual runs.

(1 liked)

[11:11 AM] Osborne, Kevin -FS

the math here assumes the fire isn't growing while the crews are working . . .

[11:11 AM] Croft, Jennifer -FS

I'm thinking a summary table of options and likely resources needed would be helpful in the burn plan- would take a lot of guess work out of that initial resource order to catch or convert

(1 liked)

[11:12 AM] Schueller, Brianna -FS

**Osborne, Kevin -FS**

the math here assumes the fire isn't growing while the crews are working . . .

That is correct.

[11:13 AM] Osborne, Kevin -FS

the nice thing about contain is it continually grows the fire as the recourses work around it

(2 liked)

[11:13 AM] Pasquale, Richard -FS

Maybe a need to account for fire size at report and time to resource arrival

(2 liked)

[11:14 AM] Osborne, Kevin -FS

Finding a way to run the contain module by picking a point for the spot and getting the same outputs from contain would be nice. A point and click version of contain that automates fuel model, slope inputs based on location.

(1 liked)

[11:14 AM] Pasquale, Richard -FS

If IFTDSS providing fire behavior modeling at the head or flank of the fire

[11:14 AM] Graeve, Phillip -FS

any 'lite' applications coming out or in development for tablet or phone use? for use in the field or on the fly as new wx data or ground truthing changes any variables?

(1 liked)

[11:15 AM] Yankey, Justin -FS

Can geodatabases be uploaded or only shape files?

[11:15 AM] Kostrzewski, Craig -FS

Osborne, Kevin -FS Behave (contain) also splits the resources 50 / 50 to each flank of the fire

[11:15 AM] Pasquale, Richard -FS

\*is

[11:16 AM] Osborne, Kevin -FS

**Kostrzewski, Craig -FS**

Osborne, Kevin -FS Behave (contain) also splits the resources 50 / 50 to each flank of the fire

Yes, good point

[11:16 AM] Duran, Lara - FS, GRAND JUNCTION, CO

**Graeve, Phillip -FS**

any 'lite' applications coming out or in development for tablet or phone use? for use in the field or on the fly as new wx data or ground truthing changes any variables?

It could work like ArcGIS Pro where a version + data can be checked out for a short duration of time.

(1 liked)



Edited

[11:20 AM] Schueller, Brianna -FS

**Pasquale, Richard -FS**

If IFTDSS providing fire behavior modeling at the head or flank of the fire

IFTDSS does not break outputs out by head or flanking but this is something we have discussed in terms of improving what we provide for rx burn planning.

[11:21 AM] Schueller, Brianna -FS

**Yankey, Justin -FS**

Can geodatabases be uploaded or only shape files?

No, only zipped up shapefiles can be uploaded in the system at this time.

[11:22 AM] Pasquale, Richard -FS

So, LandFire 2020 incorporates all Veg manipulation activities occurring prior to 12/31/2019 or 12/31/2020 or FY20...?

[11:25 AM] Schueller, Brianna -FS

**Pasquale, Richard -FS**

So, LandFire 2020 incorporates all Veg manipulation activities occurring prior to 12/31/2019 or 12/31/2020 or FY20...?

Here is a link to the metadata about the 2020 data. [https://landfire.gov/lf\\_220.php](https://landfire.gov/lf_220.php)

[11:28 AM] Osborne, Kevin -FS

Sharing edited landscapes would be very beneficial

(1 liked)

[11:29 AM] Duran, Lara - FS, GRAND JUNCTION, CO

Gosh it would be nice to have FACTS polygons and/or fire polygons automatically imported so those can be changed.

[11:31 AM] Pasquale, Richard -FS

"Fuel Treatments" So Key point 3 and 6?

[11:31 AM] Schueller, Brianna -FS

**Pasquale, Richard -FS**

"Fuel Treatments" So Key point 3 and 6?

Correct

[11:32 AM] Kostrzewski, Craig -FS

What about INFORM and wildfires?

[11:33 AM] Myhra, Andrew -FS

Does the Report contain all of the Landscape rule that were utilized?

[11:34 AM] Schueller, Brianna -FS

**Kostrzewski, Craig -FS**

What about INFORM and wildfires?

Recent year wildfires come from WFIGS data sets.

(1 liked)

[11:34 AM] Myhra, Andrew -FS

Screenshot. Thank you

[11:36 AM] Plocek, Rochelle - FS, SHERIDAN, WY

Yes, interested!

[11:37 AM] Ernstrom, Kim (Guest)

i could also share some NEPA reports where folks have used IFTDSS to show alternatives

(2 liked)

[11:38 AM] Ernstrom, Kim (Guest)

I will check with the folks that developed them and make sure they are ok with me sharing

[11:42 AM] Pasquale, Richard -FS

Suggestion for an IFDTS Containment function: Build the function to be able to show the user, ch/hr needed to confine a fire at X acres or with X timeframe or prior to fire arrival at X location. Instead of/as well as, will X ch/hr success.

[11:44 AM] Ernstrom, Kim (Guest)

thanks Richard yes! I like that... grabbing your suggestion...

[11:45 AM] Myhra, Andrew -FS

Nice work everyone, another great presentation!

(2 liked)

[11:45 AM] Duran, Lara - FS, GRAND JUNCTION, CO

Thanks, great presentation!