TASK #2 DELINEATING FIRE DANGER RATING AREAS

Contents

OBJECTIVE(S)

Upon completion of this lesson, participants will be able to:

1. Delineate the analysis area into fire danger rating areas (FDRA) by analyzing homogenous areas of the fire environment components: vegetation, climate, and topography.

2. Utilizing the FDRAs defined in the NIFC ArcGIS Online (AGOL) system, download fire occurrence data.

3. Import fires into FireFamilyPlus by associating them with FDRAs and custom agencies.

NARRATIVE

I. **INTRODUCTION**

A. FDRAs are the footprint for decisions supported with the input of fire danger rating. They are relatively large, homogenous areas making up the fire environment (vegetation, climate, and topography). The size and number of FDRAs within an analysis area is dependent on the complexity of the fire environment. The fire environment component having the greatest weight in determining the FDRA boundary is the component that would affect the biggest change in the fire environment.

1. By overlaying, comparing, and analyzing the vegetation, climate, and topography GIS layers resulting from Task #1, delineate the analysis area into FDRAs in AGOL. Follow the instructions as outlined in the AGOL instructions.

2. As necessary, make minor refinements to the FDRA boundaries to edge-match with Response Areas where following the administrative boundaries are more important to applying a fire management decision than following a homogenous fire environment boundary. For example, it will not be efficient or effective for a FDRA boundary to dissect existing county or ownership boundaries if those boundaries are based on an agencies' authority to respond (i.e. one county's firefighting resources may not have authority to respond to a fire in another county). Document the decisions to adjust or not to adjust FDRA boundaries in the Fire Danger Operating Plan (FDOP) template.

3. Utilizing analysis area GIS data, outputs from previous exercises, and reference materials: assign slope class and herbaceous fuel type to each FDRA. These input parameters are necessary to run the NFDRS model.

B. The FDRAs developed in this exercise will be utilized in Tasks #4, #5, #6 and #7.

II. **PROCEDURES**

Utilizing the Fire Danger Rating Area(s) defined in the NIFC ArcGIS Online (AGOL) system, download fire occurrence data which will then be imported into a FireFamilyPlus database.

A. <u>Step 1</u> – Using <u>Tech Tip 2a</u>, extract a local copy of Fire Danger Rating Areas from the NIFC AGOL to edit on a desktop/laptop computer.

B. <u>Step 2</u> – Edge-match draft FDRA boundaries to "response areas using <u>Tech Tip 2b</u> (if your group does not have response areas), or <u>Tech Tip 2c</u> (if your group has response areas). Review your work ensuring all FDRAs are appropriately attributed with a FDRA name and number.

C. <u>Step 3</u> – Using <u>Tech Tip 2d</u>, export fire occurrence data for each FDRA created in steps 1 & 2. This cannot be done until the GIS specialist has set the "Clip Fire for Fire Family Plus" field to "YES".

   1. Fire occurrence data is for all of the FDRAs as bounded by the outside FDOP boundary determined by the GIS specialist. For example, there may be 4 FDRAs identified for the FDOP boundary of the state of Illinois. Each FDOP area will need to be identified as a "custom agency" in FireFamily.

   2. All the fires within the FDOP boundary identified by the state lines will be downloaded, even if just one FDRA is selected.

   3. Because fires are downloaded based on a "FDOP" boundary, each FDRA ***must*** be identified by a FDRA #. Each FDRA # will need to have a corresponding custom region defined in FireFamily.

D. <u>Step 4 </u>- For each FDOP area, define a FireFamilyPlus custom agency.

   1. Using <u>TechTip 2e</u> (pages 1 – 3), set up a custom agency in FireFamilyPlus.

   2. Best practices are to identify the custom agency as "NIFC AGOL fires" or "Karen Short fires" to represent the NIFC AGOL fire occurrence authoritative source.

E. <u>Step 5 </u>- For each FDRA within the above FDOP boundary, define a FireFamilyPlus custom region.

   1. Using <u>TechTip 2e</u> (pages 3 – 5), in FireFamilyPlus, set up a custom region within the agency defined above. Each region code should match the FDRA identifier field that was assigned by the NIFC AGOL GIS specialist.

F. <u>Step 6</u> – Import NIFC AGOL Fire Occurrence data into a FireFamilyPlus database.

   1. Using <u>TechTip 2e</u> (pages 14 – 18), import the fire occurrence datafile downloaded from the NIFC AGOL system into FireFamilyPlus using the custom agency & regions defined above.

G. <u>Step 7</u> – Associating imported fires with appropriate RAWS or SIGS.

1. Using [TechTip 2e](#) (pages 18-19), make sure that the working set is set correctly and with the appropriate RAWs or SIGs selected. Click on the "Fire Associations" button. Select the new custom agency tab (usually on the far right) and then click on the region or regions related to the FDRAs.

H. Fires imported should be reviewed for accuracy – it is important to quality control fire occurrence to ensure that no duplicate fires have been imported and correct fire data (ie fire size, statistical cause, discovery date) as needed.

III. EXERCISE MATERIALS

A. Fire Danger Operating Plan Template

B. Response Zone layer/theme (ArcGIS Online - AGOL)

C. Computer(s) with internet connectivity running the latest version of FireFamilyPlus and desktop ArcGIS 10.5 or higher with either a Standard or Advanced ESRI license.

REVIEW OBJECTIVE(S)

Upon completion of this lesson, participants will be able to:

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2. Utilizing the FDRAs defined in the NIFC ArcGIS Online (AGOL) system, download fire occurrence data.

3. Import fires into FireFamilyPlus by associating them with FDRAs and custom agencies.

REFERENCES

A. Lessons:

- 7 - Fire Danger Rating Areas
- 8 - ArcGIS Online (AGOL) Instructions

B. TechTips

- 2a – Extracting A Local Copy from AGOL To Edit FDRAs In Desktop ArcGIS

- 2b – Creating Edge-Matched FDRAs In ArcMap (No Fire Response Areas)

- 2c – Creating Edge-Matched FDRAs In ArcMap (Using Fire Response Areas)

- 2d – Exporting Fires By FDRA

- 2e – Associating Fires with Custom Agencies