

# GIS Specialist for Incident Management Training

## Unit 10 – IAP Map 2 Workflow Process

### *Unit Objective:*

By the end of this lesson the students will prepare a single page Incident Action Plan (IAP) map using Incident Command System (ICS) standards.

### *Work Flow Instructions:*

- 1) Open ArcMap and start with a new empty map document.
- 2) Set the Data Source Options to “Store relative path names.”
- 3) Turn off “Save thumbnail image with map.”
- 4) Set the page size to 11x17 (Tabloid)
- 5) Check to see that the Fire Incident Mapping Tool is loaded in Extensions dialog
- 6) Add the Fire Incident Mapping Tool Toolbar if needed.
- 7) Using the “Open Incident” button on the Fire Incident Mapping Tool (FIMT) Toolbar open the Middle Creek Personal Geodatabase in your Middle\_Creek folder.

The Middle Creek Incident Personal Geodatabase will be added to the ArcMap Document. Notice that data has already been added into the Geodatabase. Also note that all the layers are automatically turned on when the Geodatabase is loaded. Turn off the layers beginning with “Hist\_\*”.

- 8) Zoom into Fire Area
- 9) Explore and familiarize yourself with the different layers of the PGDB. Note the layers attribute tables, pre-built symbology, and projection information.
- 10) Add the base data: DRG’s, Roads, Mining, and Cemetery etc. Layers (Symbolize the Layers) Note: Place the PGDB as the top layer in the TOC (Table of Contents).
- 11) Group the DRG layers into a Group Layer titled DRG and turn the Green “Value 5” off for each layer.
- 12) Using the “Edit Incident” button on the FIMT Toolbar start editing the Middle Creek PGDB (or incident geodatabase).
- 13) Edit the FirePolygon feature class using the Reshape task on the Editor toolbar to match the Task Assignment documents.
- 14) Save your edits.
- 15) Using “Split Assignment Line” and “Update Perimeter Assignment Breaks” tool on the FIMT Toolbar update the AssignmentBreak feature class to match the Task Assignment documents. Remember you edit the PerimeterSector feature class to update the AssignmentBreak feature class.
- 16) Save your edits.

- 17) Delete the FireLine feature class with the Editor toolbar and then copy the perimeter to the fireline. “Change FireLine” buttons on the FIMT toolbar to match the Task Assignment documents.
- 18) Save your edits.
- 19) Using the appropriate Firepoint button, edit the FirePoint feature to match the Task Assignment documents.
- 20) Save your edits and stop editing.
- 21) Save your ArcMap document in \Middle\_Creek\projects\{date\_folder} folder using the proper naming convention.
- 22) Label the Divisions by using the “Label Multiple Fields” button on the FIMT toolbar. Select the PerimeterSector Layer as the target layer and “DivisionID” for the field to use for labeling. The labels produced by the “Label Multiple Fields” button only shows the letter designation for the division. You more clarity in your label by preceding the label with “Div” for division. To do so you must add a custom expression. Note to label using a custom expression you must enter an expression using the “Expression” button in the “Labelss” tab in the layer properties for the PerimeterSector feature class. Use the following expression: “Div ” & [DivisionID]. The labels will appear as “Div A” and so on. *However, notice that some of the labels appear within the Fire Perimeter. Proper ICS mapping methods state that the Division labels must always appear outside the fire line. With labels you cannot move the location of each label.*
- 23) Format the Division Labels for proper, clear, cartographic display. This includes size, and font type. *Remember your IAP map will be printed at 1:24000*
- 24) Using the “Edit Incident” button on the FIMT Toolbar to start editing the Middle Creek PGDB (or incident geodatabase).
- 25) Set your map scale to 1:24,000.
- 26) Convert Perimeter Sector labels to annotation storing the annotation in the Middle Creek PGDB. Title the Annotation Feature Class as “DivAnno”. Notice that the Annotation Feature Class is added to your ArcMap document. In the ArcMap TOC drag and drop the DivAnno into the Middle\_Creek group layer.
- 27) Save your edits
- 28) Make the edit task “Modify Feature” and the Target: “DivAnno” on the Editor Toolbar.
- 29) Set DivAnno as the selectable layer.
- 30) Select all the features within the DivAnno Layer using the “Select Elements” button on the Tools toolbar.
- 31) Right Click on a selected feature and set the angle to zero. Repeat for all annotation features.
- 32) Move the annotation so that it is OUTSIDE the fireline and does not conflict with other features on the map.
- 33) Stop and Save your edits.
- 34) Label the Fire Points Layer. Adjust the labels for clarity and proper cartographic display. *Remember your IAP map will be printed at 1:24000*
- 35) Convert the labels to annotation creating a new Feature Class called FirePtAnno.
- 36) Start editing the Incident and move your Fire Points Annotation so that it does not conflict with other features on the map.
- 37) Stop editing and Save your edits. Save the Map Document.

- 38) Open the Fire Point Layer Symbology Tab in the Layers Properties and remove symbols that are not being used in the map. *This is necessary for production of the maps legend.*
- 39) Follow Step 38 for the Fire Line and Assignment Break Layers.
- 40) Adjust the layer symbols size to ensure they can be clearly seen at a 1:24,000 scale.
- 41) Save your map document.
- 42) Switch to Layout mode. Resize the map and stretch the borders of the Data Frame to fill the entire page. Remember to leave room for the fire to grow in the direction the fire is burning. Set your scale to 1:24,000
- 43) Add the Legend using the standard ArcMap Legend Wizard. *When creating your legend be sure to remove layers that are not being displayed in the map. Example would be the Fire Polygon Layer.*
- 44) Add a Lat/Long Grid or Graticules to the layout using the ArcMap Wizard. After you have finished the Wizard go the Graticule properties and change your label offsets so that they appear inside the map. Change your label orientation to vertical for your right and left labels.
- 45) Add S.T.A.N.D and save your map.
- 46) Position the Title, Scale Bar, North Arrow and Legend in the Layout where they won't block any important map or incident features.
- 47) Export your map to a PDF following the instructions provided in the Task Assignment.