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What is the DFIRM Layer Loader?

DFIRM Layer Loader is a set of tools which assist in data loading, data exporting, and zooming to data extents. While the tools on DFIRM Layer Loader toolbar are not all functionally related, they were specifically included on the same toolbar because they are all frequently used. Providing access to these tools on a single toolbar helps make the tools easily accessible.



DFIRM Layer Loader toolbar

Quick Reference Guide

The following is a quick reference guide to all of the components on the **DFIRM Layer Loader** toolbar.



[DFIRM SDE Data Loader](#)

Adds additional layers and/or look-up tables from the SDE geodatabase to the active ArcMap session



[DFIRM Reference Data Loader](#)

Adds reference data to the active ArcMap session



[Show DFIRM Adjacent Area](#)

View adjacent effective DFIRM data



[Show Only DFIRM Area](#)

Remove view of adjacent effective DFIRM data



[Zoom to DFIRM ID](#)

Zooms to the extents of the active DFIRM study



[Suspend Drawing](#)

Pauses the data drawing process



[DFIRM Export to PGDB](#)

Exports the feature classes and look-up tables from the SDE geodatabase into a personal geodatabase.

Tool Controls

This section describes the functionality of each of the tools available on the **DFIRM Layer Loader** toolbar and provides instructions for their use.

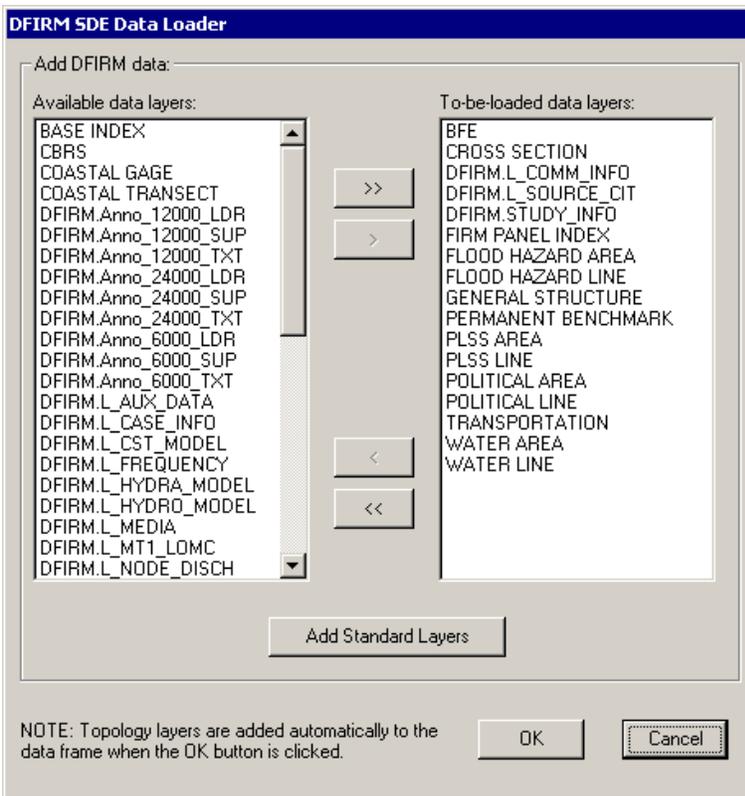


DFIRM SDE Data Loader

The **DFIRM SDE Data Loader** tool adds feature classes and/or look-up tables from the SDE geodatabase to the Layers data frame in the active ArcMap session. The tool also removes feature classes/tables from the Layers data frame. Additionally, all topology rules are automatically added into the ArcMap session when the **OK** button is clicked, even if no additional feature classes and/or look-up tables are selected to be added.

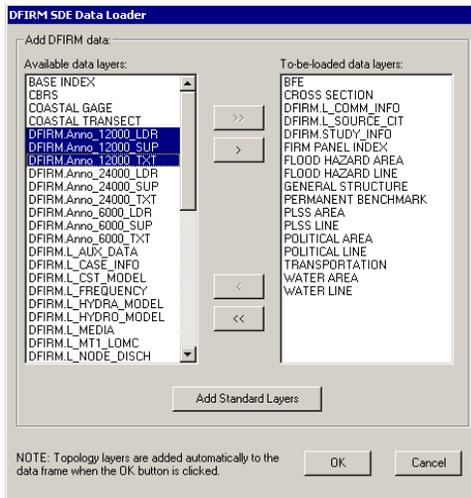
Note: Only the SDE data associated with your JTX job version will be loaded into the active ArcMap session. You cannot add data that is not part of your JTX job version.

The *Available data layers:* list displays all feature classes and look-up tables in the SDE geodatabase that can be added to the ArcMap session. A feature class or table does not have to contain records in the current study in order to appear in the list (e.g., Coastal Transect layer for a study which resides in the Kansas).

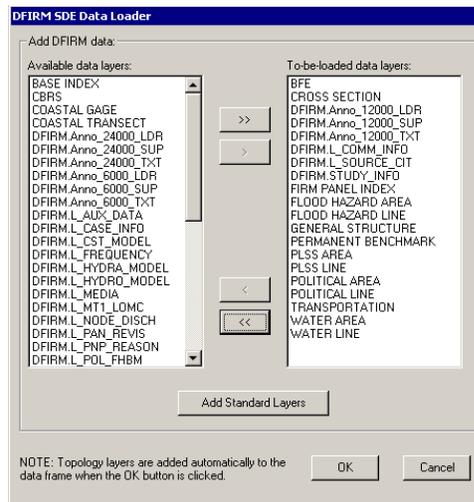


Example of the **DFIRM SDE Data Loader** dialog.

1. Highlight the spatial layers and/or look-up table(s) in the *Available data layers:* list.
2. Use the *Adds Selected Data Layers* button  to transfer your selection into the *To-be-loaded data layers:* list. The selected layer(s) and/or table(s) no longer appear in the *Available data layers:* list.

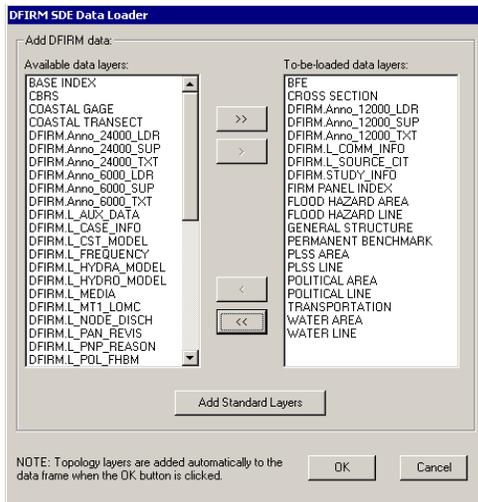


Before the *Add Selected Data Layers* button is clicked.

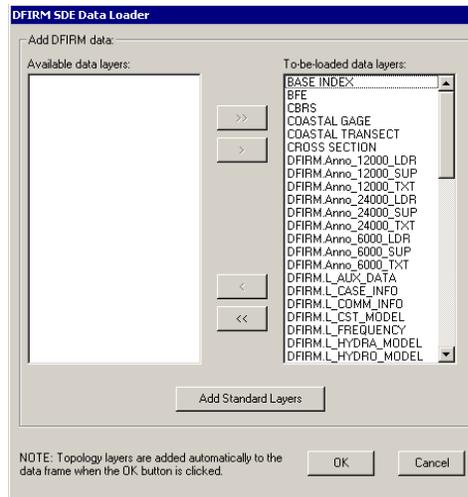


After the *Add Selected Data Layers* button is clicked.

- Use the *Adds All Data Layers* button  to transfer all of the layers listed in the *Available data layers:* list to the *To-be-loaded data layers:* list.

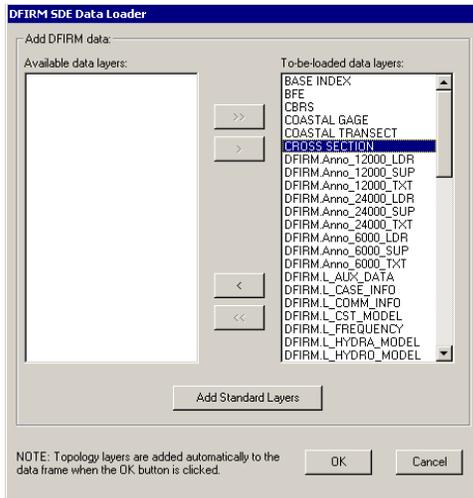


Before the *Adds All Data Layers* button is clicked.

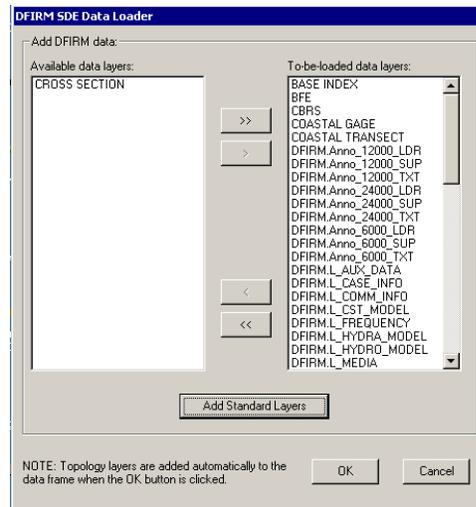


After the *Adds All Data Layers* button is clicked.

- If you decide not to add a spatial layer(s) or look-up table(s), highlight the layer(s) and/or table(s) and use the *Removes Selected Data Layers* button  to remove it from the *To-be-loaded data layers* list. The selected layer(s) and/or table(s) now appear in the *Available data layers:* list.

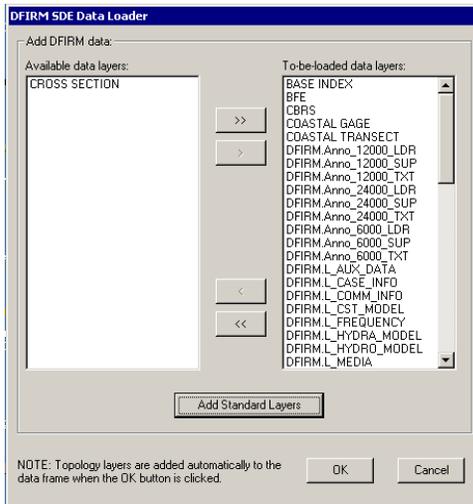


Before the *Removes Selected Data Layers* button is clicked.

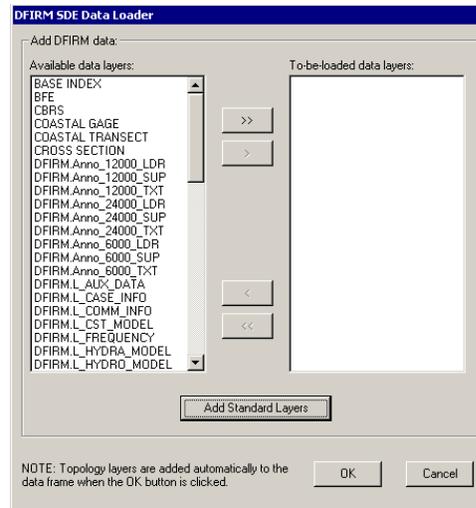


After the *Removes Selected Data Layers* button is clicked.

5. If desired, use the *Removes All Data Layers* button  to remove all feature classes/tables from the *To-be-loaded data layers* list.

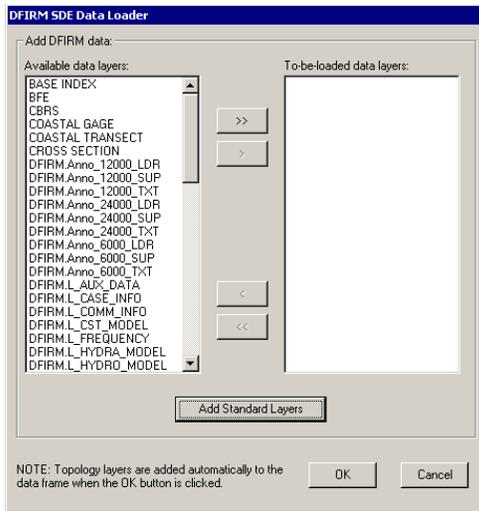


Before the *Removes All Data Layers* button is clicked.

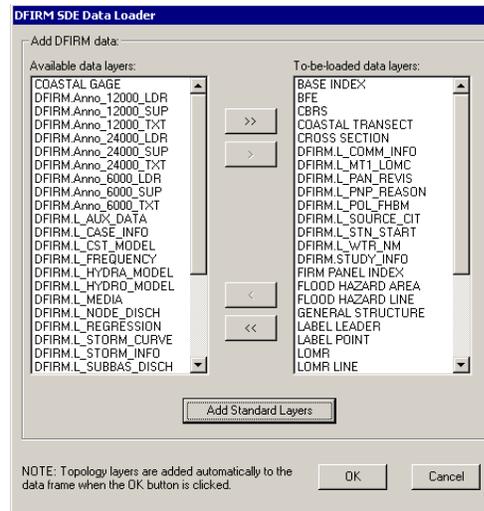


After the *Removes All Data Layers* button is clicked.

6. The *Add Standard Layers* button  will automatically move all of the features classes that are in a Standard DFIRM database, as dictated by FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners, Appendix L: Guidance for Preparing Draft Digital Data and DFIRM Database*, to the *To-be-loaded data layers*: list.

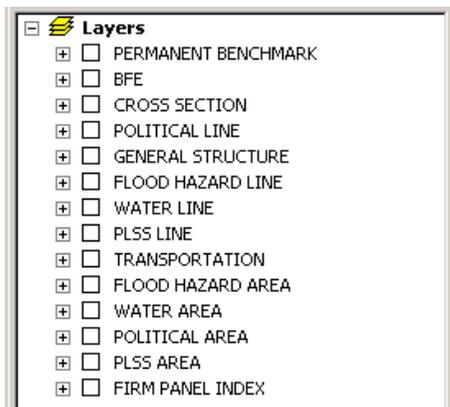


Before the *Add Standard Layers* button is clicked.

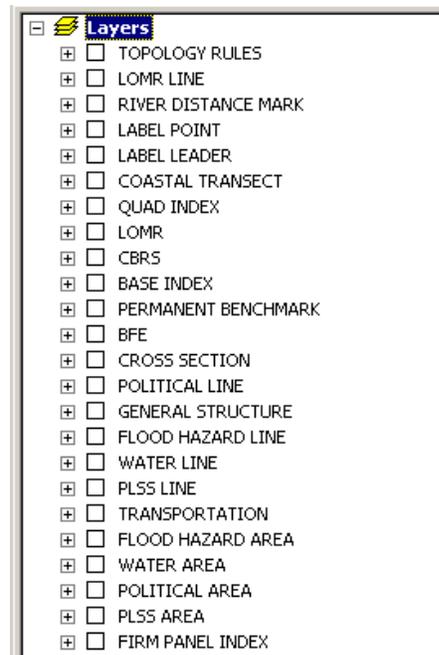


After the *Add Standard Data Layers* button is clicked.

7. Click *OK* to add all of the items in the *To-be-loaded data layers*: list into the ArcMap session.



Before data layers are added with the DFIRM SDE Data Loader tool.

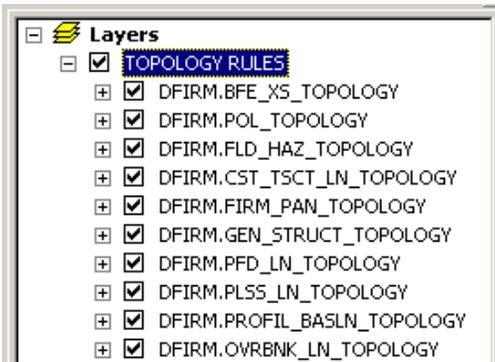


After data layers are added with the DFIRM SDE Data Loader tool.

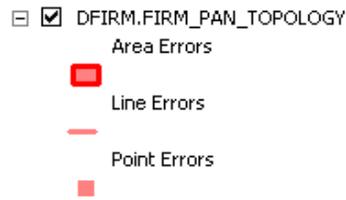
OR

7. Click *Cancel* to close the dialog without making any changes to the Table of Contents.

All of the topology layers defined in the SDE geodatabase are automatically added to the Layers data frame when the *OK* button is clicked. For each topology layer the Area Errors, the Line Errors, and the Point Errors features are automatically added.



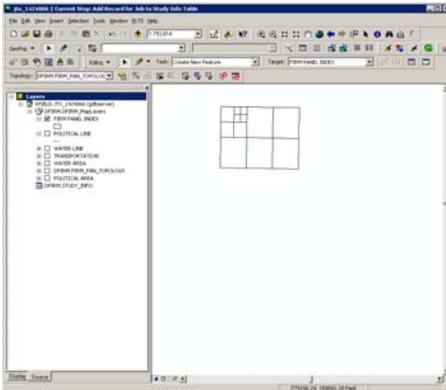
An example of the topology layers automatically loaded.



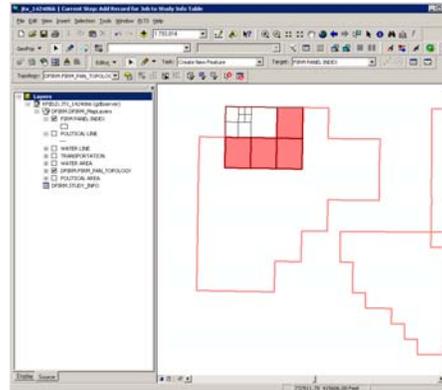
An example of the topology features automatically loaded for each topology layer.

Note: If you wish to view the Dirty Areas (areas where edits have occurred and have not been validated) for the topology layer, add the topology feature manually. To add the Dirty Areas, right-click on the desired topology layer and select *Properties*. In the *Layer Properties* dialog, click on the *Symbology* tab. Within the *Symbology* tab, check on the Dirty Areas option.

The topology layers do not contain a reference to the DFIRM ID. Topology layers do not take into account definition queries, layer visibility, or selection sets. Therefore, when topology errors or dirty areas are shown in the data view, errors/dirty areas are not restricted to your particular study; errors/dirty areas associated with neighboring data are shown. You are not responsible for errors associated with adjacent studies; you should not make any edits to the neighboring data in an attempt to correct them.



Example of the FIRM Panel Index (S_FIRM_Pan) layer shown without the relative topology layer being visible.



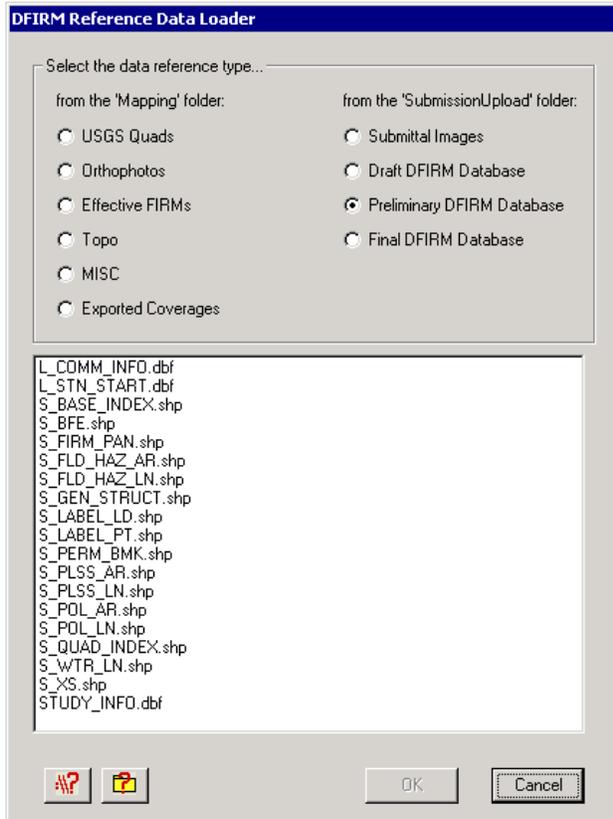
Example of the FIRM Panel Index (S_FIRM_Pan) layer shown with the relative topology layer being visible; errors associated with neighboring study data are shown.

When you validate your topology with the tools on the **Topology** toolbar, all of the data in the SDE geodatabase that fall within the defined area (whether it is displayed or not) is reviewed. If you prefer not to visually see the errors associated with a neighboring study, you can select the topology errors and mark them as an exception. For additional information regarding topology, please refer to the Topology module of the online DFIRM Tools training located on the MIP website (<https://hazards.fema.gov>).



DFIRM Reference Data Loader

The **DFIRM Reference Data Loader** tool adds data residing on the MIP directory structure to the Layers data frame of the active ArcMap session. This data is used for reference in the DFIRM-creation process and includes, but is not limited to, raster catalogs (Orthophotos or USGS Quads), imagery, topographic maps, shapefiles, geodatabases, coverages, and effective DFIRM maps.



An example of the **DFIRM Reference Data Loader** dialog.

Each radio button accesses a different folder in the MIP directory structure. The following list maps the directory path for each radio button, so you will know to which folders to upload your reference data. Additionally, this chart can be accessed from within the **DFIRM Reference Data Loader**

dialog via the *Folder Pathway Help* button .

Radio Button	Folder Path
USGS Quads	J:\FEMA\<<region>\<state>\<county>\<community/county>\<FEMA Case Number>\Mapping\Raster\Quad
Orthophotos	J:\FEMA\<<region>\<state>\<county>\<community/county>\Ortho
Effective FIRMs	J:\FEMA\<<region>\<state>\<county>\<community/county>\<FEMA Case Number>\Mapping\Raster\EF_FIRMS
Topo	J:\FEMA\<<region>\<state>\<county>\<community/county>\<FEMA Case Number>\Mapping\Topo
MISC	J:\FEMA\<<region>\<state>\<county>\<community/county>\<FEMA Case Number>\Mapping\Misc
Exported Coverages	J:\FEMA\<<region>\<state>\<county>\<community/county>\<FEMA Case Number>\Mapping\Cov
Submittal Images	J:\FEMA\<<region>\<state>\<county>\<community/county>\<FEMA Case Number>\SubmissionUpload\Mapping.Final_DFIRM_DB\<<system task ID>\RFIRM
Draft DFIRM Database	J:\FEMA\<<region>\<state>\<county>\<community/county>\<FEMA Case Number>\SubmissionUpload\Mapping.Draft_DFIRM_DB\<<system task ID>
Preliminary DFIRM Database	J:\FEMA\<<region>\<state>\<county>\<community/county>\<FEMA Case Number>\SubmissionUpload\Mapping.Preliminary_DFIRM_DB\<<system task ID>
Final DFIRM Database	J:\FEMA\<<region>\<state>\<county>\<community/county>\<FEMA Case Number>\SubmissionUpload\Mapping.Final_DFIRM_DB\<<system task ID>

The following chart lists the data format types that can be accessed via each radio button in the **DFIRM Reference Data Loader**. Additionally, this chart can be accessed from within the **DFIRM Reference Data Loader** dialog via the *File Format Help* button .

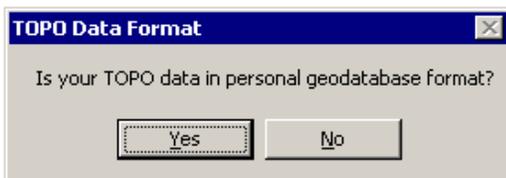
	USGS Quad	Ortho-photos	Effective FIRMs	Topo	MISC	Exported Coverage	Submittal Images	Draft DB	Prelim DB	Final DB
TIFF (*.tif)	●*	●*	●		●		●			
MrSID (*.sid)	●*	●*			●					
JPEG (*.jpg)	●*	●*			●					
ESRI BIL (*.bil)	●*	●*			●					
Windows Bitmap (*.bmp)					●					
PNG (*.png)			●		●		●			
CAD (*.dgn)				●	●					
DBF (*.dbf)	●*	●*		●	●			●	●	●
PGDB (feature classes & tables) (*.gdb)				●	●					
ESRI Coverages (spatial & tabular) (<coverage>)				●	●	●				
Shapefile (*.shp)				●	●			●	●	●

Reference data file formats which can be accessed via each radio button

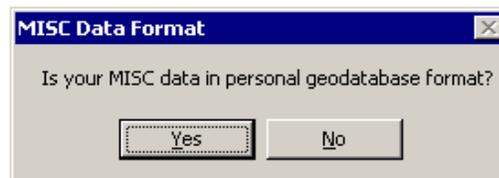
*Accesses an image catalog(s) created from USGS Quads or Orthophotos

1. Select the radio button for the appropriate data type (e.g., USGS Quads, Effective FIRMs). All data files in the appropriate formats which are stored in the associated folder will be listed in the dialog window.

If you select the *Topo* or *MISC* radio button, then one of the following messages will appear:

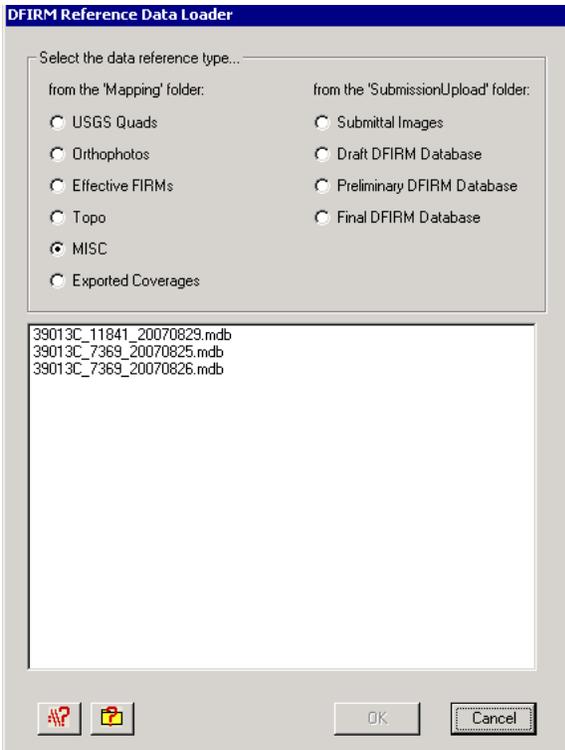


Prompted question if you select the *Topo* radio button.

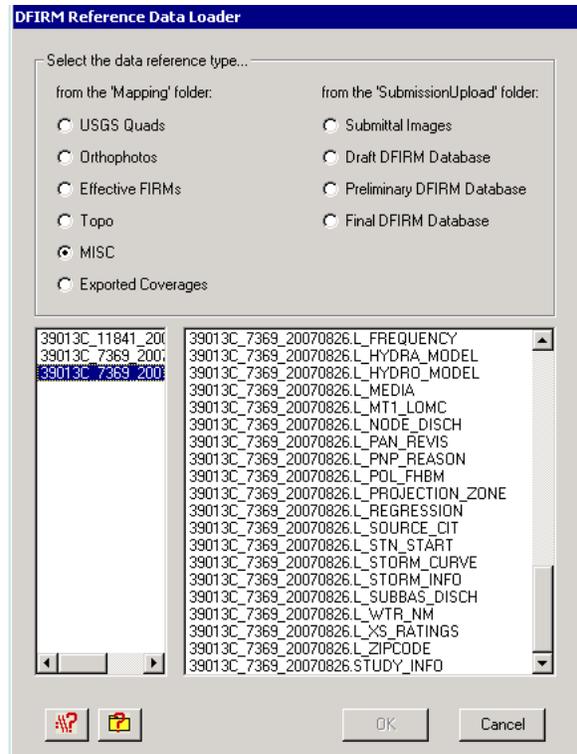


Prompted question if you select the *MISC* radio button.

If you click the *Yes* button, the layer window will display the available personal geodatabases in the dialog window. When you select one of the personal geodatabases, the window becomes divided into two columns: the left column lists the available personal geodatabases and the right column lists the available spatial layers and tables for the selected personal geodatabase.

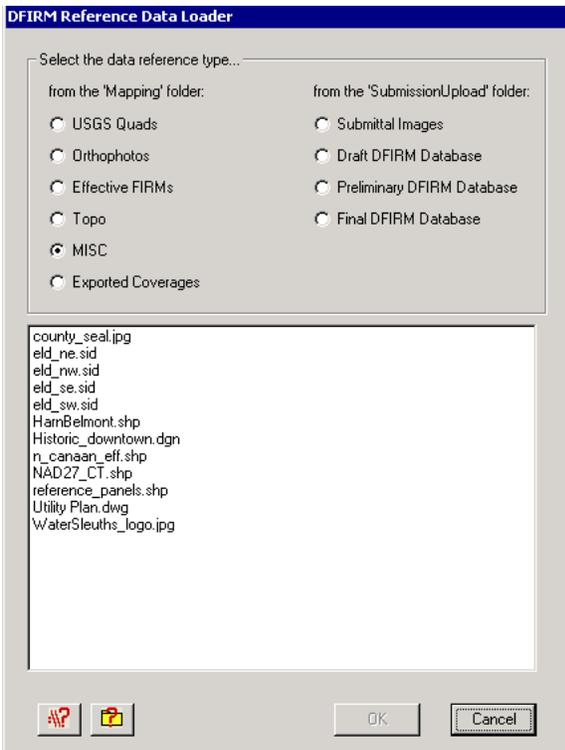


The available personal geodatabases are listed.



The available layers/tables for the selected personal geodatabase.

If you click the *No* button, all of the non-personal geodatabase files will appear in the window.

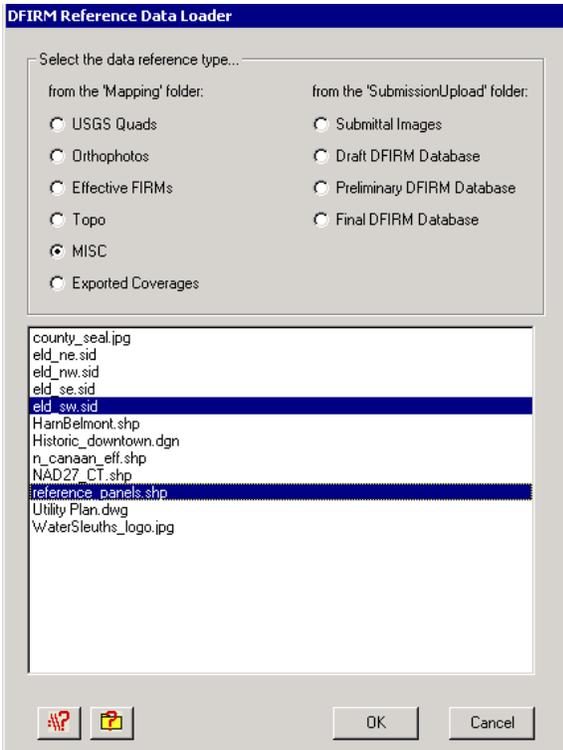


All available files other than the personal geodatabase files are listed.

Note: If you erroneously click the *No* button when you meant to choose the *Yes* button (or vice versa), right-click on the radio button, and the personal geodatabase question will reappear.

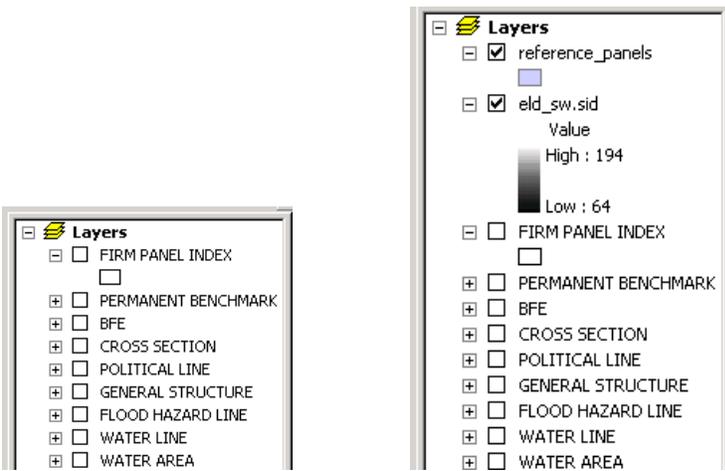
The *USGS Quad* and the *Orthophotos* radio buttons only access the image catalog(s) created for the image files stored in the respective folders. The preferred image file formats to create image catalogs are TIFF (.tif), MrSID (.sid), and PNG (.png). To create an image catalog, use the **Create Image Catalog** tool on the **DFIRM GeoPop Pro** toolbar. Refer to *DFIRM GeoPop Pro User Guide*, *FEMA DFIRM Production Tools* for detailed instructions on using the **Create Image Catalog** tool.

2. Highlight one or more reference files, and click *OK*.



An example of files selected in the **DFIRM Reference Data Loader** dialog.

3. The highlighted reference files are added to the Layers data frame.



The Layers data frame before adding reference data.

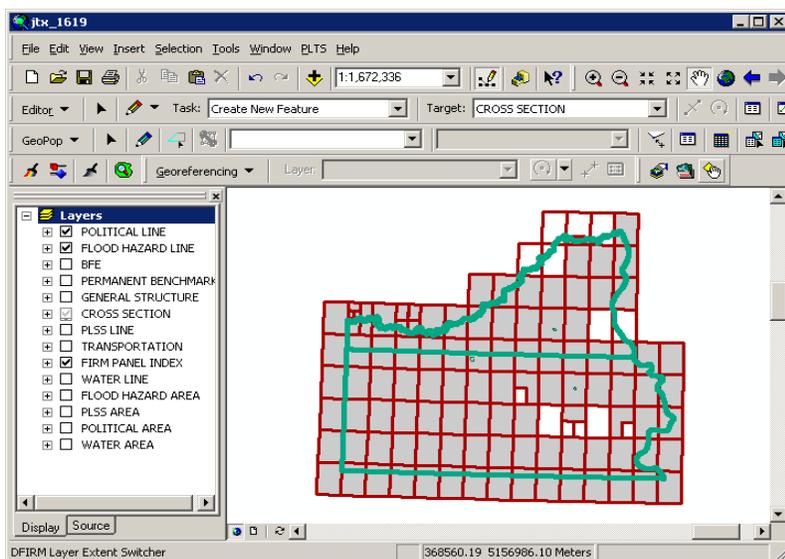
The Layers data frame after adding reference data.

Note: The [DFIRM SDE Data Loader](#) and the **DFIRM Reference Data Loader** are the only means to add data into your ArcMap session. The ESRI tool *Add Data* has been disabled, as this is not the correct way to access the **Citrix** directory structure and/or the SDE geodatabase.



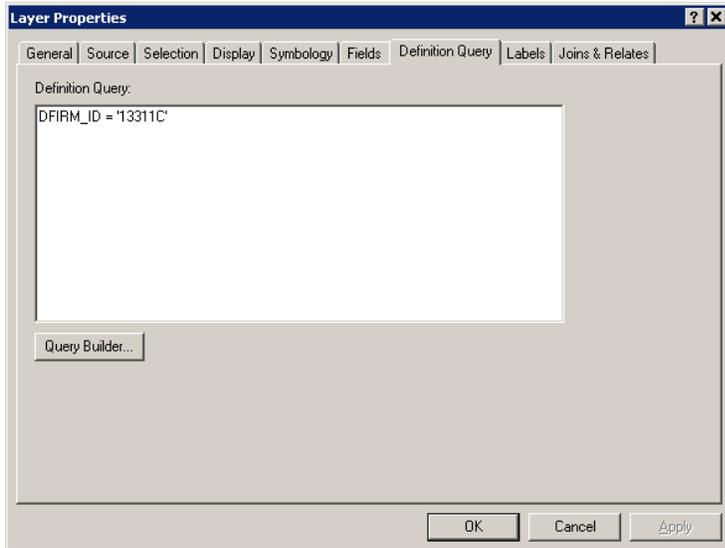
Show DFIRM Adjacent Area

The **Show DFIRM Adjacent Area** tool shows the National Flood Hazard Layer data loaded into the SDE geodatabase, which is adjacent to your study area.



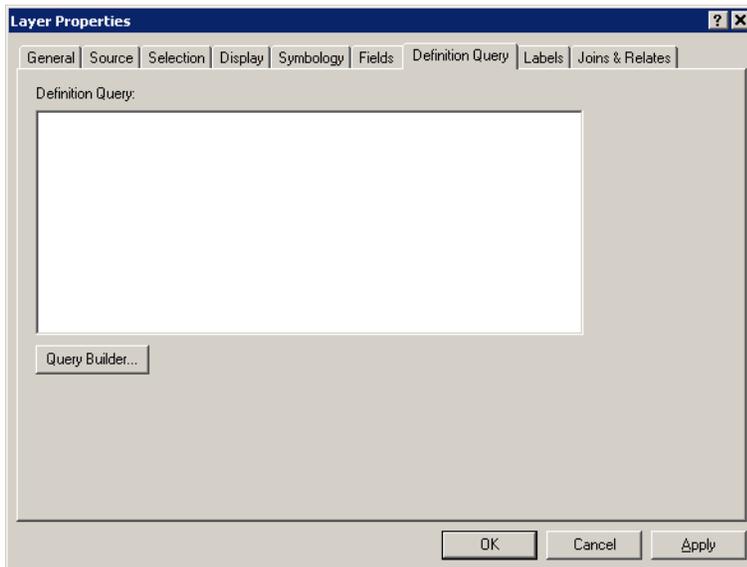
The northern political area is the actual study area, whereas the southern political area is the adjacent effective DFIRM area.

When the ArcMap session is launched from JTX, a DFIRM ID-based definition query is automatically applied to all of the SDE geodatabase spatial layers and tables. Similarly, when data is added to the Layers data frame with ***DFIRM SDE Data Loader*** the same DFIRM ID-based definition query is added to the newly loaded layers/tables. This definition query is necessary for ease of use as it restricts the data to just that which is associated with your study's DFIRM ID.



The DFIRM ID-based definition query which is added to all of the SDE spatial layers and tables.

When the **Show DFIRM Adjacent Area** button is clicked, the tool removes all of the DFIRM ID-based definition queries from the SDE spatial layers and tables.



The DFIRM ID-based definition query is removed from all of the SDE spatial layers and tables.

Note: If you attempt to open a table when the DFIRM ID-based definition query has been removed from the layer/table, you will experience dramatic slowness in speed as ArcMap must show every record in the table for the National Flood Hazard Layer.

Note: When a definition query is in place, not only is the visible data affected but the records shown in the table are impacted. If you have a table open when you make a change to the definition query, you will need to close the table and re-open it to have the change take effect.

Note: Definition queries are never automatically added to or removed from reference data spatial layers or tables loaded into the Layers data frame.

Note: You should not attempt to edit any data in an adjacent area to your study; the data is effective and is only being shown for reference.

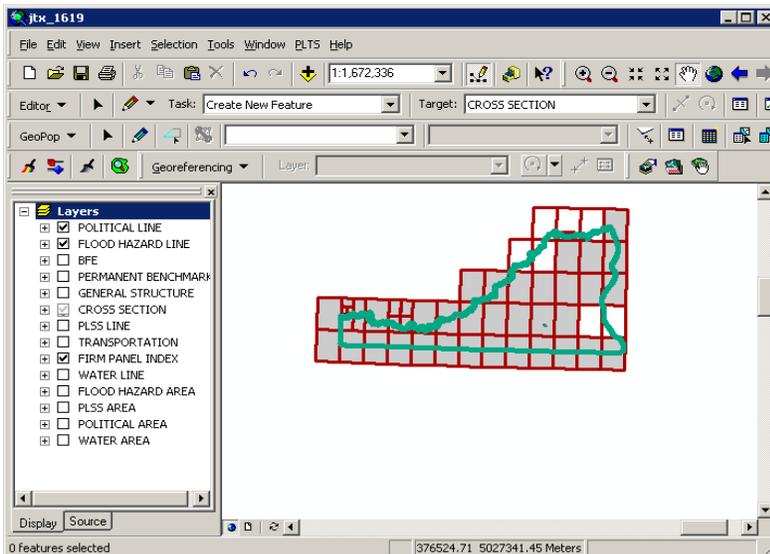
Note: Use caution when the definition query has been removed. Since ArcMap is now accessing data for the entire nation, there will be a noticeable speed impact depending on your task (e.g., selecting from an attribute table, zooming excessively).

Once the **Show DFIRM Adjacent Area** button has been selected, its icon will change to that of the [Show Only DFIRM Area](#) tool.



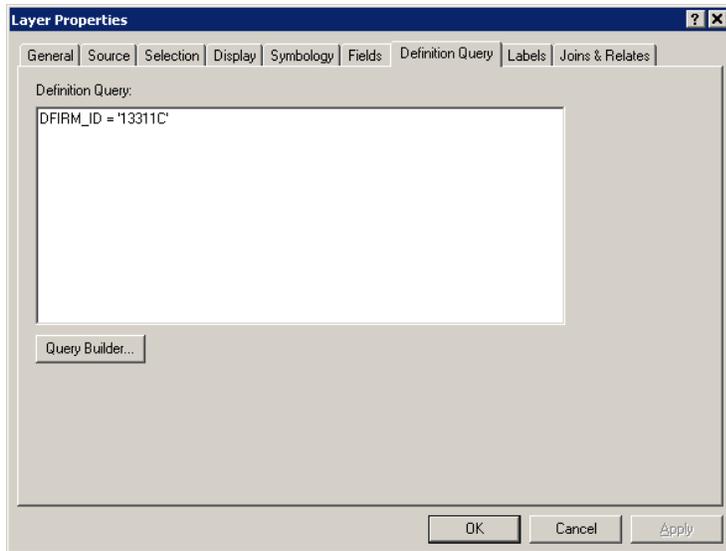
Show Only DFIRM Area

The **Show Only DFIRM Area** tool removes the display of the adjacent National Flood Hazard Layer data.



The adjacent effective DFIRM data, south of the actual study, is no longer displayed.

When the **Show Only DFIRM Area** button is clicked, the tool restores the DFIRM ID based definition query to all of the SDE spatial layers and tables.



The DFIRM ID-based definition query which is restored to all of the SDE spatial layers and tables.

Once the **Show Only DFIRM Area** button has been selected, the National Flood Hazard Layer data for the adjacent area(s) will no longer be displayed, and the button's icon will change to that of the [Show DFIRM Adjacent Area](#) tool.

Note: When a definition query is in place, not only is the visible data affected but the records shown in the table are impacted. If you have a table open when you make a change to the definition query, you will need to close the table and re-open it to have the change take effect.

Note: Definition queries are extremely useful and may speed your process immensely. You have the ability to alter the definition query at any time. We highly recommend that you consider using complex statements (e.g., `DFIRM_ID = '13311C' AND POL_NM1 = 'SPRINGFIELD COUNTY'`) to refine the available data.

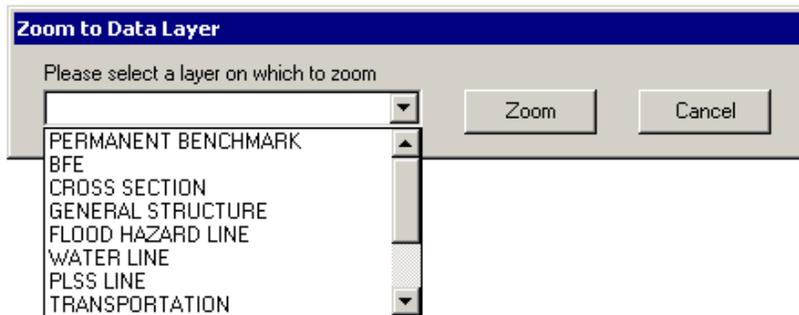
Note: Use caution when the definition query has been removed. Since ArcMap is now accessing data for the entire nation, there will be a noticeable speed impact depending on your task (e.g., selecting from an attribute table, zooming excessively).



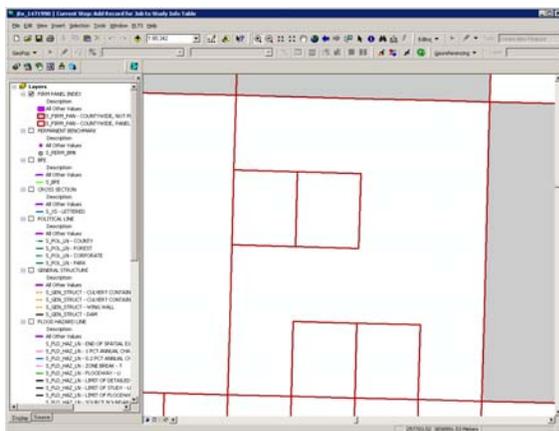
Zoom to DFIRM ID

The **Zoom to DFIRM ID** tool replaces the functionality in ArcMap that allows you to zoom to a layer or to the dataset's full extent. Without disabling these functions, you would zoom to the extent of the entire SDE geodatabase (U.S. states and territories) as opposed to the extent of your DFIRM study. If the *FIRM Panel Index* (S_FIRM_Pan) layer is loaded into the ArcMap session and is populated, the tool will zoom to the extent of this layer. If the *FIRM Panel Index* (S_FIRM_Pan) layer is not loaded or not populated, then the tool zooms to the extent of the *Political Line*

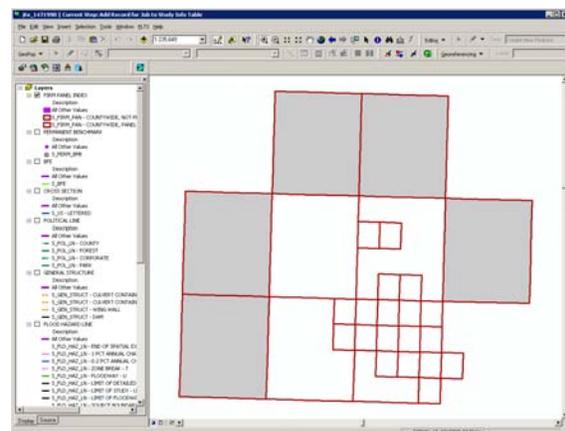
(S_Pol_Ln) layer. If neither of these data layers is loaded or populated in your ArcMap session, you will be prompted to select a data layer.



Select a data layer loaded into your Table of Contents on which to zoom.



Data view extents before Zoom to DFIRM ID.



Data view extents after Zoom to DFIRM ID.

If none of your spatial layers contain data, the tool will not be able to zoom and your map view will not be changed. If you click the *Cancel* button, the map view will not change.



Suspend Drawing

The **Suspend Drawing** tool temporarily “freezes” and “unfreezes” the process of displaying data in a session. This tool allows you to perform several functions in a sequence without having to wait for a lengthy drawing of all the map layers (both feature classes and raster images).

Discretionary use of the **Suspend Drawing** tool will save considerable time during the annotation process, because the layers will not have to redraw after every single step, such as selecting a label, duplicating a label, stacking a label, making a label horizontal, etc. To efficiently edit annotation while using the **Suspend Drawing** tool, consider the following steps:

1. Start an editing session (i.e., **Editor Toolbar** > *Editor* > *Start Editing*).

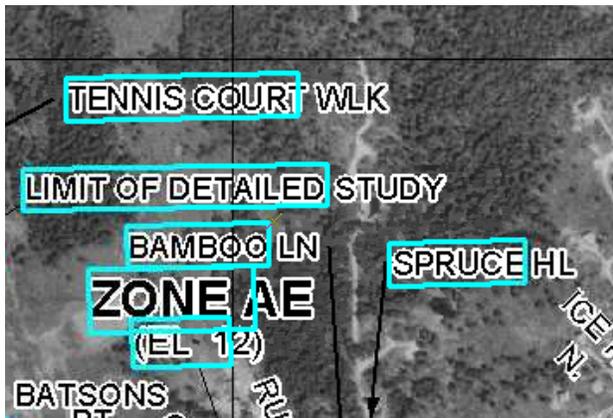
2. Make selectable only the DFIRM.Anno_<your scale>_TXT layer and DFIRM.Anno_<your scale>_LDR layer (i.e., **Standard Toolbar** > **Selection menu** > **Set Selectable Layers**).

Note: The leader lines need to be selectable only if you are moving your annotation and leader line features together to a new location. Do not attempt to resize your leader line features; you should delete them and recreate them.

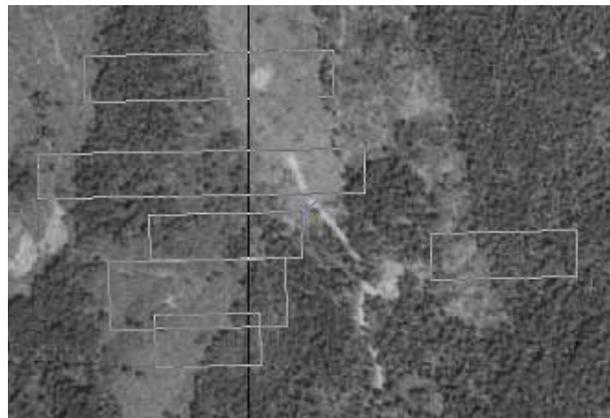
3. Allow ArcMap to completely draw all the features, raster images, and labels in your extent.
4. Click the **Suspend Drawing** button . The icon will change when the data drawing has been suspended .
5. Select the desired annotation features, using the **Edit** tool on the **Editor** toolbar. Exercise caution when selecting multiple annotation features in crowded areas, so as to select only those labels that you want.

Note: Multiple labels may be selected simultaneously, but they will keep the same relative distances from each other when they are moved to a new location.

When selecting labels, the regular cyan selection boxes will not be displayed. Instead, you will use gray outline boxes and crosshairs to drag and drop the labels.



Normal selection for annotation features



Selection for annotation features when Suspend Drawing is engaged.

Note: Do not pan or zoom while the **Suspend Drawing** tool is active (i.e., icon displays a red X), this will result in a blank screen. If you need to pan or zoom, uncheck the **Suspend Drawing** tool (i.e., the icon display as a paintbrush without the red X), refresh, and start the procedure again.

6. Drag the selected label(s) using the gray outline boxes and the crosshairs as guides, and drop the annotation features where desired.

Note: The changes that you make to the annotation or other features will not be seen on the map until the **Suspend Drawing** tool is deactivated and the map refreshes. Several different functions (e.g., *Stack Label*, *Make Labels Horizontal*, *Suppress/Hide Label*) can be executed sequentially on one individual label at a time before deactivating the tool.

7. Click the **Suspend Drawing** button when you are finished with your edits. The icon will

change back to be just the paintbrush (i.e., the red X will disappear) .

8. Refresh your ArcMap session if necessary in order to see the new placement of all the labels.



DFIRM Export to PGDB

The **DFIRM Export to PGDB** tool exports all of your study's spatial layers, look-up tables, and annotation from the SDE geodatabase into a personal geodatabase. The personal geodatabase is created from a template and will, therefore, contain all layers/tables in the SDE geodatabase. Only those layers/tables which are populated for your study will be populated in the personal geodatabase. For instance, if you have Water Line (S_Wtr_Ln) features, the features will be exported to the personal geodatabase. If you do not have Water Gage (S_Water_Gage) features for your study, the layer will exist in the personal geodatabase but will not contain any records. The personal geodatabase possesses the same schema (e.g., area extent, precision, field names, field definitions, domain tables) as the SDE geodatabase.

Note: The output of the **DFIRM Export to PGDB** tool is in Geographic coordinates, since the tool creates an exact copy of your study's data in SDE. All SDE data is in Geographic coordinates to facilitate the entire nation's flood layers being stored in one SDE database. Conversely, when your finalized data is exported with the **DFIRM Database Exporter** tools, the data is projected to the coordinate system specified in the Study_Info table.

To locally edit the data exported with the **DFIRM Export to PGDB** tool, you will need to set your study's projection in the data frame properties, so that the feature classes will be projected on the fly. Since the data is remaining in geographic coordinates and you are projecting it on the fly to the correct coordinate system, the data should not exhibit spatial anomalies when copied back into the SDE database.

The personal geodatabase does not contain topology rules. If these are desired, you will need to establish them yourself. For reference, the SDE geodatabase contains the following topology rules:

Topology Layer	Spatial Layer	Topology Rule	Parameter
BFE_XS_TOPOLOGY	S_BFE	Must Not Self-Intersect	
BFE_XS_TOPOLOGY	S_BFE	Must Not Self-Overlap	
BFE_XS_TOPOLOGY	S_BFE	Must Be Single Part	
BFE_XS_TOPOLOGY	S_BFE	Must Not Overlap With	S_XS
CST_TSCT_LN_TOPOLOGY	S_Cst_Tsct_Ln	Must Not Self-Intersect	
CST_TSCT_LN_TOPOLOGY	S_Cst_Tsct_Ln	Must Be Single Part	
CST_TSCT_LN_TOPOLOGY	S_Cst_Tsct_Ln	Must Not Self-Overlap	
FLD_HAZ_TOPOLOGY	S_Fld_Haz_Ar	Boundary Must Be Covered By	S_Fld_Haz_Ln

Topology Layer	Spatial Layer	Topology Rule	Parameter
FLD_HAZ_TOPOLOGY	S_Fld_Haz_Ar	Must Not Have Gaps	
FLD_HAZ_TOPOLOGY	S_Fld_Haz_Ar	Must Not Overlap	
FLD_HAZ_TOPOLOGY	S_Fld_Haz_Ln	Must Be Covered By Boundary Of	S_Fld_Haz_Ar
FLD_HAZ_TOPOLOGY	S_Fld_Haz_Ln	Must Not Have Dangles	
FLD_HAZ_TOPOLOGY	S_Fld_Haz_Ln	Must Not Self-Intersect	
FLD_HAZ_TOPOLOGY	S_Fld_Haz_Ln	Must Not Self-Overlap	
FLD_HAZ_TOPOLOGY	S_Fld_Haz_Ln	Must Be Single Part	
FLD_HAZ_TOPOLOGY	S_Fld_Haz_Ln	Must Not Have Pseudos	
FIRM_PAN_TOPOLOGY	S_FIRM_Pan	Must Not Have Gaps	
FIRM_PAN_TOPOLOGY	S_FIRM_Pan	Must Not Overlap	
GEN_STRUCT_TOPOLOGY	S_Gen_Struct	Must Not Self-Overlap	
GEN_STRUCT_TOPOLOGY	S_Gen_Struct	Must Not Self-Intersect	
GEN_STRUCT_TOPOLOGY	S_Gen_Struct	Must Be Single Part	
OVRBNK_LN_TOPOLOGY	S_Ovrbnk_Ln	Must Not Self-Overlap	
OVRBNK_LN_TOPOLOGY	S_Ovrbnk_Ln	Must Not Self-Intersect	
PFD_LN_TOPOLOGY	S_PFD_Ln	Must Not Self-Overlap	
PFD_LN_TOPOLOGY	S_PFD_Ln	Must Not Self-Intersect	
POL_TOPOLOGY	S_Pol_Ar	Must Not Overlap	
POL_TOPOLOGY	S_Pol_Ar	Must Not Have Gaps	
POL_TOPOLOGY	S_Pol_Ar	Boundary Must Be Covered By	S_Pol_Ln
POL_TOPOLOGY	S_Pol_Ln	Must Be Covered By Boundary Of	S_Pol_Ar
POL_TOPOLOGY	S_Pol_Ln	Must Not Self-Overlap	
POL_TOPOLOGY	S_Pol_Ln	Must Not Self-Intersect	
POL_TOPOLOGY	S_Pol_Ln	Must Not Have Dangles	
POL_TOPOLOGY	S_Pol_Ln	Must Not Have Pseudos	
PLSS_LN_TOPOLOGY	S_PLSS_Ln	Must Not Have Dangles	
PLSS_LN_TOPOLOGY	S_PLSS_Ln	Must Not Have Pseudos	
PROFIL_BASLN_TOPOLOGY	S_Profil_BasLn	Must Not Self-Overlap	
PROFIL_BASLN_TOPOLOGY	S_Profil_BasLn	Must Not Self-Intersect	
BFE_XS_TOPOLOGY	S_XS	Must Not Self-Intersect	
BFE_XS_TOPOLOGY	S_XS	Must Not Self-Overlap	
BFE_XS_TOPOLOGY	S_XS	Must Be Single Part	

Topology Layer	Spatial Layer	Rank
BFE_XS_TOPOLOGY	S_BFE	1
BFE_XS_TOPOLOGY	S_XS	1
CST_TSCT_LN_TOPOLOGY	S_Cst_Tsct_Ln	1
FLD_HAZ_TOPOLOGY	S_Fld_Haz_Ln	1
FLD_HAZ_TOPOLOGY	S_Fld_Haz_Ar	2
FIRM_PAN_TOPOLOGY	S_FIRM_Pan	1
GEN_STRUCT_TOPOLOGY	S_Gen_Struct	1
OVRBNK_LN_TOPOLOGY	S_Ovrbnk_Ln	1
PFD_LN_TOPOLOGY	S_PFD_Ln	1
POL_TOPOLOGY	S_Pol_Ln	1
POL_TOPOLOGY	S_Pol_Ar	2
PLSS_LN_TOPOLOGY	S_PLSS_Ln	1
PROFIL_BASLN_TOPOLOGY	S_Profil_BasLn	1

For all topology layers, the default cluster tolerance will produce the most desirable results for your data given that it is based on the established spatial extents and precision of the personal geodatabase.

The personal geodatabase may be used as a personal archive/back-up copy of your study. In addition, the personal geodatabase may be used for local editing. Once the local editing has been completed, you may easily upload the spatial and annotation data yourself by adding the data as reference data and copying and pasting the features into the correct layer. To add the look-up table data, you will need to submit a request to MIPHelp since tables may not be copied and pasted within ArcMap.

Note: **Stand-alone GeoPop** may not be used to edit the personal geodatabase created by DFIRM Tools **Export to PGDB**.

The *_TXT, *_SUP, and *_LDR annotation features for the three panel scales are exported to the personal geodatabase. However, the only way to upload personal geodatabase annotation to the SDE geodatabase is by manually copying and pasting the features into the appropriate annotation feature class. ESRI does not allow for annotation features to be loaded into an existing annotation feature class via ArcMap or ArcCatalog data load tools.

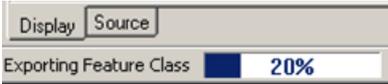
Note: It is not recommended that you edit the annotation outside of the DFIRM Tools environment as the annotation is designed to be edited with Label-Edit tools, not with the tools on the ESRI **Annotation** toolbar. If you edit the annotation outside of the environment, we may not be able to assist you if you experience any problems.

The exported annotation is intended to be used as historical back-up and should only be up-loaded with caution when you need to revert back to a previous state.

When Label-EZ creates annotation, records in internal tables track the spatial feature OID associated with each piece of annotation are created. These internal Label-EZ tables are not exported to the personal geodatabase. When you upload annotation from a personal geodatabase to the SDE geodatabase, the OID of the annotation feature is automatically generated. There is now a discrepancy between the new annotation OID and the data stored in the internal Label-EZ tables. Some of the tools (i.e., **Reposition Placed Label**, **Flip Label**, **Highlight Label/Feature**, **Restore Suppressed Label**, **Draw New Leader**) on the **Label-Edit** toolbar consult the internal Label-EZ tables. If the link in the internal table is broken, these **Label-Edit** tools will not function correctly and should not be used. The following are suggestions on how to work around these tools:

- **Reposition Placed Label** – No work-around. To move the label without splining, you should use the **Select Elements** tool on the **Tools** toolbar.
- **Flip Label** – Use the **Rotate** tool on the **Draw** toolbar to angle the label appropriately (select the feature with the **Select Elements** tool first).
- **Highlight Label/Feature** – No work-around.
- **Restore Suppressed Label** – You may copy the annotation feature from the *_SUP layer and paste it into the *_TXT layer. You should then delete the annotation feature from the *_SUP layer.
- **Draw New Leader** – Create a leader line via the leader tools on the **DFIRM Annotation Tool** toolbar.

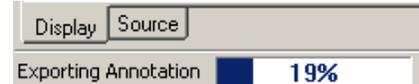
1. Click the **DFIRM Export to PGDB** button.
2. The export is processed. Three separate progress bars (i.e., exporting feature classes, exporting domain and look-up tables, and exporting annotation) will be displayed in the lower right-hand corner of the ArcMap window. These progress bars will disappear when the process is complete.



An example of the Exporting Feature Class progress bar.



An example of the Exporting Tables progress bar.



An example of the Exporting Annotation progress bar.

The personal geodatabase will be named according to the following naming convention:

<DFIRM ID>_<JTX Job ID>_<date exported, in the format yyyyymmdd>.mdb

(e.g., 24015C_1022734_20060919.mdb, 060358_1143930_20061002.mdb)

The personal geodatabase is stored in the following folder structure on the **MIP**:

J:\<region>\<state>\<county>\<county or community>\<FEMA Case Number>\Mapping\MISC.

Note: If the personal geodatabase already exists, you will be prompted to replace it.

Troubleshooting

Problem: I have imagery loaded in the Ortho folder on the MIP directory structure, and I would like to add imagery to my ArcMap session. However, when I use click the **DFIRM Reference Data Loader** button and select the Orthophotos radio button, no files are displayed. Why can I not see the list of available images?

Solution: In the **DFIRM Reference Data Loader** dialog, the USGS Quad and the Orthophotos radio buttons only access the image catalog(s) created for the image files stored in the respective folders (e.g., J:\...\Ortho). To create an image catalog, use the **Create Image Catalog** tool on the **DFIRM GeoPop Pro** toolbar. Once the ortho image catalog has been created, you will be able to access it via the Orthophotos radio button in the **DFIRM Reference Data Loader** dialog.

Problem: Why isn't there a topology rule(s) related to *PLSS Line* (S_PLSS_Ln) and *PLSS Area* (S_PLSS_Ar) covering the boundary of each other?

Solution: If PLSS features are applicable to your study, you can submit *PLSS Area* (S_PLSS_Ar) features and/or *PLSS Line* (S_PLSS_Ln) features in your DFIRM database, but they are not both required. Therefore, if you only created data for one of the data layers and then validated the topology, you would receive a topology error for every existing PLSS Line (S_PLSS_Ln) feature if the rule "*PLSS Area* (S_PLSS_Ar) boundary must be covered by *PLSS Line* (S_PLSS_LN)". These errors would then all have to be marked as exceptions, if you were not submitting both PLSS data layers. Furthermore, there is not always a 1:1 relationship between *PLSS Area* (S_PLSS_Ar) and *PLSS Ln* (S_PLSS_Ln) features. An excerpt on the US Fish and Wildlife Service website explains, "Survey lines may be missing on the map because there was insufficient evidence on the ground to complete the grid, because the survey lines were interrupted by a water body that was segregated from the public domain, or because the area was not surveyed.". Thus, the NSP felt that this was not a beneficial topology rule for the majority of Mapping Partners.

Problem: When would I use the **Suspend Drawing** tool versus the ESRI **Pause Drawing** tool?

Solution: The **Suspend Drawing** tool freezes the current screen drawing. If you zoom or pan, you will find that the data view turns white. However, if you do not pan or zoom, the data is viewable and selectable. This allows you to edit the data without waiting for the draw to refresh. The **Suspend Drawing** tool is best used when editing annotation.

The **Pause Drawing** tool also freezes the current screen drawing. However, this tool automatically turns the data view white which prevents you from seeing or selecting any data. This tool is best used when you need to modify the data in the Table of Contents. For instance, if you need to re-order the layers or run the **Render Using VVT Symbology** tool, you can click **Pause Drawing** before doing so and time will not be wasted waiting for the view to refresh in the middle of your action. Once you have completed your action, simply click the **Pause Drawing** tool again, and your data will be once again be visible.