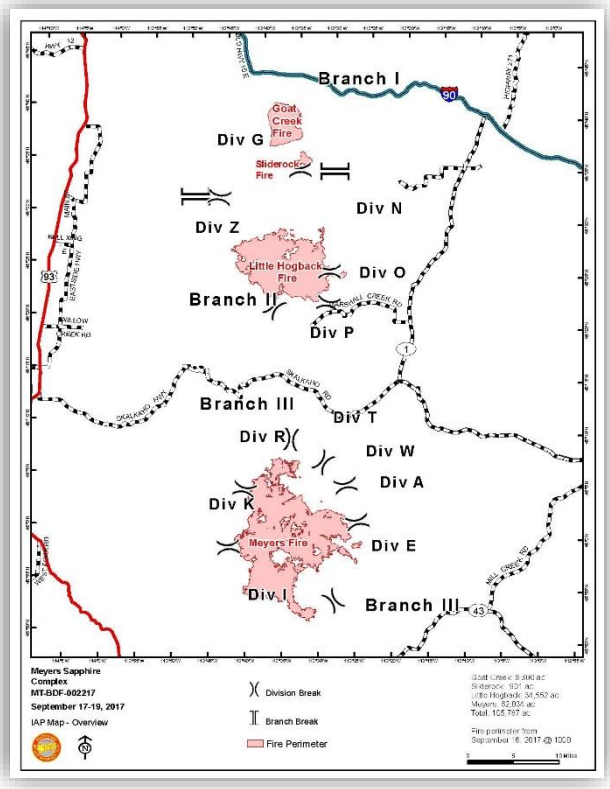
2017 Meyers Sapphire Complex

GISS Transition Plan

September 18, 2017

Prepared by:



2017 Meyers Sapphire Complex – MTB-BDF-002217	
Fire Name	**Incident Number**
Sapphire Complex (Goat Creek, Sliderock, and Little Hogback Fires)	MT-LNF-001463
Meyers Fire	MT-BDF-00217

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1.0 DATA DIRECTORY

The Southern Area Red Team assumed command of the Meyers-Sapphire Complex on 09/07/2017. GIS Specialists (GISSs) working on the Red Team utilized the National Wildfire Coordinating Group (NWCG) GIS Standard Operating Procedures (GSTOP) on Incidents for organizing data and the production of map products to the extent practicable. However, given the duration of these fires and the multiple teams deployed, the incident directories do not entirely follow NWCG standards.

The Southern Area Red Team data for the Meyers Sapphire Complex is located at: **\2017_WhetstoneRidgeMeyer**. "Whetstone" in the name is a reference to the Whetstone Fire that was eventually merged with the Meyers Fire.

The data from the previous team on the Sapphire Complex is located at **\2017_SapphireComplex**. This data will be transferred for archival purposes.

1.1 Vector Base Data

A significant amount of base data can be found in the incident directory, approximately 73.8 GB at the time of document preparation. Some duplicate data is located within the incident base data directory within assorted File Geodatabases (FGDBs), but were retained based on how the data were packaged within various project FGDBs and utilized in existing map products.

1.1.1 USFS Data

Several sources of U.S. Forest Service (USFS) data were used as base data. These include, but are not limited to:

Fire History

\2017_WhetstoneRidgeMeyer\base_data\vector\FireHistory\Fire_History-BDNF_Polygons_1980-Present.shp

USFS Ranger Districts

\2017_SapphireComplex\base_data\vector\S_USA.RangerDistrict\S_USA.RangerDistrict.shp

USFS Ownership

\2017_WhetstoneRidgeMeyer\base_data\vector\S_USA.SurfaceOwnership.gdb\S_USA.SurfaceOwnership.gdb
\2017_WhetstoneRidgeMeyer\base_data\vector\S_USA.BasicOwnership.gdb

1.1.2 Roads

Highways, Public Roads, and Access Roads

Road data was gathered from various sources and stored in the geodatabase below. Roads were stored in different feature classes within the geodatabase to facilitate symbolizing and labeling by road type (e.g., Interstates vs Local roads).

\2017_WhetstoneRidgeMeyer\base_data\modified_base_data\TransportationSPC_Clipped.gdb

USFS Roads
\2017_WhetstoneRidgeMeyer\base_data\modified_base_data\USFS_Roads.gdb

The "Simplified Roads.lyr" layer file (located at \2017_WhetstoneRidgeMeyer\base_data\LayerFiles) will add the complete road data set and symbolize/label by road type.

1.1.3 Esri Streetmap Base Data

The entire Esri Streetmap project is located here:
\ 2017_Fires\2017_WhetstoneRidgeMeyer\base_data\vector\Esri_roads

These data provide a good starting place if IMT command expands into neighboring states or general GIS data is needed.

Additionally, ESRI Streetmap premium was ordered from the ESRI Disaster Response Program. These data can be found here:
G:\2017_Fires\2017_WhetstoneRidgeMeyer\base_data\vector\Esri_roads\streetmap_premium

Distribution of these data or commercial resell is in direct violation of ESRI commercial licensing agreement. Users of these data are prohibited from redistribution.

1.1.4 Ownership

The ownership data used for mapping is found here:
\2017_WhetstoneRidgeMeyer\base_data\vector\Ownership\BLM_SMA\SMA.gdb

The \Ownership\BLM_SMA folder contains a layer style file (SMA.lyr) that will symbolize the ownership appropriately.

1.1.5 Structure Data

Structure data came from a couple different sources:
\2017_WhetstoneRidgeMeyer\base_data\vector\SapphireStructures.gdb
\2017_WhetstoneRidgeMeyer\incident_data\modified_base_data\20170830_Meyers_Structures.gdb

Additionally, a AGOL feature service was created for structure assessments. It is located at:
https://services3.arcgis.com/T4QMspbfLg3qTGWY/arcgis/rest/services/service_a8f3d3cbcf584f6799dd875e461f6040/FeatureServer

1.1.6 Miscellaneous Data

The Geographic Names Information System (GNIS) dataset for Montana can be found here:
2017_WhetstoneRidgeMeyer\base_data\vector\GNIS\MontanaIncorporatedCitiesTowns.gdb

These data include point locations for towns and communities, streams, summits, populated places, and numerous other named places.

1.2 Base Raster Data

1.2.1 Aerial Imagery

The previous team left some aerial imagery with their data, but was it not used by the Southern Area Red Team.
G:\2017_Fires\2017_WhetstoneRidgeMeyer\base_data\orthoimagery

1.2.2 Topographic Maps

Multiple versions of U.S. Geological Survey topographic quadrangles are present in the base data directory at:
G:\2017_Fires\2017_WhetstoneRidgeMeyer\base_data\topo_maps

The **"Topos24k**" directory contains the most current version of USGS 7.5-minute topoquads in GeoTIFF format. Unmanaged raster catalogs have been built to dynamically render these rasters in ArcMap. Unmanaged raster catalogs can be added using the Add Data button. Attempting to drag and drop the (.dbf) file into ArcMap will throw an error. Unmanaged raster catalogs will by default render a wireframe until the user zooms into fewer than nine tiles. This setting can be changed in the Properties > Display tab of the catalog (after being added to ArcMap). A raster catalog for each UTM zone within the Nantahala National Forest area exists (two .dbf files). Both of these catalogs would need to be loaded in order to draw topoquads for the entire forest.

The **"USGS_100k"** directory contains 1:100,000 USGS topomaps in .tif format.

1.2.3 Forest Visitor Maps

\2017_WhetstoneRidgeMeyer\base_data\visitor_map

1.2.4 Map Tile Packages

Map tile packages for use as a basemap in collector are found here:
\2017_WhetstoneRidgeMeyer\base_data\TPK

The MeyersTopo.tpk covers the entire extent of the combined fire areas.

1.2.5 Elevation Raster Data

Hillshade
\2017_WhetstoneRidgeMeyer\base_data\dem

1.3 Documents

The Documents Directory contains a list of the daily products created by the team at:
\2017_WhetstoneRidgeMeyer\documents\GISS_Organization

1.4 Incident Data

The Incident Data directory generally follows the GSTOP recommendations.

1.4.1 Event GDB

The primary incident data, including fire points, assignment breaks, fireline types, and fire polygons was managed using the 2017 Event GDB data model. These data have been updated based on intelligence from FOBS, DIVSs, OSCs, and IR. The database can be found in the root incident data folder per GSTOP:
\2017_WhetstoneRidgeMeyer\incident_data\2017_MeyersSapphireComplex_MTBDF002217_Event 17.gdb

1.4.2 Other Incident Data

Ancillary incident data was stored in a separate geodatabase from the primary incident data. The "Other Incident Data" geodatabase contains road and area closures, evacuation zones, and other supplemental datasets. It is stored here:
\2017_WhetstoneRidgeMeyer\incident_data\2017_MeyersSapphireComplex_MTBD00217_OtherIncidentdata.gdb

1.4.3 IR

Infrared imagery was acquired by the USFS NIROPS unit throughout the fire. Map products and geospatial data based on interpretations of this imagery can be found at:
\2017_WhetstoneRidgeMeyer\incident_data\ir

1.4.4 Progression

Shapefiles and an excel spreadsheet tracking fire progression are found at:
\2017_WhetstoneRidgeMeyer\incident_data\progression

The format of the progression data was left over from the previous team. The Sapphire Complex progression shapefile contains *entire* polygons of the fire perimeter for each day. The Meyers progression shapefile contains *clipped* polygons of fire growth for each day. Daily acreage was tracked separately in the excel spreadsheet and does not always exactly match acres calculated in GIS.

1.4.5 Backups

Daily backups of the primary incident Event GDB were stored at:
\2017_WhetstoneRidgeMeyer\incident_data\backups

1.4.6 Ownership

Geospatial data and spreadsheets used to calculate fire area by ownership can be found at:
\2017_WhetstoneRidgeMeyer\incident_data\OwnershipAcreage

1.4.7 Suppression Repair

Information about suppression repair was tracked in the primary incident Event GDB using the Repair Status and Repair Comments data fields.

1.4.8 Layer Files

Layer style files to format various feature classes can be found here:
2017_WhetstoneRidgeMeyer\incident_data\LayerFiles

1.5 Tools

Tools can be found here:
2017_WhetstoneRidgeMeyer\tools_resources

2.0 MAP PROJECTS & PRODUCTS

2.1 Overview of Map Products

Products produced for this incident have been updated daily and saved in the appropriate operational period folder. These have been created using both ANSI and ARCH page sizes. The projects are stored in ArcGIS 10.5 Map Documents (.mxd) files and the products are GeospatialPDFs. Master copies of the projects are located here:
\2017_WhetstoneRidgeMeyer\projects

Projects that were created but later abandoned and not frequently updated were moved to an archive folder located here:
G:\2017_Fires\2017_WhetstoneRidgeMeyer\projects_archive

Products (PDFs – i.e., maps that were printed) can be found in the appropriate date folder here:
\2017_WhetstoneRidgeMeyer\products

Older products were moved to the **\2017_WhetstoneRidgeMeyer\products_archive** folder to minimize directory tree length.

Table 1, below, gives a description of the primary map products created for the incident.

Table 1. Map Products & Associated Map Document Projects	
Product Type	**Projects**
Briefing	**Primary Briefing Map** brief_branchIII_42x48_land_2017_MeyersSapphireComplex_MTBDF002217.mxd ***The daily briefing map. It was printed at size and also scaled up with print settings to make the wall map (i.e., BAM). Note that the team did not produce a briefing map for the Sapphire Complex.***
Aviation	**Pilot Map** pilot_11x17_land_2017MMDD_TIME_BranchII_MTBDF2217_MMDDday.mxd pilot_11x17_port_2017MMDD_TIME_BranchIII_MTBDF2217_MMDDday.mxd pilot_BranchI_11x17_port_2017_MeyersSapphireComplex_MTBDF2217.mxd ***Map depicting temporary flight restrictions, the fire, and features relevant to pilots; the map was printed with a table on the back with the lat/long of important features (table found at: \2017_WhetstoneRidgeMeyer\documents\Pilot_Map)***
IAP	**IAP Map** iap_8x11_port_2017_MeyersSapphireComplex_MTBDF2217.mxd iap_mapbook_letter_port_2017_MeyersSapphireComplex_MTBDF00217.mxd ***Semi-standard IAP maps. One .mxd contains an overview of the fire, the other .mxd contains a zoom of each branch. The IAP maps were generated using data driven pages. The IAP was not produced at the standard 1:24,000 scale. Detailed Operations maps were the preferred field map.***
Ops	**Operations – Branch Maps** Ops_Branch_I_and_II_archE_port_2017_MeyersSaphireComplex_MTBDF2217.mxd Ops_branch_III_archE_port_2017_MeyersSaphireComplex_MTBDF2217.mxd ***Primary operations overview maps depicting the fire area in detail with roads and fire information over a topographic background.*** **Operations – Division Maps** ops_div_arch_e_land_2017_MeyersSapphireComplex_MTBDF002217.mxd ops_div_arch_e_port_2017_MeyersSapphireComplex_MTBDF002217.mxd ***Zoom maps of the divisions for field staff that runs off of data driven pages.*** **Operations – IR** Ops_IR Branch_III_archE_port_2017_MeyersSaphireComplex_MTBDF2217.mxd ***Similar to the Operations Map, but also includes IR heat sources when available from flight information.*** **Operations – TFR** Ops_TFR_Branch_I_and_II_archE_port_2017_MeyersSaphireComplex_MTBDF2217.mxd Ops_TFR_Branch_III_archE_port_2017MeyersSaphireComplex_MTBDF2217.mxd ***Similar to the Operations Map, but also includes the TFR.***
Ownership	**Ownership** Ownership_42x48_port_2017_MeyersSapphireComplex_MTBDF002217.mxd ***Depicts the different landowners impacted by the fire.***
PIO	**Public Information Map** PIO_branchI_II_ansiD_port_2017_MeyersSaphireComplex_MTBDF2217.mxd PIO_branchI_II_ansiE_port_2017_MeyersSaphireComplex_MTBDF2217.mxd PIO_branch_III_ansiD_port_2017_MeyersSapphireComplex_MTBDF2217.mxd PIO_branch_III_ansiE_port_2017_MeyersSapphireComplex_MTBDF2217.mxd

	PIO maps showing fire area, line completion, closure areas, evacuation zones, and road closures. The maps were converted to size C, letter, and 11x17 after exporting.
Progression	**Progression Map** Progression_Meyers_2017_MeyersSapphireComplex_MTBDF2217.mxd Progression_Sapphire_2017_MeyersSapphireComplex_MTBDF2217.mxd ***Standard progression maps for each complex.***
Suppression Repair	**Suppression Repair Map** repair_ansiA_land_2017_Hogback_MeyersSapphireComplex_MTBDF002217.mxd repair_branchI_archE_port_2017_MeyersSapphireComplexBranch_MTBDF002217.mxd repair_branchII_archE_port_2017_MeyersSapphireComplexBranch_MTBDF002217.mxd repair_Div_R_T_ansiD_land_2017_MeyersSapphireComplex_MTBDF002217.mxd repairIndex_ansiA_land_2017_Hogback_MeyersSapphireComplex_MTBDF002217.mxd ***Maps depicting the location of suppression repair activities. Repair projects with "AnsiA" and "arch_e" in the name are produced using data driven pages.***
Transportation	**Transportation Map** Trans_42x48_port_2017_MeyersSapphireComplex_MTBDF002217.mxd ***Shows the fire area, fire features, and roads. Major transportation routes are highlighted.***