

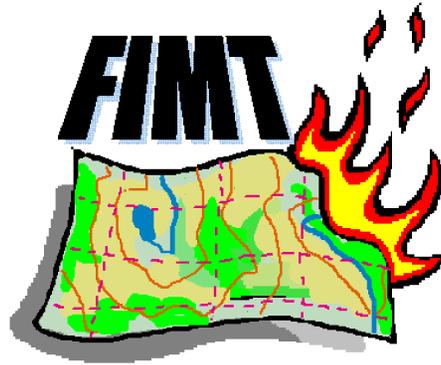
A Better Way to Support Wildland Fire Suppression

John Varner
USDA Forest Service

jvarner@fs.fed.us



FIRE INCIDENT MAPPING TOOLS



PURPOSE

To have a workable ArcGIS mapping extension that utilizes a personal GeoDB to store fire information and have the tools necessary to manage the features.



Background

- Extension developed by Forest Service Rocky Mountain Region after the Colorado Hayman incident in joint venture with ESRI.
- Extension was beta tested during 2003 fire season and several updates and corrections were incorporated.
- Alberta Canada Forest Protection Division cooperated on the project.
- In October 2003 the FS National Operations group decided to prototype the software nationally during 2004 and 2005 fire seasons.



Background

- A charter was drafted and signed April 2004 by the National Wildfire Coordinating Group.
- Incorporated into the Incident Base Automation Project of fire applications.
- Beta test conducted in Sacramento June 2004.
- Prototype released in summer 2004 for ArcGIS 8.3.

<http://www.fs.fed.us/fire/planning/nist/fimt.htm>



- New data structure based on 2004 feedback
- Based around polygons, not lines
- Programmatically handles coincidence between polygon, unit lines, unit divisions
- Limited tools for output in this version
 - Perimeter report
 - Fireline report
 - Progression map
 - Progression report
 - Any template will work



- Full Toolbar to assist in data edit
- Version 9.0.3 available for ArcGIS 9.x
- User Guide and Tutorial available

http://www.fs.fed.us/fire/planning/nist/fimt_v903.htm

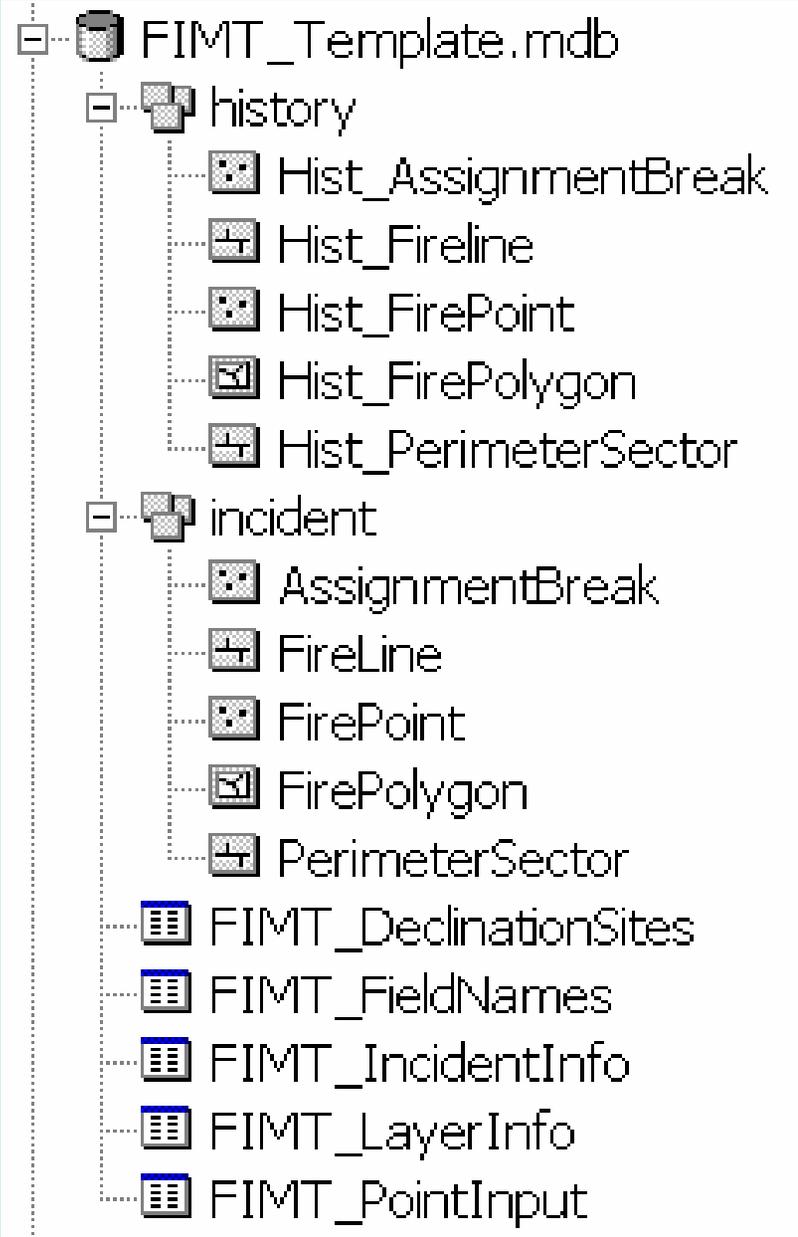
- Handles most all standard projections
- Full ICS symbol set
- Version 9.1.0 almost out for beta test
- Incorporates GSTOP standards
- ESRI written class



Standards and Adoption

- Fully adheres to Incident Command System standards
- Follows ICS GIS Tech class materials
- Meets US and Canadian standards
- Adoption by NWCG





FIMT Predetermined Business Rules

- Extension will be for ArcView license
- Fire will be managed as a polygon
- Perimeter will be coincident to the polygon
- Unit assignment symbols will be coincident
- Tracks complete history
- Supports ANSI and ISO standards



FIMT Toolbar

- Five toolbars managed as one
 - Incident tools
 - Utility tools
 - Perimeter tools
 - FireLine tools
 - FirePoint tools



FIMT Incident Toolbar

-  Create Incident
-  Open Incident
-  Switch Incidents
-  Edit Incident
-  Incident Information
-  Copy Incident to History
-  Copy Incident Layers to Dataframe
-  Export Incident to Shape Files
-  Auto-Update Measures
-  Update Fire Names and Numbers



FIMT Utility Toolbar



Feature Level Metadata

Incident Symbols

Label Multiple Field

Assign to Unit

Latitude Longitude



FIMT Perimeter Toolbar

-  Create Polygon
-  Import to Polygon Theme
-  Change Polygon Attributes
-  Split Assignment Line
-  Update Assignment Breaks
-  Floating Assignment
-  Create Island
-  Remove Island
-  Copy Perimeter to Line
-  Perimeter Report
-  Perimeter Change Report
-  Export Polygon to PGDB
-  Draw Fire History



FIMT Fire Line Toolbar



Create Fire Line

Import Line to Fire Line

Change Fire Line Attributes

Split Fire Line

Join Fire Line

Fire Line Report



FIMT Fire Point Toolbar



Create Fire Point



Create Fire Point From Lat/Long



Import Point to Fire Point



Move Fire Point to Lat/Long



Change Fire Point Attributes



- Upcoming Release

- Work flow write-up to lead people through tools
- Some error checking on a few tools
- Bring in output tools – multi-page layouts
- Be sure all tools work the same
- Update User's Guide and Tutorial
- Expand 2 day class / incorporate into GIS Technician Class



Considerations

- *What other add-ons do we need and can we have disconnected editing?*
- *Working to gain NWCG's acceptance of the new electronic symbols as standard.*
- *Arranging training classes around the country.*



Tentative Plans

- Planned life is only through 2009
 - Can not foresee what is going to happen with GIS and our needs past the 3 years
 - Will continue to adjust needs and planned life depending on input



Availability

http://www.fs.fed.us/r2/spf/fire_incident/index2.shtml

Contact:

John Varner

jvarner@fs.fed.us

303-275-5019

