A Better Way to Support Wildland Fire Suppression

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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
  – Conform to GSTOP Guidelines
  – 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 2008
  – 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/fire/planning/nist/fimt_v903.htm

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