Tracking Analyst

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Concept: Temporal Data

- Temporal means “of or relating to time”

- What is “temporal” data in relation to GIS?
  - Temporal data is data which is related along the dimension of time
  - May be correlated by a unique attribute
  - Often ordered by how the feature’s events occurred chronologically

- Point, Line or Polygon data can be tracked:
  - Raster data and Metadata not supported for “tracking”

- Temporal data is typically not versioned nor used in a “transactional editing” way
  - The “version” is the combination of the ‘TrackID’ & the Timestamp
  - Each record is one “observation”
    - Multiple observations is not always equal to a new feature type
  - Often, data is only updated, not often deleted
Temporal Data
A Quick Primer...

Dynamic
something that moves
- Planes
- Vehicles
- Animals
- Satellites
- Storms

Discrete
something that “just happens”
- Crimes
- Lightning
- Accidents

Stationary
stands still but records changes
- Weather Stations
- Traffic Sensors

Change
change or growth
- Population
- Distribution
Dataflow - Complete

Dataflow

Tracking Server

Tracking Analyst

ArcSDE Server

Data Links
Sources of Data

- Live Data
- Static Data
  - From shape files
  - From a GeoDatabase
Actions

- Actions are rule-based operations that perform data analysis and manipulation
- Default operators are Attribute and Location
- Can be applied at the Service or Layer level
- Often custom-created using the Wizard in Visual Studio
Symbology

- **Standard Feature Layer symbology**
- **Temporal symbology**
  - The current position of an object can be symbolized differently
  - The historical positions of a feature can be symbolized based on the age of the feature
  - The past positions of an object can be linked together with a track line
Advanced Symbology Options

- Smooth tracks
- Text symbol
- Multiple attribute display
- Directional Vector
- Most Current
Data Clock

- Graphs Temporal Data
- Shows Concentrations of Activity
- Can be Added to Map Layout
Playback Manager
Tracking Analyst in ArcGlobe
MOLE and Tracking Analyst
Questions / Answers