Military Tools for ArcGIS: An Introduction

Derek Foll
Lyle Wright
Defense Solutions – Current Capabilities

**Whole Organization**
- Military Tools for ArcGIS
- Coordinate Conversion
- Visibility
- Distance and Direction
- Geonames Locator
- Grid Overlay

**Intelligence Analysis**
- Incident Analysis
- Time Span Analysis
- Image Change Detection

**Mission Planning**
- Clearing Operations
- Emergency Response Guide Widget
- Distance to Assets
- Gridded Reference Graphic

**Civil-Military Operations**
- Priority Areas of Interest and Engagements
- Atmospherics Questionnaire
- Population Assessment
- Civil-Military Operations Planner
- Civil-Military Operations Dashboard
- Request for Information
- Civil-Military Operations Manager

**Military Symbology**
- Military Symbol Editor
- Military Features
- Military Overlay
- Military Information Model and Styles
Defense Solutions – Current Customers

1st Topographic Platoon, USMC
SOF Geospatial Enterprise
G2, 4th Infantry Division
Sacramento Sheriff
1 MEF G2, ICOP
US Coast Guard
Israeli Navy
FBI CIRG
NATO

85th Civil Affairs
Yuma Proving Ground
Bundeswehr Geoinformation Center
Tactical Service Oriented Architecture, USMC
Boston Regional Intelligence Center (BRIC)
Military Counterintelligence Service, Germany
512th Engineer Detachment, US Army South
Command for Strategic Recon and Joint Imagery Analysis Center, Germany
Getting Started

• Add-in for ArcGIS Pro or ArcMap
• Double-click to install
Getting Started

- Geoprocessing
  - Python toolbox
  - Conda Python package
Exploring the Add-ins
Coordinate Conversion
Quickly convert between coordinate types

- Input coordinates using
  - Keyboard
  - Map cursor
- Convert between several formats
  - MGRS
  - DD, DMS, and more
- Format a coordinate to your specification
  - 11SMS8472718799
  - 11S MS 84727 18799
- Multiple way to copy one or many formats
- Flexible coordinate handling
- Import / export coordinates
Military Symbol Editor
Easily create military symbols by searching symbol attributes

- Support multiple standards
- Schema-based approach to military symbology
- Create/modify symbols using attribute driven drop-downs
- Add text modifiers
- Choose what to do with your symbol
  - Save to favorites
  - Add to Map
  - Coordinate placement
- Import/export favorite symbols
- Create feature templates for symbols
Distance and Direction
Geometry creation in one location

- Create geodesic graphics and features
  - Lines
  - Circles
  - Ellipses
  - Rings
- Distance of travel based on capability
- Save graphics with attribute information
Visibility

Quickly answer visibility questions

• Find answers to visibility questions
  - Field of view from a given observer(s)
  - Find visible points along a straight line of sight
Extending Workflows with Geoprocessing
Conversion
Using Geoprocessing to convert coordinates

- Input tables or feature classes
- Convert any supported format
- Script tools
  - Standalone python scripts or
  - Use inside a model with other tools
- Import based on tables
  - Table to 2-Point Line
  - Table to Ellipse
  - Table to Line of Bearing
  - Table to Point
  - Table to Polygon
  - Table to Polyline
Distance and Direction
Use Geoprocessing to create Distance and Direction features

• Create Range Rings based on parameters
  - Given interval
  - Minimum and maximum distances
  - From a table
Gridded Reference Graphics
Quickly create GRG

• Create rectangular grids for use in partitioning geographic areas of interest.
• Create grids with either a starting point or area, based on either dimension or a reference system (MGRS and USNG).
• Create grids with a starting point, based on time and speed.
• Publish the Gridded Reference Graphic to ArcGIS Enterprise/Portal for ArcGIS for dissemination.
Visibility
Quickly answer visibility questions

• Find answers to visibility questions
  - Linear Line of Sight
  - Radial Line of Sight

• Answer questions about terrain
  - Highest Points
  - Local Peaks
  - Lowest Points
Web AppBuilder for ArcGIS widgets
Visibility widget

- Widget for Web AppBuilder for ArcGIS (Developer Edition)
- Radial Line of Sight in a browser
- Coordinate Conversion
- Distance and Direction
  - Both migrated to Web AppBuilder for ArcGIS
ArcGIS Solutions for Defense

- Documented
- Supported and maintained
- Open source