

**Federal GIS Conference**

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# **ArcGIS for the Military: Predictive Analysis Tools - Tactics, Techniques, and Procedures**

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# What is it?

- **ArcGIS Desktop Addin (available at 10.1 and beyond)**
  - **FREE**
  - <http://www.arcgis.com/home/item.html?id=90d9d9e8bb9e4228b75ec73ea394f5e4>
- **Set of tools to include:**
  - **Raster-based analytic tools**
  - **Geoprocessing tools for creating data**
  - **Temporal analysis tools**
- **Web widgets (in development)**

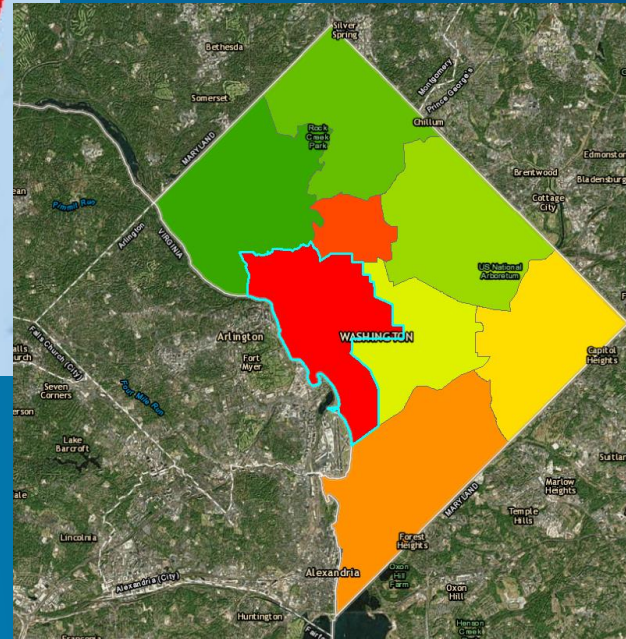
# Capabilities

- **Predict suitable locations, and travel routes**
- **Extremely fast to accommodate iterative analysis**
- **Repeatable and shareable tradecraft**
- **Easy to use**

# Developing Tactics, Techniques, and Procedures

- Analyze reported activity using Query Generator tools
- Find correlations and patterns
- Determine where (based on findings) the conditions are ripe for future activity of a similar nature
- Auto-generate parameters used to develop known TTPs
- Plug in doctrinal TTPs to estimate locations of future activity
- Analyze past data to forecast future events and inform TTP modernization





# Problem

- **Where is the marijuana coming from?**
- **Numerous marijuana possession charges and arrests**
  - Especially in Ward 2
- **Is it being grown locally?**
- **How far outside the city are people willing to go?**
- **What makes for a susceptible area?**
  - Water, roads, land cover, slope, etc.



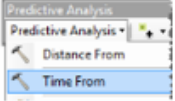
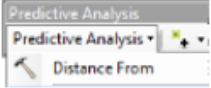





# Possible Marijuana Sites



# Road Ahead

- **Web based widgets**
- **ArcGIS Web App Builder integration**
- **ArcGIS for Portal integration**

# Web Application

Icon	Tool	Definition
	Query Expression Editor	Build queries using one or more single-band rasters
	Query Inspector	Investigate the output of the Query Expression Editor at specific locations to determine why they meet or fail the query parameters.
	Time From Tool	Find how long it would take to travel from a set of known points, lines, or polygons to any other location using a cost surface.
	Distance From Tool	Find how far a set of known points, lines, or polygons are from any other location in the area of interest.
	Query Generator	This tool builds out a query expression based on known sighting or event points. Run the query to see where other events might occur.
	Speed Model Builder	Build cost surfaces using one or more single-band rasters with multiple input factors to accurately model travel speed. This tool works very much like the Query Expression Editor.
	Route Finder	Find the shortest path from one or more locations within your Time From or Distance From to the area of interest to the nearest source locations.
	Time Analysis Window	Manage, filter, graph, analysis, and play time-enabled data to visualize predictions, tracks, events, patterns, and other values that change over time.
	Distance/Speed Tool	Model the distance, bearing, speed and time of a user defined route.



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