



# Building Apps and Add-Ins with the ArcGIS for Defense Solution

Gary Sheppard | Software Engineer | Esri

 garys-esri

 @garysheppardjr

2018 Esri Developer Summit D.C.



Thank you  
for working with us.



# GIS is Becoming an Interconnected Platform

Opening, Integrating and Simplifying



## ArcGIS

*Creating an Open and Real-Time Network of Geospatial Services*

# Apps: Extending ArcGIS Capabilities Everywhere

## Field

Collector

Navigator

Workforce

Survey123

Drone2Map

## Office

ArcGIS  
Earth

Explorer

Maps for  
Office

Maps for  
SharePoint

Maps for  
Adobe Creative  
Cloud

Maps for  
Power BI

Operations  
Dashboard

GeoPlanner

Business  
Analyst

## Community

Story  
Maps

Initiatives

Open Data

Photo  
Survey

Quick  
Report

Crowdsource  
Polling

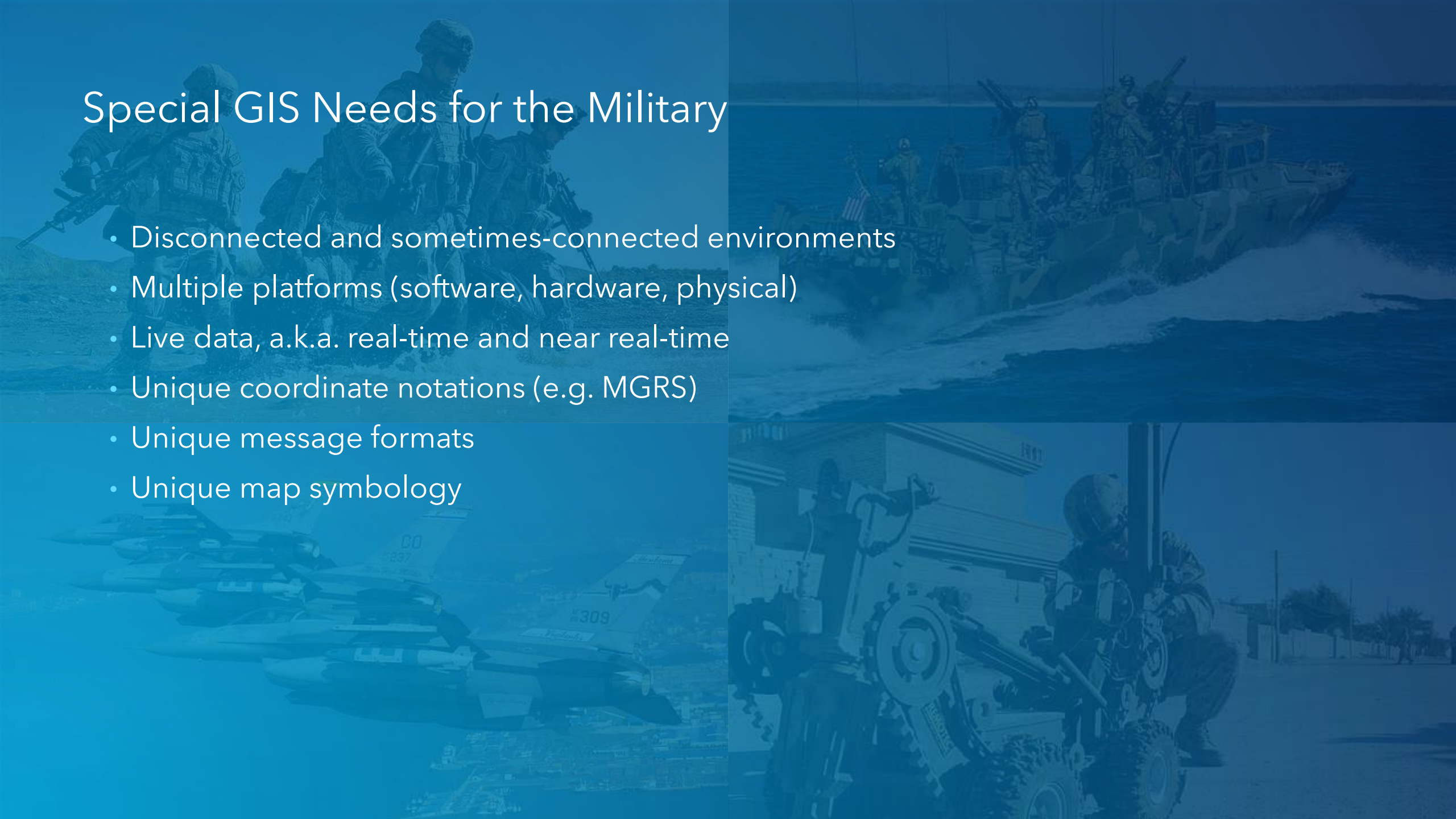


*Focused, Powerful and Ready-to-Use*



# Special GIS Needs for the Military

- Disconnected and sometimes-connected environments
- Multiple platforms (software, hardware, physical)
- Live data, a.k.a. real-time and near real-time
- Unique coordinate notations (e.g. MGRS)
- Unique message formats
- Unique map symbology



# ArcGIS for Defense

- Provides industry-specific maps, apps, and platform configurations
- Demonstrates best practices
- Requires no additional cost
- Gives a jumpstart to your work
- <https://solutions.arcgis.com/#Defense>



# Maps and Apps in ArcGIS for Defense

## A - E

- Beach Landing
- Civil-Military Operations
- Clearing Operations
- Coordinate Conversion
- Distance and Direction
- Distance to Assets
- Emergency Response Guide Widget

## M - S

- Military Aspects of Terrain
- Military Aspects of Weather
- Military Features
- Military Overlay
- Military Symbol Editor
- Military Symbology Styles
- Military Tools for ArcGIS
- Sun Position Analysis

## F - L

- Geonames Locator
- Grid Overlay Widget
- Gridded Reference Graphic
- Image Change Detection
- Incident Analysis

## T - Z

- Time Span Analysis
- Visibility

# Gallery of Maps and Apps

ArcGIS Solutions

GALLERY

COMMUNITY

SEARCH

esri

Gallery

Search Solutions Gallery

Show Me

All

Industries

Local Government

State Government

Parks and Gardens

Electric

Gas

Water

Telecommunications

Emergency Management

Defense

Products/Applications

ArcGIS for Desktop

ArcGIS Runtime

Collector for ArcGIS

Esri Maps for Office

GeoEvent Extension

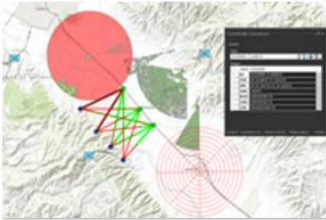
Operations Dashboard for ArcGIS

Web AppBuilder for ArcGIS

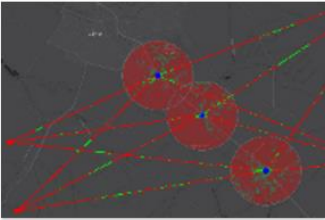
Web Applications

Defense

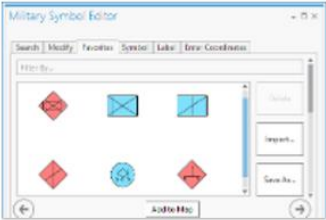
Defense: ArcGIS for Defense provides maps and apps to deliver timely insights, make strategic decisions, and conduct tactical operations.




Military Tools for ArcGIS  
Defense



Visibility  
Defense



Military Symbol Editor  
Defense



Distance And Direction  
Defense

	Name	Coordinate
+	DDM	36° 35.913'N 121° 52.8013'W
-	DMS	36° 35' 54.78"N 121° 52' 48.0"
	Lat	36° 35' 54.78"N
	Lon	121° 52' 48.08"W
+	MGRS	10SFF0017450923
+	USNG	10SFF0017450923

Coordinate Conversion  
Defense






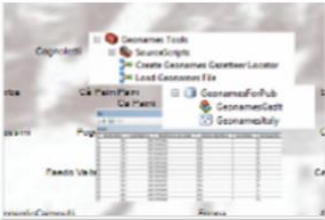
Image Observables  
Defense



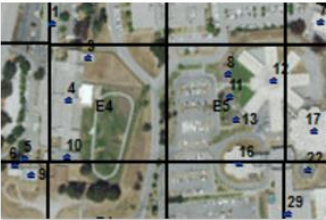
GeoEvent Extension Components  
Defense



Distance to Assets  
Defense



GeoNames Locator  
Defense



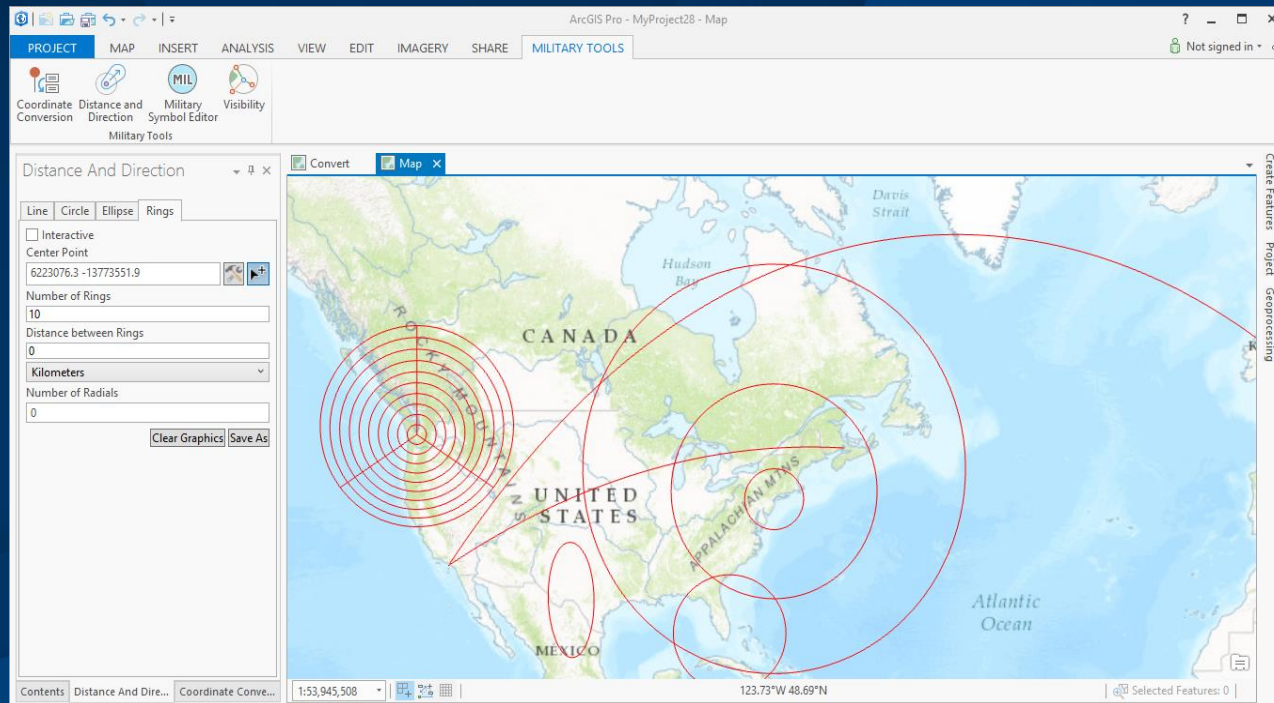
Clearing Operations  
Defense

Go to <https://solutions.arcgis.com/gallery> and click Defense



# Military Tools for ArcGIS

- Group of mission-focused enhancements
  - Coordinate Conversion
  - Distance and Direction
  - Military Symbol Editor
  - Visibility
- Groups these four into a single Visual Studio solution
- <https://github.com/Esri/military-tools-desktop-addins>



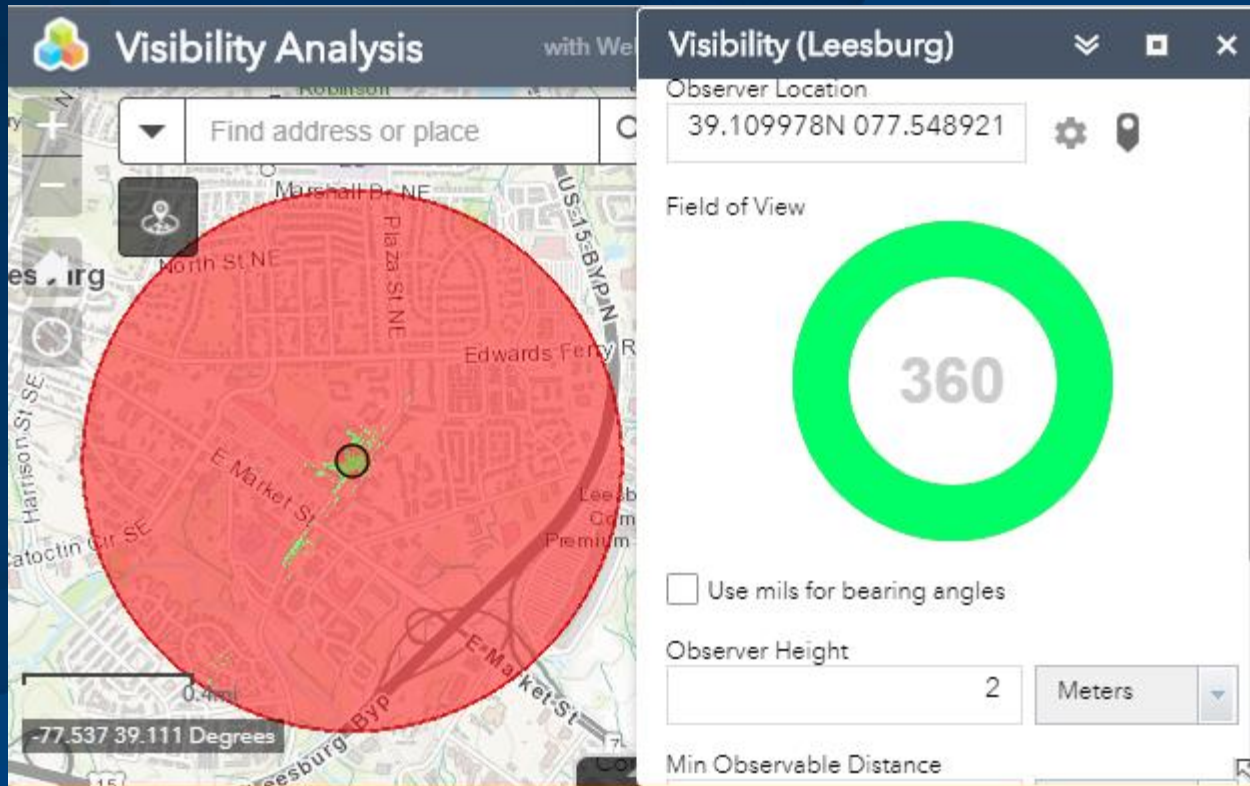
# Military Tools for ArcGIS

<https://github.com/Esri/military-tools-desktop-addins>



# Widgets for Web AppBuilder for ArcGIS

- Coordinate Conversion (built in)
- Distance and Direction (GitHub)
- Emergency Response Guide (ERG) (GitHub)
- Grid Overlay (built in)
- Gridded Reference Graphic (GRG) (GitHub)
- Visibility (GitHub)



# Visibility Widget for Web AppBuilder for ArcGIS

<https://github.com/Esri/visibility-addin-dotnet>



# Extending ArcGIS GeoEvent Server for Defense Users

- GeoEvent Server
  - An extension for ArcGIS Enterprise, a.k.a. ArcGIS Server
  - Handles live data, including real-time data
  - Includes several adapters, transports, and processors
- GitHub repo
  - More adapters, transports, and processors (Java code)
  - Useful for defense users and others
  - Proofs of concept (no longer officially supported)

<https://github.com/Esri/defense-solutions-proofs-of-concept>

# GeoEvent Server Components for Defense Users

<https://github.com/Esri/defense-solutions-proofs-of-concept>





# Q: Does ArcGIS have any built-in military-specific functionality?

- Military symbology
  - ArcGIS Runtime
  - ArcGIS Pro
  - ArcGIS Enterprise (map services)
- MGRS coordinate and grid support
- Current work in the Washington, D.C. R&D Center
  - Imagery analysis on the web
  - Configurable home app for intel analysts
  - Client-side military symbology on the web (feature and stream services)
- Built in or not, nearly everything I showed you is supported software

Q: May I have your slides?

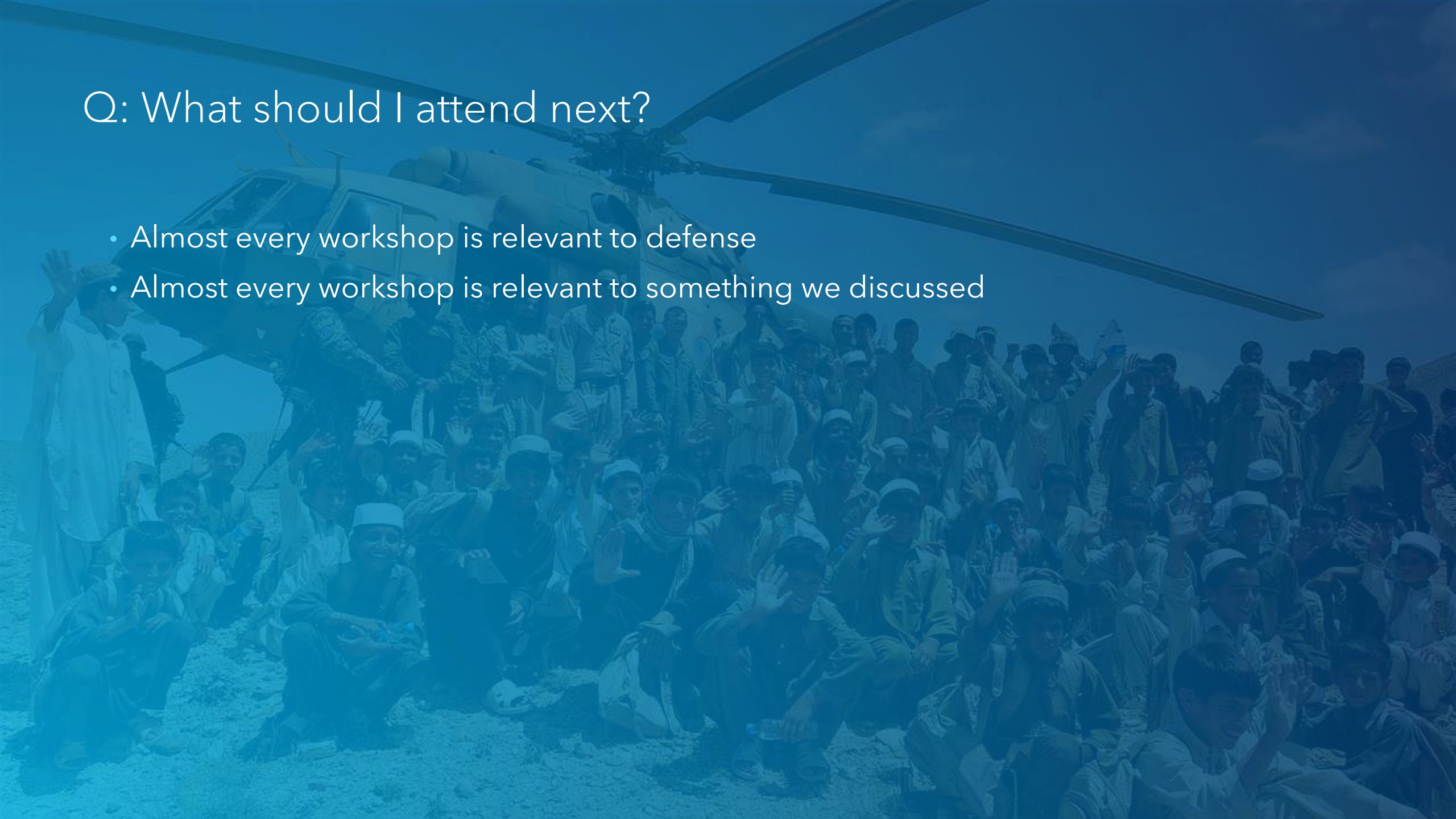
- Check <http://proceedings.esri.com> soon





## Q: What should I attend next?

- Almost every workshop is relevant to defense
- Almost every workshop is relevant to something we discussed



## Future Esri Events

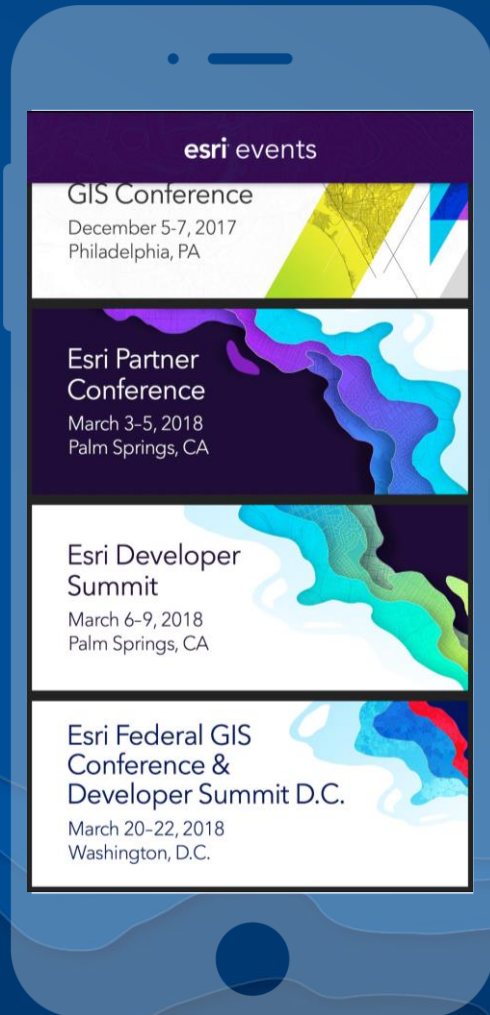
- Esri User Conference | July 9-13 | San Diego, California
- Esri Developer Summit | Winter or Spring 2019 | Palm Springs, California
- Esri Federal GIS Conference | Winter or Spring 2019 | Washington, D.C.
- Esri DevSummit DC | Winter or Spring 2019 | Washington, D.C.



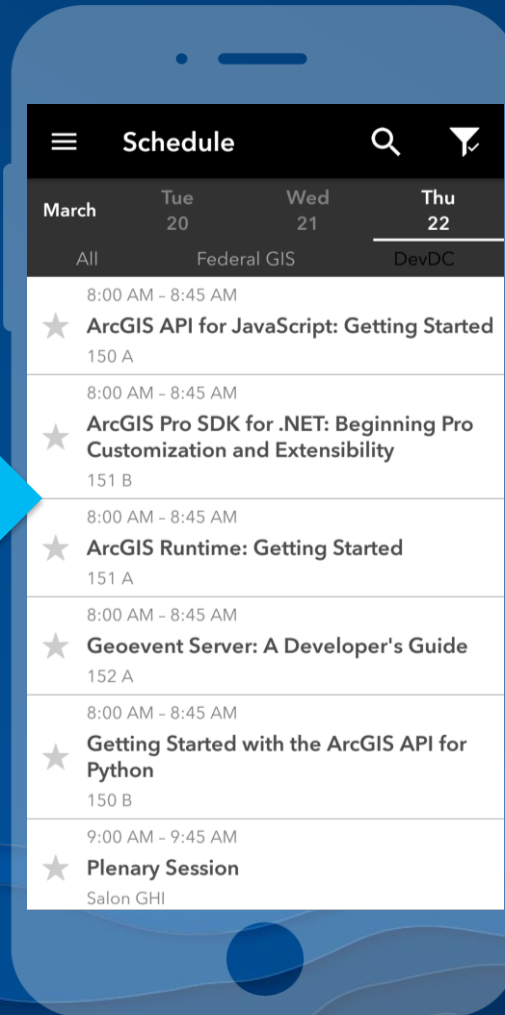


# Please Take Our Survey on the Esri Events App!

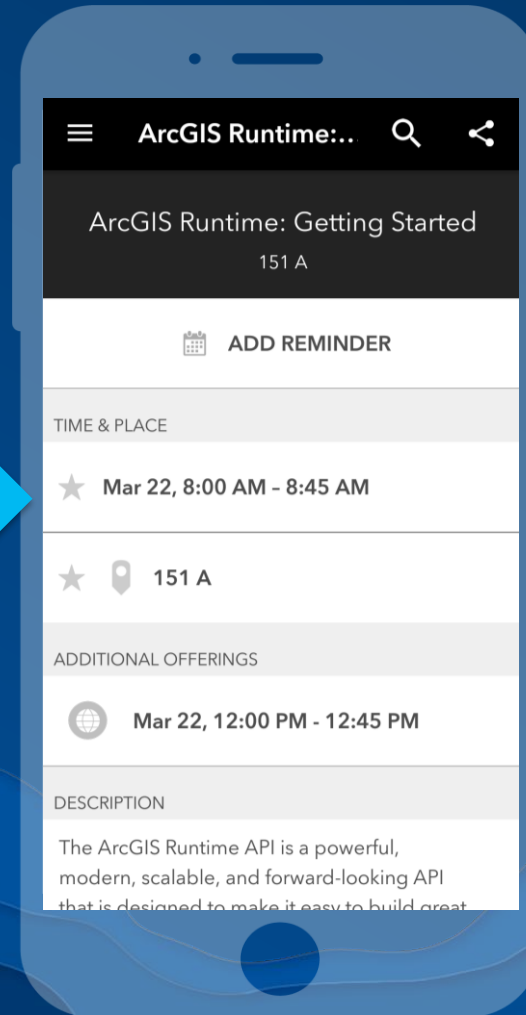
Download the Esri Events app and find your event



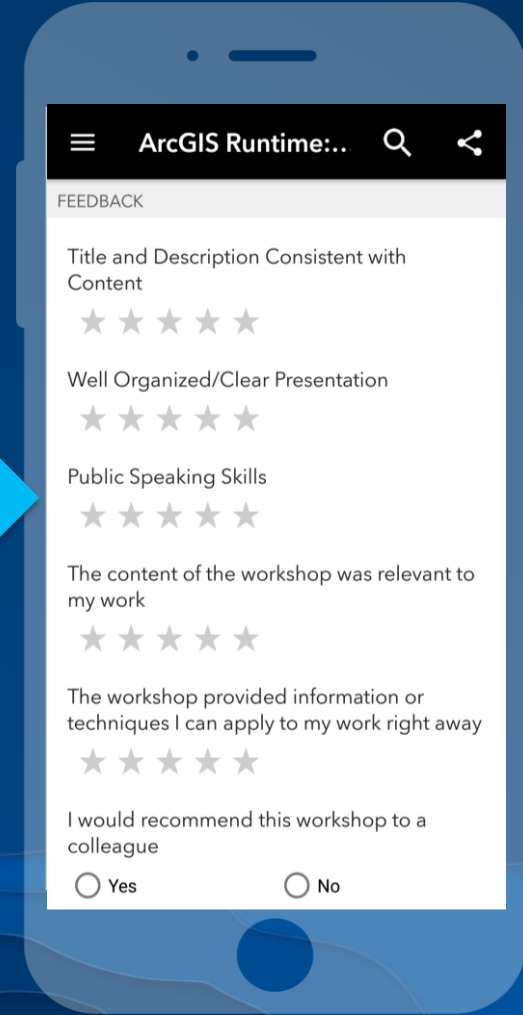
Select the session you attended



Scroll down to find the feedback section



Complete answers and select "Submit"





esri

THE  
SCIENCE  
OF  
WHERE