



# Geospatially Enabling the Intelligence Collector

David Attaway

Natalie Feuerstein

Phil Suarez

# Our Community



*The Intelligence Collector...*

# Our Community

Geospatially Enabling the Intelligence Collector



**Everyone is not a GIS professional!**

*It's easier than you think!!*

# Our Community

Geospatially Enabling the Intelligence Collector



SIGINT



All Source



IMINT



GEOINT



HUMINT

**Everyone is not a GIS professional!**

**So, what do I need to know?**

*GIS is for Everyone!*

# Our Community

Geospatially Enabling the Intelligence Collector



**Everyone is not a GIS professional!**

**So, what do I need to know?**

**How do I get started?**

*Let's talk about WebGIS*

# A Web GIS Integrates All Data Types

With Web Maps and Web Services



*Brings together Foundational and Operational Layers*

# ArcGIS Is a Platform...

Enabling Web GIS Everywhere

Simple  
Integrated  
Open



*Available in the Cloud . . .  
. . . and On-Premises*



# Data, Data, Data

Report is what we do!

A. 357 GROUP. LT. OL. HAYES LEADING.  
D. 50 F-51'S. 17-362, 17-363, 16-364. HP 0626, ROWN 1120.  
C. 11. 2 ESCORTS.  
D. PENETRATION, TARGET AND WITHDRAWAL SUPPORT. F.O. 422, VIII  
E. 1 LGST. E/A  
F. 1 CAT A. FLAK.  
G. 1 WVR. CAPT RICHARD C. SMITH, USA RADM, 20 MILES SW LEIPZIG,  
SAID HE WAS MISSING.

H. S/E 17-0-3 (AIR)  
T/E 5-0-1 (AIR)  
TOTAL 22-0-4 (AIR)

1 LOCOMOTIVE DESTROYED  
1 LOCOMOTIVE DAMAGED

I. R/V DUMMER LAKE 23,000 FT  
WERE ATTACKED AND DISPE  
LEIPZIG 0550 TO 2330 FR  
AN HX-177 WERE ATTACKED  
DESTROYED AND DAMAGED IN  
CAVE ESCORT TO THE "CONH  
1000 AT 20,000 FT. AN  
51 DEGREES 45 MINUTES IN  
20 PLUS S/E E/A PARKED IN  
3 CHUTES SEEN.

J. S/E 17-0-3 (AIR)  
T/E 5-0-1 (AIR)  
LOCOMOTIVES 1-0-1

1 ME-410 DESTROYED, LT. HOI  
1 ME-109 DESTROYED, LT. PUN  
1 FW-190 DESTROYED, CAPT. J  
1 FW-190 DAMAGED, CAPT. FRI

1 FW-190 DESTROYED, CAPT. I  
2 ME-109'S DESTROYED, CAPT.  
1 ME-109 DESTROYED, CAPT.  
2 ME-410'S DESTROYED, CAPT.  
1 FW-190 DESTROYED, CAPT.  
1 ME-410 DESTROYED, LT. I  
1 FW-190 DESTROYED, LT. I  
3 FW-190 DESTROYED, CAPT.

1 FW-190 DESTROYED, CAPT. SU  
1 ME-410 DESTROYED, LT. COL.  
1 ME-109 DESTROYED, LT. COL.  
1 ME-109 DESTROYED, LT. TYLL  
1 ME-109 DESTROYED, CAPT. HO  
1 ME-109 DESTROYED, CAPT. SU  
1 FW-190 DESTROYED, CAPT. ST  
1 FW-190 DAMAGED, CAPT. HO  
1 FW-190 DAMAGED, LT. AULE  
1 ME-177 DAMAGED, CAPT. MC  
1 LOCOMOTIVE DESTROYED, CAPT  
1 LOCOMOTIVE DAMAGED, CAPT.

BT

To: D. 29/1826P .L.T.M. AR  
VOILES Re: 29/1845B TED AR

UNCLAS  
OPER/SLAMMER 9401/USACOM2313/EAGLE SLAM//  
MSGID/MISREP/27FS DOW/4001/DEC//  
REF/A/ORDER/9AF/232300ZDEC93/9005/NOTAL//  
REF/B/INTSUM/ACIN/231100ZDEC93//  
MSNID/DCA/9 TACC/1/BB5656//  
UNID/27 FS//  
ROUTE/242355Z/3436N07825W/250015Z/RPNAME:CAP DELTA/250020Z/RPNAME:CAP  
ECHO//  
FLTDTAIL/DINGLE91/KLFI/27/FLGC/242350Z/250001Z/WASH//  
TIMESPEC/TPRM:AIRALERT/250005Z/250100Z//  
TGTPOS/06/UNKNOWN AIRCRAFT/UR/POSNID/GULF OF MEXICO/OVER WATER/  
2335N07925W/000T/630KTS/AGL:50//  
RESULT/TOTEL:6 FLOGGER LIKE AIRCRAFT/QTY:4/DESTR/YES/  
ATTACK/17ONL12341234//  
TARWI/4/8/6/1/D//  
JAM/RADAR:2N//  
ENINCEPT/2335N07925W/250055Z/AGL:50/NONATO:FLOGGER/UR/6/6/5/4/AA3//  
ACLOSS/DINGLE94/F15C/2334N07859W/250050Z/CHUT/MSLS-RKT-AA//

SUBJECT: Base Engineering Rep

TO : COMMANDING GENERAL,  
COMMANDING OFFICER,

1. The following information was received from the  
mission of the 50th Bombardment Group (B) on August 18, 1943.
  - a. Twenty-two (22) B-17F airplanes took-off, one (1) returned  
to base as per schedule.
  - b. All aircraft returned to base after completing mission.
2. There were no abortive airplanes.
3. Battle damage is as follows:
  - a. 42-30300 - Two flak holes in bomb-bay-sliding window broken  
by flak (pilot's side). Minor sheet metal damage.
  - b. 42-30371 - Cylinder change #8 engine caused by flak. Minor  
sheet metal damage.
  - c. 42-30315 - Nose section damaged by flak - Minor sheet metal  
damage.
  - d. 42-30244 - Two bullet holes in #8 propeller.

GIA RENEE D. FIELDS,  
Major, Air Corps,  
Base Engr. Officer.

Text Documents  
and Reports

Reports can be entered into a GIS



# Data, Data, Data Reports is what we do!

Images,  
Presentations

A. 357 GROUP. LT. DL. HAYES LEADING.  
D. 50 F-51'S. 17-36Z, 17-36Z, 16-36Z. HP 0650, R00N 1120.  
C. 11. 2 ESCORTS.  
D. PENETRATION, TARGET AND WITHDRAWAL SUPPORT. F.O. 422, VIII  
E. 1 LGST. E/A  
F. 1 CAT A. FLAK.  
G. 1 WVR. CAPT RICHARD C. SMITH, 354 R00N. 20 MILES SW LEIPZIG,  
SAID HE WAS FAILING.

H. S/E 17-0-3 (AIR)  
T/E 5-0-1 (AIR)  
TOTAL 22-0-4 (AIR)

1 LOCOMOTIVE DESTROYED  
1 LOCOMOTIVE DAMAGED

I. R/V DUMMER LAKE 25,000 FT. WERE ATTACKED AND DISPERSED. LEIPZIG 0550 TO 2030. AN HR-177 WERE ATTACKED DESTROYED AND DAMAGED IN CAVE ESCORT TO THE TOWN 1000 AT 20,000 FT. AN 51 DEGREE 45 MINUTES IN 20 PLUS 5/E E/A PARKED 3 CHUTES SEEN.

J. S/E 17-0-3 (AIR)  
T/E 5-0-1 (AIR)  
LOCOMOTIVES 1-0-1

1 HE-410 DESTROYED, LT. NOB  
1 HE-109 DESTROYED, LT. PUM  
1 FW-190 DESTROYED, CAPT. J  
1 FW-190 DAMAGED, CAPT. J

1 FW-190 DESTROYED, CAPT. J  
2 HE-109'S DESTROYED, CAPT. J  
1 HE-109 DESTROYED, CAPT. J  
2 HE-410'S DESTROYED, CAPT. J  
1 FW-190 DESTROYED, CAPT. J  
1 HE-410 DESTROYED, LT. J  
1 FW-190 DESTROYED, LT. J  
3 FW-190 DESTROYED, CAPT. J

1 FW-190 DESTROYED, CAPT. SU  
1 HE-410 DESTROYED, LT. COL.  
1 HE-109 DESTROYED, LT. COL.  
1 HE-109 DESTROYED, LT. TYLE  
1 HE-109 DESTROYED, CAPT. HO  
1 HE-109 DESTROYED, CAPT. SU  
1 FW-190 DESTROYED, CAPT. ST  
1 FW-190 DAMAGED, CAPT. RO  
1 FW-190 DAMAGED, LT. ALLE  
1 HE-177 DAMAGED, CAPT. MC  
1 LOCOMOTIVE DESTROYED, CAPT. J  
1 LOCOMOTIVE DAMAGED, CAPT. J

BT

To: 29/1826P L.T.M. AR  
VOILES Re: 29/1845B TED AR

UNCLAS  
OPER/SLAMMER 9401/USACOM2313/EAGLE SLAM//  
MSGID/MISREP/27FS DOW/4001/DEC//  
REF/A/ORDER/9AF/232300ZDEC93/9005/NOTAL//  
REF/B/INTSUM/ACIN/231100ZDEC93//  
MSNID/DCA/9 TACC/1/BB5656//  
UNID/27 FS//  
ROUTE/242355Z/3436N07825W/250015Z/RPNAME:CAP DELTA/250020Z/RPNAME:CAP ECHO//  
FLT/DTAIL/DINGLE91/KLFI/27/FLGC/242350Z/250001Z/WASH//  
TIMESPEC/TFRM:AIRALERT/250005Z/250100Z//  
TGTP05/06/UNKOWN AIRCRAFT/UR/POSNID/GULF OF MEXICO/OVER WATER//  
2335N07925W/000T/630KTS/AGL:50//  
RESULT/TGTEL:6 FLOGGER LIKE AIRCRAFT/QTY:4/DESTR/YES/  
ATTACK/17ONL12341234//  
TARWI/4/8/6/1/D//  
JAM/RADAR:2N//  
ENINCEPT/2335N07925W/250055Z/AGL:50/NONATO:FLOGGER/UR/6/6/5/4/AA3//  
ACLOSS/DINGLE94/F15C/2334N07859W/250050Z/CHUT/MSLS-RKT-AA//

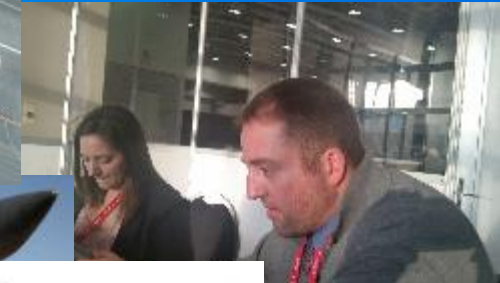
SUBJECT: Base Engineering Rep

TO : COMMANDING GENERAL,  
COMMANDING OFFICER,

1. The following information was received from the mission of the 50th Bombardment Group (B) on August 18, 1943.

- Twenty-two (22) B-17F airplanes took-off, one (1) returned to base as per scheduled.
- All aircraft returned to base after completing mission.
- There were no abortive airplanes.
- Battle damage is as follows:
  - 42-30800 - Two flak holes in bomb-bay-sliding window broken by flak (pilot's side). Minor sheet metal damage.
  - 42-30871 - Cylinder change in engine caused by flak. Minor sheet metal damage.
  - 42-30215 - Nose section damaged by flak - Minor sheet metal damage.
  - 42-30244 - Two bullet holes in in engine propeller.

CIA HENGE D. FIELDS,  
Major, Air Corps,  
Base Engr. Officer.



Text Documents  
and Reports

Reports are easily entered into a GIS

# Data, Data, Data

## Reports is what we do!

Images,  
Presentations

A. 357 GROUP. LT. DL. HAYES LEADING.  
 D. 50 F-51'S. 17-36Z, 17-36Z, 16-36Z. WP 0650, ROWN 1120.  
 C. 11. 2 ESCORTS.  
 D. PENETRATION, TARGET AND WITHDRAWAL SUPPORT. F.O. 420, VIII I  
 E. 1 LGST. E/A  
 F. 1 CAT A. FLAK.  
 G. 1 WVR. CAPT RICHARD C. SMITH, USA RADM, 20 MILES SW LEIPZIG,  
 SAID HE WAS BAILING.  
 H. S/E 17-0-3 (AIR)  
 T/E 5-0-1 (AIR)  
 TOTAL 28-0-4 (AIR)

UNCLAS  
 OPER/SLAMMER 9401/USACOM2313/EAGLE SLAM//  
 MSGID/MISREP/27FS DOW/4001/DEC//  
 REF/A/ORDER/9AF/232300ZDEC93/9005/NOTAL//  
 REF/B/INTSUM/ACIN/231100ZDEC93//  
 MSNID/DCA/9 TACC/1/BB5656//  
 UNID/27 FS//  
 ROUTE/242355Z/3436N07825W/250015Z/RPNAME:CAP DELTA/250020Z/RPNAME:CAP  
 ECHO//  
 FLT/DTAIL/DINGLE91/KLFI/27/FLGC/242350Z/250001Z/WASH//  
 TIMESPEC/TFRM:AIRALERT/250005Z/250100Z//  
 TGTPOS/06/UNKNOWN AIRCRAFT/UR/POSNID/GULF OF MEXICO/OVER WATER/  
 2335N07925W/000T/630KTS/AGL:50//  
 RESULT/TOTEL:6 FLOGGER LIKE AIRCRAFT/QTY:4/DESTR/YES/  
 ATTACK/17ONL12341234//  
 TARWI/4/8/6/1/D//  
 JAM/RADAR:2N//  
 ENINCEPT/2335N07925W/250055Z/AGL:50/NK  
 ACLOSS/DINGLE94/F15C/2334N07859W/2500

I. R/V DUMMER LAKE 25,000 I  
 WERE ATTACKED AND DISPER  
 LEIPZIG 0850 TO 2030  
 AN HK-177 WERE ATTACKED  
 DESTROYED AND DAMAGED IN  
 CAVE ESCORT TO THE SOUTH  
 1000 AT 20:00 PT. AN  
 51 DEGREE 45 MINUTES N  
 20 PLUS 5/E E/A PARKED I  
 3 CHUTES SEEN.  
 J. S/E 17-0-3 (AIR)  
 T/E 5-0-1 (AIR)  
 LOCOMOTIVES 1-0-1

1 ME-410 DESTROYED, LT. NOI  
 1 ME-109 DESTROYED, LT. PUN  
 1 FW-190 DESTROYED, CAPT. J  
 1 FW-190 DAMAGED, CAPT. J

1 FW-190 DESTROYED, CAPT. I  
 2 ME-109'S DESTROYED, CAPT.  
 1 ME-109 DESTROYED, CAPT.  
 2 ME-410'S DESTROYED, CAPT.  
 1 FW-190 DESTROYED, CAPT.  
 1 ME-410 DESTROYED, LT. I  
 1 FW-190 DESTROYED, LT. I  
 3 FW-190 DESTROYED, CAPT.

1 FW-190 DESTROYED, CAPT. SU  
 1 ME-410 DESTROYED, LT. COL.  
 1 ME-109 DESTROYED, LT. COL.  
 1 ME-109 DESTROYED, LT. TYLE  
 1 ME-109 DESTROYED, CAPT. NO  
 1 ME-109 DESTROYED, CAPT. SU  
 1 FW-190 DESTROYED, CAPT. ST  
 1 FW-190 DAMAGED, CAPT. RO  
 1 FW-190 DAMAGED, LT. ALLE  
 1 ME-177 DAMAGED, CAPT. MC  
 1 LOCOMOTIVE DESTROYED, CAPT  
 1 LOCOMOTIVE DAMAGED, CAPT.

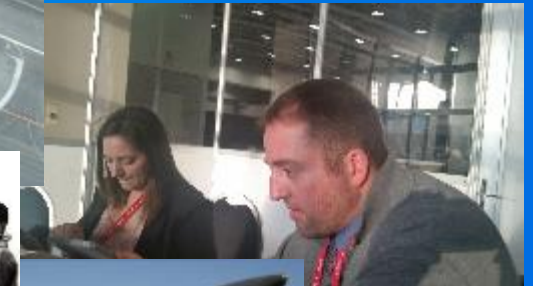
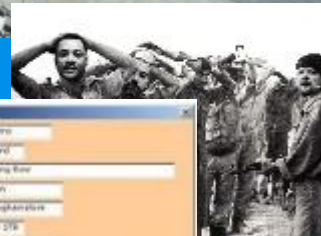
BT  
 To: D. 29/1826P .L.T.M. AR  
 VOILES Re:\*\*\*\*\*29/1845P TED AR

SUBJECT: Base Engineering Rep

TO : COMMANDING GENERAL,  
 COMMANDING OFFICER,

- The following information was received from the mission of the 50th Bombardment Group (B) on August 18, 1943.
  - Twenty-two (22) B-17F airplanes took-off, one (1) returned to base as per scheduled.
  - All aircraft returned to base after completing mission.
  - There were 20 abortive airplanes.
    - 42-50800 - Two flak holes in bomb-bay-sliding window broken by flak (pilot's side). Minor sheet metal damage.
    - 42-50871 - Cylinder change #2 engine caused by flak. Minor sheet metal damage.
    - 42-50215 - Nose section damaged by flak - Minor sheet metal damage.
    - 42-50244 - Two bullet holes in #2 propeller.

GIA RENEE D. FIELDS,  
 Major, Air Corps,  
 Base Engr. Officer.



Text Documents  
and Reports

Form Based Data Entry

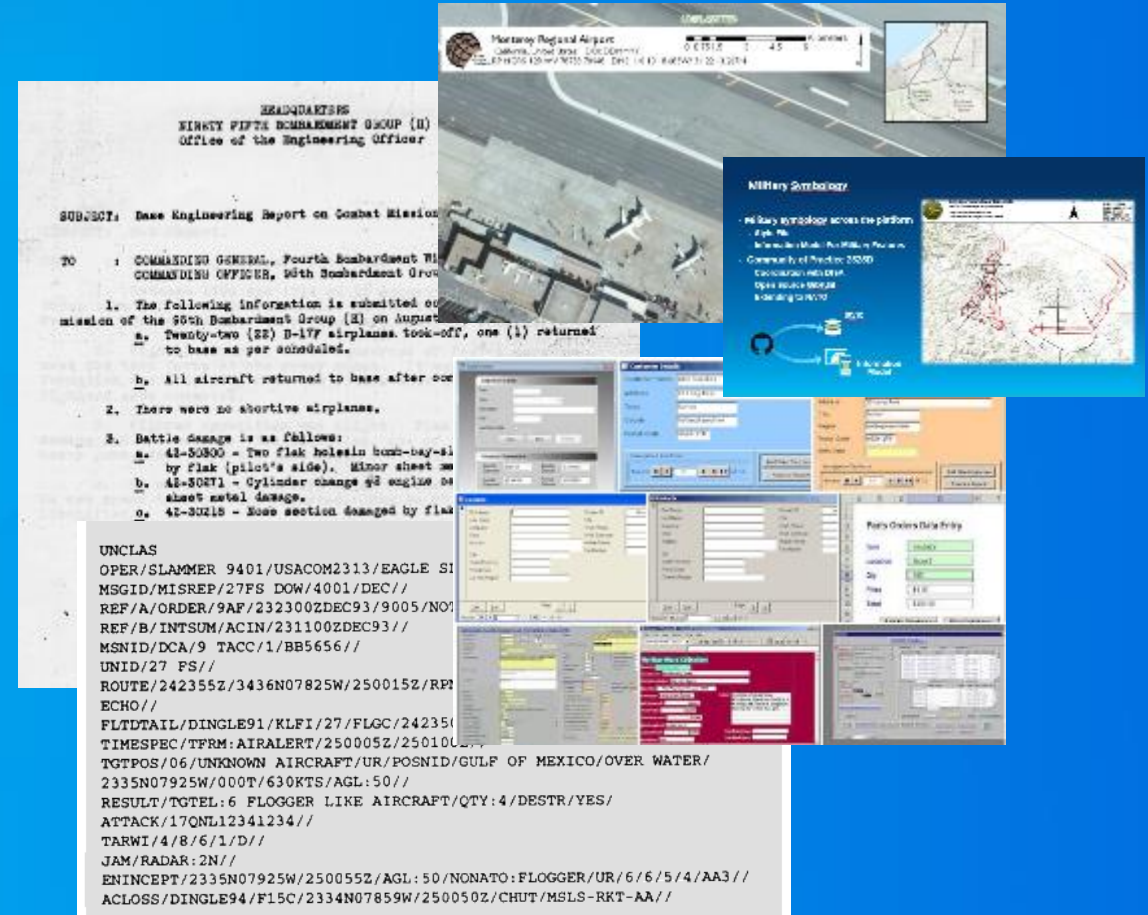
GIS Supports these Workflow



# Useful Data

It starts at the point of collection!

How do I normalize the data at the point of entry?



**HEADQUARTERS  
FIFTY FIFTH BOMBARDMENT GROUP (H)  
Office of the Engineering Officer**

**SUBJECT: Base Engineering Report on Combat Mission**

**TO : COMMANDER GENERAL, Fourth Bombardment Group  
COMMANDING OFFICER, 50th Bombardment Group**

1. The following information is submitted on mission of the 50th Bombardment Group (H) on August 1, 1944:

- a. Twenty-two (22) B-17F airplanes took-off, one (1) returned to base as per consolidated.
- b. All aircraft returned to base after one hour.

2. There were no abortive airplanes.

3. Battle damage is as follows:

- a. 42-50300 - Two flak holes in bomb-bay-side by flak (pilot's side). Minor sheet metal damage.
- b. 42-30871 - Cylinder change g3 engine on sheet metal damage.
- c. 42-30215 - Nose section damaged by flak.

**UNCLAS  
OPER/SLAMMER 9401/USACOM2313/EAGLE S  
MSGID/MISREP/27FS DOW/4001/DEC//  
REF/A/ORDER/9AF/232300ZDEC93/9005/NO  
REF/B/INTSUM/ACIN/231100ZDEC93//  
MSNID/DCA/9 TACC/1/BB5656//  
UNID/27 PS//  
ROUTE/242355Z/3436N07825W/250015Z/RP  
ECHO//  
FLDTAIL/DINGLE91/KLFI/27/FLGC/24235  
TIMESPEC/TFRM:AIRALERT/250005Z/25010  
TGTPOS/06/UNKNOWN AIRCRAFT/UR/POSNID/GULF OF MEXICO/OVER WATER/  
2335N07925W/000T/630KTS/AGL:50//  
RESULT/TGTEL:6 FLOGGER LIKE AIRCRAFT/QTY:4/DESTR/YES/  
ATTACK/17ONL12341234//  
TARWI/4/8/6/1/D//  
JAM/RADAR:2N//  
ENINCEPT/2335N07925W/250055Z/AGL:50/NONATO:FLOGGER/UR/6/6/5/4/AA3//  
ACLOSS/DINGLE94/F15C/2334N07859W/250050Z/CHUT/MSLS-RKT-AA//**

# Data Entry

## From Data Entry to Situational Awareness

- **Demonstration**

- **Collector**
- **GEOFORM**
- **Operations Dashboard**



### Mission Report

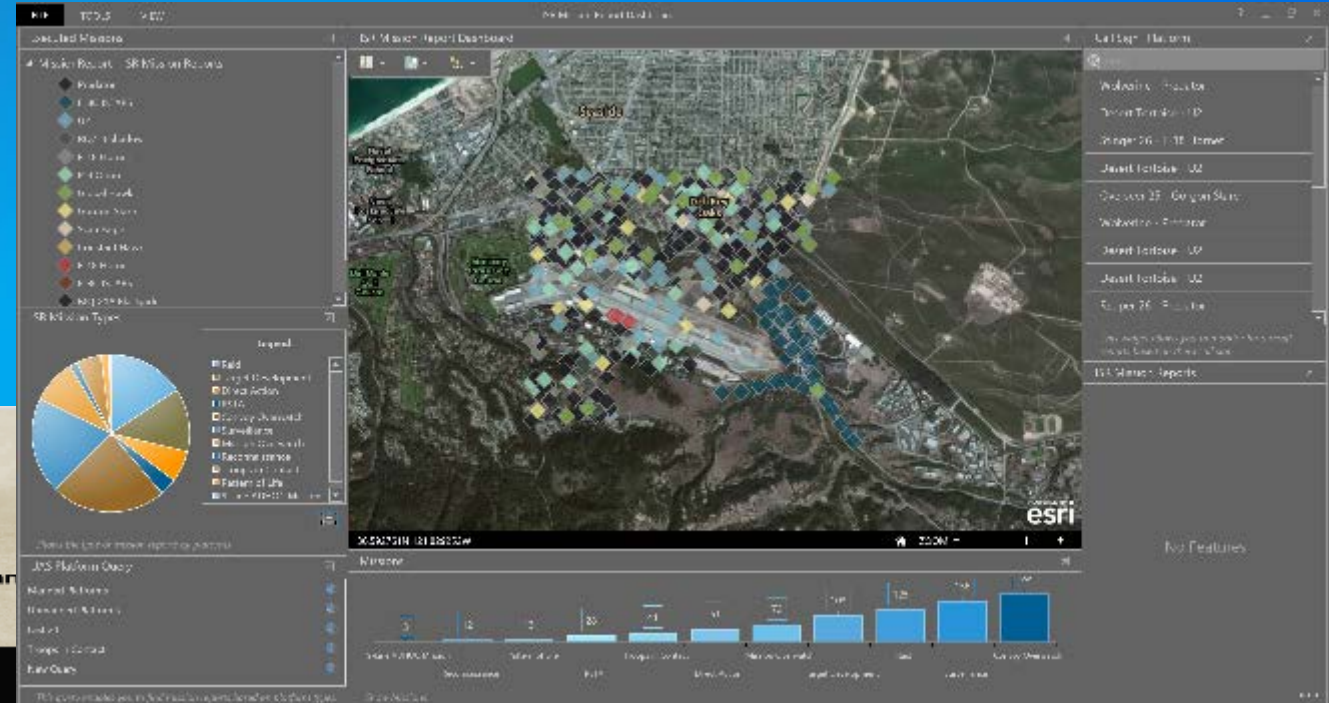
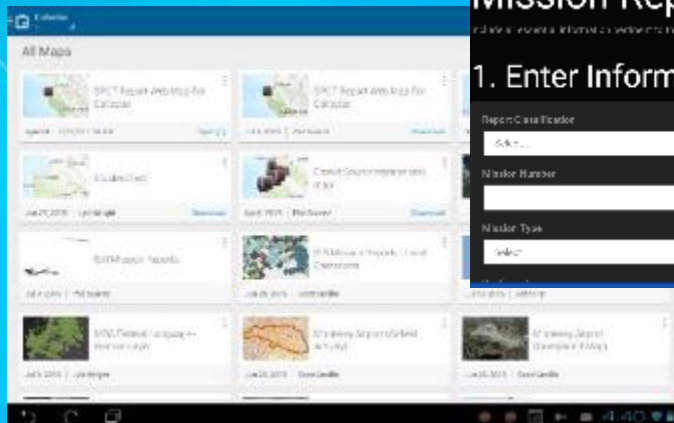
#### 1. Enter Information

Report Case Details

Case ID:

Mission Number:

Mission Type:

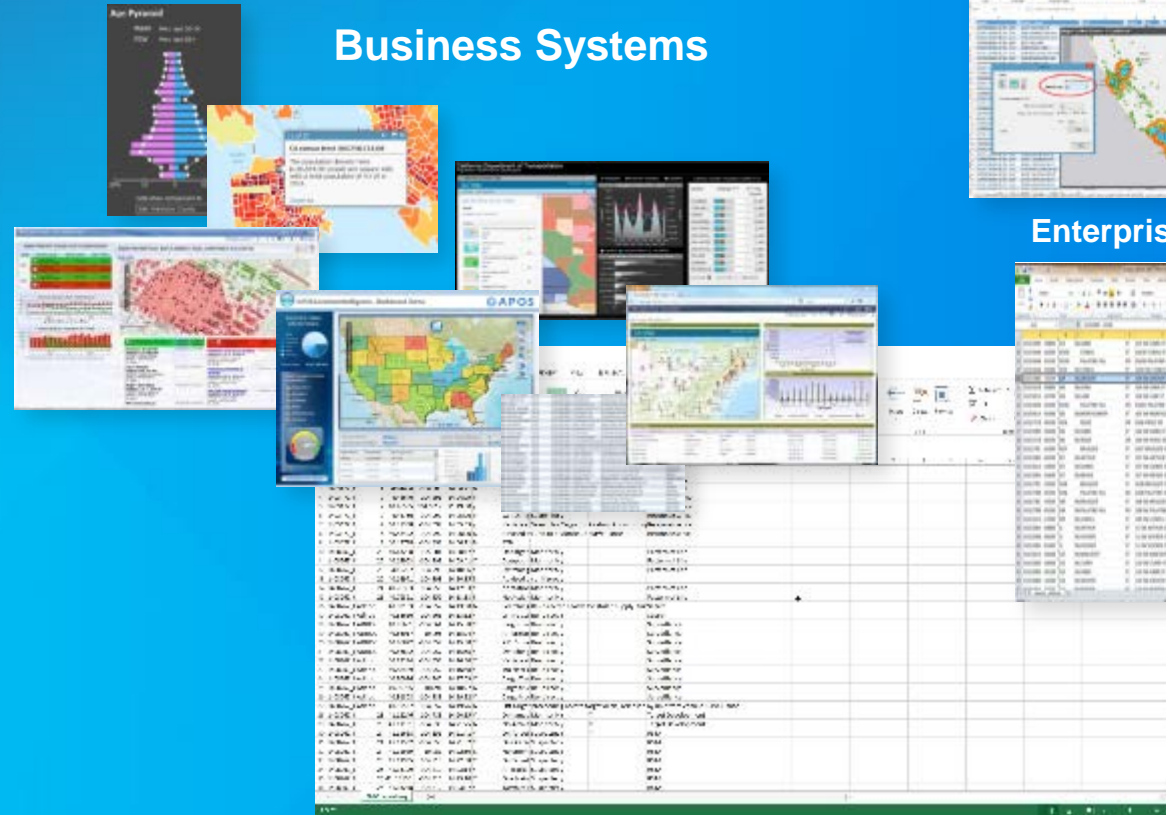




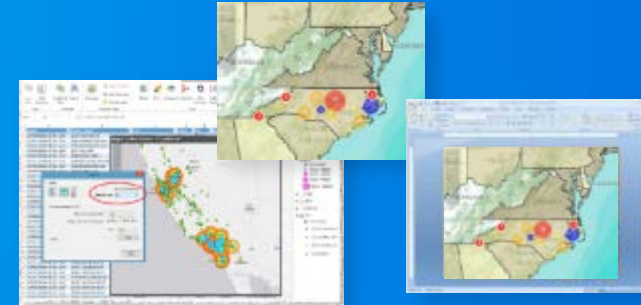
# How do I make sense of my data?

Normalizing is good, but I already have data!

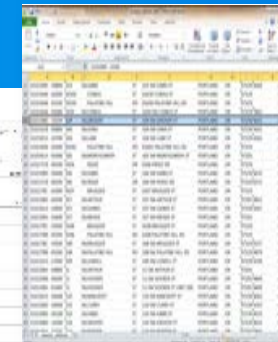
**Business Systems**



**Microsoft Office**



**Enterprise Data**



**Social Media**

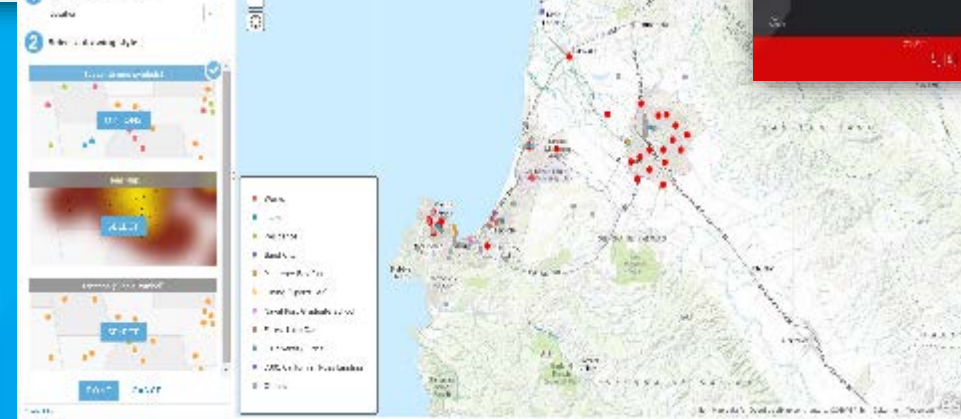
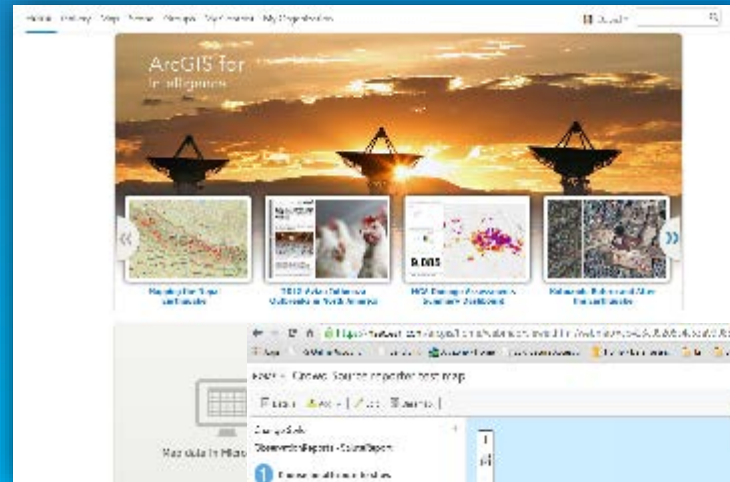


*Analytics and Smart Mapping...*

# Making Data Useful

## Application Ready Content

- **Demonstration**
  - Portal For ArcGIS
  - Smart Mapping
  - Summary Application





# Our World is Changing Rapidly

Flexible Technology Helps us Pivot Quickly

How can I surge  
personnel onto a  
common issue?

## Global Conflict

Border Security

Terrorism

## Political Crisis

Civil Unrest

Organized Crime

## Adversaries

Known and Unknown

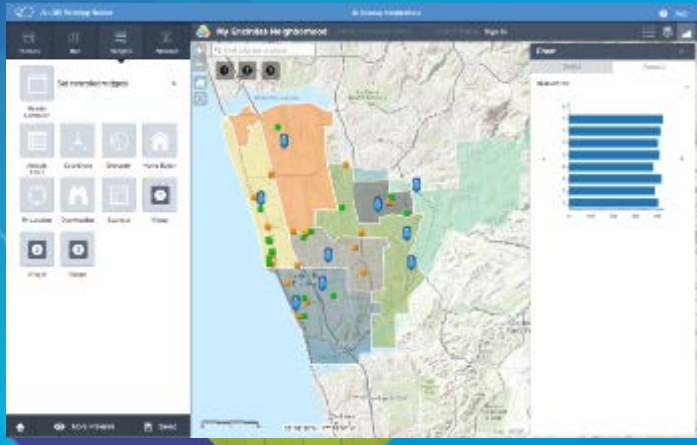
*... impacting our National Security*

# Rapid Deployable Apps

Surge Capability on a Common Problem

Cross-Platform  
Framework for Web Apps

## WebApp Builder for ArcGIS



## Ready-to-Use App



- **HTML5 — JavaScript**
- **Easily Configurable**
- **Server and Online**

**Runs Anywhere**



**30+ Widgets**

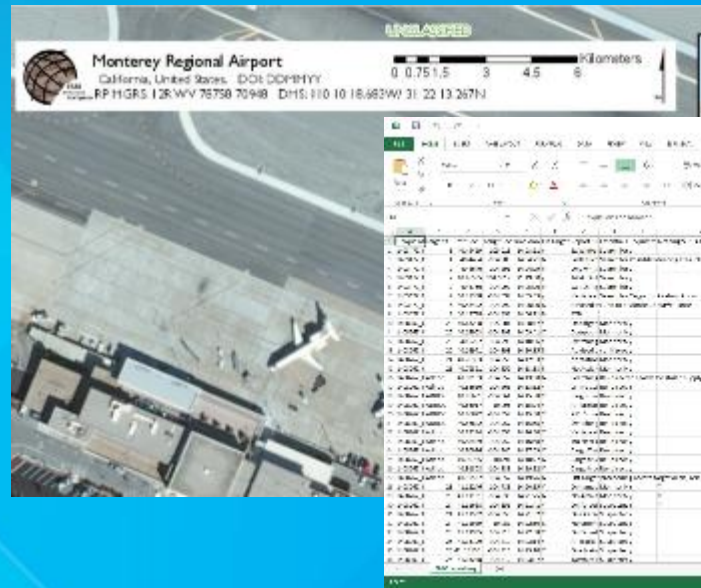
*Lower the Barrier, Share the Tradecraft*

# Communicate the Analysis

## Dynamic Environment For Your Assessments

- From Text to Digital Medium
  - Easy to Use Apps
  - Interactive Assessments
  - Comprehensive Products

```
UNCLAS
OPER/SLAMMER 9401/USACOM2313/EAGLE SLAM//
MSGID/MISREP/27FS DOW/4001/DEC//
REF/A/ORDER/9AF/232300ZDEC93/9005/NOTAL//
REF/B/INTSUM/ACIN/231100ZDEC93//
MSNID/DCA/9 TACC/1/BB5656//
UNID/27 FS//
ROUTE/242355Z/3436N07825W/250015Z/RPNAME:CAP DELTA/250020Z/RPNAME:CAP
ECHO//
PLTDTAIL/DINGLE91/KLET/27/FLGC/242350Z/250001Z/WASH//
005Z/250100Z//
/UR/POSNID/GULF OF MEXICO/OVER WATER/
GL:50//
E AIRCRAFT/QTY:4/DESTR/YES/
65Z/AGL:50/NONATO:FLOGGER/UR/6/6/5/4/AA3//
07859W/250050Z/CHUT/MSLS-RRT-AA//
```



### Military Symbology

- Military symbology across the platform
  - Style File
  - Information Model For Military Features
- Community of Practice 2525D
  - Coordination with DISA
  - Open Source [GitHub](#)
  - Extending to NATO

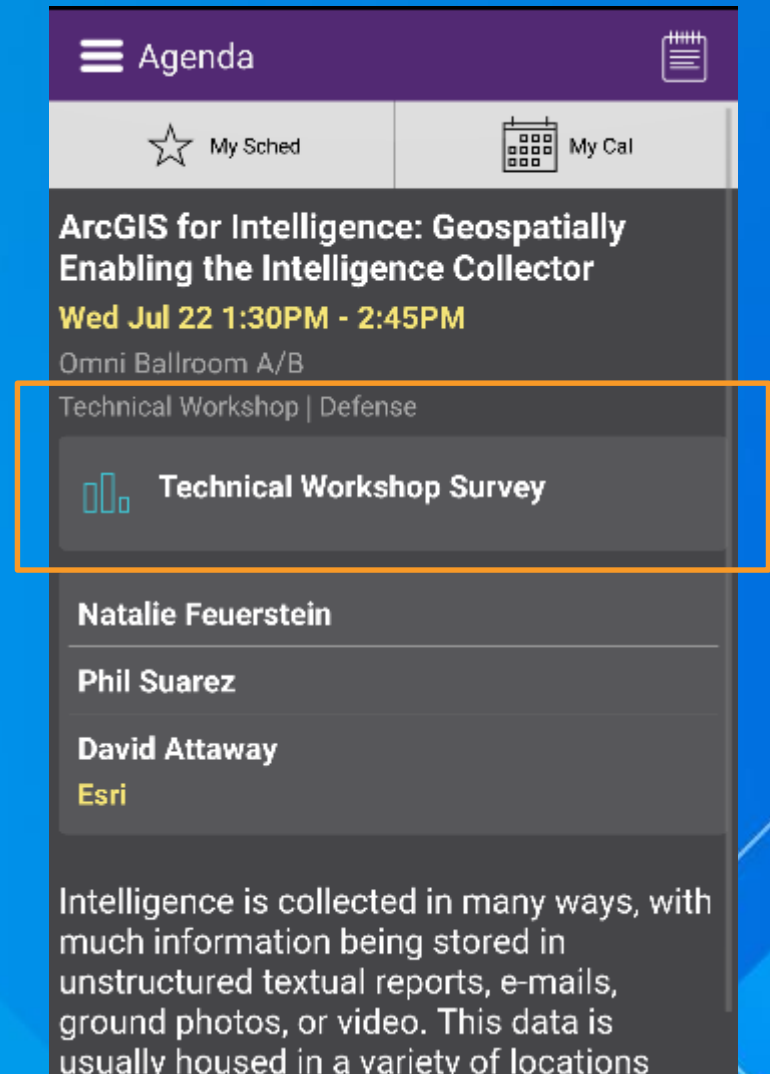


Communicate the Analysis



# Thank you...

- Please fill out the session survey in your mobile app
- Select *ArcGIS for Intelligence*:
  - *Geospatially Enabling the Intelligence Collector*
  - Use the Search Feature to quickly find this title
- Click “Technical Workshop Survey”
- Answer a few short questions and enter any comments



# Questions?

Session ID:



Understanding our world.