MRA Mission Data Portal

November 14th, 2016

Mountain Rescue Association and the NAPSG Foundation
Introduction

• Monty Bell, Mountain Rescue Association

• Paul Doherty, NAPSG Foundation
  http://www.napsgfoundation.org/
The Mountain Rescue Association (MRA) - established in 1959

The MRA is an organization of teams dedicated to saving lives through rescue and mountain safety education.

We do so by improving the quality, availability, and safety of mountain search and rescue.

With over 90 government authorized units, the MRA has grown to become the critical mountain search and rescue resource in the United States.
Problem

• Search and Rescue (SAR), whether Urban or Wildland, is an inherently spatial problem...

• But SAR Teams do not (often) collect spatial data
Challenges

• Before 2013, the strategy for data collection
  • Each team submits a summary
  • Low participation
  • 0% spatial data

• The majority of data entry participants are not familiar with web mapping technology (age, experience, volunteers)

• Some teams are already using their own data collection system

Solution

• ArcGIS Online is an online, collaborative web GIS that allows you to use, create, and share maps, scenes, apps, layers, analytics, and data.

• Can create easy to use, focused applications

• Teams get maps of their data in return

• Can import data from other systems

MRA Mapping Portal
2015 Mission Data

- Number of Incidents and Where
- Types of Missions, Demographics
- Number of People Rescued
- Number of Missions per Team
- Team Response Area
- Other Mission Queries (# Fatalities, Aircraft Used, etc.)
2015 Mission Data

MRA Mission Data Portal

Total Missions
2,039

Average Response Area
7,125.04 square miles

Recent Missions

Screenshots 9 February 2016
2015 Missions Data

Missions Per Month

<table>
<thead>
<tr>
<th>MONTH</th>
<th>FREQUENCY</th>
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<tbody>
<tr>
<td>January</td>
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<tr>
<td>February</td>
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<tr>
<td>November</td>
<td>87</td>
</tr>
<tr>
<td>December</td>
<td>55</td>
</tr>
</tbody>
</table>

2015 MONTHS
Future Analyses?
2015 Mission Data – What did we learn?

• We have increased participation by members
• Some teams have very large response areas with +60,000 volunteer hours total (median ~6,590 miles)
• Aircraft are used frequently (~30%) and across the entire response area
• We have opportunities to exploit our data for analysis, fundraising, and raise awareness
2016 Mission Data Portal

• Enter Data (Short Form vs. Long Form)
• Edit Data (Web Mapping Application)
• MapSAR Online
• MRA “Mapping Hangouts”
Enter Missions (SHORT FORM)

As soon as you are done with a mission (i.e. not at the end of the year) - enter new mission data and confirm the location of the incident using this form. For complex incidents or recording missing person search operation statistics - please see the "Long Form".

1. Enter Incident Information
2. Enter the Location of the Mission (best available location)
3. Complete Form

Data can be reviewed and edited later using the Edit Mission Web App if needed. If you have questions or need help, please send an email to mramapping@gmail.com.

1. Enter Information

Enter Data
Map Mission Location
2016 Mission Data Portal

Web Map App
MRA Team Membership Map

http://mra.org/all-teams/
Conclusion

- We have data!
- We can better explain the who, what, where, when, why of our organization
- Provide basic mapping tools for teams and connect them with GIS Specialists
- Other agencies adopting the model!
CalOES Adopting the MRA Mission Data Approach

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- We can better explain the who, what, where, when, why of our organization
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- Other agencies adopting the model!
Resources

- http://msar.maps.arcgis.com/
  - Videos
  - Tutorials
- http://data.msar.opendata.arcgis.com/
  - MRA Mission Data Model
  - MRA Team Locations
- ArcGIS Online Templates
  - GeoForm
  - Web AppBuilder
  - Story Map Series
- http://www.esri.com/nonprofit
Thank You!

MRA Mapping Team: mramapping@gmail.com