

Flood Events – Streamlining the Process of Damage Assessment

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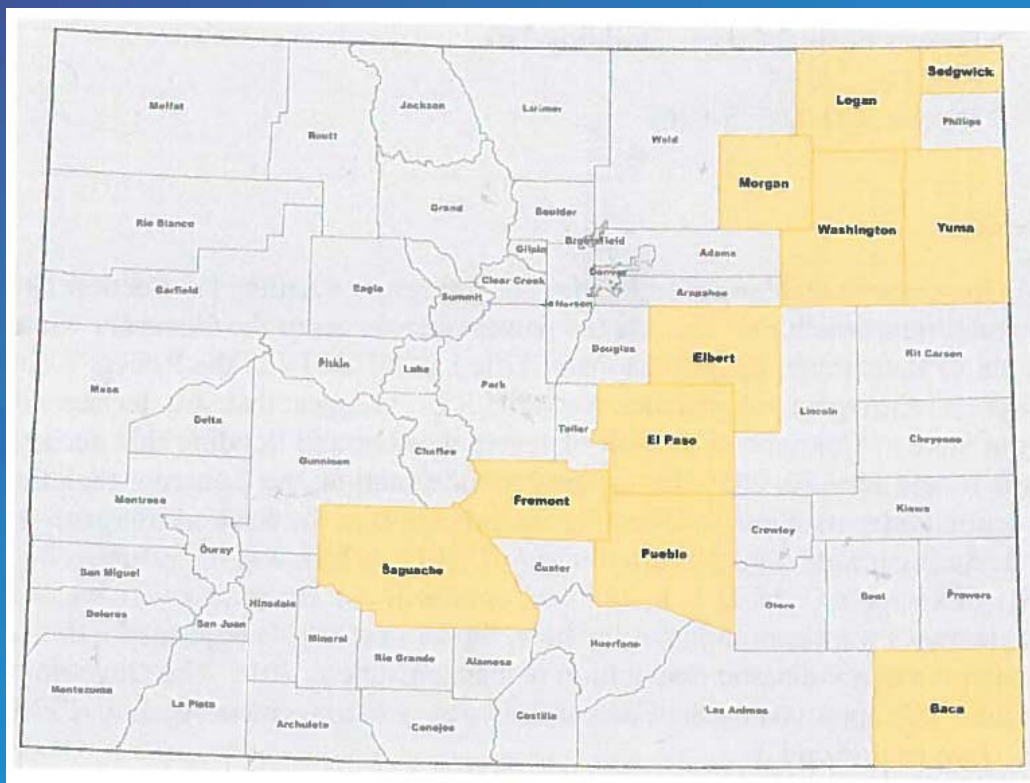


THE FLOOD EVENT

- Between April 20th and June 28th, 2015
- Reported rainfall on 66 of the 70 days
- Highest total rainfall of 21.44 inches
- Erosion, sinkholes, landslides, debris flows



THE EXTENT OF THE DISASTER



Map Source: State of Colorado Request for Major Disaster Declaration, July 7, 2015

- **11 out of 64 Colorado Counties declared disaster areas**
- **FEMA Preliminary Damage Assessment Teams**
- **First Wave – 8 Counties covered in 7 Days**

AGENCIES COLLABORATING

Office of Emergency Management
County Government

- El Paso County

City Governments

- City of Colorado Springs
- City of Manitou Springs

Major Utility

- Colorado Springs Utilities



NO STRANGER TO NATURAL DISASTERS

- September 2013 – Severe Storms & Flooding
- July 2013 – Black Forest Fire
- June 2012 – Waldo Canyon Fire



Image Source: appraisalforensicsinc.com



Image Source: www.isciencetimes.com



LESSONS LEARNED FROM THE PAST

- Know what to document and in what format.
- Reduce collection redundancies between agencies.
- Identify items of critical nature and which entity owns it.
- Take photos to help reduce repeated site visits.



PREPARE FOR FEMA!

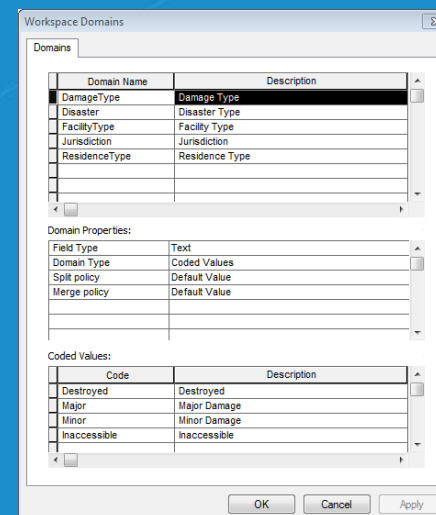
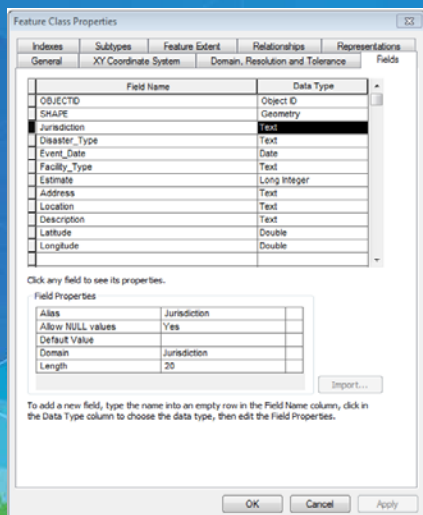
- About 20% of data already collected
- Quick to Set Up – only a few days to work with
- Easy to Share – multiple agencies to work together
- Quick and Easy to Use – varying GIS experience

**ArcGIS Online (AGOL) and Collector
is the perfect solution!**

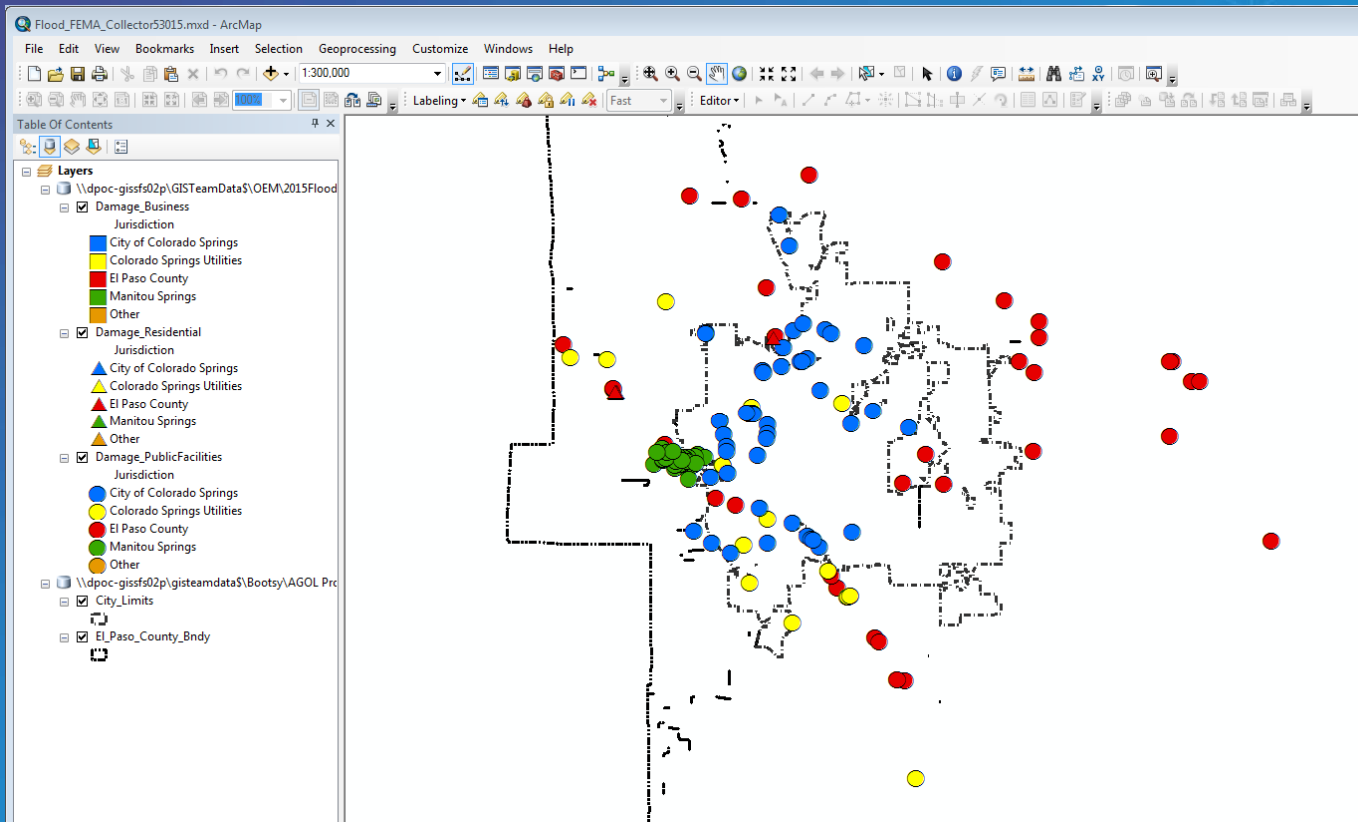


LAYER & FILE GEODATABASE DESIGN

- 3 Point Feature Classes – Residential, Business, and Public Facilities
- Domain-driven Attributes, such as ‘Jurisdiction’ and ‘Damage Type’
- Manual entry Attributes, such as ‘Comments’ and ‘Value’
- Relationship tables and classes for Attachments management



MAP SERVICE & APP DESIGN



- Point Symbols color-coded by Entity
- ‘City Limits’ and ‘County Boundary’ layers added for greater jurisdiction visibility
- AGOL basemaps available

USER ACCOUNT & GROUP MANAGEMENT

- Create a single, private group
- “User” Role: No ‘publishing’ or ‘deleting’, just ‘add’ and ‘modify’
- City temporarily allocated open AGOL user accounts to agencies in need – a key to quick success
- FEMA Assessment Team invited for greater self-sufficiency and access to data

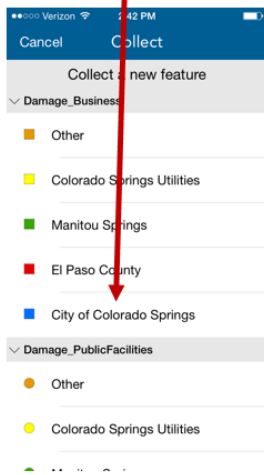


TRAINING DAY

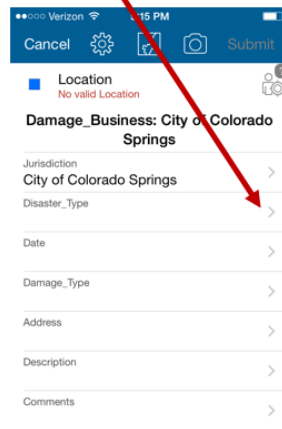
- App screenshots saved to compile a quick training manual
- A single, large group edit training session

Using the Collector App Continued...

- The "Collect" feature window will open under 'Damage_Business' tap on 'City of Colorado Springs'

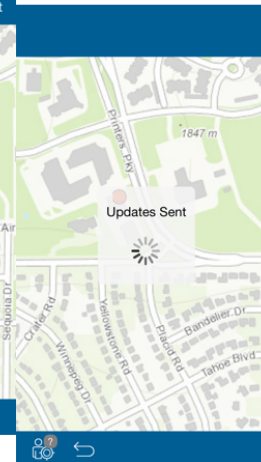
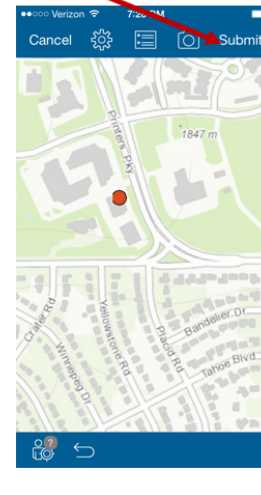


- The "Damage_Business form" will open, tap on the arrow to the right of 'Disaster_Type'

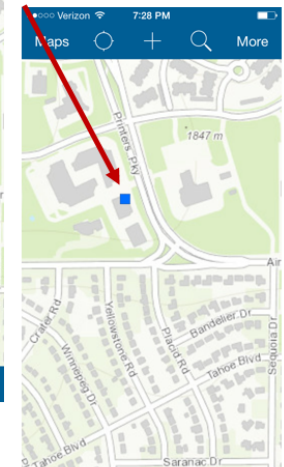


Using the Collector App Continued...

- Tap on 'Submit'

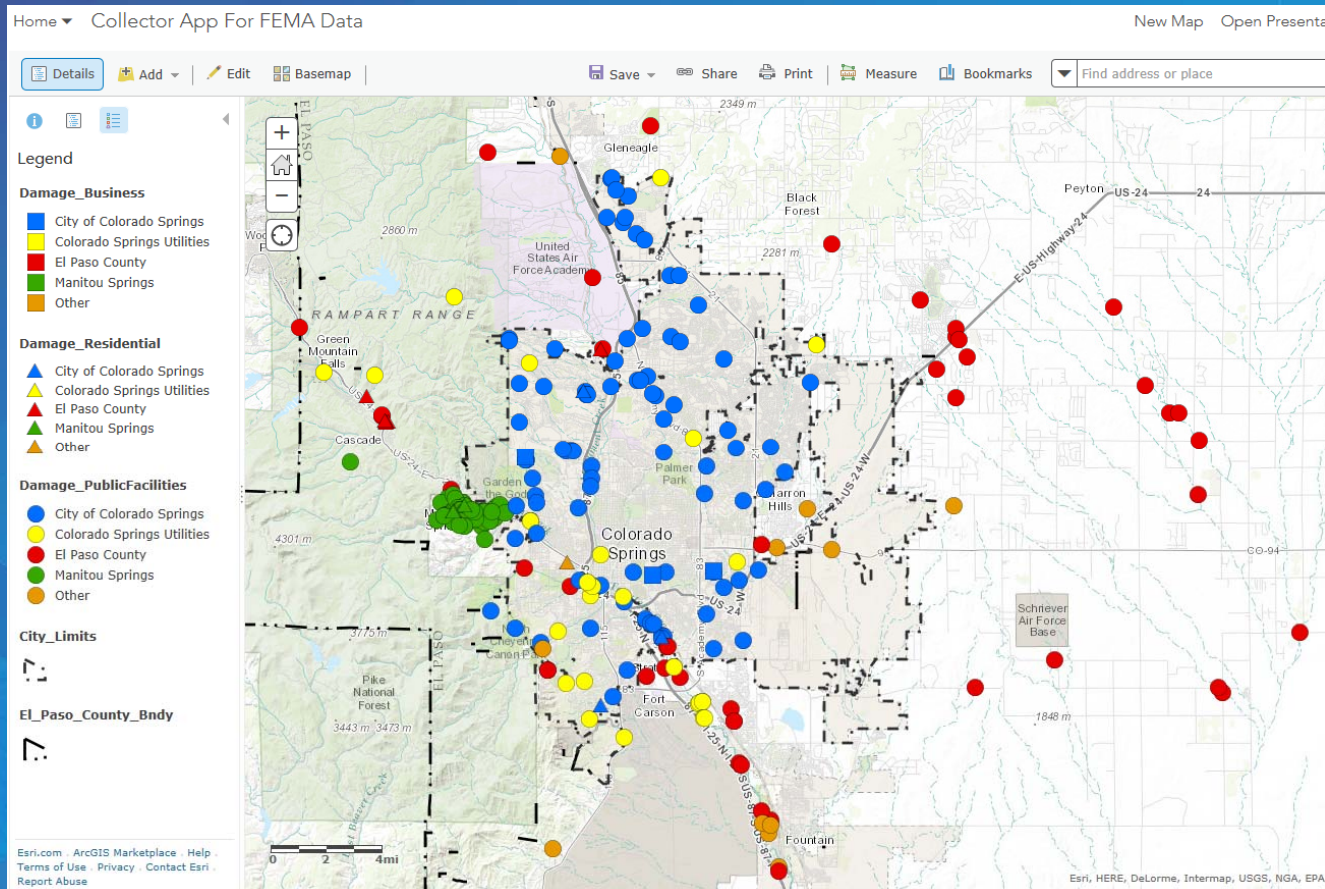


- Your point is now on the map with the correct symbology



DATA COLLECTED SUMMARY

- 230 Points collected covering 864 square miles



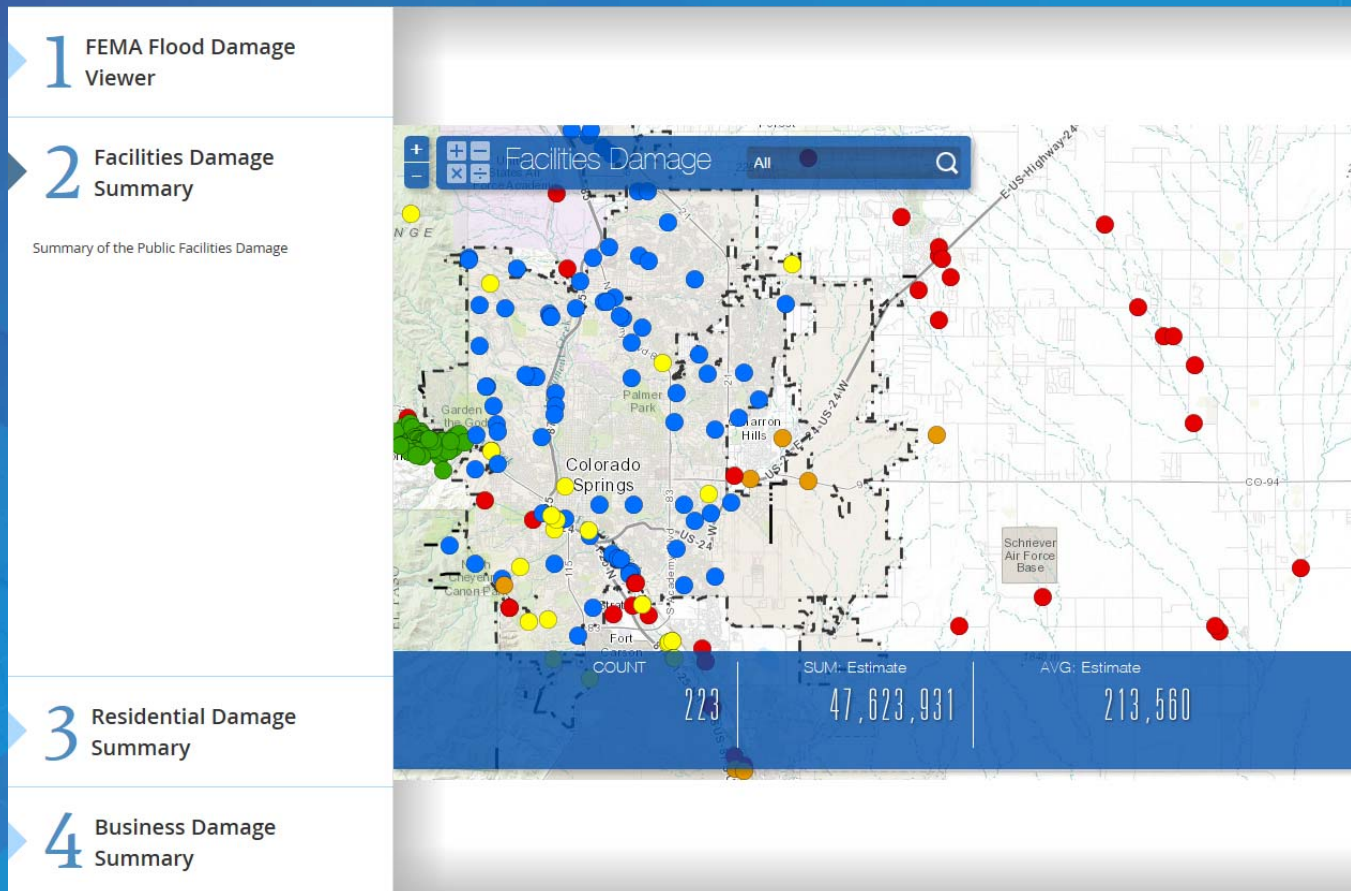
FEMA RESPONSE

- **FEMA Assessment Team in area for only half a day**
- **OEM provided an inspection travel itinerary based on priority**
- **FEMA agents able to access the Viewer after the initial field assessments**



ADDITIONAL VIEWERS CREATED

- Desktop App for Editing
- Read-Only Assessment Viewer
- Summary Story Map



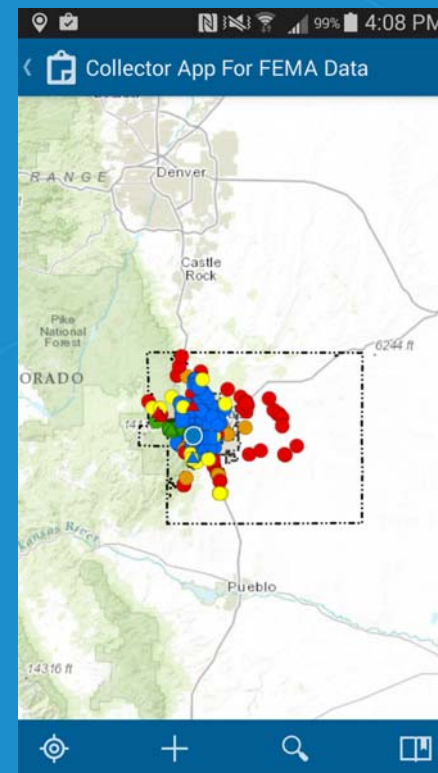
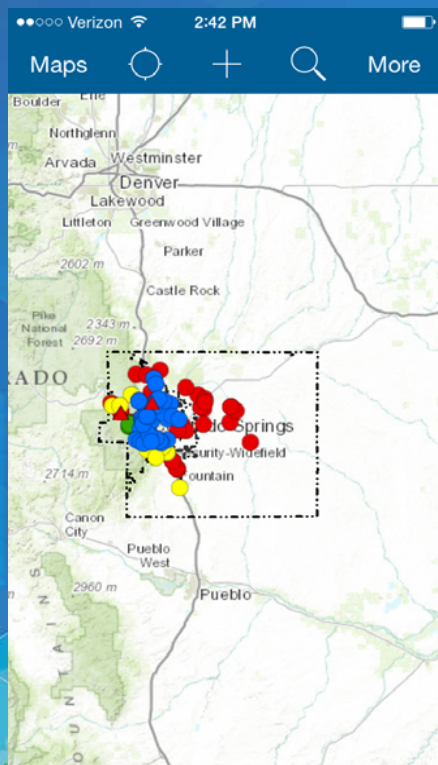
LESSONS LEARNED: USER SUPPORT

- **Need to know AGOL user account, password!**
- **Need to know mobile device's Apple or Android account, passwords for app stores!**



LESSONS LEARNED: DEVICE SUPPORT

- Collector interface differences between Apple and Android
- Device trouble attaching photos
- Network limitations



FOR MORE INFORMATION...

- Contact the City of Colorado Springs GIS Team at citygis@springsgov.com

Thank you!

