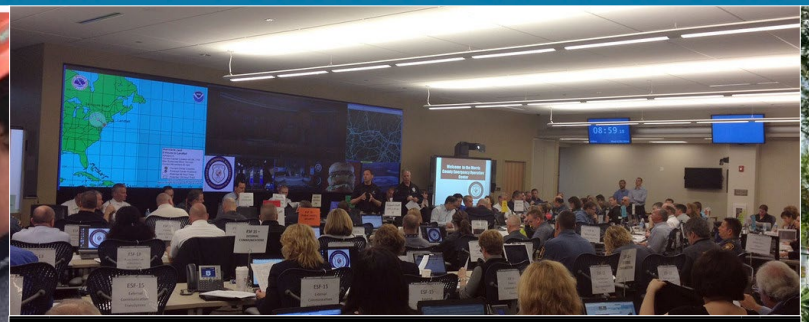
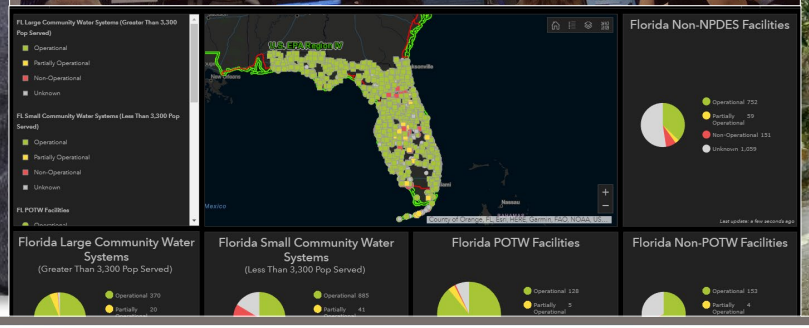
TETRA TECH

Mission Critical Support in Natural Disasters

Transforming emergency response workflows with ArcGIS





complex world | CLEAR SOLUTIONS™

TETRA TECH

Leading with Science®

Company Overview

WHO WE ARE

We are the 18,000 faces of Tetra Tech. We are dedicated problem-solvers and innovators from 60 disciplines collaborating on interesting projects worldwide.

OFFICE LOCATIONS

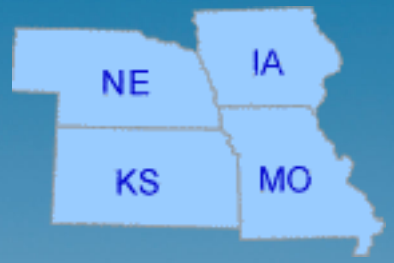
With more than 400 offices worldwide,
we can quickly respond to our client's needs.

Our GIS/Data Team

- Based out of Kansas City, MO
- GIS Analysts, Developers, and Data Scientists
- Support various clients and projects worldwide
- Focused on U.S. Environmental Protection Agency
  - Superfund Technical Assessment and Response Team (START)

Region 4

Region 5



Region 7

START Program

- Emergency response and preparedness
- Oil and hazardous substance removal actions
- Site assessments
- Counterterrorism support
- Training

Emergency Response

- **Help EPA mitigate any imminent or substantial threat to the environment or public health/welfare**
- **Natural disasters and man-made incidents**
- **START performs monitoring and oversight**
  - Collection of samples and monitoring results
  - Facility assessments
  - Orphaned container recon and recovery
  - Sunken vessel recon and recovery
  - General documentation

TETRA TECH

ArcGIS is Essential to our Operations

- Mapping & Visualization
- Data Management
- Field Mobility
- Monitoring
- Analytics
- Design & Planning
- Decision Support
- Constituent Engagement
- Sharing and Collaboration

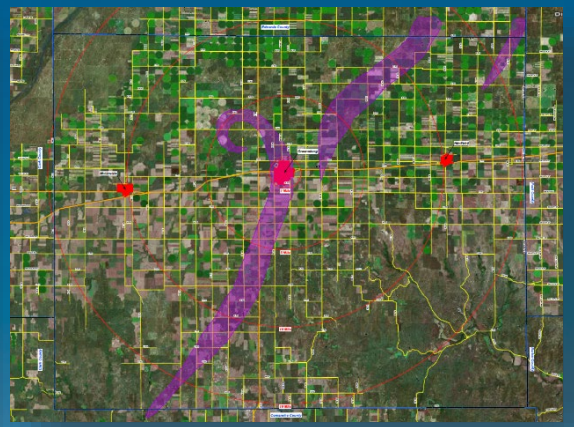
TETRA TECH

How did we get here?

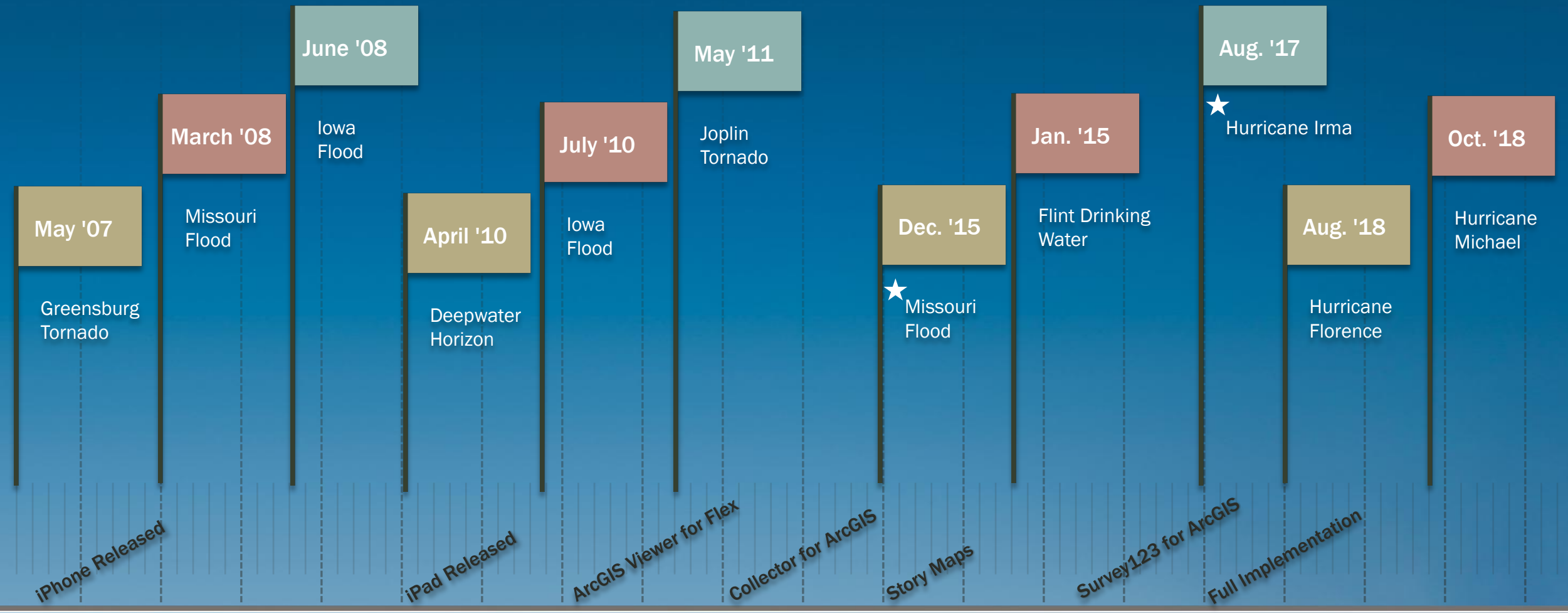
Transforming our emergency response workflows

Our Transformation Begins

Greensburg Tornado 2007

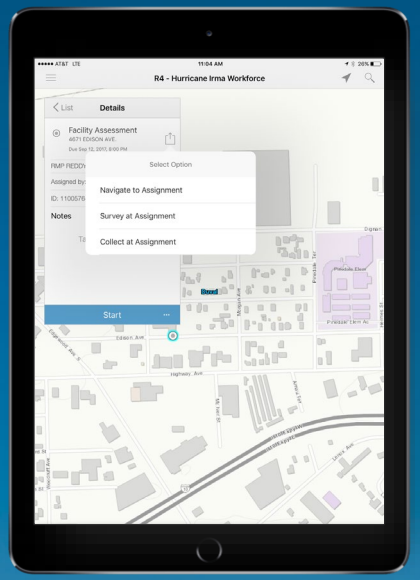


Timeline 2007 - 2018

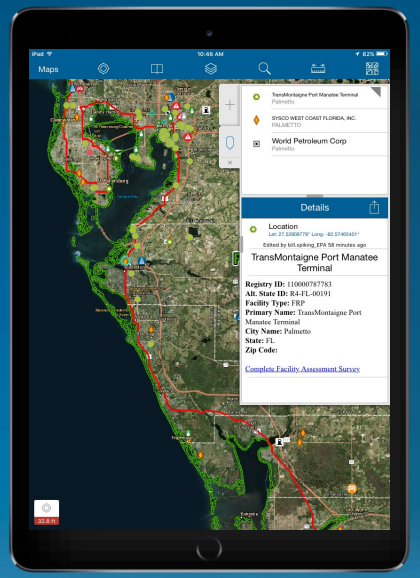


TETRA TECH

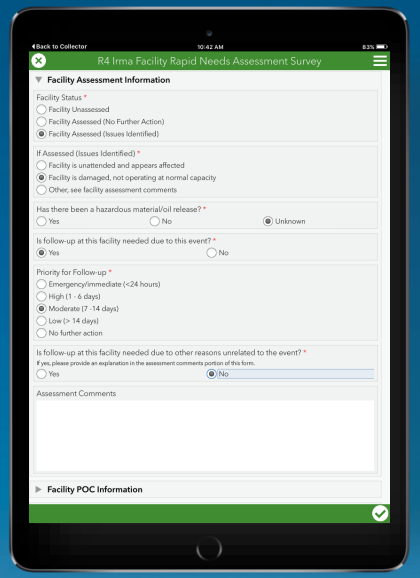
Hurricane Irma – Full Implementation



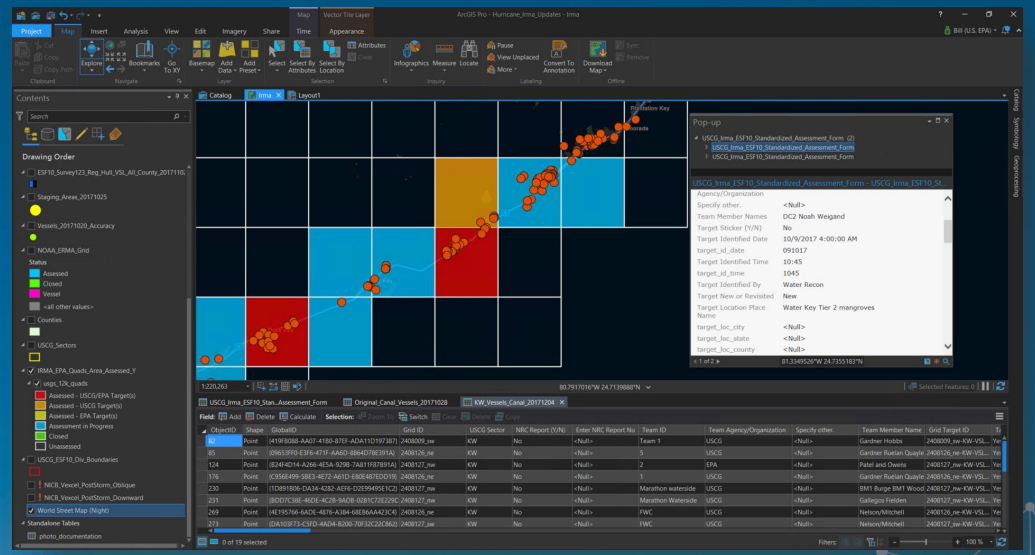
Workforce



Collector



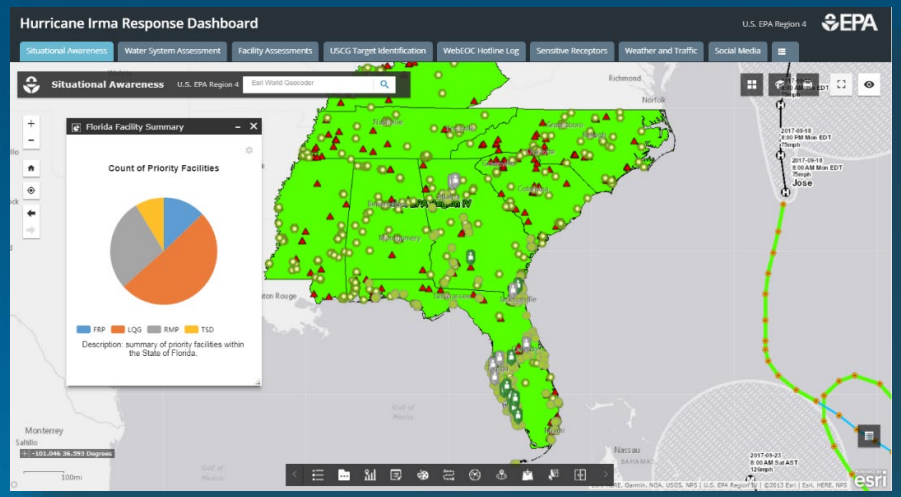
Survey123

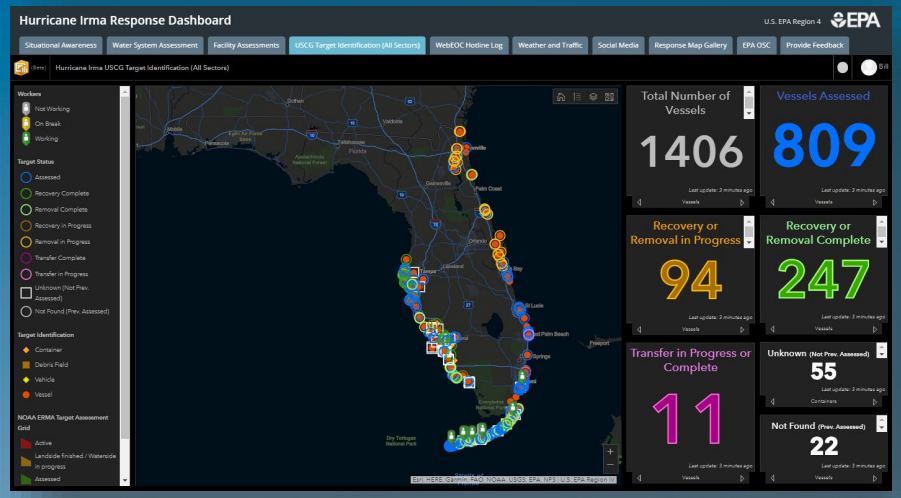


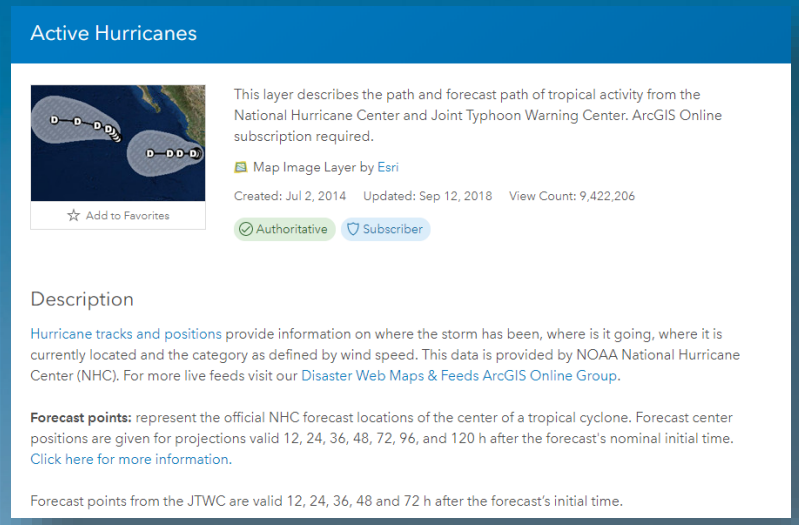
ArcGIS Pro

Hurricane Irma – Full Implementation Cont.

- Web AppBuilder
- Operations Dashboard
- Story Maps
- Living Atlas



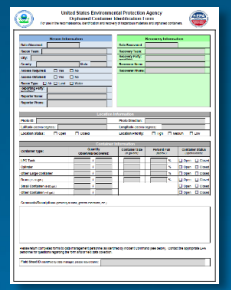




Before

Previous Data Collection Tools

Log Books



Field Sheets

PDAs

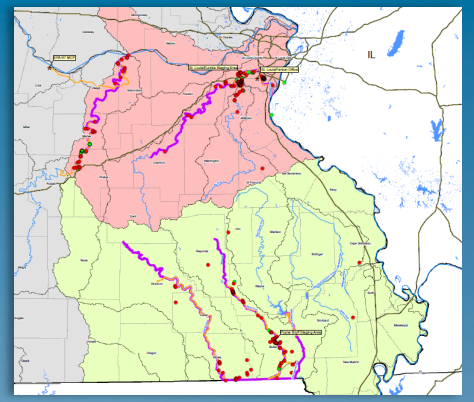
Digital Pens

Supporting Hardware

Digital Camera

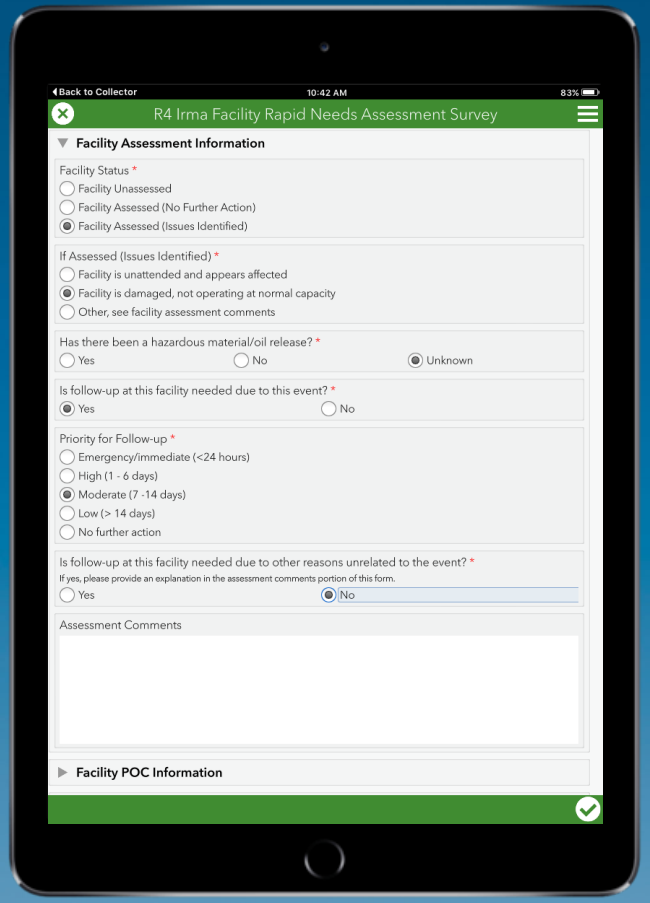
GPS

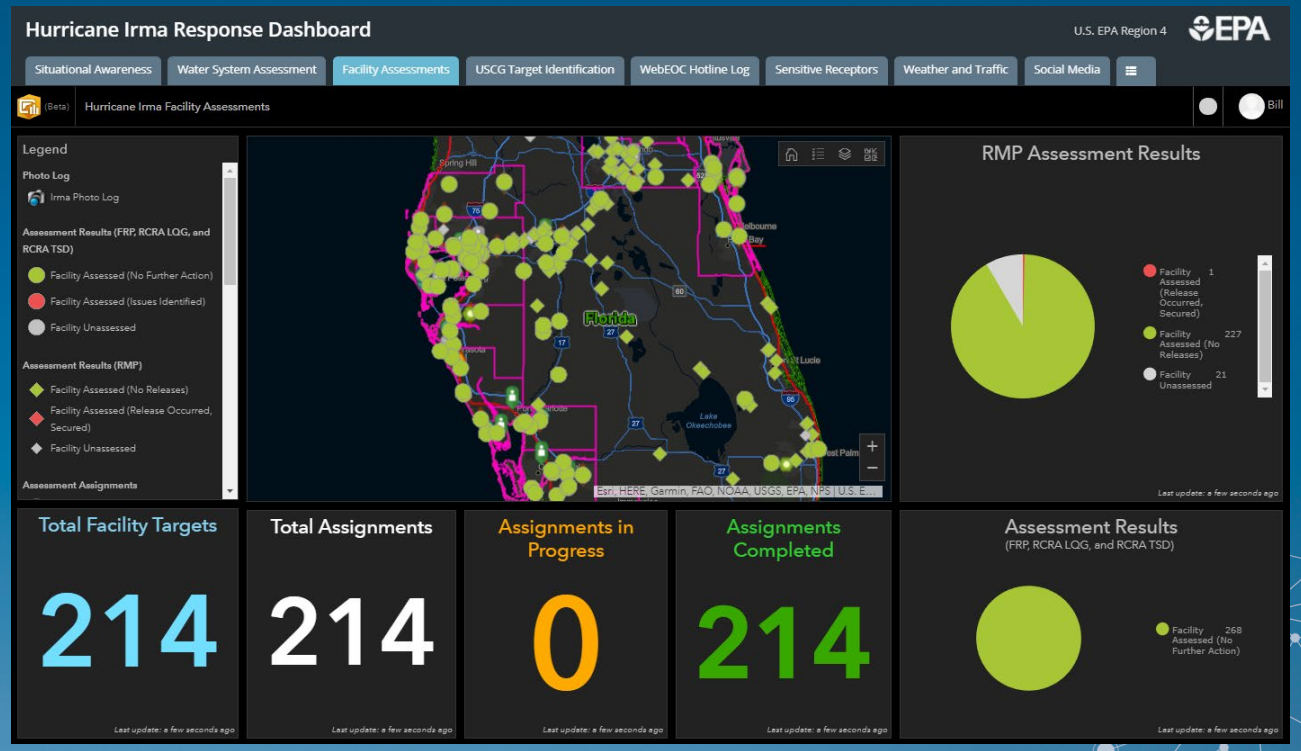
Database



Map

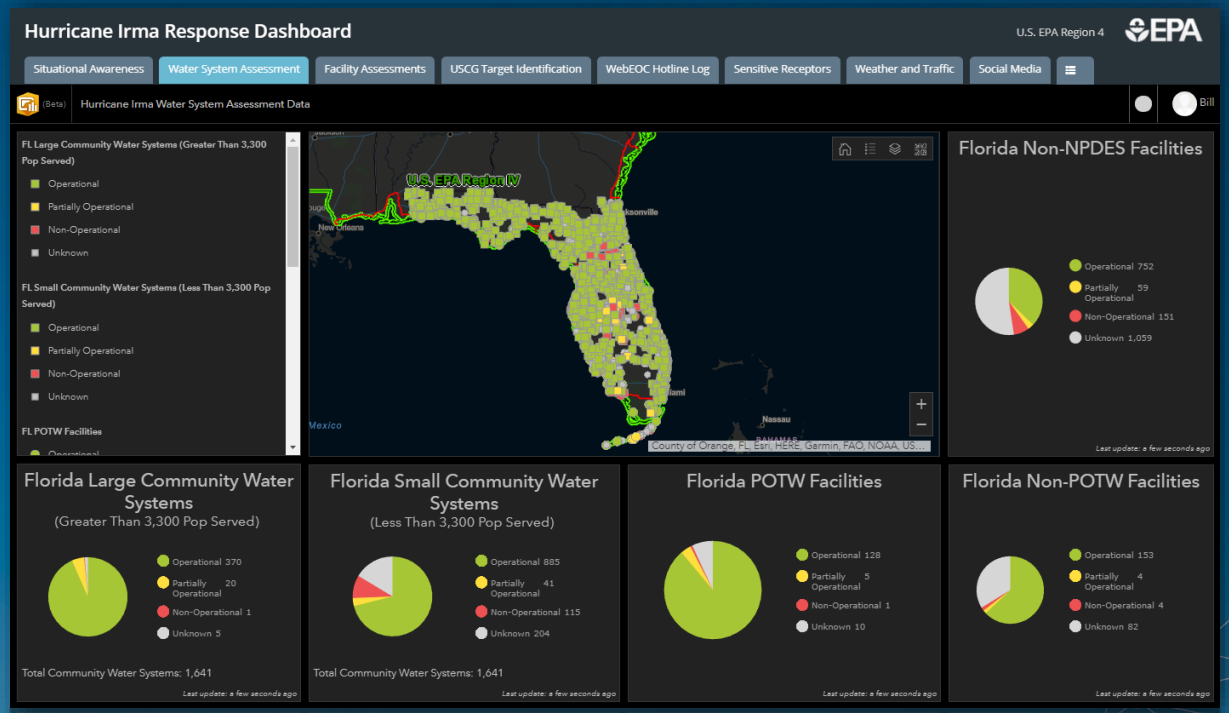
After


Back to Collector
10:42 AM
83%
R4 Irma Facility Rapid Needs Assessment Survey
Facility Assessment Information
Facility Status *
Facility Unassessed
Facility Assessed (No Further Action)
Facility Assessed (Issues Identified)
If Assessed (Issues Identified) *
Facility is unattended and appears affected
Facility is damaged, not operating at normal capacity
Other, see facility assessment comments
Has there been a hazardous material/oil release? *
Yes
No
Unknown
Is follow-up at this facility needed due to this event? *
Yes
No
Priority for Follow-up *
Emergency/immediate (<24 hours)
High (1 - 6 days)
Moderate (7 -14 days)
Low (> 14 days)
No further action
Is follow-up at this facility needed due to other reasons unrelated to the event? *
If yes, please provide an explanation in the assessment comments portion of this form.
Yes
No
Assessment Comments
Facility POC Information


Hurricane Irma Response Dashboard
U.S. EPA Region 4
EPA
Situational Awareness
Water System Assessment
Facility Assessments
USCG Target Identification
WebEOC Hotline Log
Sensitive Receptors
Weather and Traffic
Social Media
Hurricane Irma Facility Assessments
Bill
Legend
Photo Log
Irma Photo Log
Assessment Results (FRP, RCRA LQG, and RCRA TSD)
Facility Assessed (No Further Action)
Facility Assessed (Issues Identified)
Facility Unassessed
Assessment Results (RMP)
Facility Assessed (No Releases)
Facility Assessed (Release Occurred, Secured)
Facility Unassessed
Assessment Assignments
Florida
RMP Assessment Results
Facility Assessed (Release Occurred, Secured) 1
Facility Assessed (No Releases) 227
Facility Unassessed 21
Total Facility Targets
214
Total Assignments
214
Assignments in Progress
0
Assignments Completed
214
Assessment Results
(FRP, RCRA LQG, and RCRA TSD)
Facility Assessed (No Further Action) 268

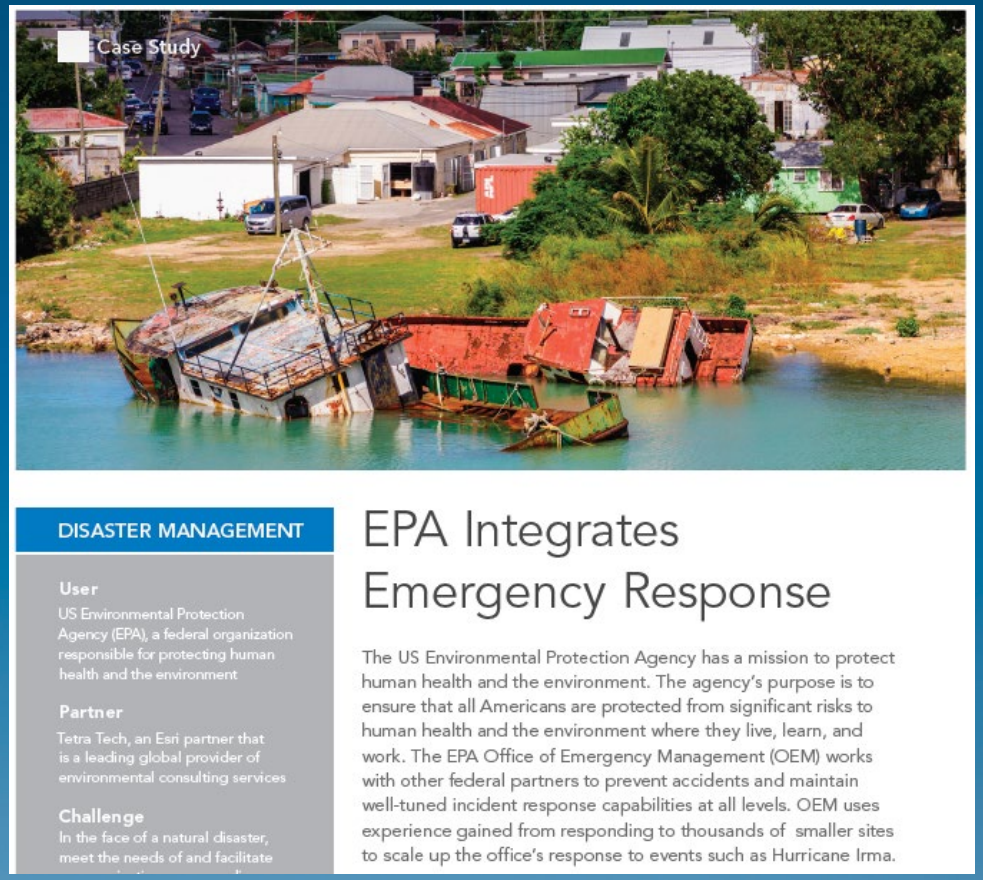
The Results

- Improves data quality
- Reduces duplication of effort
- Redirects mission-critical resources away from low-value activities
- Promotes data-driven decision making
- Creates a heightened operational awareness



Our Continued Transformation

- ArcGIS Enterprise
- GeoAI: Machine Learning
- Real-time
- Automation
- ArcGIS Apps



https://www.esri.com/en-us/arcgis/products/field-operations/overview

TETRA TECH

ER Workflows Applied Across Disciplines

WATER

- Coastal and Marine Resources Management
- Drinking Water
- Groundwater
- Stormwater
- Wastewater Treatment
- Water Resources

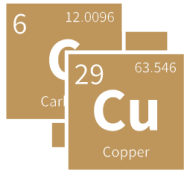
ENVIRONMENT

- Air Quality
- Environmental Compliance
- Environmental Management
- Remediation
- Waste Management

INFRASTRUCTURE

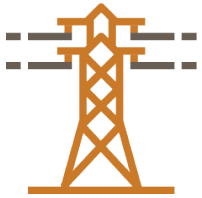
- Airports and Aviation
- High Performance Buildings
- Communications
- Dams, Reservoirs, and Levees
- Ports, Harbors, and Waterfront
- Transportation

RESOURCE MANAGEMENT



- Industrial
- Mining and Minerals
- Oil and Gas

ENERGY



- Conventional Generation
- Energy Efficiency
- Nuclear
- Offshore Energy
- Renewable Energy
- Transmission and Distribution
- Utilities and Market Analytics

INTERNATIONAL DEVELOPMENT

- Agriculture and Food Security
- Economic Growth
- Education
- Energy
- Environment
- Health
- Governance

Mission Critical Support in Natural Disasters

Thank you for attending!

Bill Spiking, GISP

Email: bill.spiking@tetratech.com

Water

Environment

Infrastructure

Resource Management

Energy

International Development