

Environmental Information



EN2015

Radiation Data Sharing

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in collaboration with Pat Mulligan, NJ DEP

2015 Exchange Network National Meeting

Supporting the Business of Environmental Protection

September 29–October 1, 2015
Sheraton Philadelphia Society Hill Hotel
Philadelphia, Pennsylvania

<http://www.exchangenetwork.net/en2015>

ABSTRACT

To improve radiation emergency preparedness, post-Fukushima data sharing efforts have focused on automation of data sharing between tools: State databases, RadResponder, Federal Radiological Monitoring and Assessment Center, EPA Exchange Network and others. The Conference of Radiation Control Program Directors empaneled a Committee that has evolved into an Exchange Network Integrated Planning Team, to pilot radiation data exchanges and to continue to guide national policy.

Outline

- Genesis of Integrated Planning Team (IPT)
- Membership and charter
- Steps we've taken and drills we've done
- New RadResponder features
- RadResponder Ready: In the works
- Future steps

Genesis of this Group

- During Fukushima, there were challenges with data sharing and publication timing
- Feds, states and industry all collected data
- Our usual domestic response tools weren't used as we might have expected
 - Conference of Radiation Control Program Directors (CRCPD) empaneled a Committee... which has evolved into an Exchange Network IPT

Membership

Pat Mulligan (NJ) – Chair

- Members

- Jeffrey Day (LA County, CA)
- Earl Fordham (WA)
- Kay Foster (IL)
- Frieda Fisher-Tyler (DE)

- Advisors

- David Howe (OR)
- William Irwin (VT)
- Jeff Eckerd (HI)
- Deb McBaugh, Jim Hardeman

Resource Individuals

- Sara DeCair (EPA)
- Sean Crawford (FEMA)
- John Ferraracio (FEMA)
- Dan Blumenthal (DOE)
- Sally Billings (NRC)
- Adela Salame-Alfie (CDC)

- Brendan Palmer (ChainBridge)

IPT Charter

- Pilot project with 8 states following New Jersey's success with Exchange Network
- Finalize governing policies on data sharing DONE! These policy recommendations have been incorporated into the draft revised National Response Framework!
- Further clarify the following concepts:
 - QA/Confidence level; Trust level
 - New: RadResponder Ready ConOp will serve to close these issues. To be completed by May 2016.

Pilot Project

- To improve emergency response, put routine radiation data into one national place: RadResponder
- Data sharing tools developed for the pilot project should be:
 - Reusable and adoptable by other federal, state, local, and tribal entities
 - Capable of supporting both routine and emergency sharing of radiation data
- To the extent practicable, the tools will build on existing standards

More Committee Tasks

- Address data sharing with non-government entities (nuclear plants, instrument vendors)
- Integration with dose assessment tools (TurboFRMAC, RASCAL, etc.) – ongoing
- Write draft policy recommendations on best practices for public data release
- White paper by the 2017 CRCPD Annual Meeting

What Have We Done?

- Completed data sharing policy recommendations
 - See revised Nuclear-Radiological Incident Annex (slated for publication by FEMA soon)
- Participated in training, drills and helped shape new RadResponder user interface
- Met in May to work on RadResponder Ready and discussed how best to guide making data public in a radiation emergency...

The Future is Bright...

- FEMA, EPA and DOE have committed RadResponder funding for the next few years until the tool has evolved to only need maintenance funding
- ECOS/EPA/Exchange Network will provide IT support for our pilot project

How We Prepare

- To prepare for radiation emergencies we drill, drill, drill and drill some more
- Real incidents are relatively rare with disruptive, not destructive, consequences:
 - Waste Isolation Pilot Plant releases 2014, Wildfires near Los Alamos 2011, Fukushima 2011, Chernobyl 1996, Three Mile Island 1979

Nationwide Drill July 2014

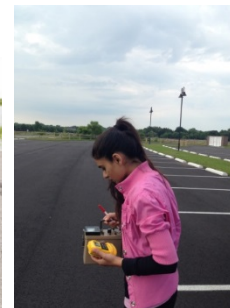
Overall:

- 21,834 Field Surveys
 - 2,415 individual
 - 19,419 bulk
- 68 Organizations
- 192 Responders
- 37 States

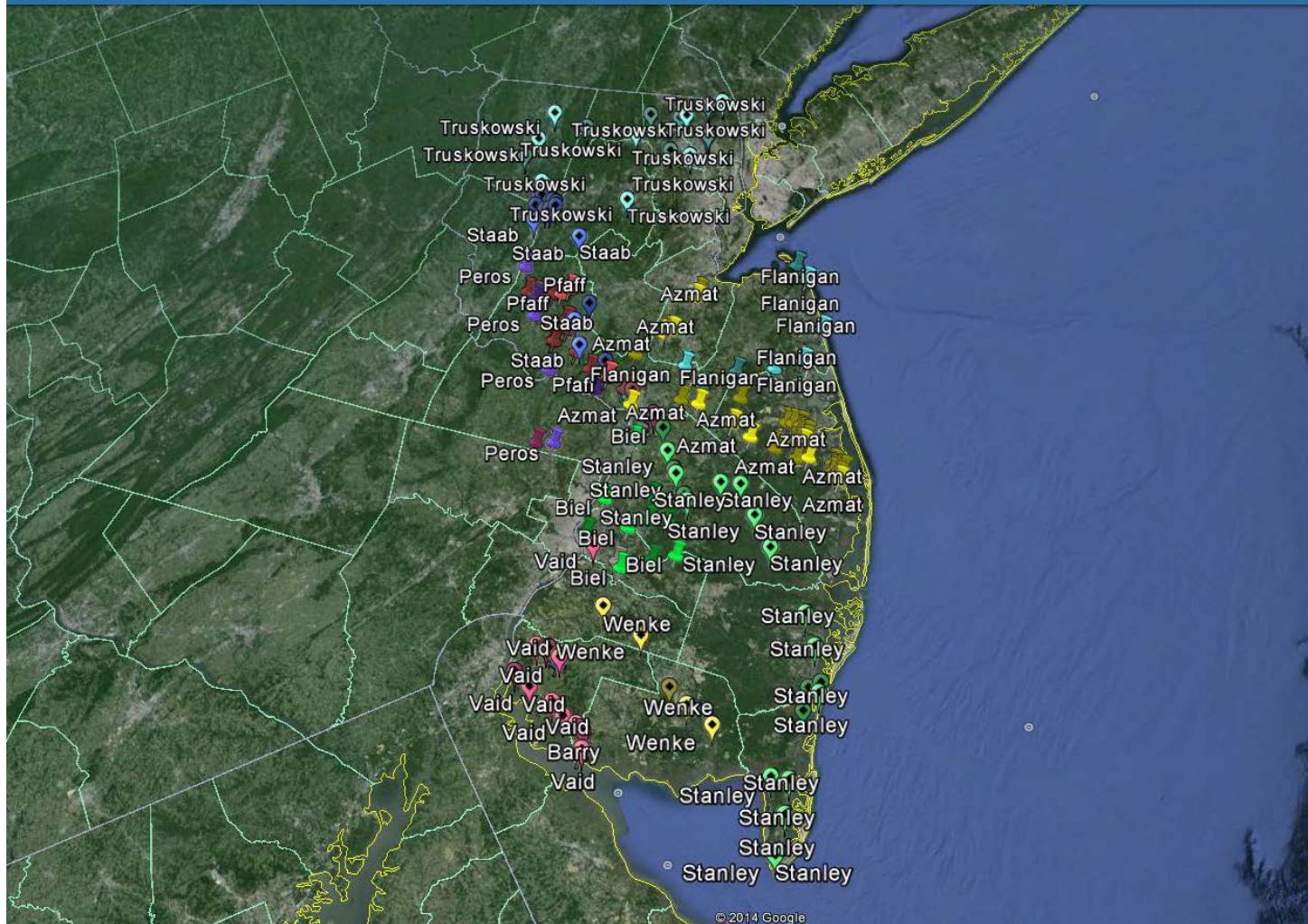


New Jersey:

- 15 Responders from NEPS and BER
- All 21 counties covered
- 260 individual measurements



RadResponder Nationwide Drill July 2014



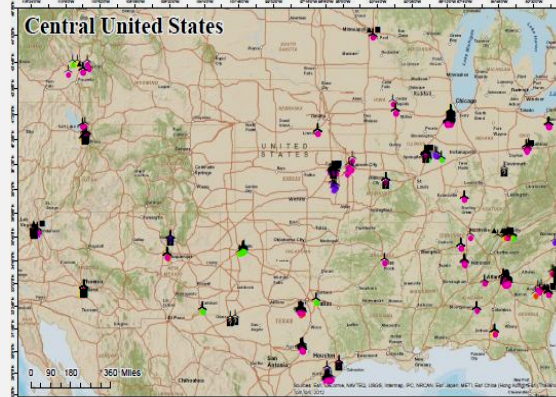
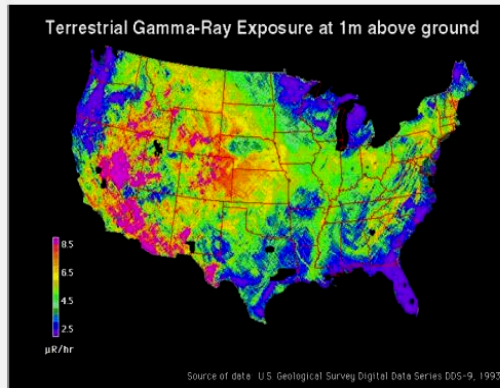
EXERCISE

RadResponder Measurements

Monitoring Status

Nationwide Rad Responder Drill

SET 2



Total Measurements: 1807

Gamma measurements that are potentially consistent with regional background: 1510, 87%

Gamma measurements with questionable values when compared with expected regional background: 229, 13%

Data Statistics:

Alpha measurements: 25, 1.4%

Beta measurements: 43, 2.3%

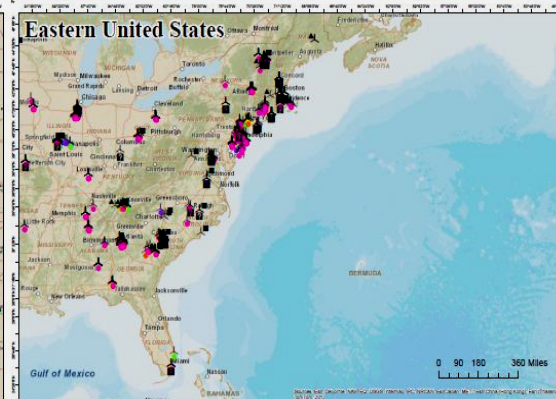
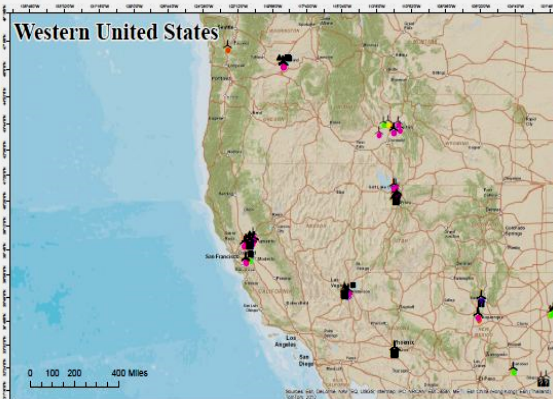
Gamma measurements: 1739, 96%

Observations: 83

Distinct Users: 183

Groups: 66

States represented: 35

**Legend**

- Questionable Gamma
- Gamma
- Alpha
- Beta

Map includes data through 13:00 EDT

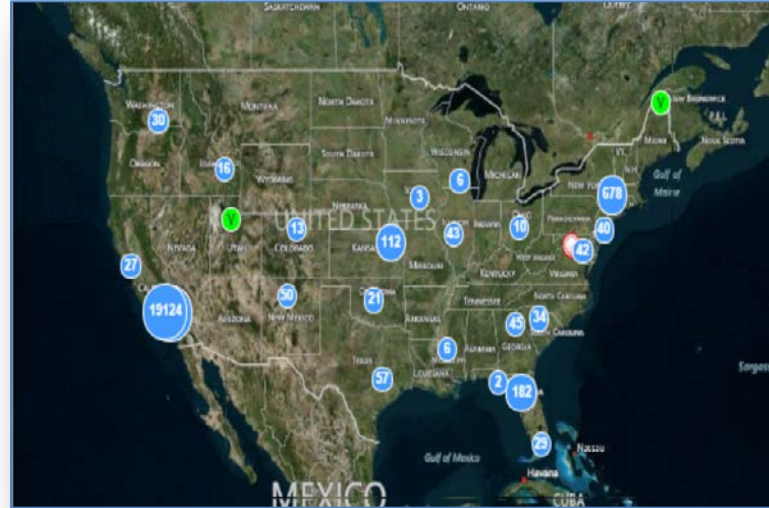


More Drills...

- Nationwide RadResponder drill held in concert with a New England Radiological Health Conference IND tabletop exercise.
- 2015 NREP Hands on Training/Drill
- Nationwide Drill on Tuesday in support of Southern Mutual Radiation Assistance Plan (SMRAP)
- Southern Exposure 2015

NERHC Drill: October 30, 2014

- Total Data Points: 49,058
 - Manual Data entry: 241
 - Android: 150
 - Bulk upload: 48,342
 - iOS: 325
- Total Observations: 75
- Total Samples: 23
- Responders: 125
- Organizations: 55
- States: 30



SMRAP Drill: May 19, 2015

- Surveys: 711
- Samples: 37
- Observations: 25
- Fixed Sensors:
 - 5 Data Streams
 - 12,479 measurements
- Responders: 130
- Organizations: 55
- States: 29



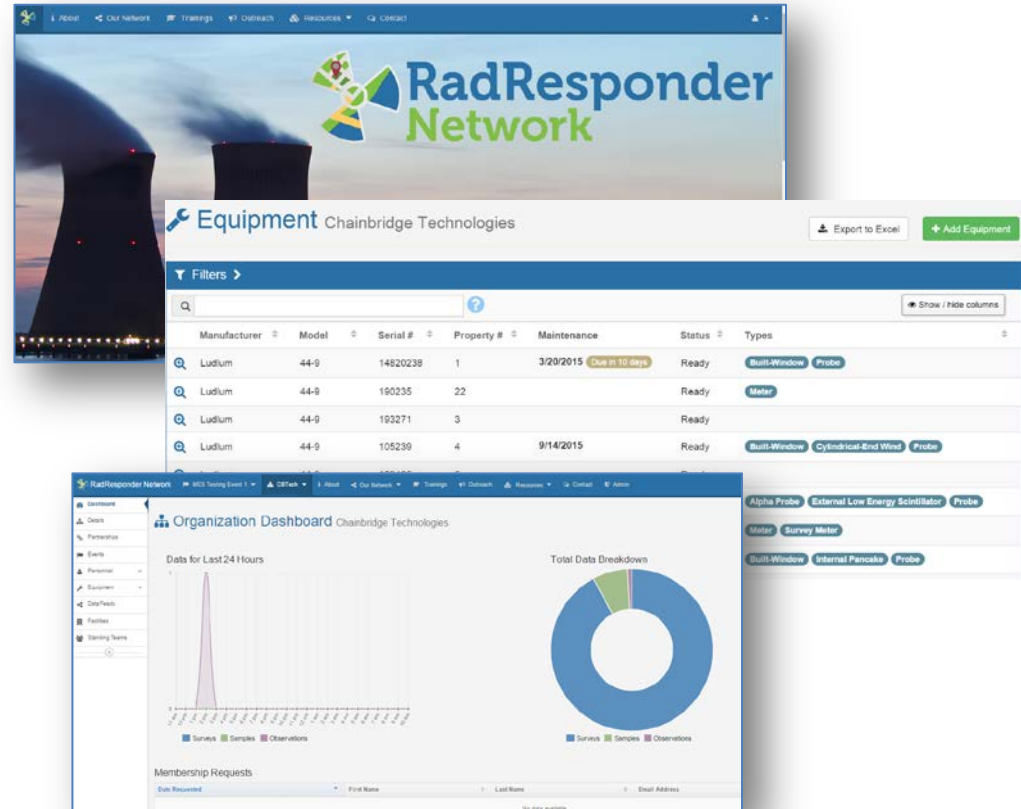
Input Matters...

- RadResponder users provide direct feedback to developers for improvements
- National exercises provide opportunities for developers to directly observe gaps that lead to product improvement
- Continual testing, use and feedback results in changes to RadResponder that improves functionality

New User Interface

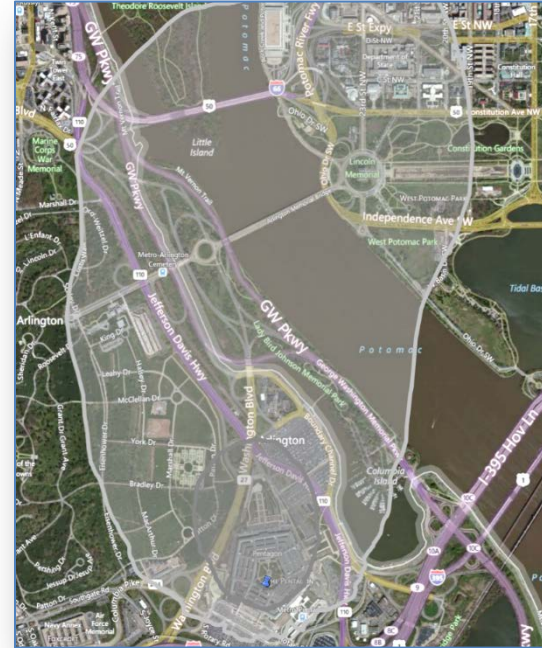
New functions and operational utility

- Multi-organization membership
- Improved Personnel and Field Team Management
- Improved Equipment and Event Management
- Custom Dashboard



Plume Product Integration

- Interagency Modeling and Atmospheric Assessment Center (IMAAC) Plume Models are being integrated into RadResponder
- Provides rapid support to critical decision making and operational planning





A community initiative to improve data quality, facilitate trusted partnerships, and enable interoperability

Future: Data for the Public

- Releasing data for public information
- Products or sets of data points
- From state, local and regional organizations
 - Through FRMAC
 - To Data.gov?
- Context is needed
- Political and perception sensitivities...

We want to hear from you!

- Sign up for a RadResponder.net account
- Please let us know your thoughts:
 - Pat Mulligan: Patrick.Mulligan@dep.nj.gov
 - Sara DeCair: decair.sara@epa.gov
 - support@radresponder.net