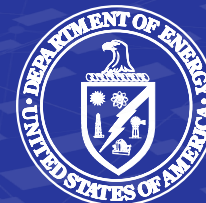


# **Regional Response Assets, DOE's Radiological Assistance Program**

**— Believe it or not?  
INL isn't the region's most likely threat**

Lawrence L. Burke, CHP  
DOE Region 6 RAP  
Team Scientist  
May 2022



# RAP Overview

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The Nation's preeminent Federal responders providing technical leadership and operational expertise to plan, prepare, and respond to radiological/nuclear incidents/accidents and consequence management events.



- Agile, scalable, and rapidly-deployable Federal response capability.
- Leverages DOE's scientific and operational expertise to enhance the Nation's integrated response capability:
  - Technical leadership and assistance during planning, preparedness, and response operations
  - Training and partnering with other Federal, State, local, Tribal and territorial agencies.

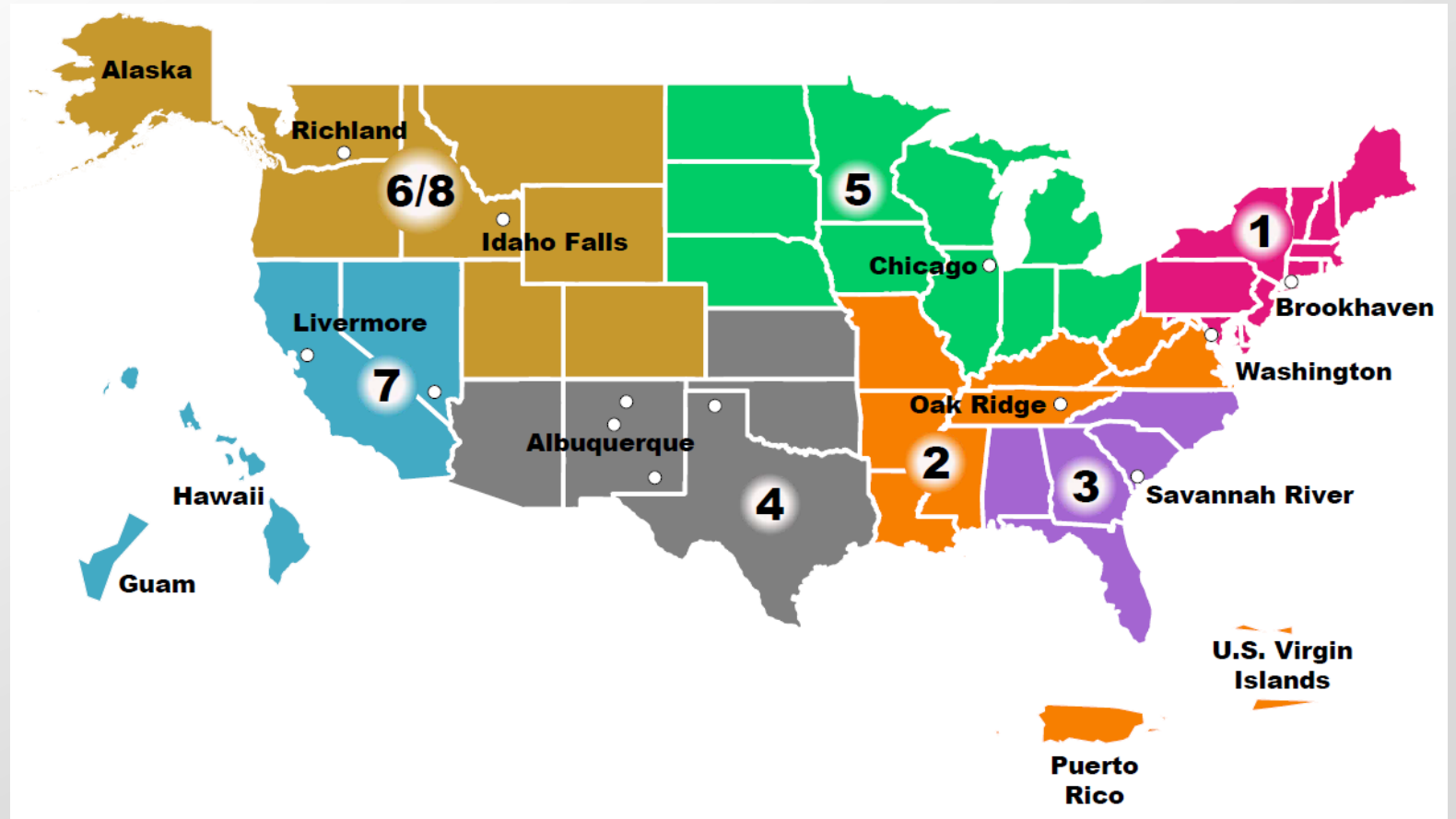
# RAP Response Assets

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Geographically regionalized to support rapid deployment in emergencies

Mobilized and ready to deploy:

- within two hours of notification during normal working hours.
- within four hours of notification during off hours.





# RAP Personnel

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## DOE Headquarters:

- Program Manager
- Technical Advisor
- Program Advisor
- Program Analyst

## DOE Regions:

- Regional Program Manager (RPM)
- Regional Operations Manager (ROM)
- Equipment Coordinator (EC)
- Training and Outreach Coordinator(s) (TOC)
- Federal Team Leaders (FTL)
- Laboratory personnel - about 25 per Region

Approximately 240 total RAP Team Members across the country.



# RAP Deployment Teams

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- **Federal Team Leader (FTL):** Responsible for effectively representing the department during deployment operations.
- **Team Captain (TC):** Responsible for effectively managing the contractor response to an incident.
- **Team Scientist (TS):** Responsible for providing technical data assessment and analysis.
- **Health Physics Support Personnel (HPSP):** Responsible for executing the response mission as directed by the TC including, but not limited to:
  - R/N search;
  - Consequence management;
  - Assisting decontamination of RAP personnel and RAP equipment;
  - Providing appropriate monitoring and assessment activities, as requested.
- Standard team size of 8. Modified based on the event.



# RAP Deployment Equipment

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Equipment suite can be tailored to mission and includes:

- Crisis Response
  - Radiological search gear (hand-held, back-pack, vehicle) – Gamma & Neutron
  - Radiological identification or characterization (NaI, HPGe)
  - Advanced search and analysis tools (Search Management Center/Avid)
- Consequence Management
  - Contamination monitoring, air samplers and soil sample collection tools



# RAP Mission Areas

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## Consequence Management

Activities occurring after a known or suspected release of radioactive materials.

- Characterize extent of incident and assess any contamination
- Advise decision-makers on courses of action to minimize danger to the public and property.



## Search

Key role in NNSA's counterterrorism response mission.

- Supporting mission partners at Special Events like the Super Bowl, National Political Conventions, and State of the Union Address
- Support law enforcement searches for lost or stolen radioactive materials
- Joint training and exercises with FSLTT partners

## Regional Preparedness

Coordinate and conduct regional preparedness activities with other federal, state, local, tribal and territorial governments for joint participation in meetings, training, drills, exercises, and support for domestic preparedness



# Public Health & Safety (PHS) Mission

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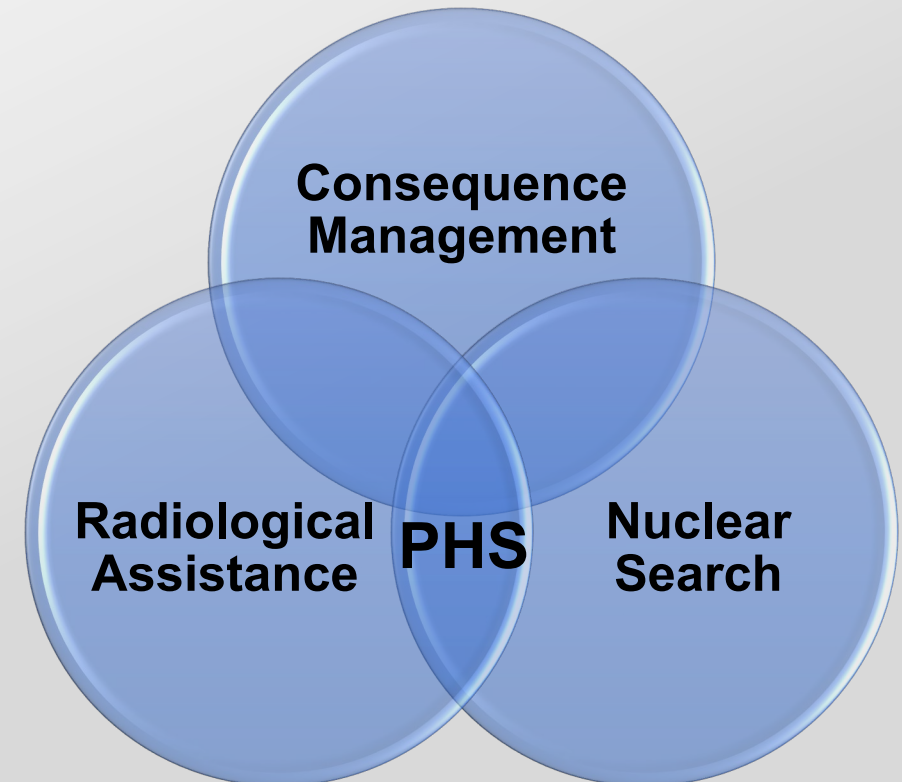
PHS delivers timely, scientifically defensible, and actionable decision support to Federal, State, local, territorial and tribal authorities in response to a radiological or nuclear accident or incident.

PHS directly supports and executes the DOE/NNSA Office of Counterterrorism and Counterproliferation's three functions:

**Prevent:** PHS regularly conducts planning, training, and exercises for DOE/NNSA, interagency partners, and other Federal, State, Local, Tribal & Territorial (FSLTT) agencies

**Counter:** PHS conducts search and detection operations at national and regional special events and supports international special events

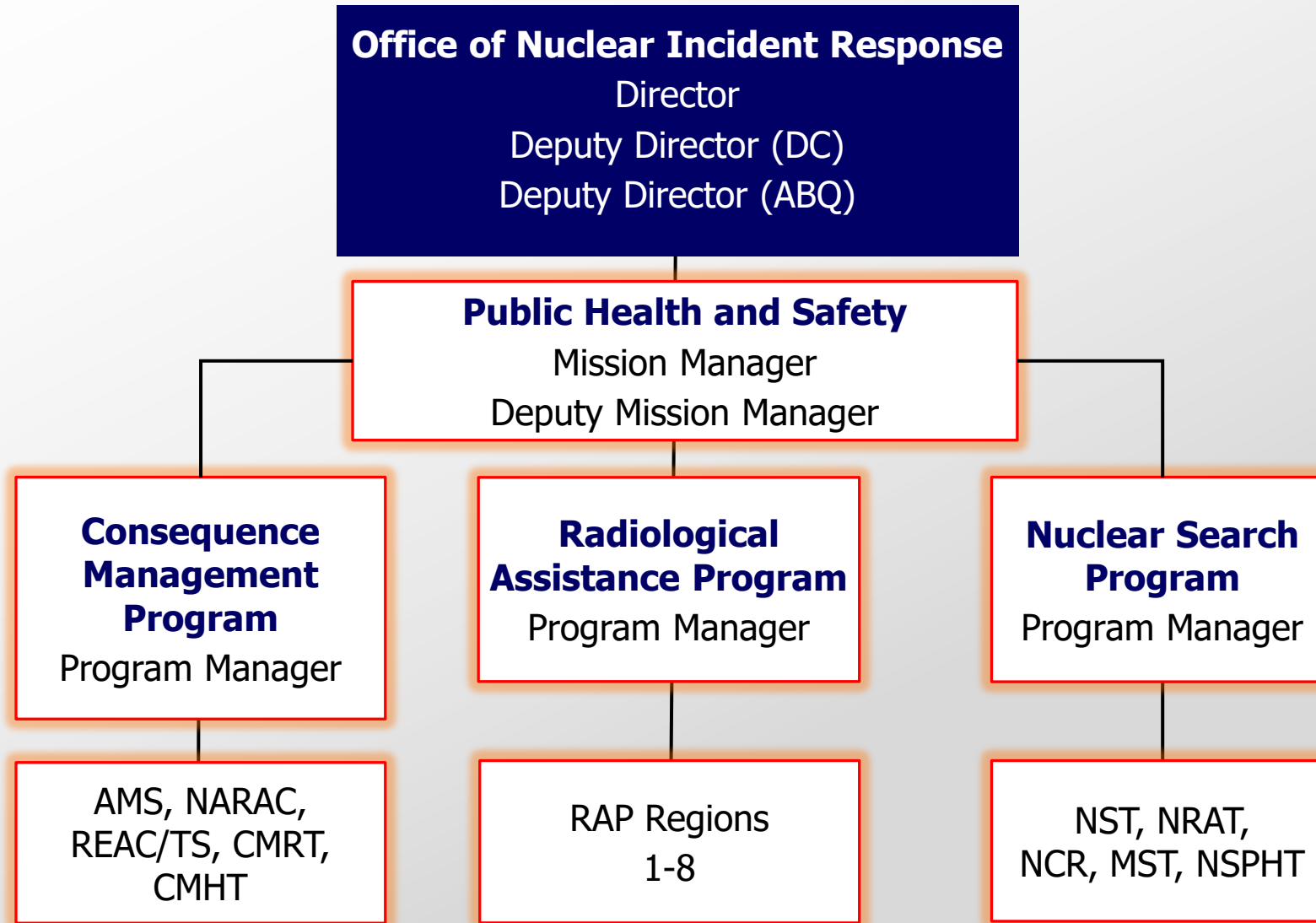
**Respond:** PHS responds to nuclear and radiological incidents and accidents worldwide





# PHS Organization

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# Consequence Management

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Mission: Provide resources through the Nuclear/Radiological Incident Annex (NRIA) to the National Response Framework (NRF) during federal response to R/N emergencies.

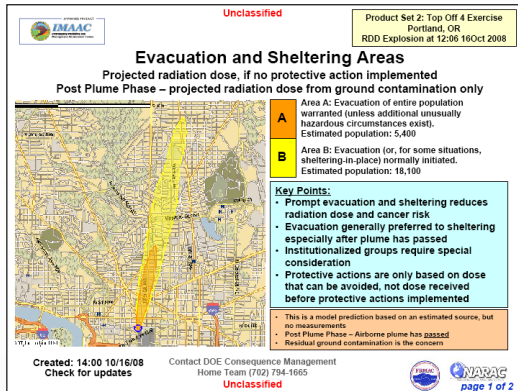
- Consequence management incident may include:
  - Large CM: U.S. nuclear power plant accident
  - Medium CM: breached radioactive source
  - Small CM: radiological contamination of fixed facility
- Provide monitoring, sampling, assessment, and incident management support, if a Federal Radiological Monitoring and Assessment Center (FRMAC) is established.
- May directly support other incident objectives in later stages of the response alongside Consequence Management Response Team (CMRT).
- May be requested to support the Accident Response Group (ARG) when responding to a nuclear weapons incident or accident.



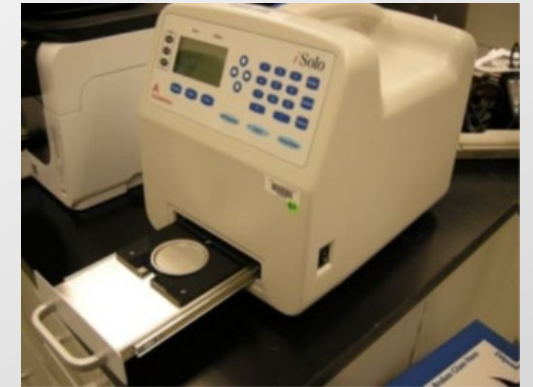
# Consequence Management Response Assets

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## Model | Measure | Assess



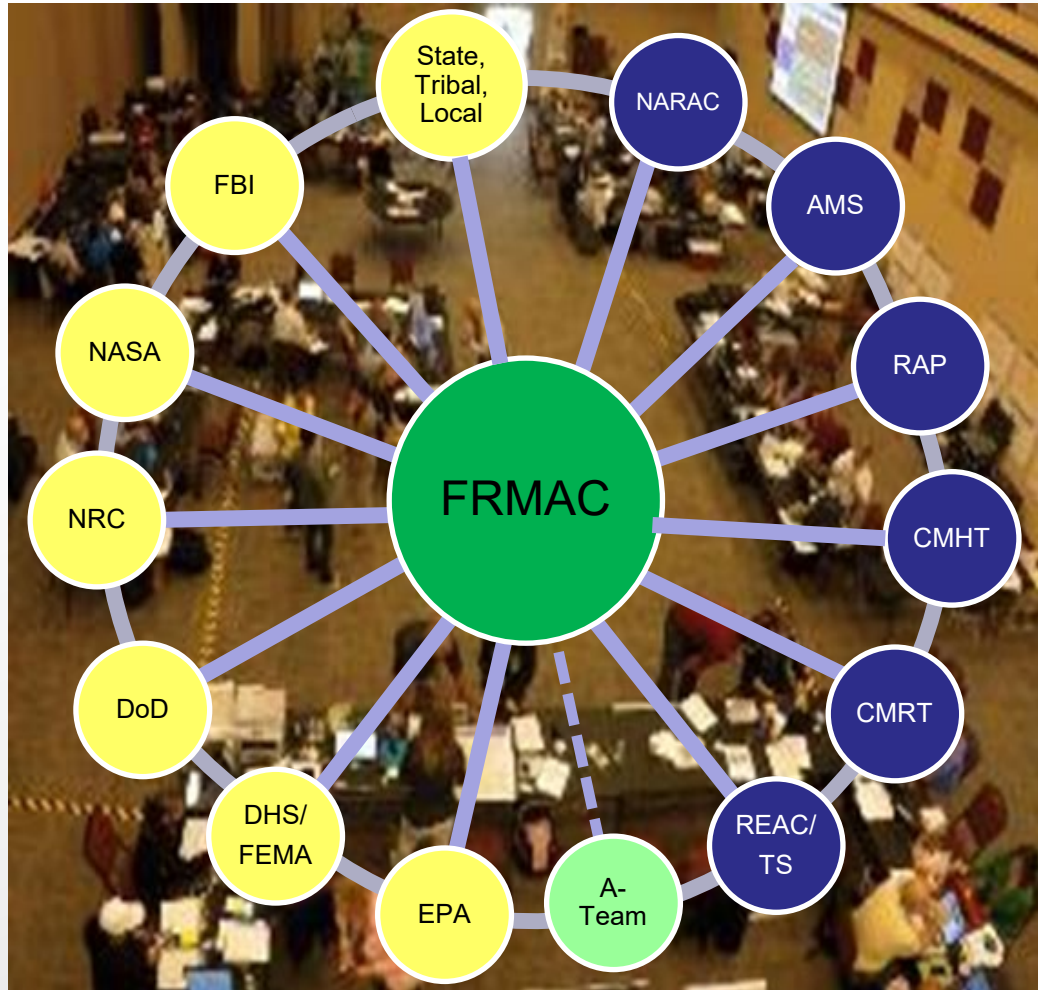
Asset	Capabilities
<b>National Atmospheric Release Advisory Center (NARAC)</b>	Technical reach back center for planning, technical assessment & interpretation
<b>Consequence Management Home/Response Team (CMHT/CMRT)</b>	Technical reach back center for planning, technical assessment & interpretation AND deployable assets for delivery of planning, technical assessment, interpretation, hazard/risk communication and operational coordination
<b>Consequence Management Advance Command (CMAC)</b>	Deployable assets for delivery of planning, technical assessment, interpretation, hazard/risk communication and operational coordination
<b>Aerial Measuring System (AMS)</b>	
<b>Radiation Emergency Assistance Center/Training Site (REAC/TS)</b>	Technical reach back center/deployable asset for planning and medical services





# Federal Radiological Monitoring & Assessment Center

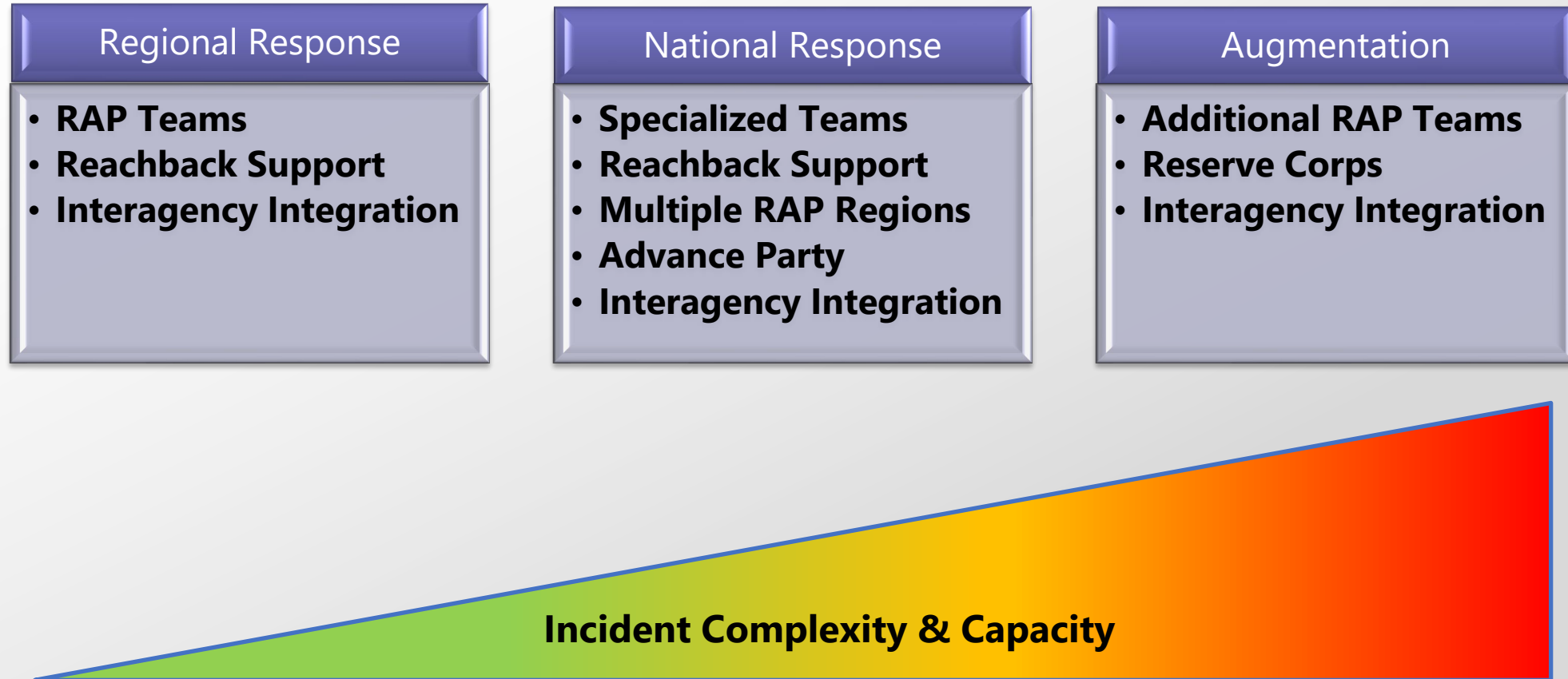
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- Federal assets available upon request by the Department of Homeland Security (DHS) and state and local agencies to respond to a nuclear or radiological incident
- **Mission:** Coordinate and manage all federal radiological environmental monitoring and assessment activities
- **NNSA Role:** Maintain the operational readiness and to initially deploy and manage the FRMAC upon request
- Management of FRMAC transitions to the Environmental Protection Agency (EPA) once certain criteria are met

# Common PHS Response Framework

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# Fukushima Daiichi Nuclear Disaster (2011)

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## Deploy Assets to Operation Tomodachi

- Assist the State Department mission to advise American citizens on protective action and evacuation guidelines
- Assist DoD in its mission to safely conduct humanitarian assistance/disaster relief operations and to provide advice on departure/return of military dependents
- Partner with the Government of Japan through the State Department to aid in developing guidelines for protection of the public potentially affected by the releases

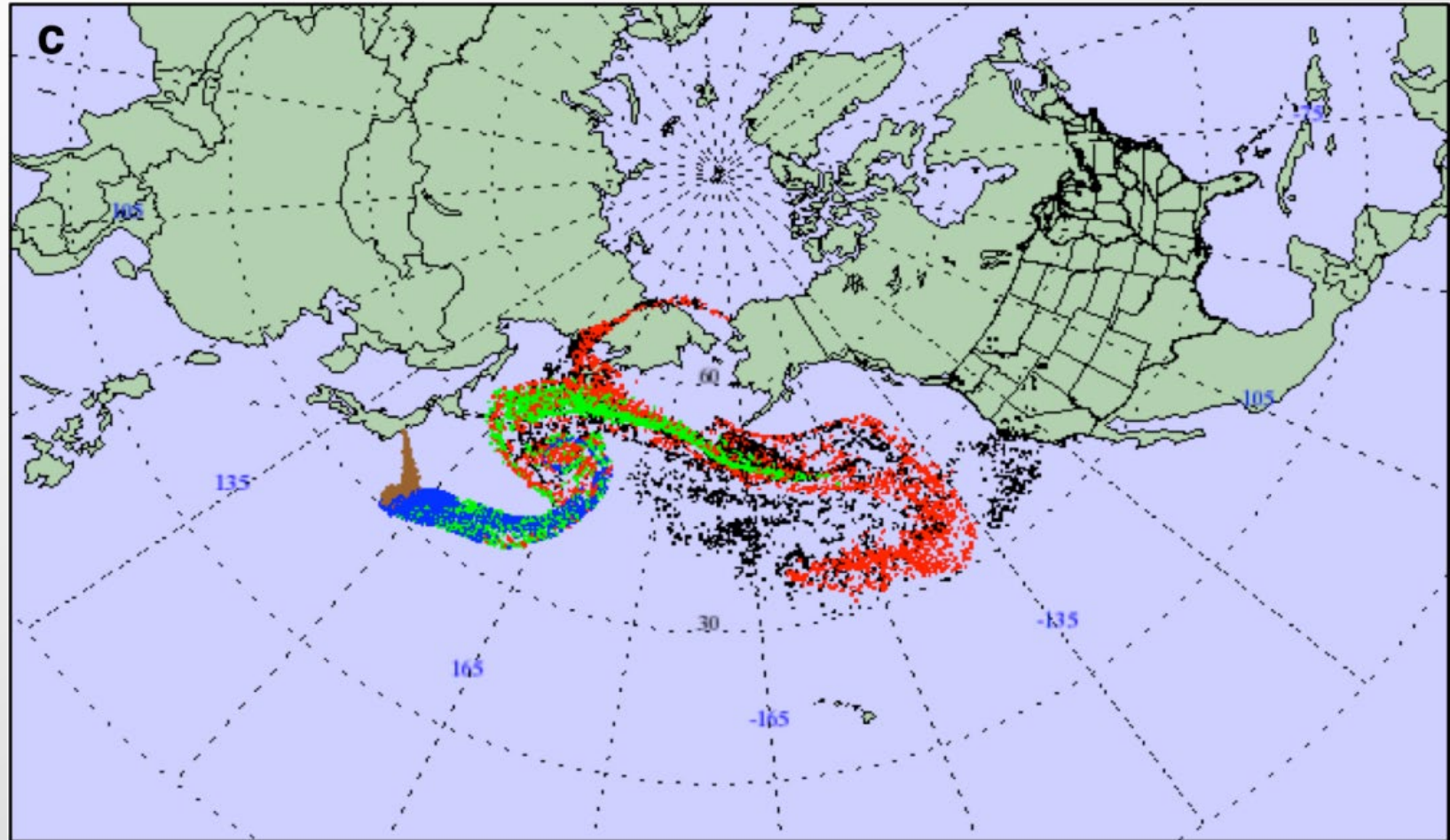




# Fukushima Daiichi Nuclear Disaster (2011)

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NARAC estimated plume arrival times for selected locations in the US and territories based on meteorological forecasts and/or analyses. Dispersion simulations were made of nominal unit release rates of radionuclide marker particles over sequential 12 or 24-hour periods.





# Fukushima Daiichi Nuclear Disaster (2011)

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Aerial Measuring System provided large area survey data that are calibrated with precise ground truth measurements.



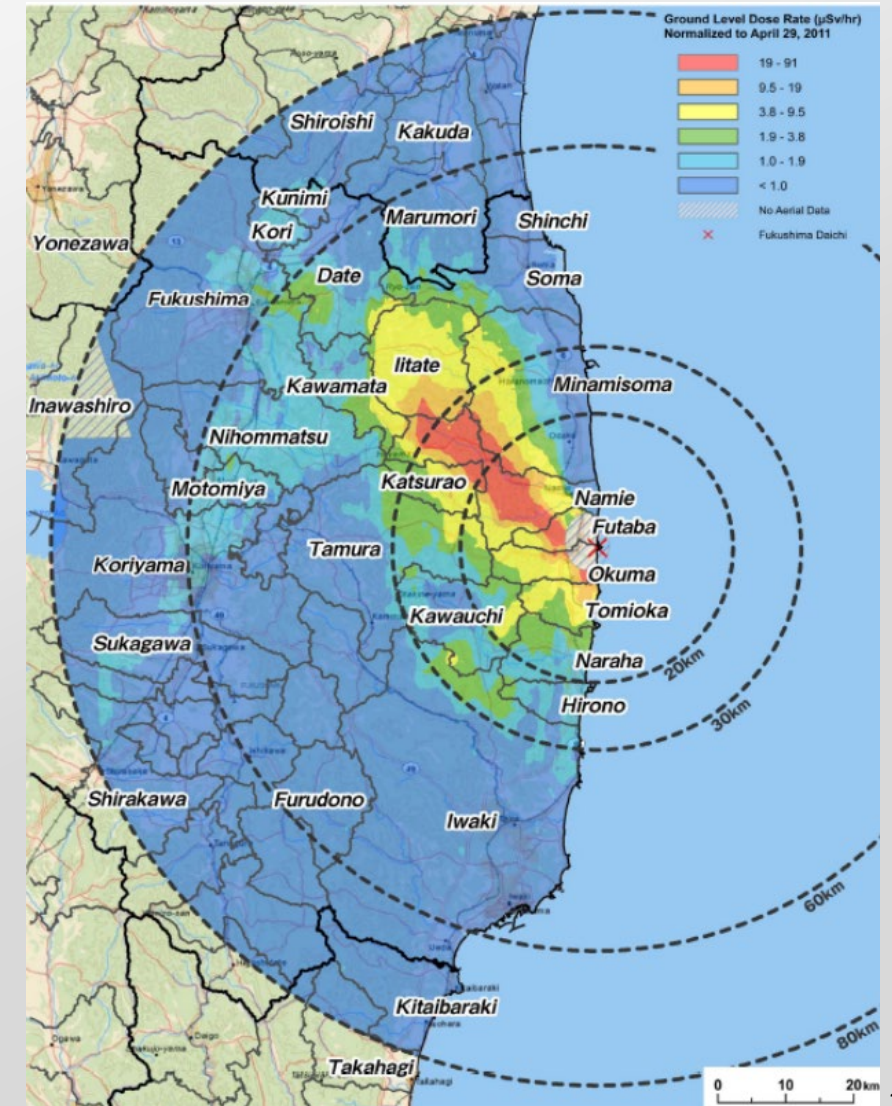


# Fukushima Daiichi Nuclear Disaster (2011)

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The aerial measuring results of the radiological measurements were compiled into a dose rate map of the region surrounding Fukushima Daiichi Nuclear Plant.

This provided an accurate indication of the accident extent and was used to help determine appropriate protective actions for the people and animals in the area.





# Contamination from Leaking Source

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A company that refurbishes well logging devices accidentally cuts into a radioactive source, the contamination spreads throughout the facility.



The Regional HazMat Team requests assistance from the RAP Team to characterize the extent and quantity of radiological contamination in the facility.



# Radioactive Material in Scrap Metal

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A scrap metal dealer has a load rejected by the smelter due to radioactive material. RAP assists the State in removing the material from the scrap and quantifying it for proper disposal.





# Law Enforcement Support

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An individual attempts to sell refined Uranium on eBay. The FBI requests RAP detection and expertise in the investigation. RAP provides initial radiological material collection assistance to the EPA for removal to a safe storage location.





# Law Enforcement Support

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## Hazmat crews responding to apartment complex in Boise





# Law Enforcement Support

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# Law Enforcement Support

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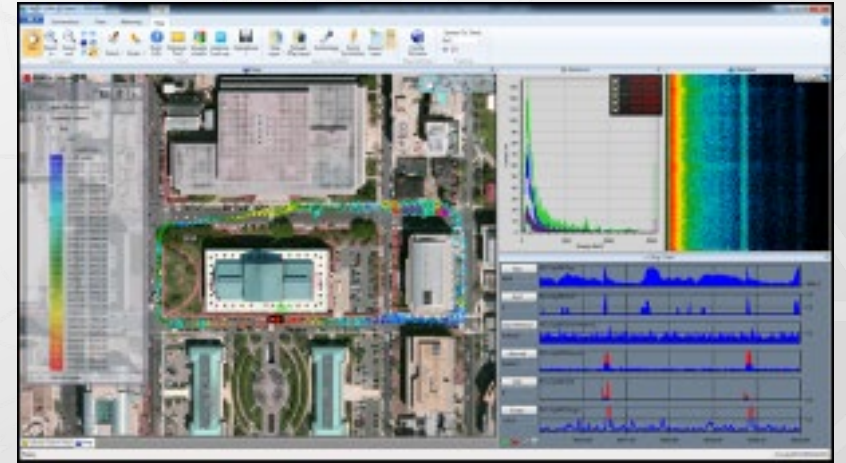


# Detection and Search

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Mission: Provide expertise for assessing the technical characteristics of an anticipated or actual radiological/nuclear threat.

- Rapid analysis of gamma ray spectroscopy in the field or reachback.
- Preventative Radiological Nuclear Detection support to other federal, state, tribal and local agencies.
- Technical lead for operations in response to credible rad/nuc threat to locate and interdict rad/nuc materials.
- Integrate with stabilization teams during early stages after the discovery of a rad/nuc device.
- May support the Joint Technical Operations Team during Render Safe activities.

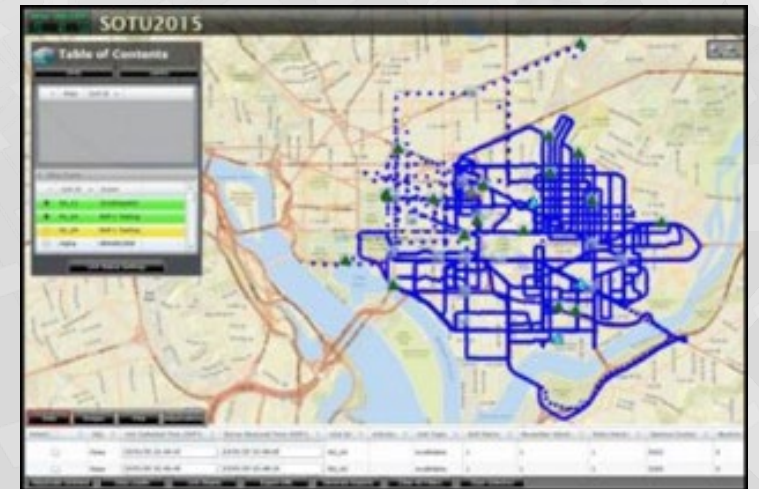


# Special Event Support

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Mission: Provide technical leadership and operational support to the FBI and the USSS during National Security Special Events and Special Event Activity Rating as requested.

- National and Regional Celebrations
- High profile political events
- Major sporting events
- State visits and security operations





# RAP 6 Contacts

INNOVATE. COLLABORATE. DELIVER.

- Regional Program Manager (RPM)
  - Conrad Gilbert  
509-376-8519 (Office)  
505-400-3671 (Cell)
- Regional Operations Manager (ROM)
  - Kevin Hungate  
208-526-2550 (Office)  
208-520-5977 (Cell)
- Equipment Coordinator (EC)
  - Doug Walker  
208-526-6570 (Office)  
208-360-0620 (Cell)
- Training and Outreach Coordinator (TOC)
  - Boedre Reynolds  
208-526-3667 (Office)  
208-351-5870 (Cell)

# Closing

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## Questions?