Radar
RemediAtion DAta Repository

A Multi-Hazard Research Tool for Searching, Applying, & Sharing Scientific Information

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Outline

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• Approach
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• Next steps
Scope

- Easily search literature and display results in a standard format
- Support custom widgets for displaying data in a meaningful way
- Connect tools and models with up-to-date research
- Mobile friendly (i.e., compatible with tablets and cell phones)
- Consolidate and better communicate data while simultaneously reducing hosting services and costs
Description

• RemediAtion DAta Repository (RADAR): A Multi-Hazard Research Tool for Searching, Applying, & Sharing Scientific Information

• Provides a simple, user-friendly interface to search and explore research

• Intended for a wide audience including scientists, engineers, and operational experts

• Enhances the power of information by delivering on-demand data to the right people at the right time
Approach

Cloud: Web-based services provide data to multiple platforms

Upload
Collect research from EPA, federal/state, and international partners

Emergency
Provide support to cleanup and recovery operations

Research
Inform research and facilitate use of results

Software
Provide models and software tools with the most up-to-date research
The front-end component powers the user experience
- Consists of HTML 5, CSS, JavaScript, and API web services consumption.

The back-end powers the website and consists of a database and server-side programming components.
- Back-end data are stored in a MySQL database and server-side programming in the middle-tier was implemented with PHP (Laravel 5)
Search & Results

• Users can search for the information they desire through the use of keywords and operators
• Keywords or tags are assigned upon uploading
• Alternatively, users may also browse by category type:

- Chemical
- Biological
- Radiological
- Resources
Search and Results Cont.

- Results can be further defined by category:
  - Hazard → Activity → Approach → Environment
  - Filter designed to align with operational needs
- Results can be previewed, easily identified according to its source (lab vs field study), and saved to a notebook

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<tr>
<th>Hazard</th>
<th>Activity</th>
<th>Approach</th>
<th>Environment</th>
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<tbody>
<tr>
<td>Radiological</td>
<td>Characterization</td>
<td>Methods</td>
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Additional Features

- **Widgets**: Build custom widgets using data stored in the database
- **Share**: Share data with other applications using a built-in application programming interface (API)
- **Upload**: Upload custom datasets. Once approved, these data are shared with other users and applications
- **Stats**: Metrics illustrating the availability of current research data
Conclusion

• EPA HSRP is looking for innovative ways to support its scientists and stakeholders
• How we access data is changing – solutions must be dynamic mobile friendly
• Reports and whitepapers are an integral part of this process
• HOWEVER, access may be limited and/or the material is too 'hefty' and time-consuming to read
• Emergency response personnel and decision makers require prompt and concise information
• Decision support tools and models should reference a central repository consisting of up-to-date research
• Prototype undergoing testing
Future Enhancements

• Create Admin Module Functions
  o Admin user management feature
  o Data entry mechanism/standard operating procedures (SOPs)
• Enhance Search Results
  o Enhance search
  o Manage notebook feature
  o Improve data mining
• Enhance View Notebook
  o Implement “Merge Data”
  o Modify or filter notebooks
• Dynamic Stats Tab
  o Create dynamic research stats
• Enhanced Widget Features
  o Creating custom tools/calculators
Disclaimer

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Thank You

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