Non-Powered Dam (NPD) Explorer Tool
Meeting #1: Beta Demo

November 15, 2021

Oak Ridge National Laboratory

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ORNL is managed by UT-Battelle LLC for the US Department of Energy
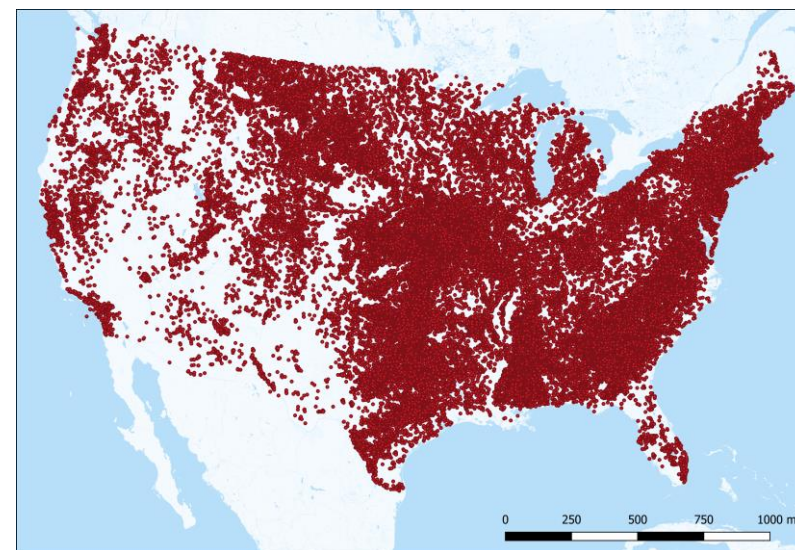
Meeting Purpose & Agenda

- **Workshop Purpose:** provide an overview of the NPD Explorer tool and elicit initial feedback.

- **Agenda:**
  - Introduction & Background
  - Walkthrough of NPD Explorer
  - Next Steps
  - Discussion / Q&A

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NPD Data Access and Classification

December 2020 ORNL Virtual Workshop: (https://smh.ornl.gov/media/)
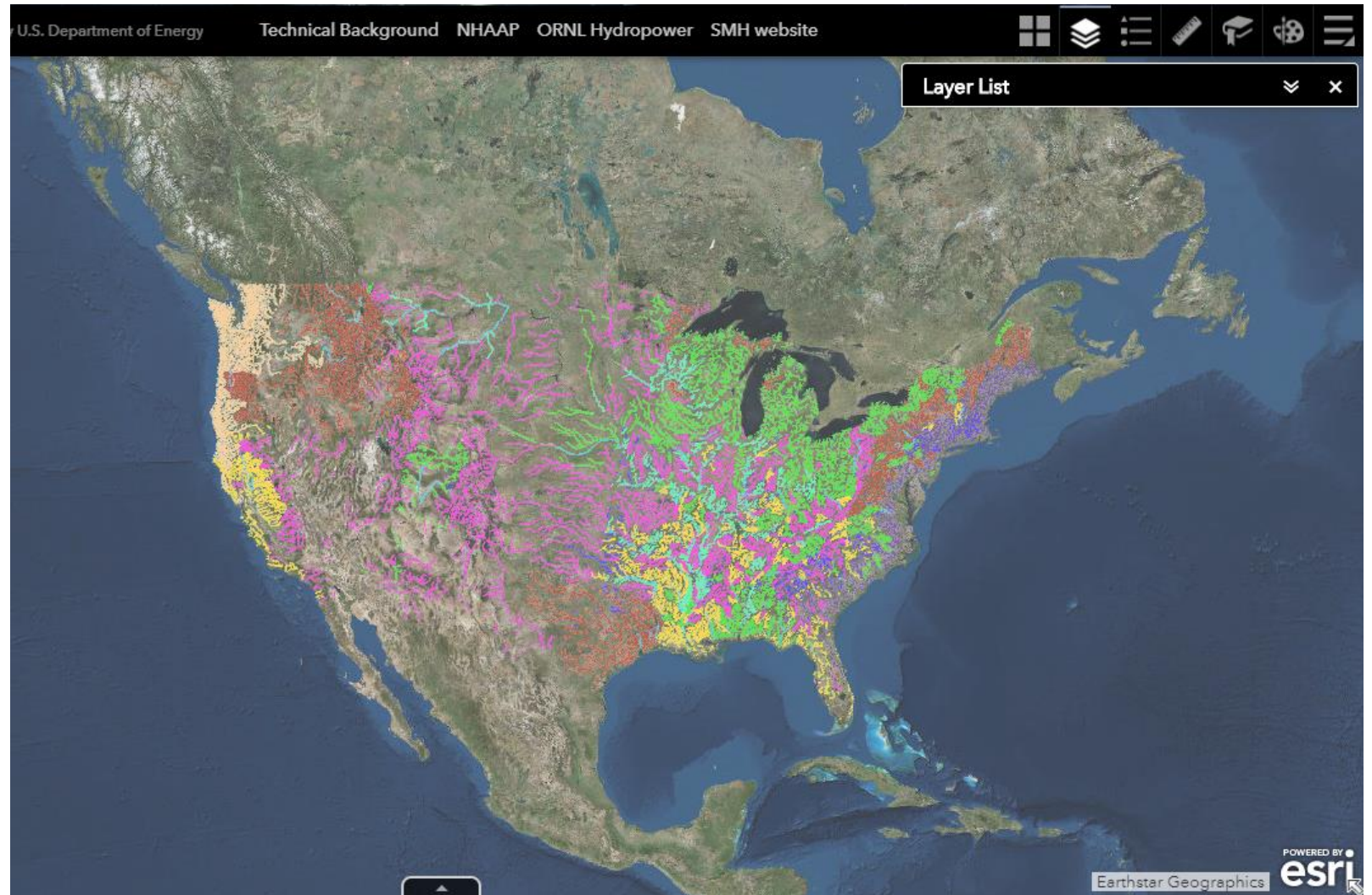
- NPD Data Challenges
  - Large population of dams in the US
  - Data availability
  - Data quality
  - Variety of stakeholders and interests in dams

- Classification Objectives
  - Improve understanding and inform decision-making
  - Reduce burden of early-phase NPD exploration

Data source: USACE National Inventory of Dams

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Inspiration from SMH Explorer

- Data exploration of stream-reach level information

- Provides scoping level insights into types of modules that may be necessary for hydropower development on a given stream-reach
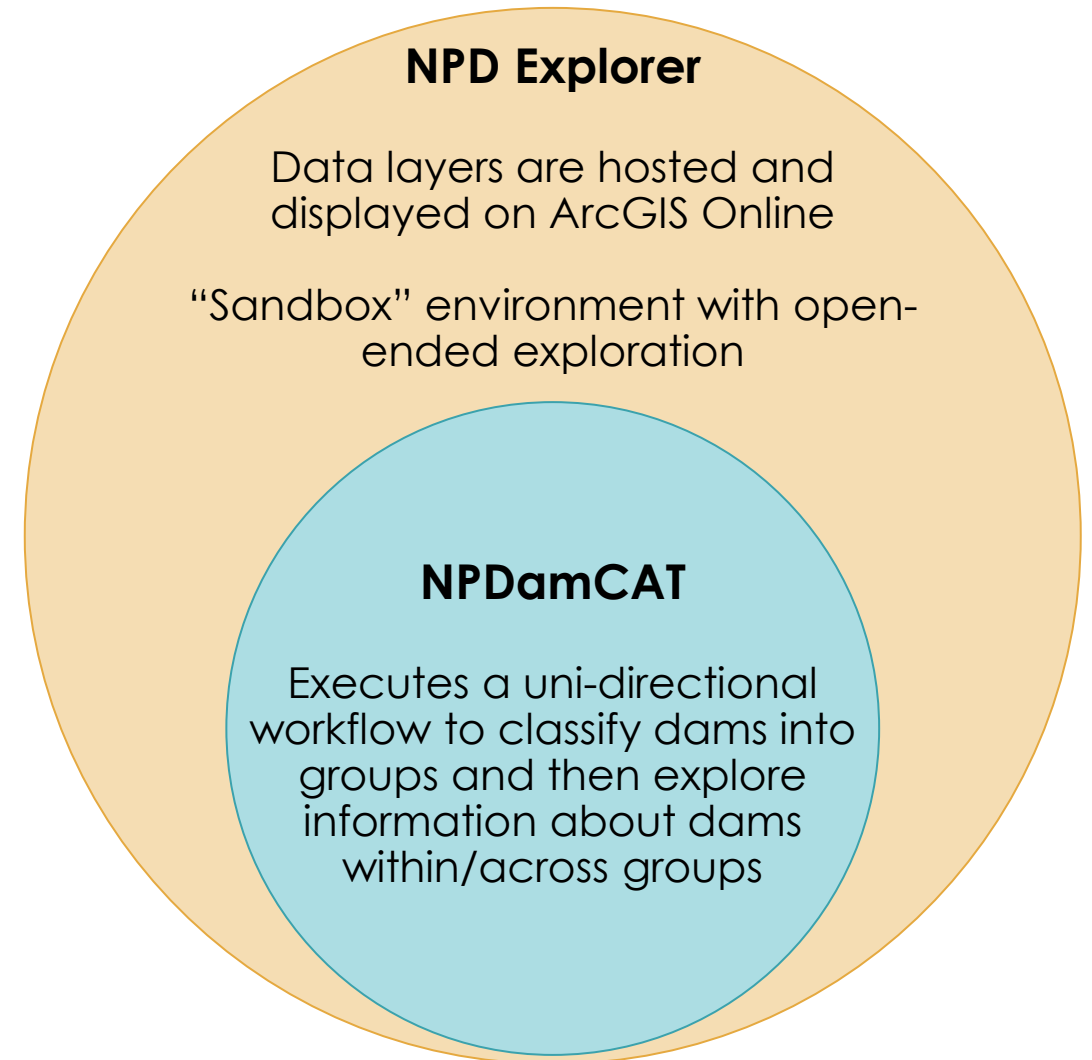

Background on SMH Tools

Access SMH Explorer
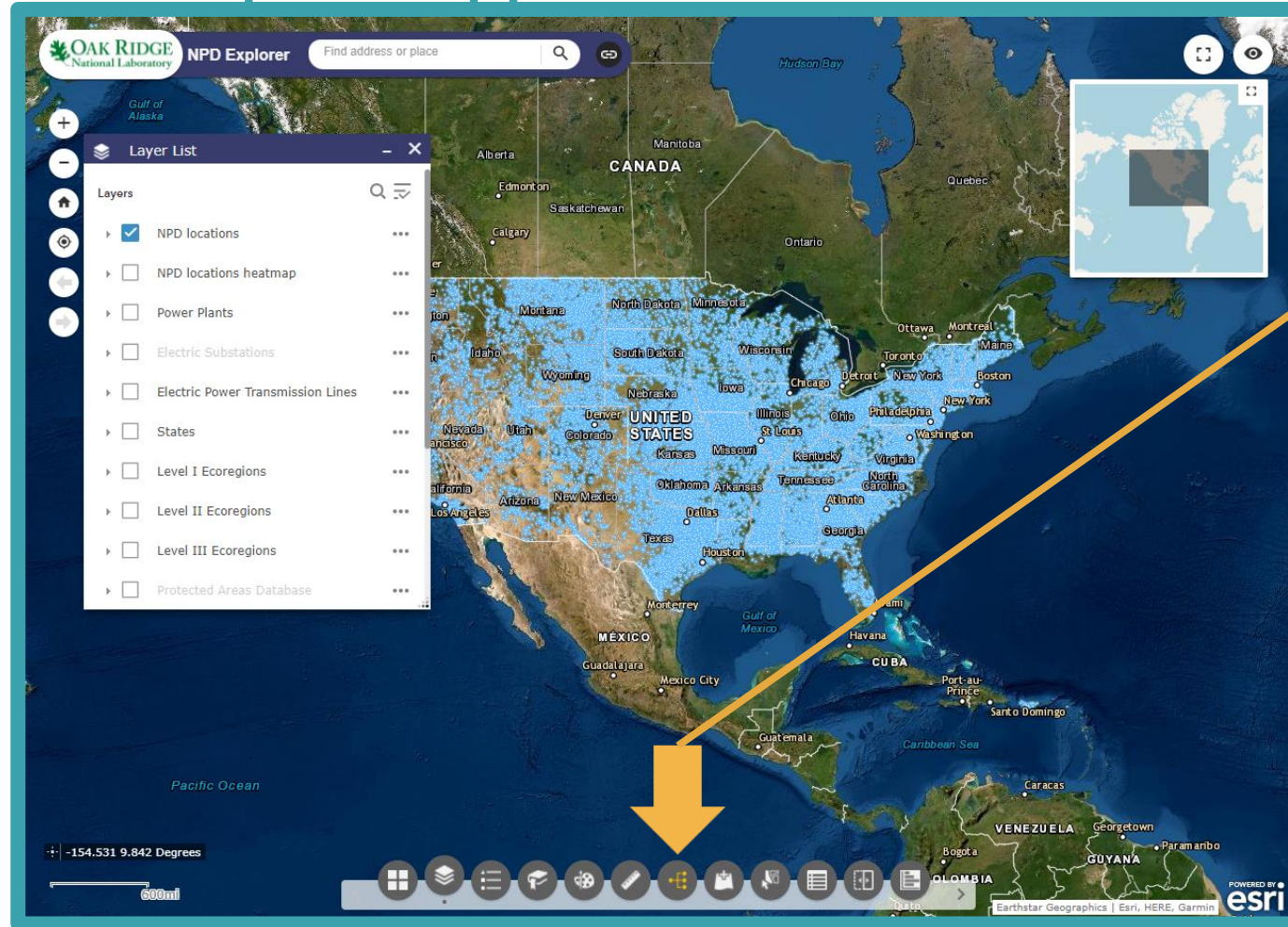
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Development of NPD Explorer and NPDamCAT

- **NPD Explorer** – focuses on NPDs and supports variety of interests (not just hydropower development)
  - Web-based application for exploring NPD characteristics, including development opportunities
  - Uses interactive mapping/geovisuals
  - Features a unique tool (**NPDamCAT**) that facilitates alternative approaches for data exploration, including more powerful classification than "out of the box" apps
    - NPDamCAT: Non-Powered Dam Custom Analysis and Taxonomy

- Tools and data will be housed on https://hydrosource.ornl.gov

NPD Explorer

Data layers are hosted and displayed on ArcGIS Online

"Sandbox" environment with open-ended exploration

NPDamCAT

Executes a uni-directional workflow to classify dams into groups and then explore information about dams within/across groups
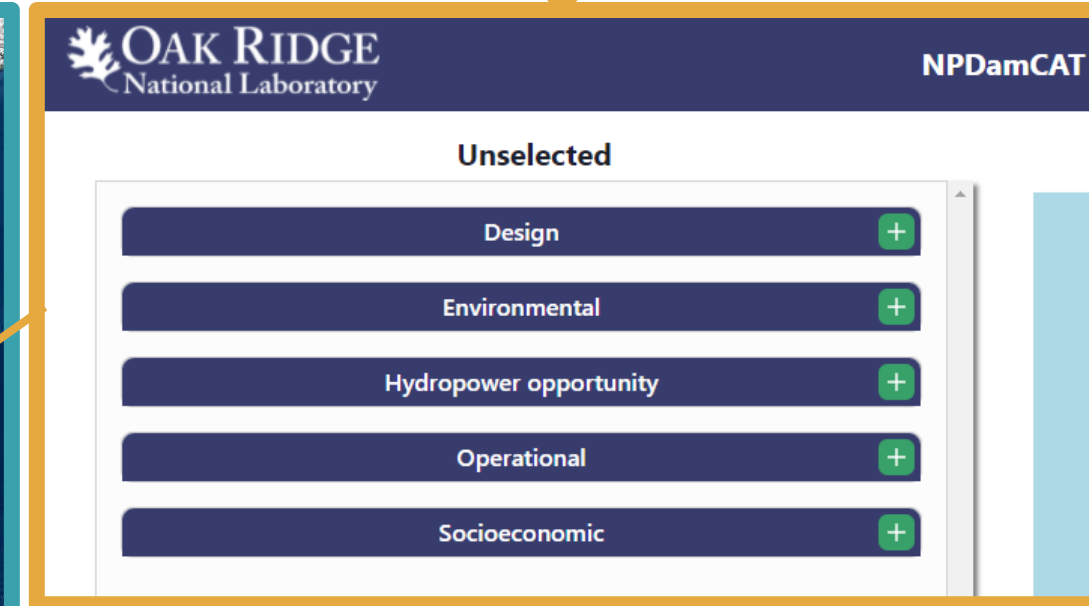
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High-Level Overview of NPD Explorer & NPDamCAT

NPD Explorer app

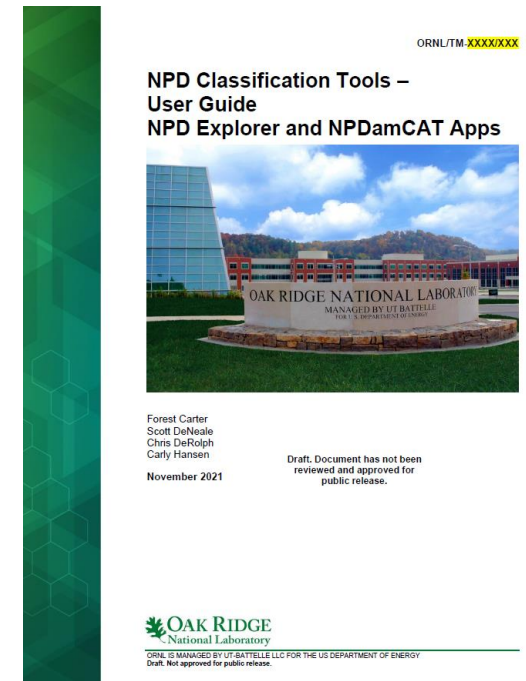*Default display upon entering NPD Explorer*

NPDamCAT widget

Top-level categories of characteristics as displayed in NPDamCAT

Same data, different user experiences

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NPD Explorer Resources

Thank you for your willingness to participate!!!

- Links to various resources have been provided:
  - Beta version of NPD Explorer tool
  - Draft version of associated User Guide
  - Accompanying video tutorial demonstrating tool use

User Guide cover

Walkthrough of NPD Explorer

Next Steps

- [Post-meeting Questionnaire](#)

- 2nd workshop meeting:
  December 6, 2021 3-4pmET

  – If unable to participate, we would appreciate your completion of a questionnaire (to be provided following today's meeting).

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Questions and Discussion

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