Update: Open Water Data Initiative

Presentation to WestFAST

March 26, 2015

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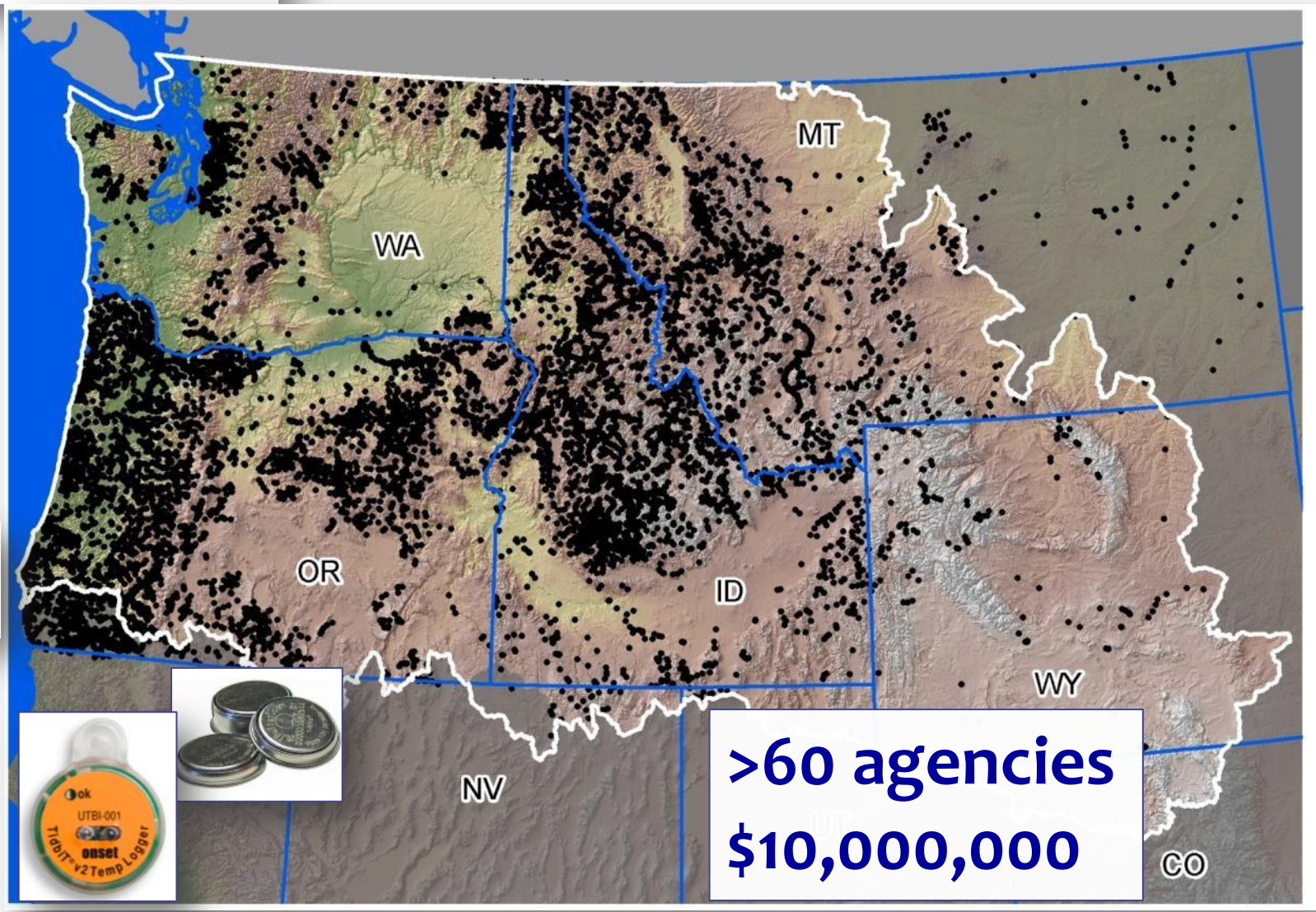
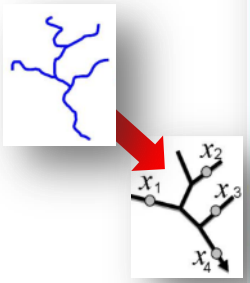
Subcommittee on Spatial Water Data

NorWeST Stream Temp

>45,000,000 hourly records
>15,000 unique stream sites





OWDI as a Challenge

- Access to water data is difficult
  - Collected by hundreds of organizations
  - No common infrastructure
  - WaterML2 new exchange standard (O&M)
- Understanding connections requires a geospatial framework
  - Landscape to stream
  - Stream to stream

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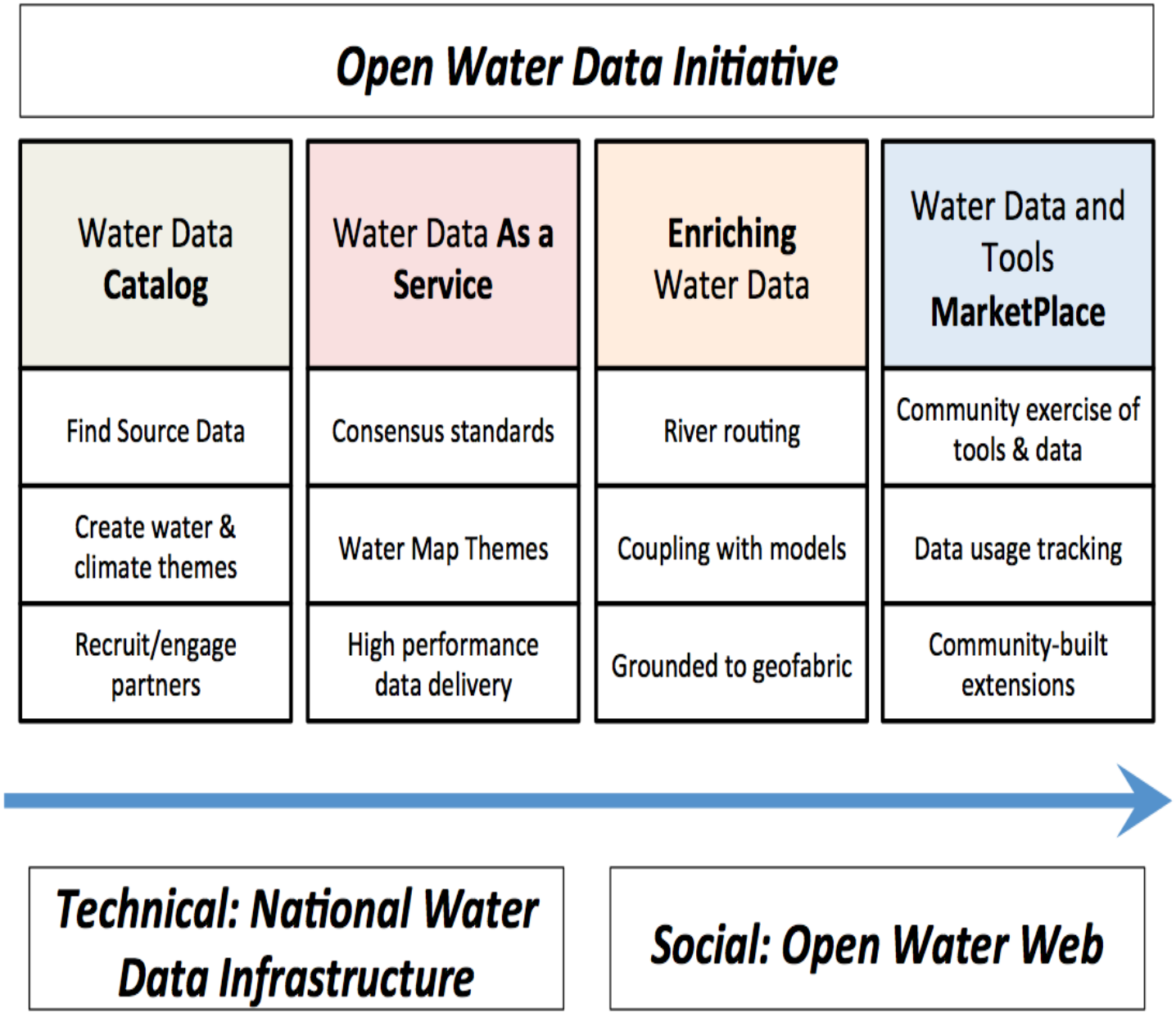
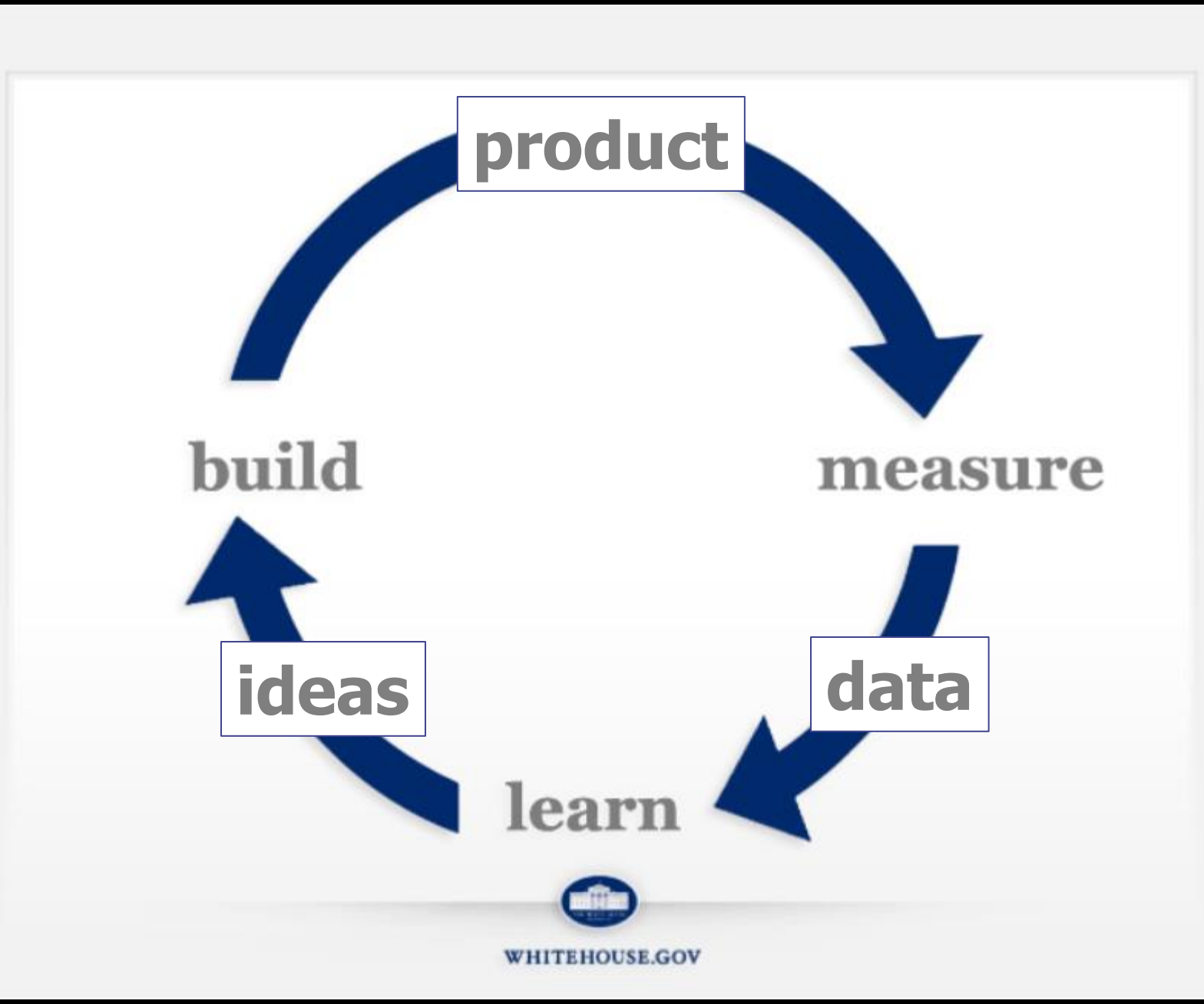

Open Water Data Initiative
Water Data Catalog
Water Data As a Service
Enriching Water Data
Water Data and Tools MarketPlace
Find Source Data
Consensus standards
River routing
Community exercise of tools & data
Create water & climate themes
Water Map Themes
Coupling with models
Data usage tracking
Recruit/engage partners
High performance data delivery
Grounded to geofabric
Community-built extensions
Technical: National Water Data Infrastructure
Social: Open Water Web

OWDI Activities To Date

- **FGDC** Steering Committee (6/26) and **ACWI** (8/19) voted unanimously to revitalize and charge the Subcommittee on Spatial Water Data to scope and design a national Open Water Data Infrastructure
- **AWRA**
  - National Meeting (Nov 3-6, 2014) special track on OWDI
  - Call for OWDI Abstracts: JAWRA (source: http://www.awra.org/jawra/jawra-owdi-call.html)
  - National Meeting, Denver (Nov 16-19, 2015) proposed special track
- **Subcommittee on Spatial Water Data** (SSWD)
  - Monthly meetings since August
  - 40+ regular attendees, mailing list of 80+
  - > 30 organizations represented
  - Applying "Lean Startup" principles
  - Three initial use cases
  - Four data work groups
  - Technology/standards work group


product
measure
data
learn
ideas
build
WHITEHOUSE.GOV

Use Case Concepts

- Define use cases that respond to societal needs and cover broad range of water resources issues
- Identify critical data inputs — focus on these first
- Our emphasis is on the data, not the full solution
- Measure and learn — figure out how to do this

OWDI Working Groups

Work Group 1:

National Flood Interoperability Experiment

- Identify flood data including stream-flow observations, forecasts and impacts
- Developing *Hydrofabric* v 0.1* and exploring data conflation

*Supported by 3 sub-teams

Work Group 2:

Drought Decision Support System

- Identify water resources data including natural flow, reservoir storage and drought impacts
- Explore visualization of drought in Lower Colorado

Work Group 3:

Spill Response Tool

- Identify water quality data including potential points sources and impacts
- Exploring requirements for new/additional data (e.g. velocity forecasts and reservoir residence times)

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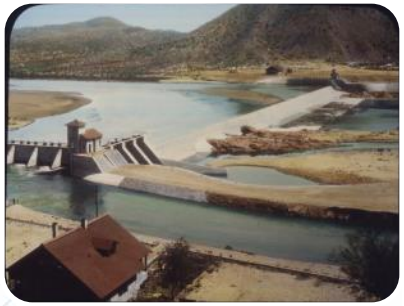
OWDI Working Groups, Cont'd

Work Group 4:

Technology

- Establishing Technology *Ideals* (draft):
  - Information owner responsible/maintains control
  - Data available in common formats
  - Machine interfaces are generalized according to standards
  - Data uses machine interpretable documentation
- Supporting the Work Groups with technical diagram and use-case templates



Work Group 5:

Water-Use

- Identify and cataloging water-use related data sets and supporting metadata
- Exploring a process to facilitate exposure of these data to the open water data community
- Exploring data quality and governance questions

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Hydro Event Services

- Hydro Event Data Catalog (HEDC)
  - Open – federated catalog
  - Web-service based
  - Starting with USGS ScienceBase platform for ESRI services, USGS CIDA group will host open (GeoServer) services
  - Intent is to complement, not replace WATERS web services
  - Iterative approach, will seek feedback

FederalGeographicDataCommittee fgdc

ACWI Advisory Committee on Water Information

OWDI Early Observations

- **Broad and Diverse Participation**
  - Federal Agencies
  - State/Regional Government
  - Private Sector and NGO's
- **Highly Collaborative relationships**
  - Interagency sharing of subject matter expertise
  - Detailed respectful dialog

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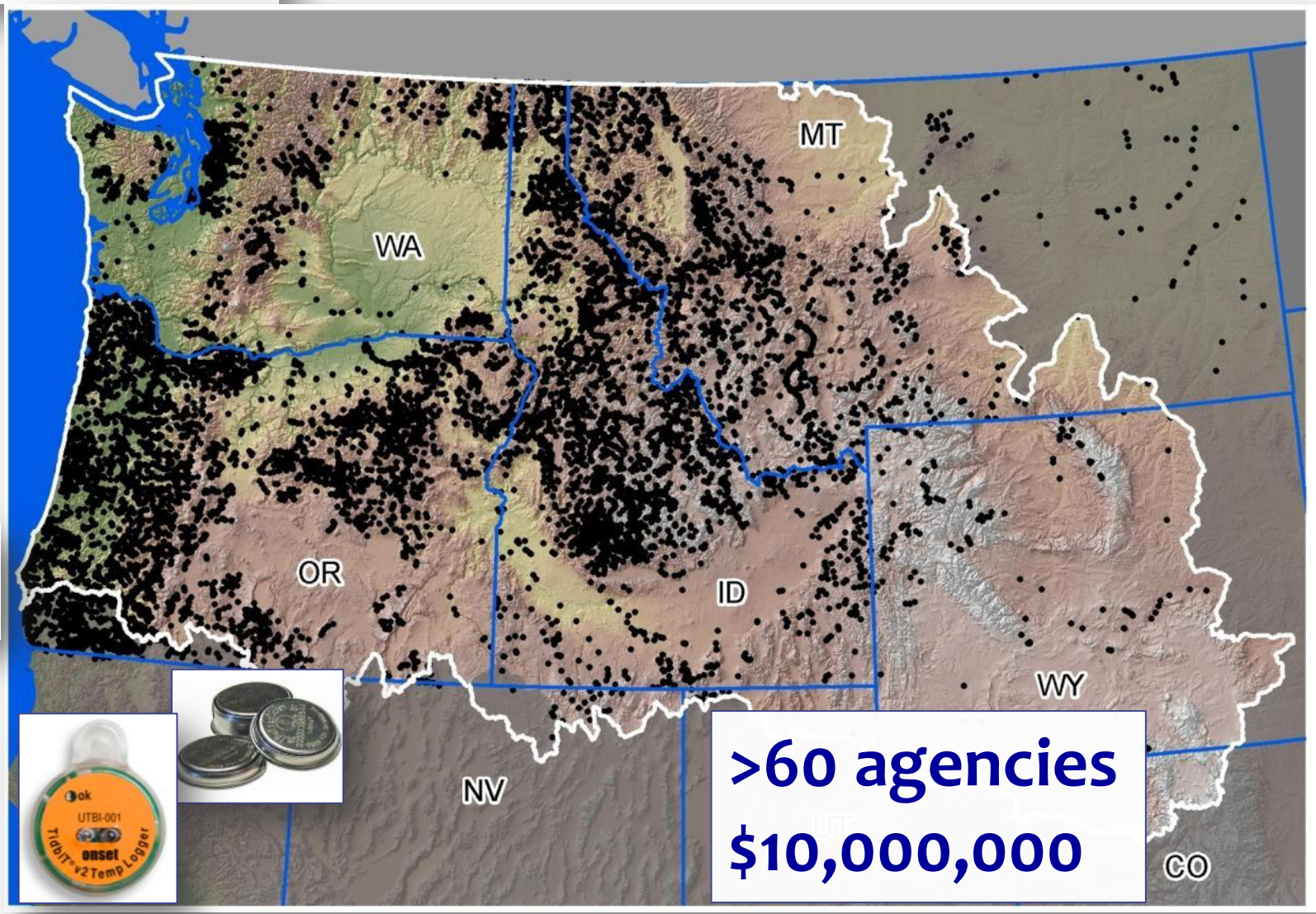

>60 agencies
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