



The Trail to National Data Harmony

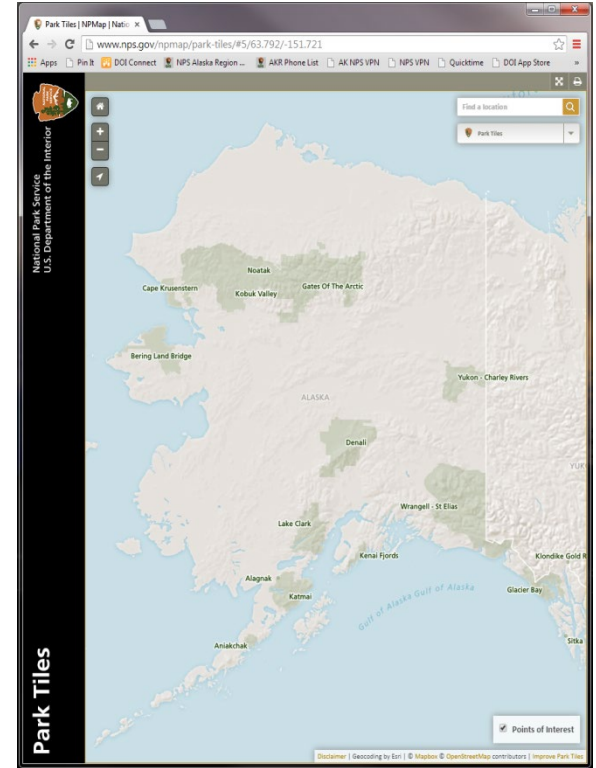
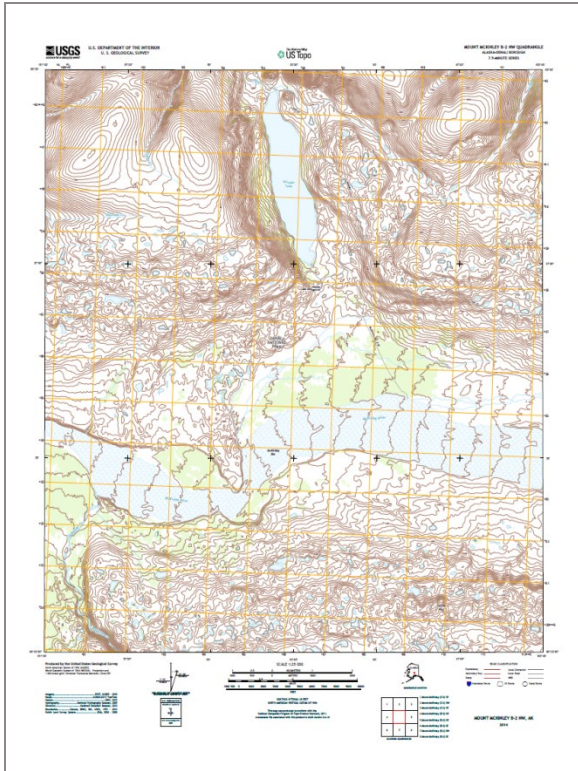
A National Park Service Journey

Presented By:

Angie Southwold, *NPS AK Region GIS Coordinator and Lead Data Manager*

**“I love implementing
Spatial Data Standards...
so long as I’m the one who
developed them.”
–Angie Southwold**

Our Data is in Demand



Our Goals

Data is accurate, complete, and consistent

Create a system that is integrated throughout our organization

Data is implemented in national standards

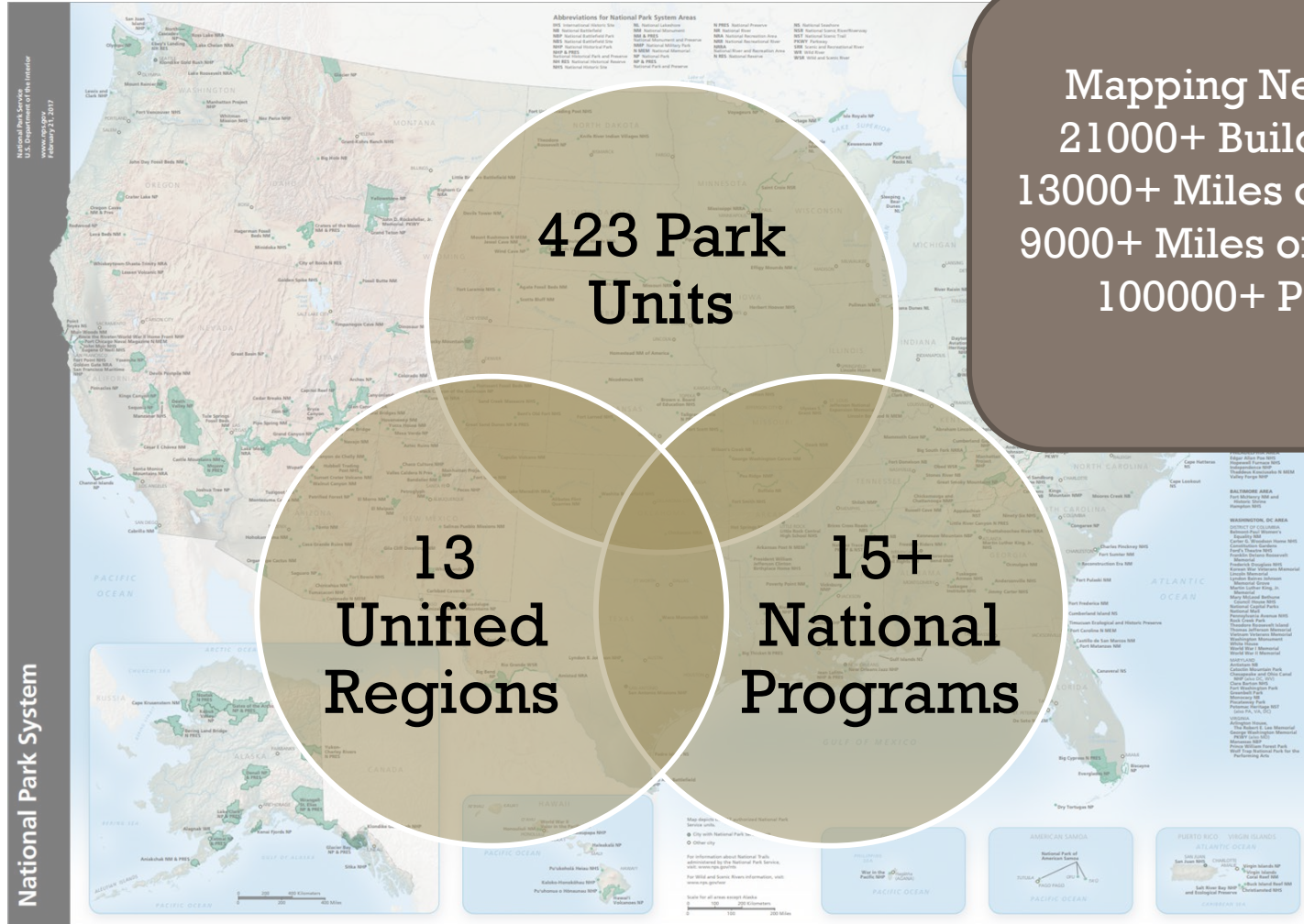
Data is managed by many people across multiple locations

Data is disseminated from a centralized database

Data is consumed for national and external products



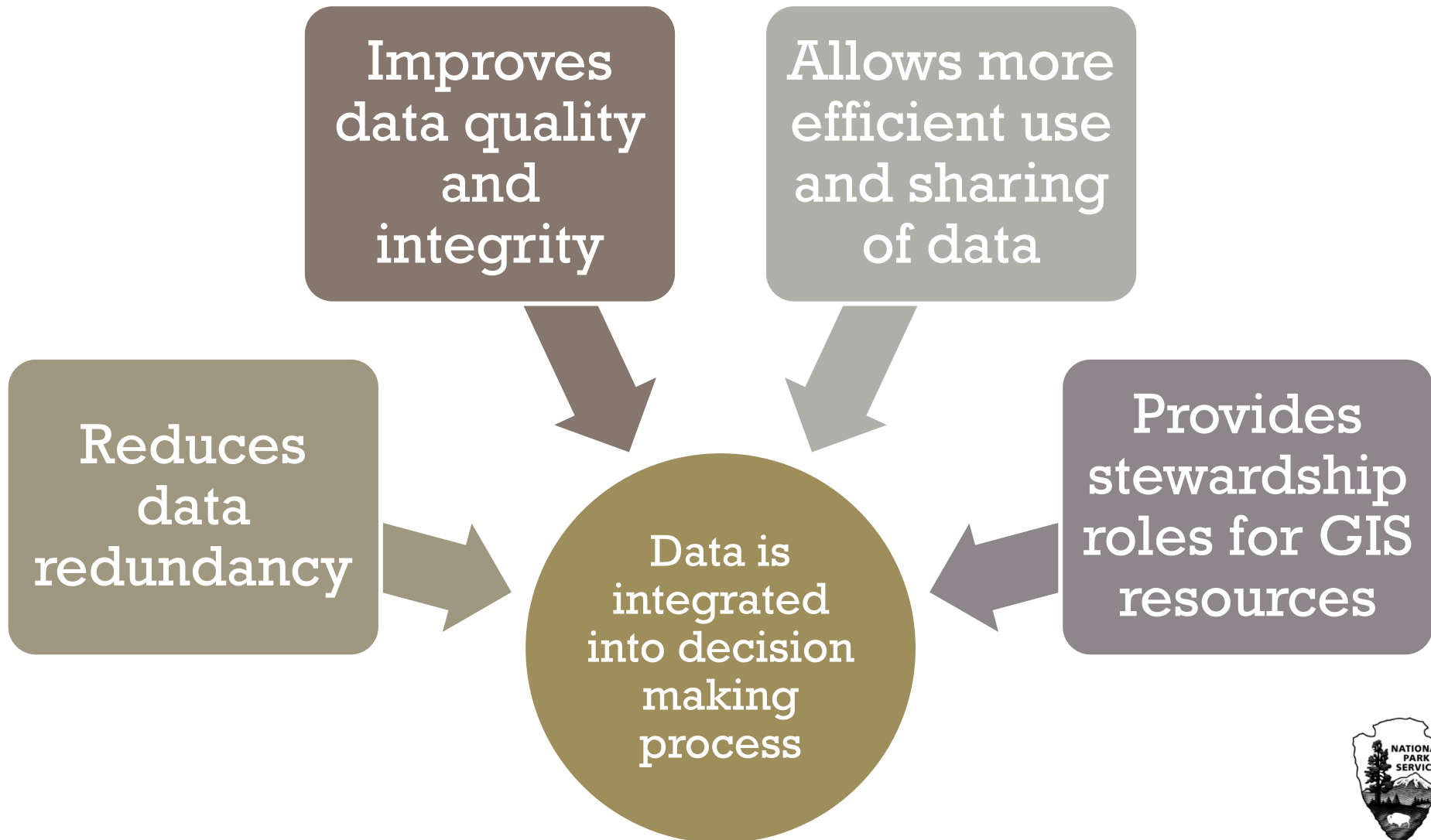
Our Obstacles



Mapping Needs!
21000+ Buildings
13000+ Miles of Trails
9000+ Miles of Roads
100000+ POIs



Enterprise GIS Benefits



Enterprise Approach

- Data Standardization
- Data Management
- Data Aggregation
- Data Dissemination



Data Standardization

- What does this mean at NPS?

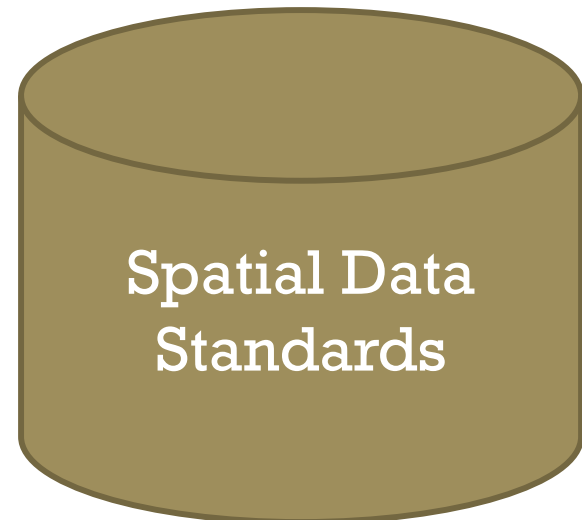
**Create and Implement
Spatial Data Standards for
Core Data Themes**



Spatial Data Standards

“Standards are common and repeated rules, conditions, guidelines or characteristics for data, and related processes, technology and organization.”
-OMB Circular A-16

...An agreed upon
“container” for
common data...



Data Standardization

- Data Standard Process (03/2015)
 1. Propose Data Standard
 2. Get GISC Concurrence
 3. Form Standard Development Team
 4. Develop Conceptual Data Model
 5. Review Conceptual Data Model
 6. Revise Conceptual Model
 7. Develop Database Template
 8. Review Database Template
 9. Revise Database Template
 10. Develop Implementation Plan
 11. Get GISC Approval
 12. Implement Standard

**NPS GIS Data Standards:
Process for Developing, Approving, and Implementing
Version 3**

Submitted by the Enterprise GIS Subcommittee (EGISS) to the GIS Council
March 20, 2015

Introduction

Data standards are documented agreements on representation, format, definition, transmission, manipulation, use, and/or management of common data. Standardization is necessary to facilitate the process of exchanging and understanding geospatial data created and managed by NPS. Standardization improves data quality by reducing error and redundancy and by increasing data consistency and compatibility. Data standards allow users to take advantage of existing data collection protocols, data processing procedures, and data analysis tools.

The EGISS is chartered by the GIS Council (GISC) to facilitate the standardization, integration, and dissemination of geospatial data in the NPS. Under that direction, EGISS would like to recognize the importance of data lifecycle management, data and system integration, data accessibility and reusability, and enterprise geospatial data by establishing a process for creating, approving, and implementing NPS spatial data standards. The process for data standard development should be standards-based and carefully planned and implemented in coordination with a technical and user community that is vested in the creation and use of the standard.

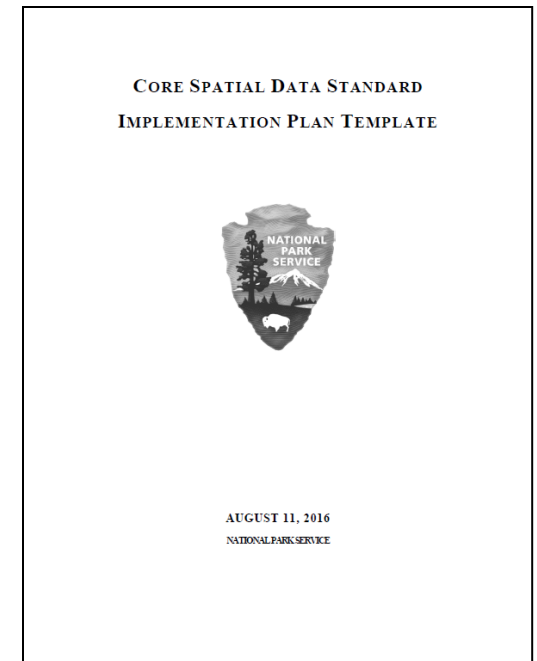
The NPS data standard process, outlined below, ensures standards are developed consistently and thoroughly within the NPS by engaging all relevant user communities and focusing on the testing and implementation of the data standards to support their long term use within the NPS.

[Document Link](#)



Data Standardization

- Core Spatial Data Standards (08/2016, update in progress)
 - Feature Usability and Restriction
 - Permitted for Public Display
 - Data Access
 - Feature Description
 - Unique Identifier
 - Park Unit Information
 - Feature Lineage and Quality
 - Who and When Created/Edited
 - How Data was Created
 - How Accurate is Data



[Document Link](#)



Data Standardization

- References to Nationally Adopted Data Standards
 - Cultural Resources (2010)
 - Wilderness Areas (2014)
 - Roads (2016, update in progress)
 - Trails (2016, update in progress)
 - Buildings (updated 2017)
 - Parking Lots (in progress)
 - Points of Interest (coming soon)
- NPS GIS Data Standards Sharepoint



Data Management

- What does this mean at NPS?

**Manage Authoritative and Trusted
Geospatial Data as NPS Assets
Using Consistent and Documented
Workflows**



Data Management

- GIS Data Stewardship (01/2018)
- Stewardship Lifecycle



National Park Service
Geospatial Data Stewardship

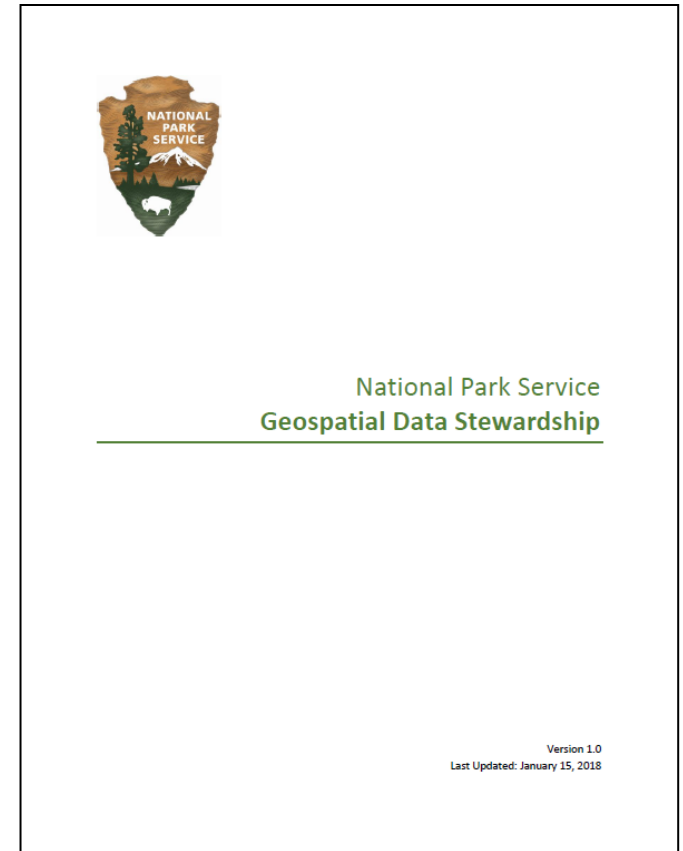
Version 1.0
Last Updated: January 15, 2018

[Document Link](#)



Data Management

- GIS Data Stewardship (01/2018)
- Stewardship Role Framework
 1. Data Steward
 2. Data Aggregator
 3. Data Publisher
 4. Database Administrator
 5. Data Editor
 6. Data Provider/Collector
 7. Data Contributor/Advisor



[Document Link](#)

- [NPS GIS Data Management Sharepoint](#)



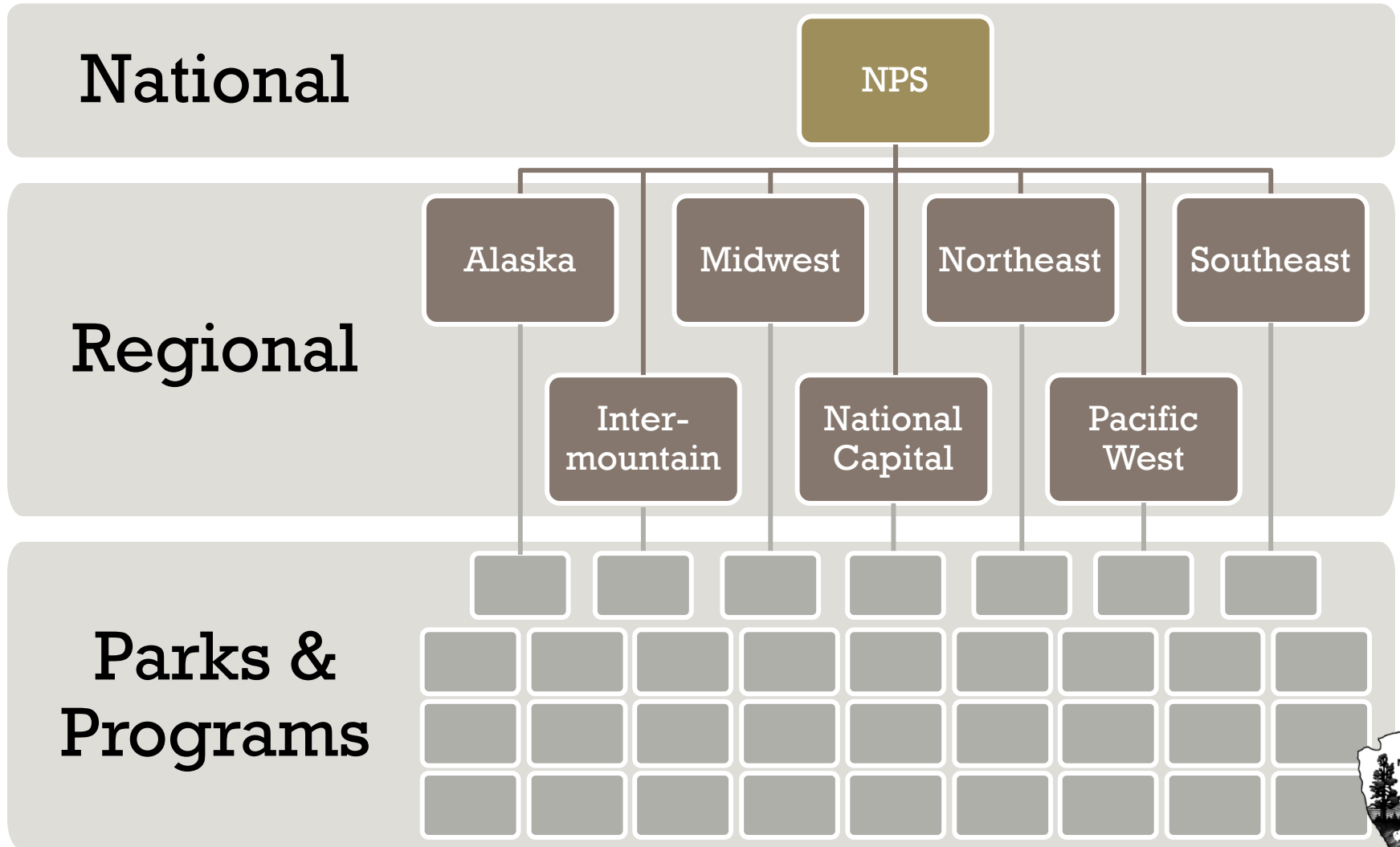
Data Aggregation

- What does this mean at NPS?

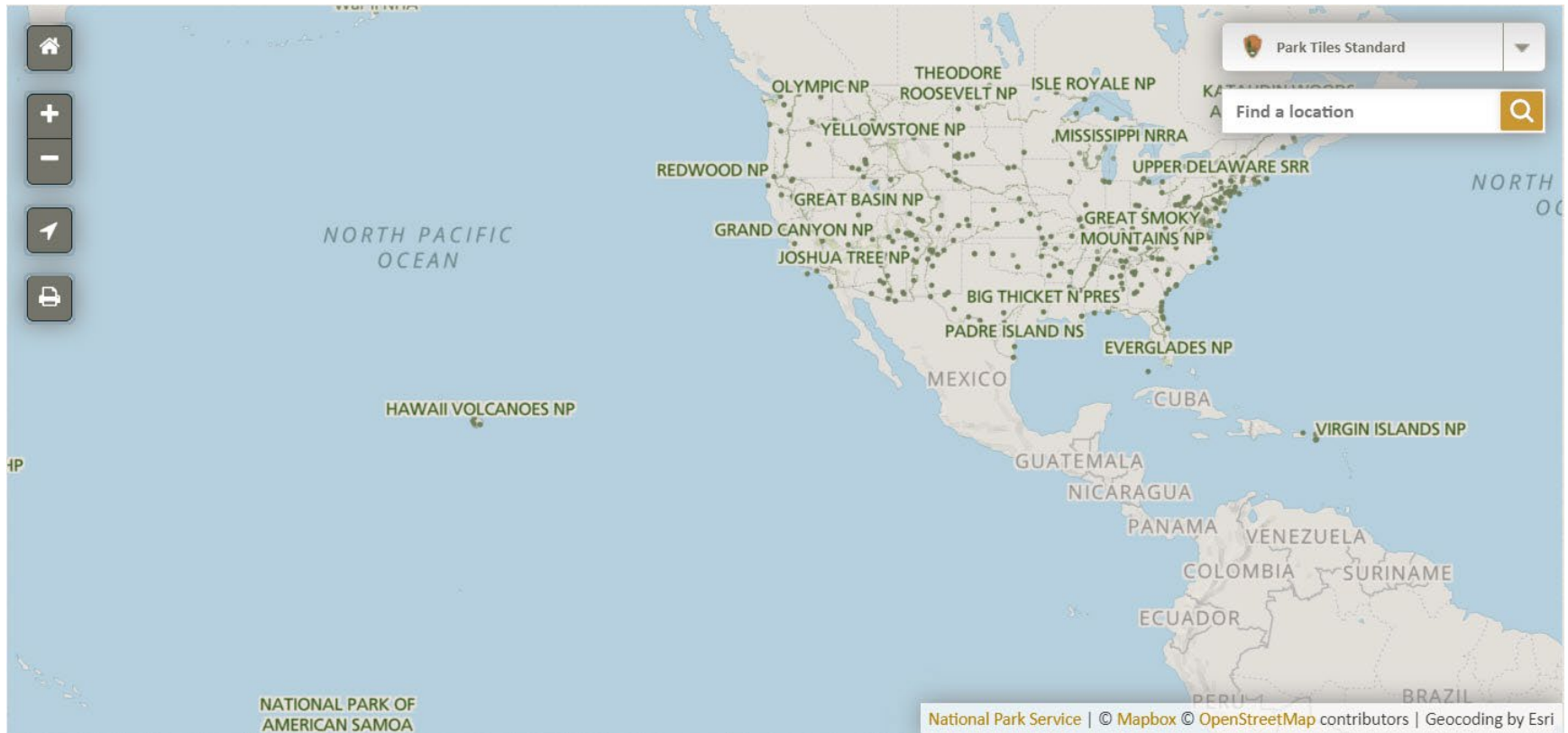
**Aggregate Data from
Parks and Programs and Regions into
National Datasets**



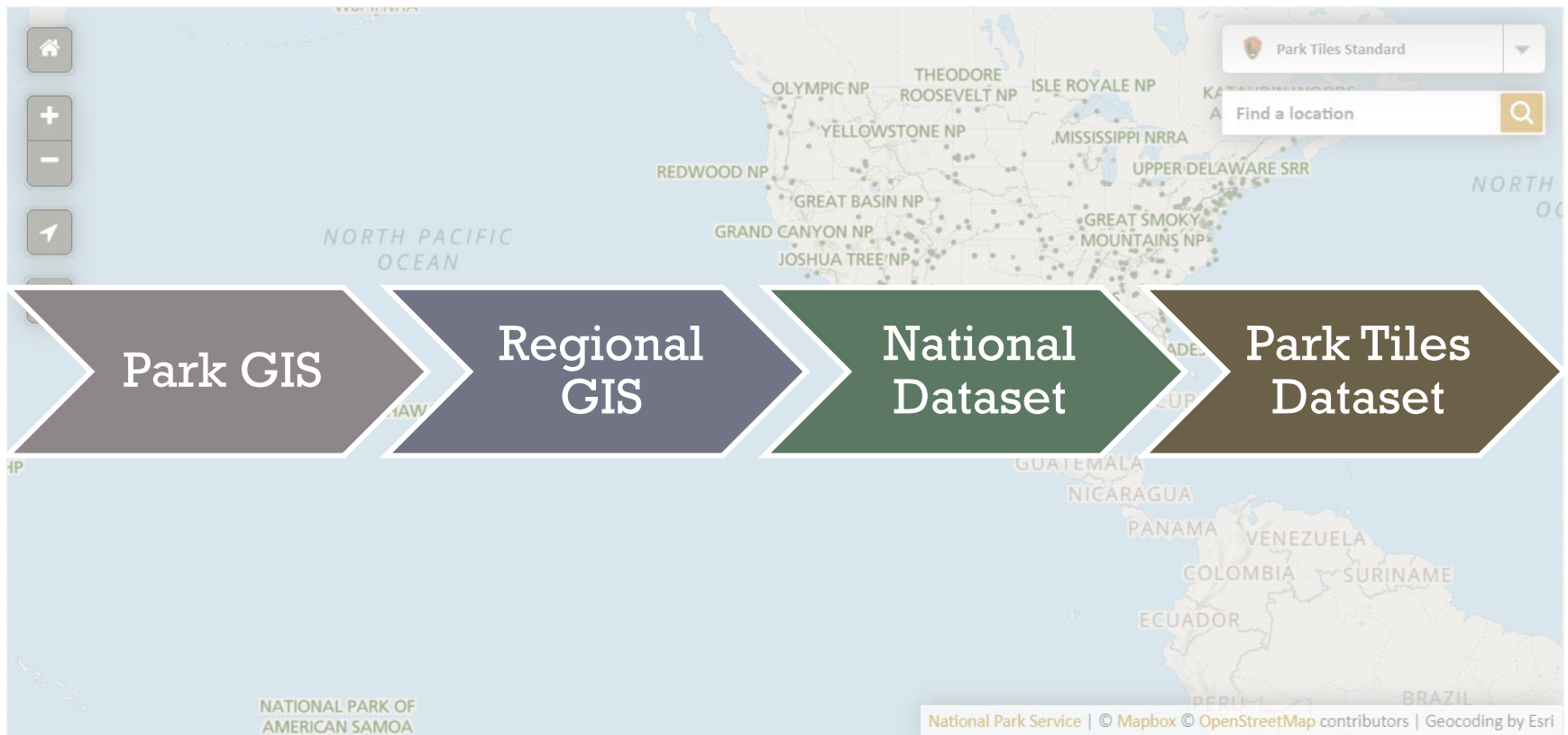
Data Aggregation



Data Integration



Data Integration



Data Dissemination

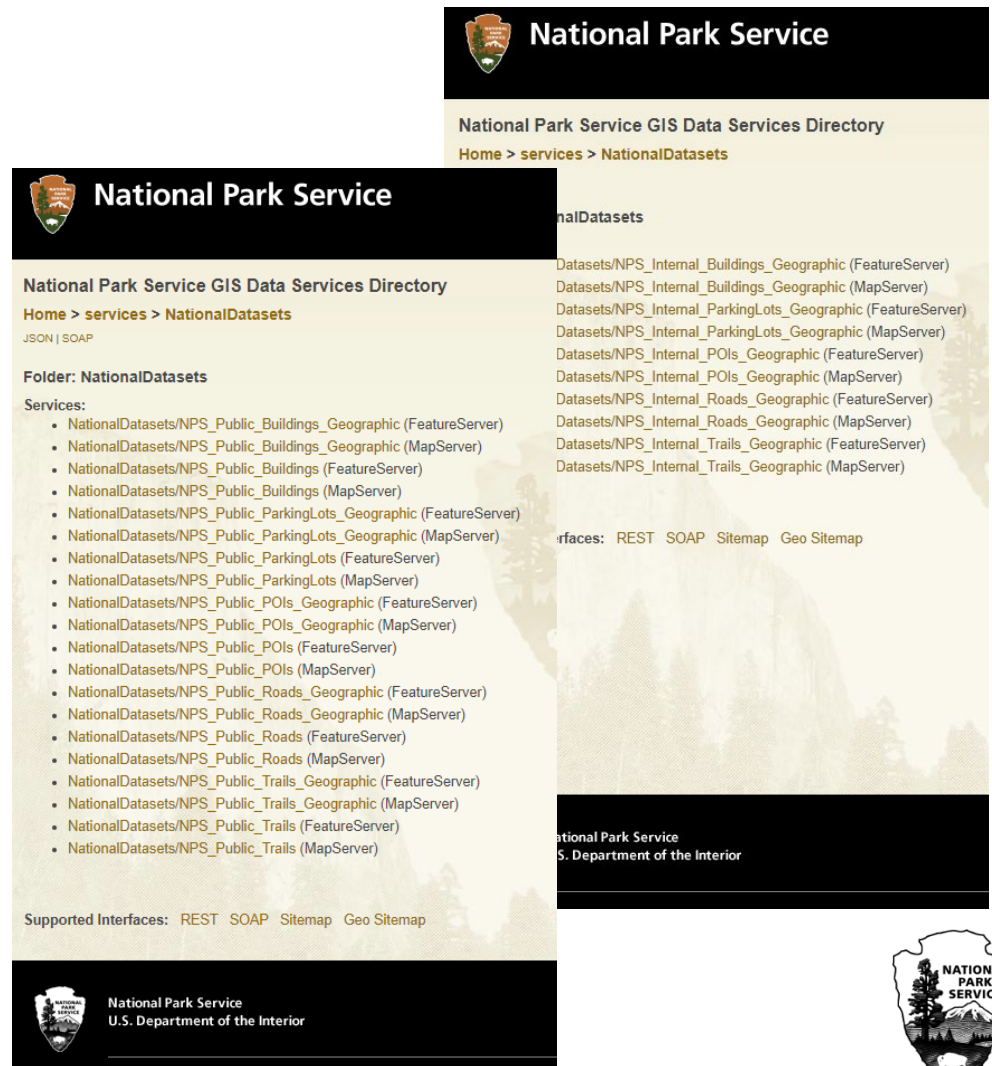
- What does this mean at NPS?

**Provide Internal Data Services to
NPS Community and
Public Data Services to
Individual and Organizational
Data Consumers**



Data Dissemination

- NPS REST Services
- <https://mapservices.nps.gov/arcgis/rest/services/NationalDatasets>
- <https://insidemap.services.nps.gov/arcgis/rest/services/NationalDatasets>



National Park Service

National Park Service GIS Data Services Directory
Home > services > NationalDatasets

National Park Service

National Park Service GIS Data Services Directory
Home > services > NationalDatasets

JSON | SOAP

Folder: NationalDatasets

Services:

- NationalDatasets/NPS_Public_Buildings_Geographic (FeatureServer)
- NationalDatasets/NPS_Public_Buildings_Geographic (MapServer)
- NationalDatasets/NPS_Public_Buildings (FeatureServer)
- NationalDatasets/NPS_Public_Buildings (MapServer)
- NationalDatasets/NPS_Public_ParkingLots_Geographic (FeatureServer)
- NationalDatasets/NPS_Public_ParkingLots_Geographic (MapServer)
- NationalDatasets/NPS_Public_ParkingLots (FeatureServer)
- NationalDatasets/NPS_Public_ParkingLots (MapServer)
- NationalDatasets/NPS_Public_POIs_Geographic (FeatureServer)
- NationalDatasets/NPS_Public_POIs_Geographic (MapServer)
- NationalDatasets/NPS_Public_POIs (FeatureServer)
- NationalDatasets/NPS_Public_POIs (MapServer)
- NationalDatasets/NPS_Public_Roads_Geographic (FeatureServer)
- NationalDatasets/NPS_Public_Roads_Geographic (MapServer)
- NationalDatasets/NPS_Public_Roads (FeatureServer)
- NationalDatasets/NPS_Public_Roads (MapServer)
- NationalDatasets/NPS_Public_Trails_Geographic (FeatureServer)
- NationalDatasets/NPS_Public_Trails_Geographic (MapServer)
- NationalDatasets/NPS_Public_Trails (FeatureServer)
- NationalDatasets/NPS_Public_Trails (MapServer)

Supported Interfaces: REST SOAP Sitemap Geo Sitemap

National Park Service
U.S. Department of the Interior

National Park Service
U.S. Department of the Interior

Services: REST SOAP Sitemap Geo Sitemap

National Park Service
U.S. Department of the Interior



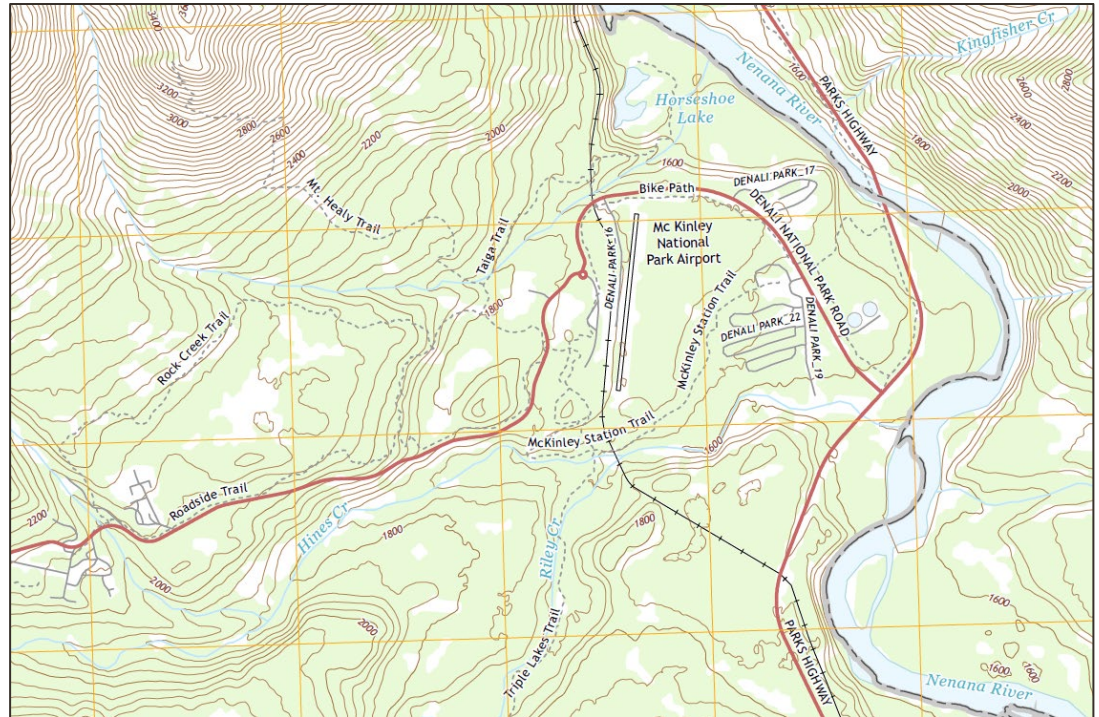
Data Dissemination

- NPS ArcGIS Online and Internal GIS Portal
- Public Versions
<https://nps.maps.arcgis.com/home/group.html?id=00f2977287f74c79aad558708e3b6649#overview>
- Internal Versions can be found individually in Portal
<https://gisportal.nps.gov/portal/home/index.html>



Data Dissemination

- USGS US Topo
- Roads
- Trails
- Visitor Centers
- Ranger Stations
- Park Headquarters
- Trailheads
- Campgrounds
- Backcountry Camping
- Backcountry Shelters



Questions?

Contact Me

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Creating a database can be like
creating a universe, only more complicated.
At least when the universe was created,
There was no one around to complain.

-Michael J. Hernandez, Database Design for Mere Mortals

