Exercise 2. Overview of Data Basin/ScienceBase Process & Choosing the Best Application (10 minutes)

Goals:

1. Users understand appropriate business cases that can take advantage of the ScienceBase/Data Basin framework
2. Users understand the general technical workflow associated with hosting data in ScienceBase and accessing the data from inside Data Basin

The table below provides some factors to consider when determining which web mapping or data solution may work best for different business needs. FWS/NPS employees have at least three web map options available: 1) ArcGIS Portal, 2) ArcGIS Online, and 3) ScienceBase/Data Basin. Unfortunately, there is no “silver bullet” and no one web mapping solution available that will work for an entire cross section of potential web mapping needs.

ApplicationComparisons

A General Decision Guide for Picking the Right Application: Is it ScienceBase/Data Basin, ArcGIS Online, Or ArcGIS Portal?

		Application			
Business Need	**Importance (High, Medium, Low)**	**ScienceBase**	**Data Basin**	**ArcGIS Online**	**ArcGIS Portal**
Collaboration					
Spatial data can be made publically available		Yes	Yes	Yes	No
Non-spatial or an entire suite of "project" data and/or files can be made public		Yes	Yes	Unknown	No
Spatial data can be shared internally with ONLY DOI partners		Yes	Yes	No	Yes
Non-spatial data can be shared with ONLY selected local, state, or NGO organizations		Yes	Yes	No	No
Spatial data can be shared with ONLY selected local, state, or NGO organizations		Yes	Yes	Public Only	No
Data is discoverable through data.gov		Planned	No	Planned	No
Robust "trusted" climate science and landscape data is broadly available		Yes	Yes	Partial	No
Data Availability and Integrity					
Generally satisfies data stewardship responsibilities by hosting in application		Yes	No	No	No
Can manage and protect sensitive data		Yes	Yes (No PII)	No	Yes (No PII)
Ability to manage and filter trusted data discovery and access in a search environment		Yes	Yes	Partial	Partial
Direct Accessibility to Climate and Landscape Data and Analyses		Medium	Medium	Low	Low
Data Editing					
Can collaboratively edit mapped data		Limited	Limited	Yes	Yes
Analysis and Reporting					
Advanced geospatial analytics available		No	Yes (limited)	Yes	Yes
Mobile Data Use and Collection					
Secure mobile data collection is available		No	No	No	Yes
Mapper application for use with Mobile devices		No	No	Yes	Yes
Visualization					
Application provides web map services for external consumption		Yes	No	Yes	Yes
Provides a Web Mapper		Creates Web Map Services Only	Yes	Yes	Yes
Story maps enabled		No	Partial	Yes	Yes
NetCDF or "time enabled" data integration & delivery		No	Yes	Unknown??	Yes
Embed web maps in external applications or web pages		No	Custom Only	Yes	Yes (DOI Only)
Potential to be a "one stop shop" for discovering/accessing Climate/Landscape data		Requires external application	Medium	Low	Low
Advanced symbolization and styling is available		No	Limited	Yes	Yes

ApplicationComparisons

Costs and Learning Curve					
Is free technical support readily available?		Yes	Yes	Yes	Yes
Is there a $$ cost to local DOI unit or employee?		No Current Cost to Federal Agencies	**Yes** (Gateway development & maintenance), **No** (individual or gallery group use Only)	No	No
Learning curve to become a basic user or "browser"		Medium	Easy	Easy	Easy
Learning curve to become an advanced user and data steward		Medium	Medium	Medium	Medium

A few use case scenarios:

1. A group of internal FWS employees need access to edit and manage species information related to an species species recovery plan. Some of the data is draft and considered sensitive. Recommended best solution: ArcGIS Portal.
2. A group of internal FWS and other DOI employees are collecting species occurrence data that is sensitive or draft and will be supporting a listing decision. Recommended best solution: ArcGIS Portal and ArcGIS Collector. ArcGIS Portal access is available only to FWS and other DOI employees.
3. Public FWS data needs to be made available in a web mapping platform. Recommended best solution: ArcGIS Online
4. NPS is working with multiple local, state, and federal agencies to develop a landscape conservation plan. A central repository for managing data needs to be established that hosts both secure and public data in both spatial and non-spatial formats. Recommended best solution: ScienceBase and Data Basin framework
5. A group of interagency biologists/practitioners are working to develop a climate adaptation strategy for a species and need to discover and integrate existing landscape level and climate change data. Recommended best solution: In the western US, ScienceBase and Data Basin framework

Consider these factors:

1. Internal versus external use (Are you collaborating across agencies?)
2. Data stewardship (who owns/manages data?)
3. Integration of landscape level and climate data
4. Mobile needs
5. Shared editing needs

Bottom line: Think through and define your requirements before making your application selection.

ScienceBase/Data Basin Workflow Steps:

1. Prepare your geospatial data (project to Web Mercator Auxiliary Sphere, check or develop metadata)
2. Create an ArcMap document, add your data and symbolize
3. Create a Service Definition File (.SD) in ArcMap
4. Upload the Service Definition File to ScienceBase (Public Web Map Services automatically created in ScienceBase)
5. Update any missing or additional metadata to the ScienceBase record
6. Import the data as a web map service from ScienceBase into DataBasin. Add to your gateway or gallery and bookmark in the appropriate folder(s) (refuges, ES, etc.)
7. Follow different protocol for secure or sensitive data in ScienceBase and making available in Data Basin

Introducing the Pacific Southwest Region Web Map Portal
US Fish and Wildlife Service

Do you need a way to share sensitive maps or data with only your project partners? Or do you need to find specific mapped information and create a custom map to help you do your job better? Maybe you have maps you want to share with the public? The Pacific Southwest Region is pleased to announce availability of a new web map portal. This flexible gateway provides FWS staff with ways to share maps and data and collaborate with your target audiences or the public. No GIS skills? Not a problem!

In partnership with the Conservation Biology Institute (CBI) and the United States Geological Survey (USGS), the Pacific Southwest Region has developed an open, publicly facing web mapping portal (psw.databasin.org). The web mapping portal makes geographical information and mapping services available for sharing and collaborating among users both within and outside the Department of Interior (DOI) and the FWS. The portal is a web-based mapping platform managed and curated by members of various programs and cooperator groups within the Pacific Southwest Region.

The portal is designed to showcase spatial information for particular geographies, topics, projects and administrative offices. The data, maps, and galleries are intended to provide a framework that supports business integration across various business activities within FWS.

Members and visitors can use this portal to search, discover, use or share existing maps or create their own custom maps. Additionally, analytical tools, including buffering and site assessments are available for internal use by FWS staff for completing geographic analyses.

Data Stewards in FWS can use the Data Basin application along with a USGS application called ScienceBase to catalogue and steward their data, then provide transparent access and use of geographic information that meets federal standards. Data Basin users are automatically linked to data residing in ScienceBase and can directly download data or view map services managed in ScienceBase.

Most of the FWS data being discovered and used in the Data Basin portal is hosted and accessed directly from the federal USGS ScienceBase repository. Data Basin is the map "wrapper" to the federal ScienceBase data repository and is used as the robust interface for providing discovery, mapping, and analytical tools.

A data "bridge" has been developed to facilitate sensitive or draft data access between Data Basin and the federal ScienceBase data repository. These two applications coupled with standard operating procedures provide a transformative framework for stewarding and delivering cloud-based geographic information within the Pacific Southwest Region.

Contact Pat Lineback, Regional GIS Coordinator (pat_lineback@fws.gov) with questions or if you would like a demonstration of this new web map portal.