

The Washington Coastal Atlas: Connecting with the ICAN Interoperability Prototype

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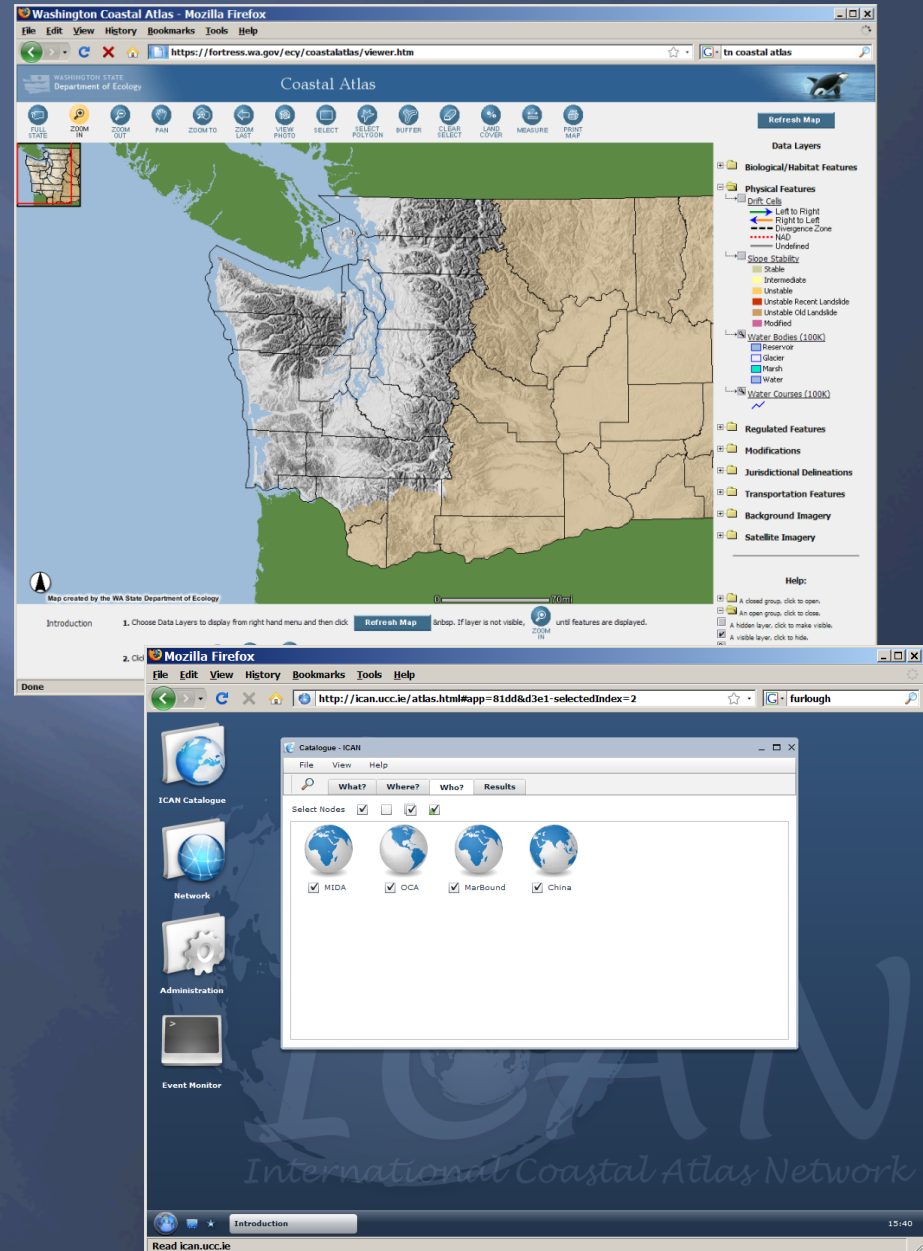
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Outline

1. Washington Coastal Atlas
2. Connecting the WA Coastal Atlas to the ICAN Prototype
3. Benefits

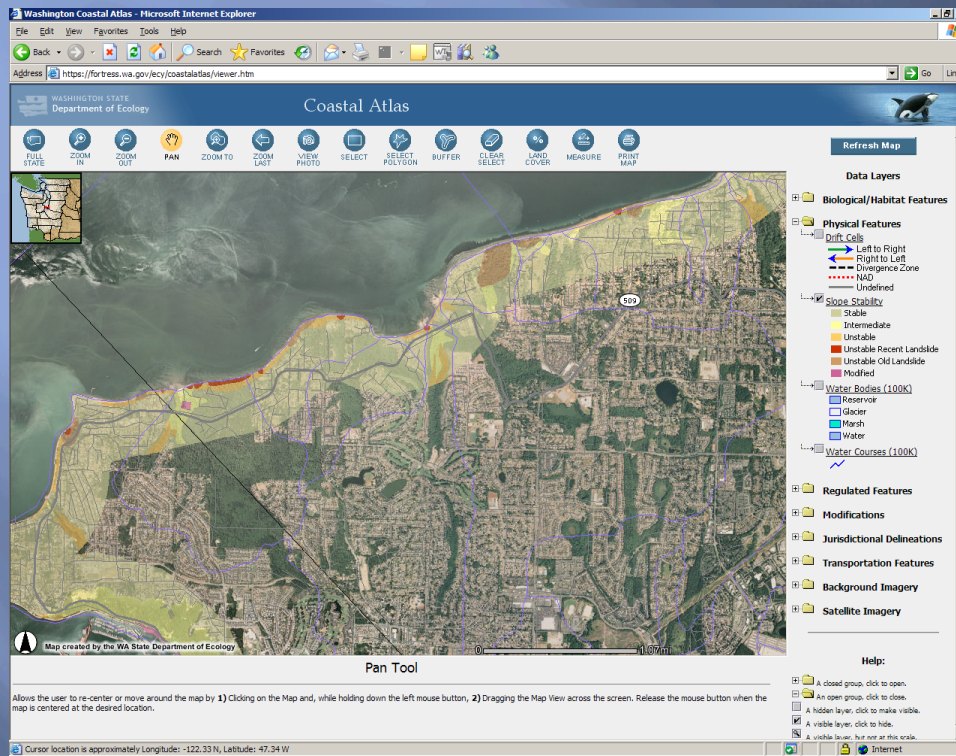


Washington Coastal Atlas

The screenshot shows the homepage of the Washington Coastal Atlas. The browser window title is "Washington Coastal Atlas homepage - Mozilla Firefox". The address bar shows the URL "http://www.ecy.wa.gov/programs/sea/sma/atlas". The page header includes the Department of Ecology logo and a search bar. The main navigation menu includes "Home", "About Us", "Environmental Education", "Public Input", "News", and "Employment". Below the navigation menu, there are tabs for "Air", "Land", "Water", "Toxics", and "Waste". The main content area features a large banner for the "Washington Coastal Atlas" with three images: a map, a city skyline, and a coastal landscape. Below the banner, there are sections for "COASTAL ATLAS HOME" with links for "Start Mapping", "Tips for Using Site", and "Useful Links". The "Start Mapping" section includes a map of Washington and text describing the atlas's purpose. The "Tips for Using this Site" section provides information on navigating the atlas. The "Useful Links" section lists links to coastal public access information and other related sites. The "Coastal Atlas Partners" section features logos for the Washington State Department of Natural Resources and NOAA Coastal Services Center. The footer includes the "Access Washington" logo, copyright information for the Washington State Department of Ecology, and links for "Contact Us", "Privacy Notice", and "Site Info".

- Established in 1995
- Created to assist local governments with Shoreline Management Planning
- Audience
 - Local Governments
 - Fed/State/Tribal govts.
 - Research, policy, planning
 - General public

Technology



- ❑ ESRI ArcIMS 9.2
- ❑ ArcSDE 9.3: Data, simplified metadata
- ❑ MS SQL Server 2005
- ❑ IIS Server, Apache Tomcat 5.5
- ❑ ASP.NET v2.0 (Coastal Image Viewer and Land Cover Tool)

Future Development

- ▣ Atlas redesign:
 - Update technology to ArcGIS Server 9.3
 - Use JavaScript API or similar
 - More data
- ▣ Add information on public access to Washington marine shorelines.
- ▣ Working cooperatively with other state agencies
- ▣ Increasing communication with Oregon, BC, Alaska and California Coastal Atlases
- ▣ **Increasing interoperability w/other atlases through ICAN**



Steps for Connecting the WCA to the ICAN Atlas Mediator Prototype

1. Pick OGC compliant software (CSW, WMS, WFS)
 - Install and set up as CSW
2. Develop Coastal Erosion Controlled Vocabulary
3. Map Local Ontology
 - Map how terms relate to each other (Protégé software)
 - Get input from coastal hazards expert

(continued next slide)

Steps for Connecting the WCA to the ICAN Atlas Mediator Prototype

4. Coordinate with ICAN Ontology master
 - Submit WCA ontology
 - He maps WCA ontology to super ontology
 - Adds WCA as a node in the Atlas Mediator Prototype
5. Test that ICAN prototype can search WCA CSW
 - Refine as needed
 - May occasionally be tweaks to ontology
6. Implement WCA WMS and test with ICAN prototype

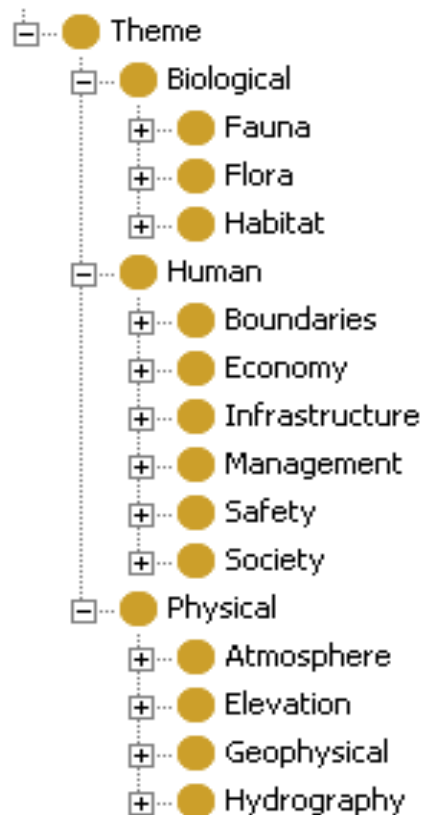
***Outcome: WCA Metadata will be searchable,
just as current connected atlases are.***

1. OGC Complaint Software:

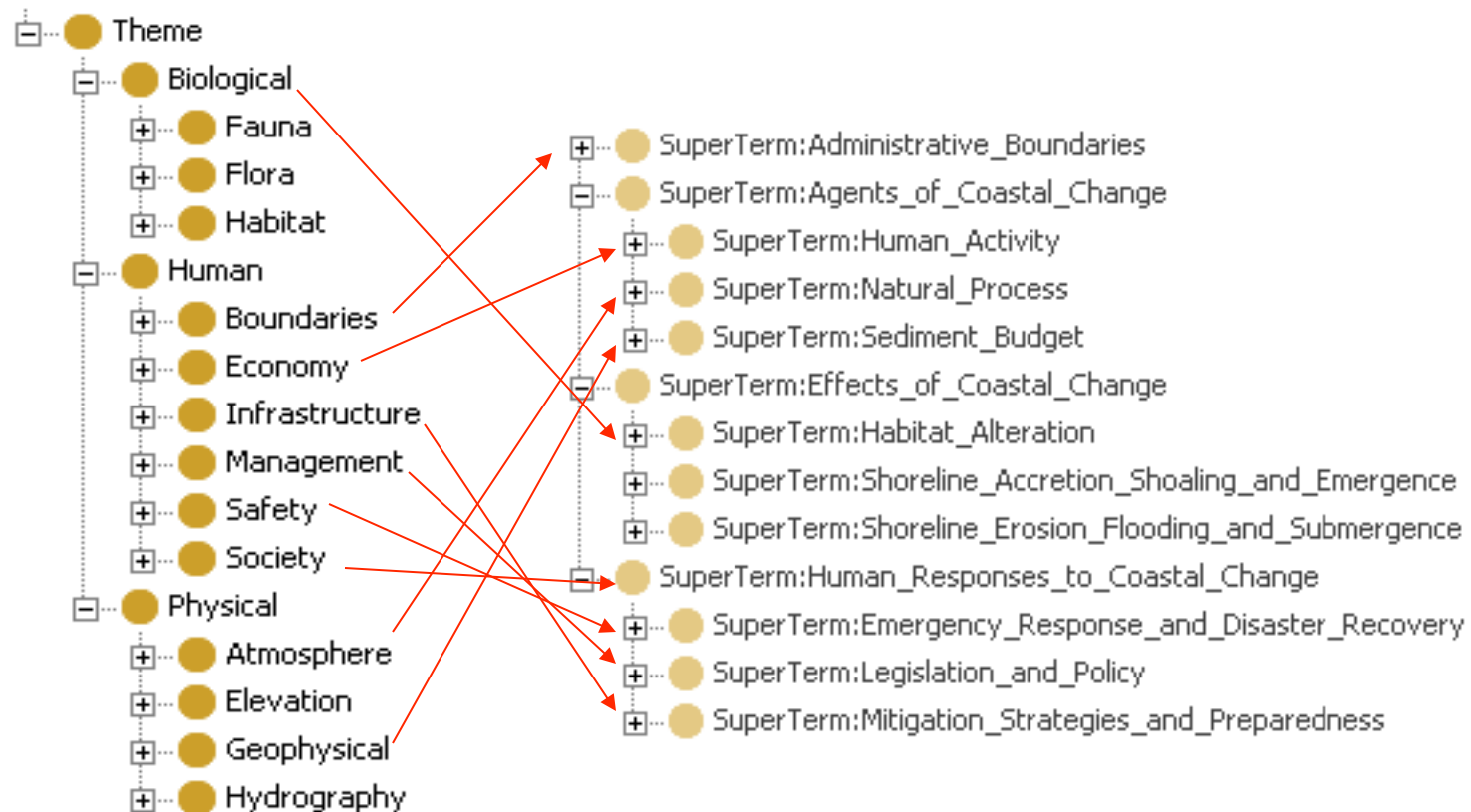
ESRI GeoPortal Extension *(formerly GIS Portal Toolkit)*

- ▣ Chosen to fit Dept. of Ecology's Enterprise system
- ▣ ArcGIS Server Extension
 - Catalog and Search resources
 - Build portals, SDIs, Metadata catalogs
 - *Ex:* Geospatial One-Stop, NOAA Large Marine Ecosystems
- ▣ OGC Compliant
 - Catalog Service for the Web (CSW):
 - ▣ Requires editing a line in web.config
- ▣ Installation issues:
 - Does not yet support SQL 2008
 - Access to CSW through Firewall
 - No filters for providing limited access to target user groups
 - ▣ Must install multiple GeoPortal instances

2. Controlled Vocabulary and 3. Map Local Ontology



4. Submit to ICAN ontology master, and Map local (WCA) to global (ICAN) ont.



5. Testing and refinement

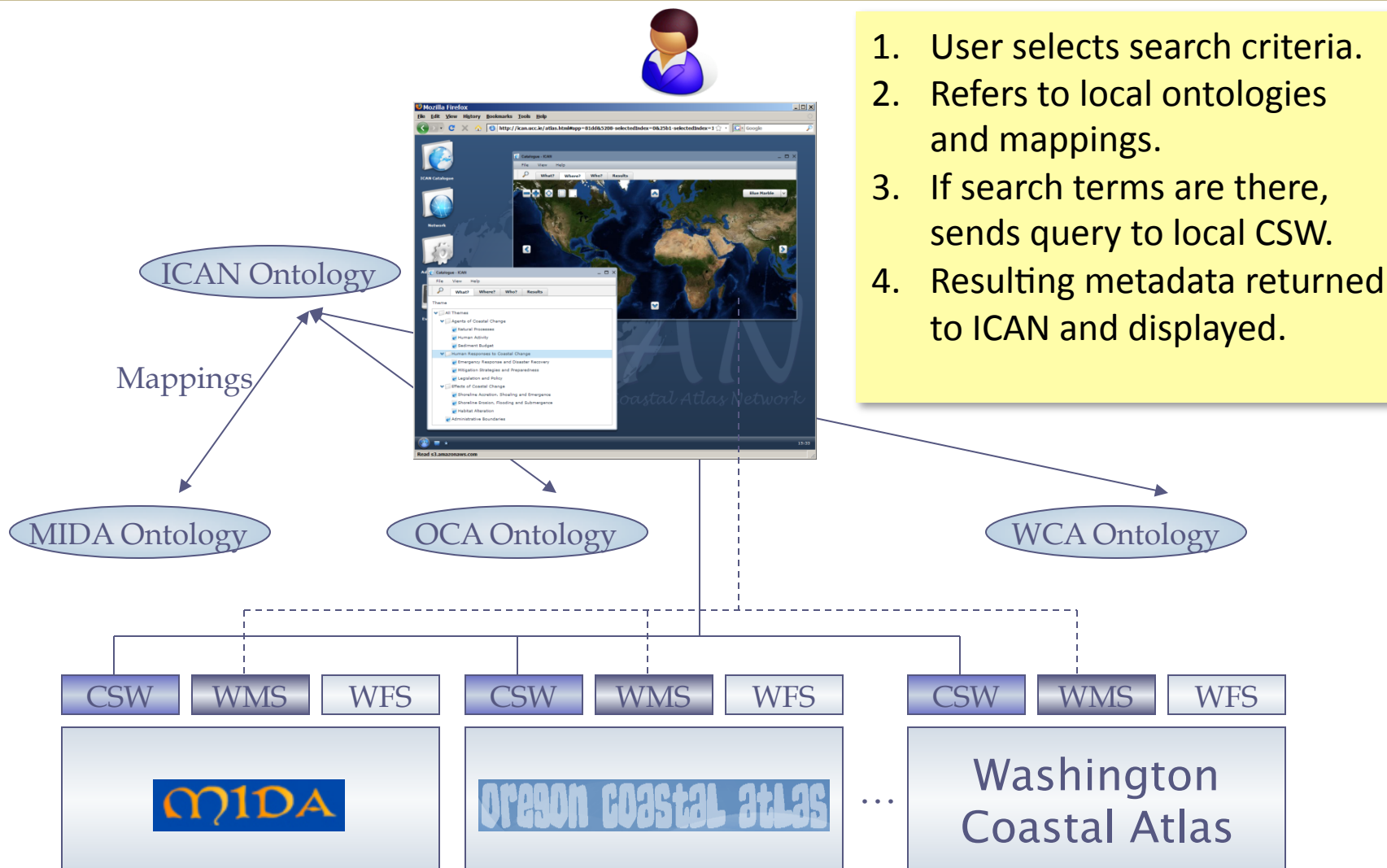
Test that ICAN prototype can search WCA CSW

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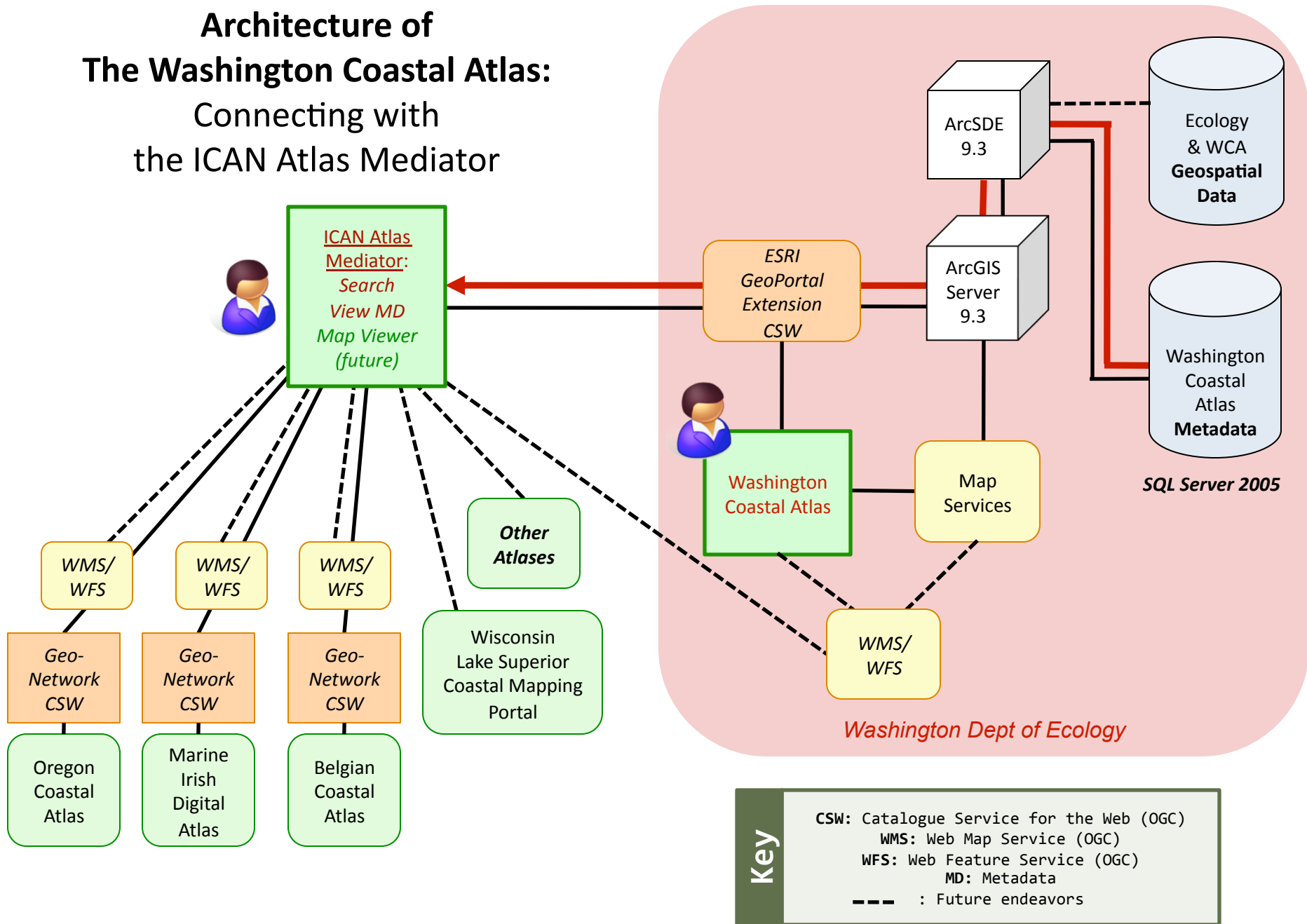
Eventually:

6. Implement WCA WMS and test with ICAN prototype

When WCA and others are Added...



Architecture of The Washington Coastal Atlas: Connecting with the ICAN Atlas Mediator



Key

- CSW: Catalogue Service for the Web (OGC)
- WMS: Web Map Service (OGC)
- WFS: Web Feature Service (OGC)
- MD: Metadata
- : Future endeavors

Some Benefits of WCA Connecting to ICAN

- ▣ Sharing data across borders can:
 - Improve ecosystem management.
 - Help communicate priorities and needs.
 - Make cross-border management of natural resources easier and likely more effective.
 - Enhance communication among scientists regarding existing conditions.

Links

- ▣ Washington Coastal Atlas:
http://www.ecy.wa.gov/programs/sea/sma/atlas_home.html
- ▣ International Coastal Atlas Network
Technical Group:
http://ican.science.oregonstate.edu/ican_tech
- ▣ ICAN Atlas Mediator Prototype:
<http://ican.ucc.ie/>

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Any Atlas needs two basic things in order to connect to ICAN

- ▣ A - an ontology for their project
- ▣ B - a CSW containing the catalog of metadata from their project

Further, there are requirements that:

- ▣ C - the local ontology must be mapped to ICAN's global ontology
- ▣ D - some keywords in the Atlas metadata must match terms of the local ontology

All the aspects above (at least) must be documented in any cookbook we create for new users.

ICAN Cookbook: How does an atlas join the ICAN mediator?

- ▣ How should we structure the cookbook?
- ▣ What needs to be included?
- ▣ What existing resources can be used?

→ **Assign tasks**