

Building the Digital Coast with the International Coastal Atlas Network



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Outline

- Outline
 - Background
 - Strategic Aims
 - Membership
 - Tools
 - ICAN Future
 - Conclusion
- Background
 - Strategic Aims
 - Current Membership
 - “Tools”
 - Interoperability Prototype
 - Atlas Assessment Survey
 - Strategic Directions
 - Conclusion



Emergence of “Coastal Web Atlases”

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“A collection of digital maps and datasets with supplementary tables, illustrations, and information that *systematically illustrate* the coast, oftentimes with cartographic and decision support tools, all of which are accessible via the Internet.”

(O’Dea et al., 2007)

- ➔ Coastal Zone Management, Governance
 - ➔ Governments, NGOs, Citizen Groups

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Marine Irish Digital Atlas, mida.ucc.ie

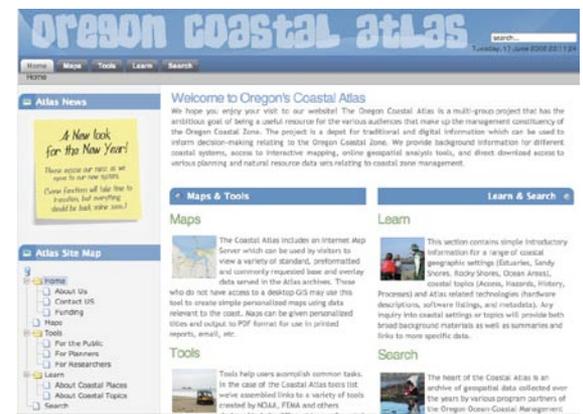
Oregon Coastal Atlas,
www.coastalatlases.net



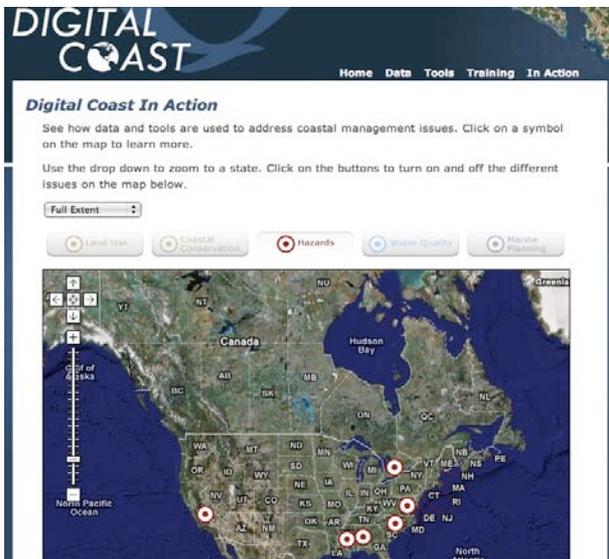
- *Rich Local Information*
- *Web User Interface*
- *Web Services*



MIDA, Ireland



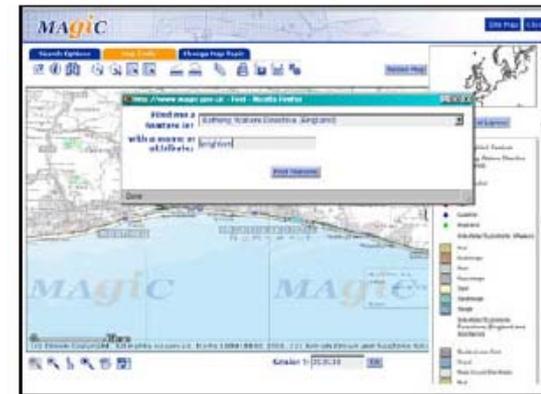
Oregon Coastal Atlas, USA



NOAA Digital Coast, USA



De Kustatlas, Belgium



Magic, UK

And many MORE ...



Enter ICAN Intellectual Merit

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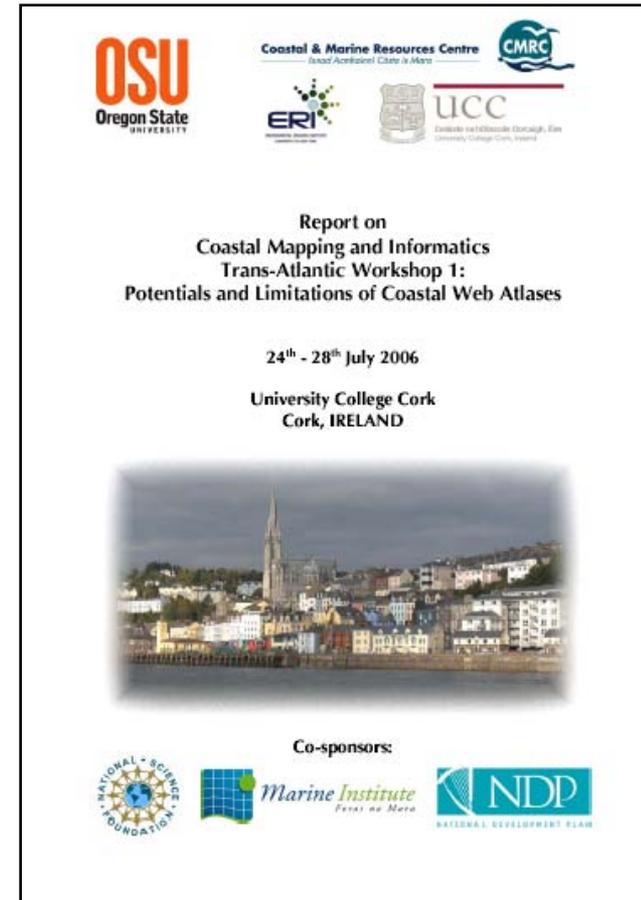
- Significant capacity, varying approaches
- Regional governance, coordination
- Best practices?
- Widespread solutions needed
 - Access to and documentation of data
 - Integration of tools
 - Decision support for coastal mgmt via atlases
 - “Semantic interoperability”

Workshop 1, 2006

Cork, Ireland

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- To create & strengthen **relationships** between experts in marine & coastal mapping in North America and Europe
- To identify **state of the art** approaches to coastal mapping and informatics

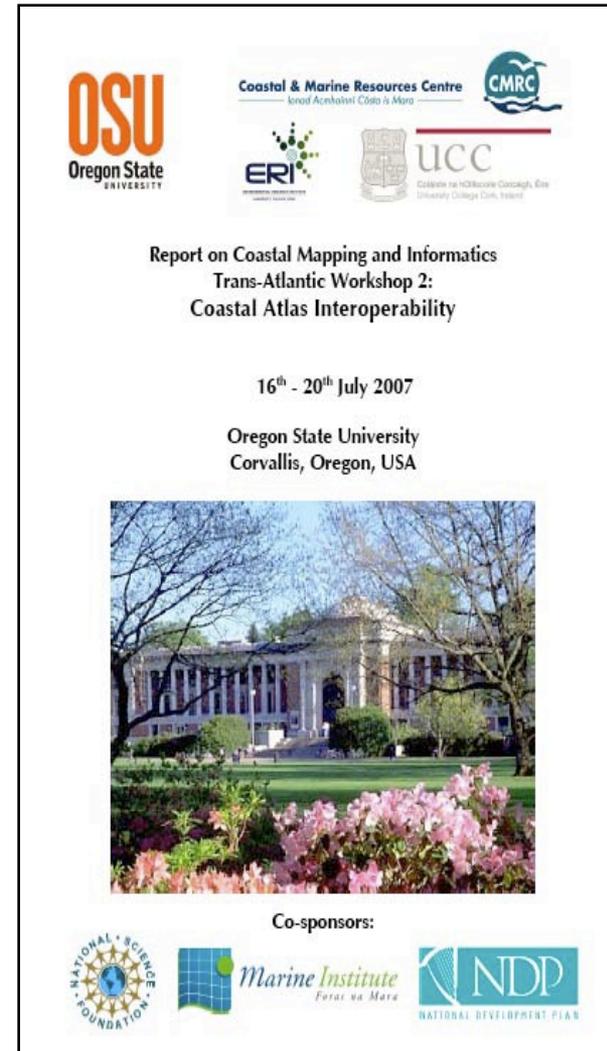


Workshop 2, 2007

Corvallis, USA

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- Improve searches *between* atlases
 - metadata to ontologies
 - **Marine Metadata Interoperability (MMI)**
- Semantic interoperability
- Linkages to use cases, communities
- Proof-of-concept ontologies & **interoperability prototype**
- Large, collaborative funding proposals



OSU
Oregon State
UNIVERSITY

Coastal & Marine Resources Centre
Univ. Académico Costo à Mar
CMRC

ERI
Environmental Research Institute

UCC
Colégio de Engenharia, Ciências e
Universidade College, Cork, Ireland

Report on Coastal Mapping and Informatics
Trans-Atlantic Workshop 2:
Coastal Atlas Interoperability

16th - 20th July 2007

Oregon State University
Corvallis, Oregon, USA



Co-sponsors:

NATIONAL SCIENCE FOUNDATION

Marine Institute
Foras na Mara

NDP
NATIONAL DEVELOPMENT PLAN



Workshop 3, 2008

Copenhagen, Denmark

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- European Environment Agency sponsorship
- Advance actions in:
 - Technical developments
 - Review of interoperability prototype
 - Strategic directions
 - Governance structure
- Link to relevant initiatives in Europe



International Coastal Atlas Network

**Report of International Coastal Atlas Network
Workshop 3 on Federated Coastal Atlases:
Building on the Interoperable Approach**

7 – 11 July 2008

**European Environment Agency Headquarters
Copenhagen, Denmark**



Chief sponsor and host:



More information can be found on the workshop web site:
<http://ican.science.oregonstate.edu/ican3>



ICAN Strategic Aims

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- Share experiences and find common solutions to coastal web atlas development
 - **Knowledge portal:** Guides, cookbooks, “engines”, discussion boards, code, use cases...
- Globally integrate and interoperate among locally-maintained atlases
- Inform regional decision- and policy-making across several themes:
 - Climate change - coastal vulnerability
 - Coastal governance (boundaries, protected areas, etc.)
 - Coastal hazards
 - Population pressures
 - Marine spatial planning
 - Resource availability and exploitation

ICAN

International Coastal Atlas Network

- Home
- About ICAN
 - People
 - Partners
 - Benefits
 - Participate
- Members
- Events
- Working Groups
 - Technical
 - Strategic Planning
 - Governance
 - Atlas Assessment
- ICAN Prototype
- Discussion Room
- Expertise Directory
- Atlas Directory
- Resource Directory
 - Related Links
 - Software, Services
 - Documentation, Tutorials, Cookbooks
 - ICAN Publications
 - Acronyms
- ICAN FAQ
- Site Map



Promoting web atlases around the world for coastal conservation, management, and governance... » [Find out more.](#)

The International Coastal Atlas Network (ICAN)

Submitted by dawn on 16 November 2008 - 12:12am.

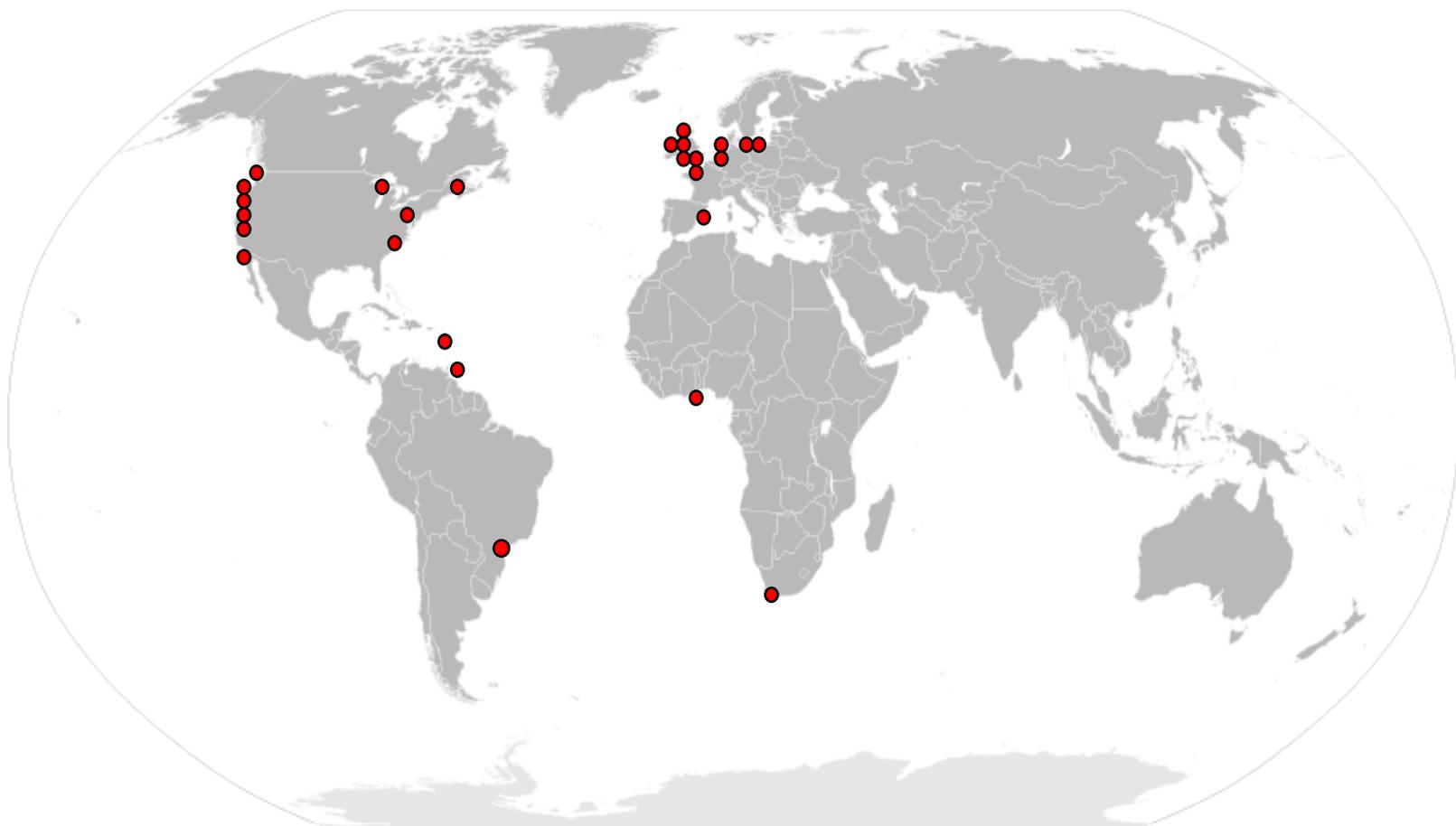
ICAN is a newly-founded, informal group of organizations who have been meeting over the past two years to scope and implement data interoperability approaches to coastal web atlases (CWAs). The **mission/strategic aim** of ICAN is to share experiences and to find common solutions to CWA development (e.g., user and developer guides, handbooks and articles on best practices, information on standards and web services, expertise and technical support directories, education, outreach, and funding opportunities, etc.), while ensuring maximum relevance and added value for the end users. The long-term view is for global-level operational interoperability which will evolve as the ICAN community strives to increase awareness of the opportunities that exist for increased coastal and marine data sharing among policy makers and resource managers as strategic users of a CWA. ICAN participants seek to play a leadership role in forging international collaborations of value to the participating nations, thereby optimizing regional governance in coastal zone management.

[Read more](#)



Current Membership: 30+ organizations from 14 nations and growing...

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WEST COAST GOVERNORS' AGREEMENT on OCEAN HEALTH

CALIFORNIA OREGON WASHINGTON



westcoastoceans.gov

Home

Actions

Documents

Meetings

Lead Agencies

Contact Us

Welcome



"Just as our western states have started to work together to fight global warming and protect our air, we now join forces to make sure we are doing everything in our power to maintain clean water and beaches along our coast."

- Governor Schwarzenegger

"Our oceans provide critical economic, environmental and social benefits to the Pacific Coast states. Today's historic agreement will mean clean water, healthy oceans and a better future for our children."

- Governor Kulongoski

"Our oceans are home to a great diversity of marine life and clean beaches and oceans are vital to West Coast fishing communities, recreation and tourism. We know that isolated local efforts cannot adequately address the breadth of degradation to our oceans. By cooperating, our three states will combine our resources and influence to make a real difference in the fight to clean and protect the oceans."

- Governor Gregoire

WCGA Update - Sign me up!

Please send me updates about the West Coast Governors' Agreement on Ocean Health.

Enter your Email address:

West Coast Governors' Agreement on Ocean Health

On September 18, 2006 the Governors of California, Oregon and Washington announced the [West Coast Governors' Agreement on Ocean Health](#). The Agreement launched a new, proactive regional collaboration to protect and manage the ocean and coastal resources along the entire West Coast, as called for in the recommendations of the U.S. Commission on Ocean Policy and the Pew Oceans Commission.

The Agreement seeks to advance the goals of:

- Clean coastal waters and beaches;
- Healthy ocean and coastal habitats;
- Effective ecosystem-based management;
- Reduced impacts of offshore development;
- Increased ocean awareness and literacy among the region's citizens; and
- Expanded ocean and coastal scientific information, research, and monitoring;
- Sustainable economic development of coastal communities.

The Agreement also underscores the importance of managing activities that affect our oceans on an ecosystem basis. That is, managing human activities and their impact on ocean resources in a way that accounts for the relationships among all ecosystem components, including people and other species and the environment in which we all live.

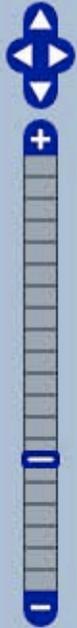


NEWS!

4/23/08 Governors of California, Oregon and Washington Request Congressional Support for Maritime Pollution Prevention Act. Read the [Press release](#)

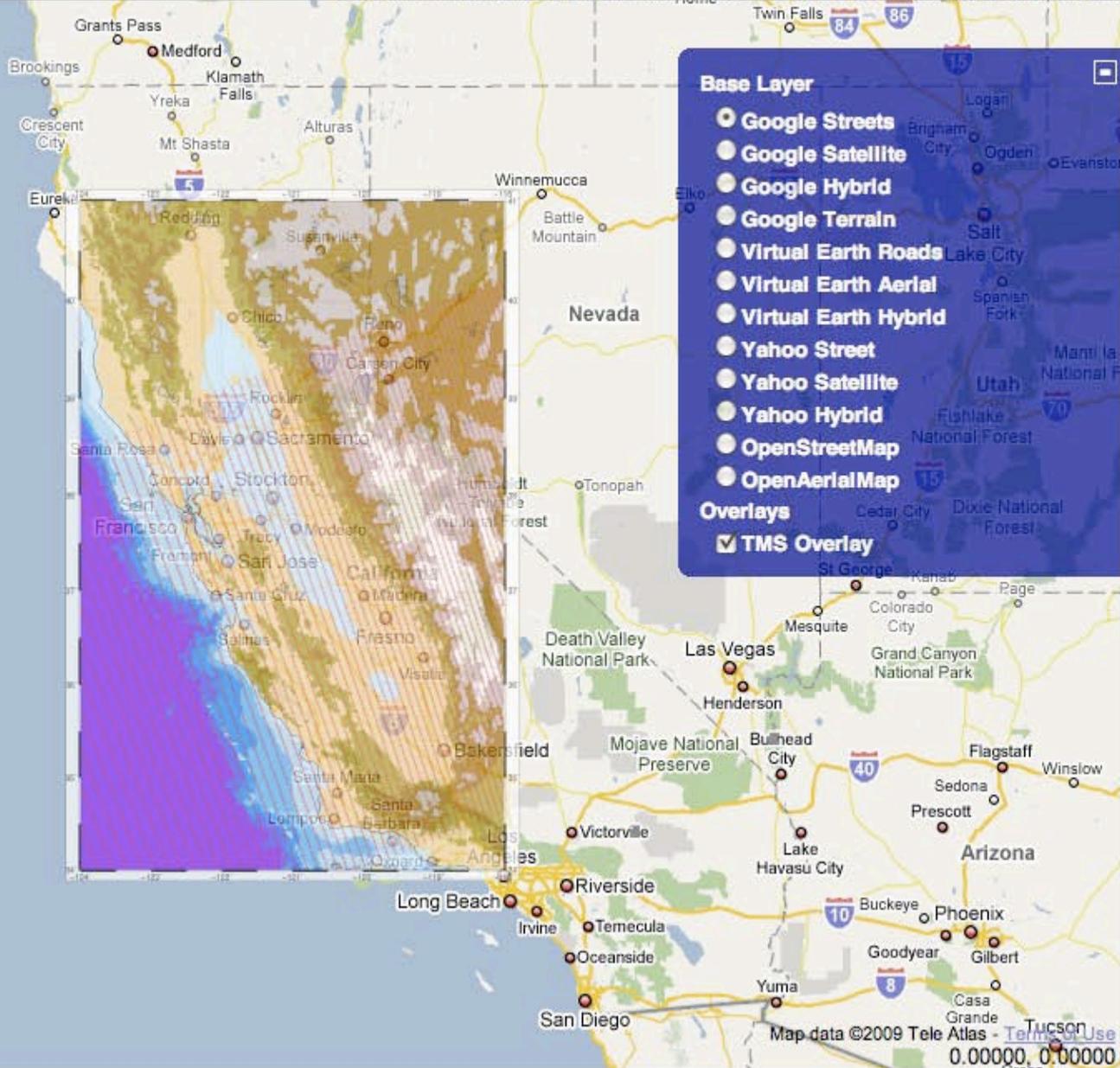
3/14/08 Governors send letter to US Secretary of Commerce requesting a declaration of a fishery resource disaster if salmon fisheries are closed. Read the [Press release](#)

Release of the final plan is anticipated in early 2008.



California Coastal Atlas

J. Helly, SDSC



Base Layer

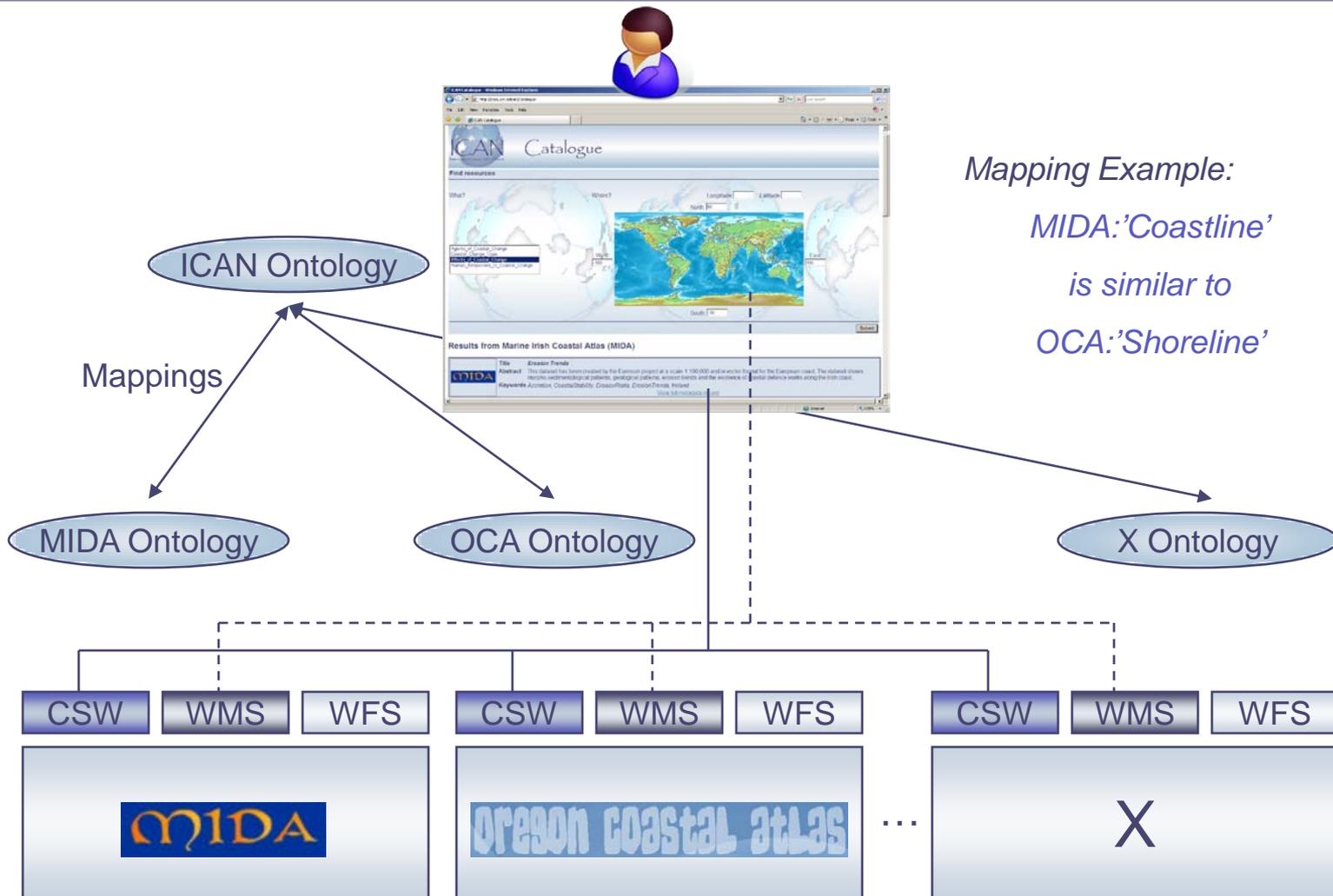
- Google Streets
- Google Satellite
- Google Hybrid
- Google Terrain
- Virtual Earth Roads
- Virtual Earth Aerial
- Virtual Earth Hybrid
- Yahoo Street
- Yahoo Satellite
- Yahoo Hybrid
- OpenStreetMap
- OpenAerialMap

Overlays

- TMS Overlay

Interoperability Prototype

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Mapping Example:

MIDA: 'Coastline'
is similar to
OCA: 'Shoreline'

Welcome to the ICAN Atlas Mediator v.2.0 !

Please note: *This site is a prototype still in development.*

This tool is designed as a proof-of-concept to demonstrate how Coastal Web Atlases from different parts of the world can be linked. It demonstrates an easy way to search for coastal geographic data from any atlas that is connected to the ICAN Prototype.

This prototype focuses on a Coastal Erosion use case for demonstration purposes. Ontologies are used to connect metadata databases about geographic data. Each Coastal Web Atlas has independent ontologies of their coastal erosion data. Each are mapped to the ICAN global coastal erosion ontology. These ontologies work behind-the-scenes to simplify searching of multiple atlases at once. Think of this web page as your computer desktop. You use it in a similar way.

To begin, simply select one of the icons on the right of the window:

- ICAN Catalogue: Search multiple Coastal Web Atlases at one time.
- Network: Search one Coastal Web Atlas in the ICAN Network.
- Administration: For Administrators only.
- Event Monitor: See what happens in the background when you search.

For more information about ICAN and this prototype, please visit <http://www.icoastalatlas.net>. To provide feedback, please submit a comment in the ICAN Discussion Room [link: <http://ican.science.oregonstate.edu/forum>] under Technology and Data.

Thanks,

Close

International Coastal Atlas Network



ICAN Catalogue



Network



Administration



Event Monitor



Atlas Assessment

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International Coastal Atlas Network User Survey

http://www.surveymonkey.com/s.aspx?sm=tT9GRjLYfeGFuCIC3dXDNg%3d%3d#q1

ICAN
International Coastal Atlas Network

International Coastal Atlas Network User Survey

1. The International Coastal Atlas Network User Survey

1 / 8

Reach survey from icoastalatlans.net



Strategic Directions

- Outline
- Background
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- West Coast Atlas Coordination Meeting
 - Seattle, April 23-24, 2009
- Coastal Zone '09 Panel
 - Boston, July 19-23, 2009
- Many similar meetings in Europe/Brazil
- ICAN Workshop 4
 - UNESCO University, Trieste, Italy
 - November 16-20, 2009



Strategic Directions

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- Governance activities
- Committee structures
- Pathways towards *sustainable* funding model
- Technical project development
- Awareness raising and publicity
- Outreach and training activities
- Documentation of resources, **tools**, expertise
- Further development of ICAN portal



Acknowledgments

U.S. National Science Foundation

Irish National Development Plan

Marine Institute (Ireland), Marine RTDI

Networking & Technology Transfer Initiative

European Environment Agency



Davey Jones' Locker
Seafloor Mapping/Marine & Coastal GIS



UCC
University College Cork



Oregon Coastal Mgmt Program



For More Information...

icoastalatlantlas.net

or

ican.science.oregonstate.edu

ICAN Interoperability Prototype

– ican.ucc.ie

Marine Metadata Interoperability

– marinemetadata.org

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