

# Excursions in Metadata

Ecological Data Discovery Workshop  
February 7-9, 2005  
Albuquerque, New Mexico

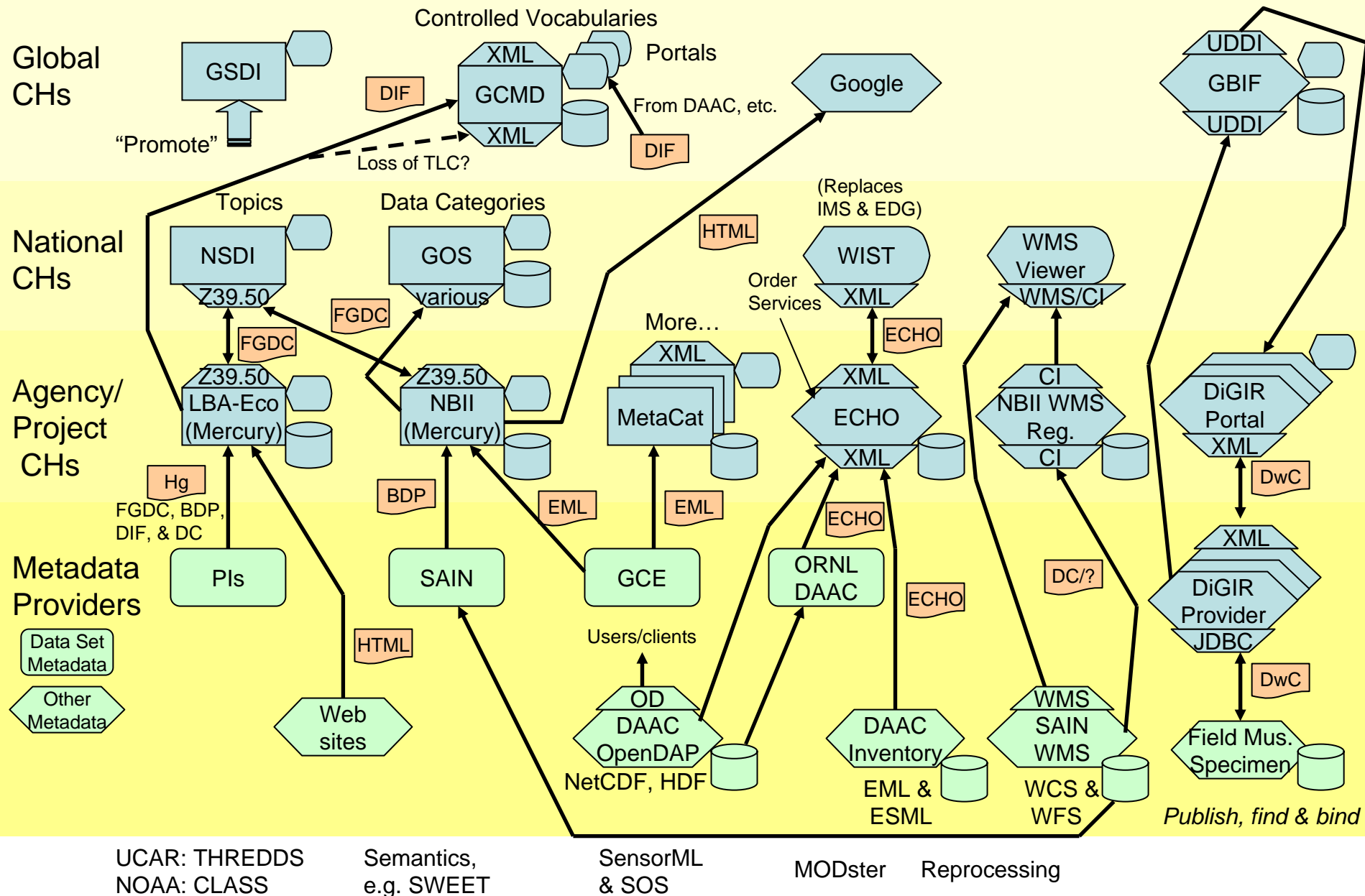
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# Ancient Wisdom

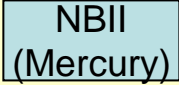

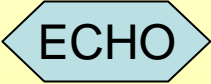
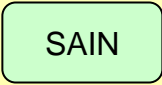






Who hasn't heard the old saying, "if it were easy, someone would have done it already?"

# Metadata Are Easy—Here's The Proof

(AKA: It's a Mad, Mad, Mad, Mad, Mad World)



# Symbol Legend

	Data set metadata search/CH
	Distributed/multiple whatevers
	Metadata search/CH (non-data set)
	Metadata provider (data set info)
	Metadata provider (other info)
	Search interface
	Metadata cache
	Metadata standard
	External API/protocol for query
	External API/protocol for input

# Acronym List

BDP – Biological Data Profile, an extension of the FGDC Content Standard for Digital Geospatial Metadata (CSDGM) standard; used by NBII

CLASS – Comprehensive Large Array-data Stewardship System (NOAA); data distribution system

CI – Catalog Interface; OGC standard for discovering geospatial data, services, and related resource information

DAAC – Distributed Active Archive Center; a NASA double oxymoron

DC – Dublin Core; metadata standard primarily for bibliographic information; no it's not romantic Ireland, it's just Ohio

DIF – Directory Information Format; GCMD's own standard for data set level metadata

DiGIR – Distributed Generic Information Retrieval; open source; is a protocol and a set of tools for linking distributed databases into a single, searchable “virtual” collection

DwC – Darwin Core; an “evolving” metadata standard for natural history collections and observation data

ECHO – EOS ClearingHouse; NASA funded Earth science metadata clearinghouse holding data set, inventory, and services metadata, plus order services

EDG – EOSDIS Data Gateway

EML – Ecological Markup Language; metadata standard; used by LTERs and others

EOS – Earth Observing System (NASA)

EOSDIS – EOS Data & Information System

ESML – Earth Science Markup Language (University of Alabama in Huntsville [that's a lot better than Tuscaloosa])

FGDC – Federal Geospatial Data Committee; but used to mean the Content Standard for Digital Geospatial Metadata (CSDGM) standard; USGS

GBIF – Global Biodiversity Information Facility

GCE – Georgia Coastal Ecosystem (example LTER site)

GCMD – Global Change Master Directory (NASA funded, but international in scope)

GOS – Geospatial One-Stop (i.e. the eventual replacement for the NSDI)

GSDI – Global Spatial Data Infrastructure (global version of NSDI)

HDF – Hierarchical Data Format; self describing data format from the National Center for Supercomputing Applications

HTML – you're really going to need help in this workshop, aren't you?

IMS – Information Management System (Version 0); old NASA distributed query system

JDBC – Java Database Connector

LAUGH – Despite the high cost of living, have you noticed how popular it remains?

LBA-Eco – Ecology portion of the Large-scale Biosphere Atmosphere in Amazonia

MetaCat – a flexible metadata database using XML (KNB)

MODster – Napster-like application for MODIS data; deals with multiple distributed copies of a file

NBII – National Biological Information Infrastructure (USGS)

NetCDF – Network Common Data Format (Unidata); machine-independent format for representing scientific data and associated tools

NSDI – National Spatial Data Infrastructure (from FGDC)

OGC – Open Geospatial Consortium, Inc. is a non-profit, international, voluntary standards organization developing standards for geospatial and location based services.

OpenDAP – Open Data Access Protocol; open source software which makes local data accessible to remote locations regardless of local storage format

ORNL – Oak Ridge National Laboratory (where I claim that I “work”)

PI – Principal Investigator (data provider for an active data collection or data generation project)

SAIN – Southern Appalachian Information Node (example NBII node)

SensorML – Sensor Model Language; an OGC recommendation for describing a sensor, its function, and measurements

SOS – Sensor Observation Service; an OGC

SWEET – Semantic Web for Earth and Environmental Terminology; ontology developed at NASA's Jet Propulsion Laboratory

UDDI – Universal Description, Discovery and Integration; an OASIS standard for finding and using Web services

THREDDS – Thematic Realtime Environmental Distributed Data Services (University Consortium for Atmospheric Research)

TLC – tender loving care ;-)

WCS – Web Coverage Server; an OGC standard

WFS – Web Feature Server; an OGC standard

WIST – Warehouse Inventory Search Tool; one client that will work with ECHO

WMS – Web Map Server; an OGC standard

XML – eXtensible Markup Language

XXX – If the world didn't suck, we'd all fall off

Z39.50 – communications protocol for information retrieval

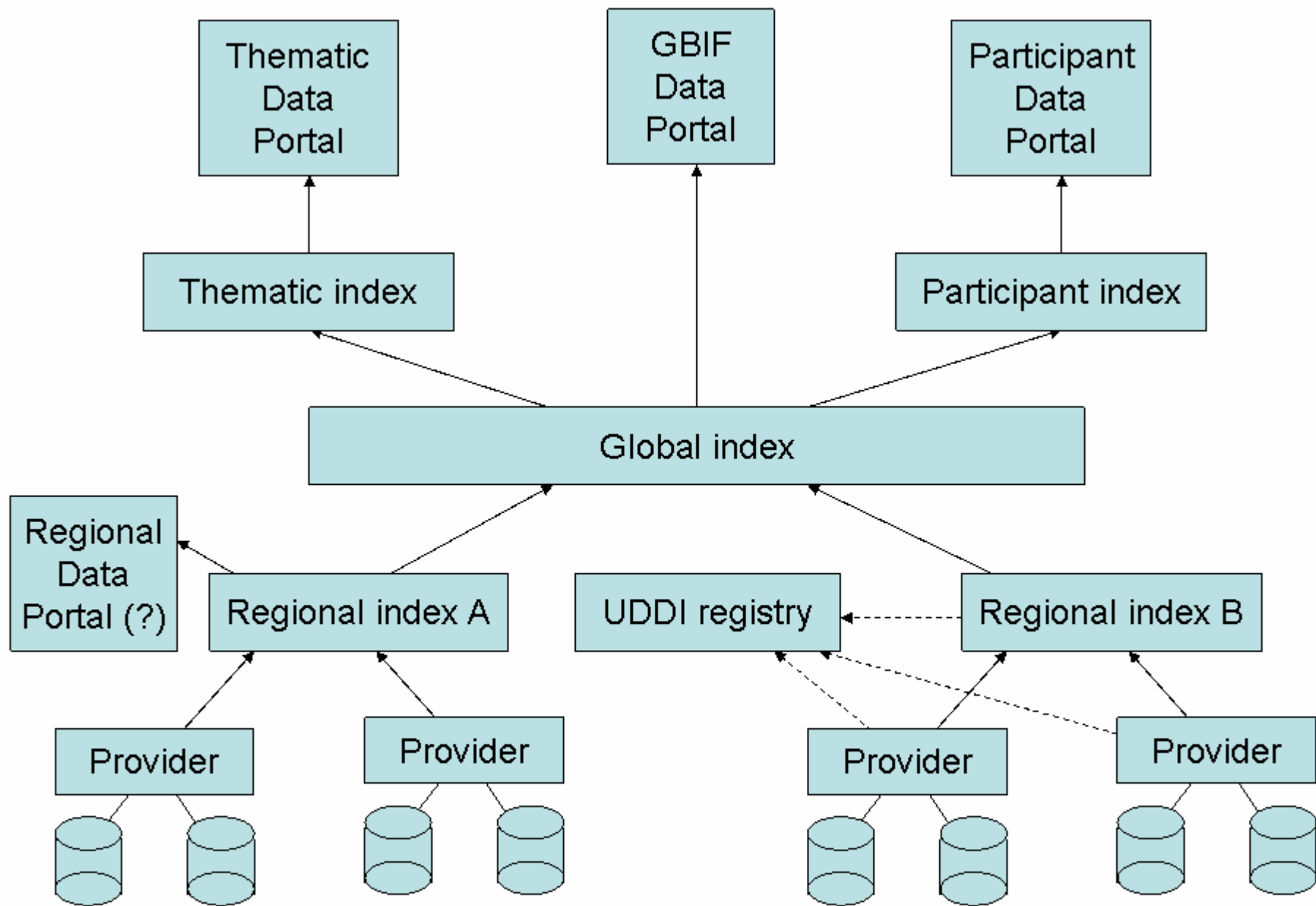


Image courtesy of GBIF

# Summary

- Data are no longer static; services provide dynamic data sources
- There are metadata other than data set metadata to consider
- Mercury's lesson learned:
  - Metadata sharing with other CHs
  - Support of multiple standards possible, but not without issues
  - For metadata (where things don't change frequently) harvesting offers performance and reliability

# Workshop Survival Kit

## (read one every half hour)

- Everyone has a photographic memory. Some don't have film.
- He who laughs last, thinks slowest.
- A day without sunshine is like, well, night.
- On the other hand, you have different fingers.
- Change is inevitable, except from a vending machine.
- Back up my hard drive? How do I put it in reverse?
- I just got lost in thought. It was unfamiliar territory.
- When the chips are down, the buffalo is empty.
- Seen it all, done it all, can't remember most of it.
- Those who live by the sword get shot by those who don't.
- I feel like I'm diagonally parked in a parallel universe.
- He's not dead, he's electroencephalographically challenged.
- She's always late. Her ancestors arrived on the Juneflower.
- You have the right to remain silent. Anything you say will be misquoted, then used against you.
- I wonder how much deeper the ocean would be without sponges.
- Honk if you love peace and quiet.
- What do you call an elephant between two buildings? Stuck.
- How many lawyer jokes are there? Three. The rest are all true.
- Nothing is foolproof to a sufficiently talented fool.
- It is hard to understand how a cemetery raised its burial costs and blamed it on the high cost of living.
- What did Batman say to Robin before they got in the Batmobile? Get in the Batmobile Robin!
- Why don't cannibals eat clowns? Because they taste funny.
- What do Barbie and Britney Spears have in common? Both are blonde, brainless and made out of plastic.
- The 50-50-90 rule: Anytime you have a 50-50 chance of getting something right, there's a 90% probability you'll get it wrong.
- It is said that if you line up all the cars in the world end to end, someone would be stupid enough to try and pass them.
- You can't have everything, where would you put it?
- Latest survey shows that 3 out of 4 people make up 75% of the world's population.
- If the shoe fits, get another one just like it.
- The things that come to those that wait may be the things left by those who got there first.
- Give a man a fish and he will eat for a day. Teach a man to fish and he will sit in a boat all day drinking beer.
- Flashlight: A case for holding dead batteries.
- Shin: A device for finding furniture
- As long as there are tests, there will be prayer in public schools.
- A fine is a tax for doing wrong. A tax is a fine for doing well.
- It was recently discovered that research causes cancer in rats.
- Everybody lies, but it doesn't matter since nobody listens.
- I wished the buck stopped here, as I could use a few.
- I started out with nothing, and I still have most of it.
- When you go into court you are putting yourself in the hands of 12 people that weren't smart enough to get out of jury duty.
- Light travels faster than sound. This is why some people appear bright until you hear them.
- Insult: You're so ugly that when you're momma dropped you off at school, she got a ticket for littering.