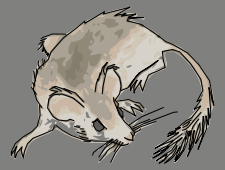
Connected data standards for interdisciplinary science

PalEON, Neotoma, THROUGHPUT

Simon Goring, Stephen Richard, Jack Williams, Andria Dawson



WISCONSIN
UNIVERSITY OF WISCONSIN–MADISON

EarthCube
Transforming Geosciences Research

Collaborators

PalEON

Steve Jackson, Jason McLachlan, Chris Paciorek, Mevin Hooten, John Tipton, Jenn Marlon

Neotoma

Eric C. Grimm, Russ Graham, Allan Ashworth, Jessica Blois, Mike Stryker, Steve Crawford

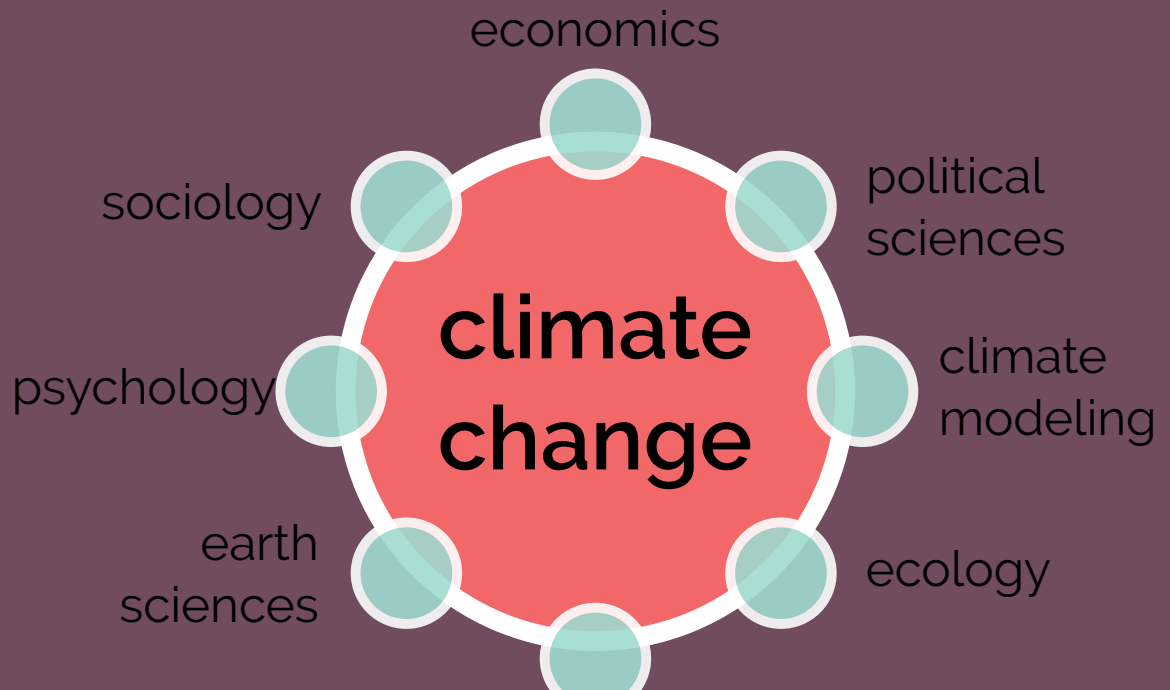
EarthCube

Mark Uhen, Amy Myrbo, Nick McKay, Anders Noren, Julian Jenkins, Kerstin Lehnert, Doug Fils

Related Presentations

- **IN33C Posters**:
  Facilitating Interdisciplinary Geosciences by Limiting Data Friction: Approaches and Outcomes - Wednesday, 13 December 2017 @ 13:40 - 18:00
- **EarthCube TownHall**
- PalEON and Neotoma (Dawson)

Data Friction is a "Time-To-Science" Problem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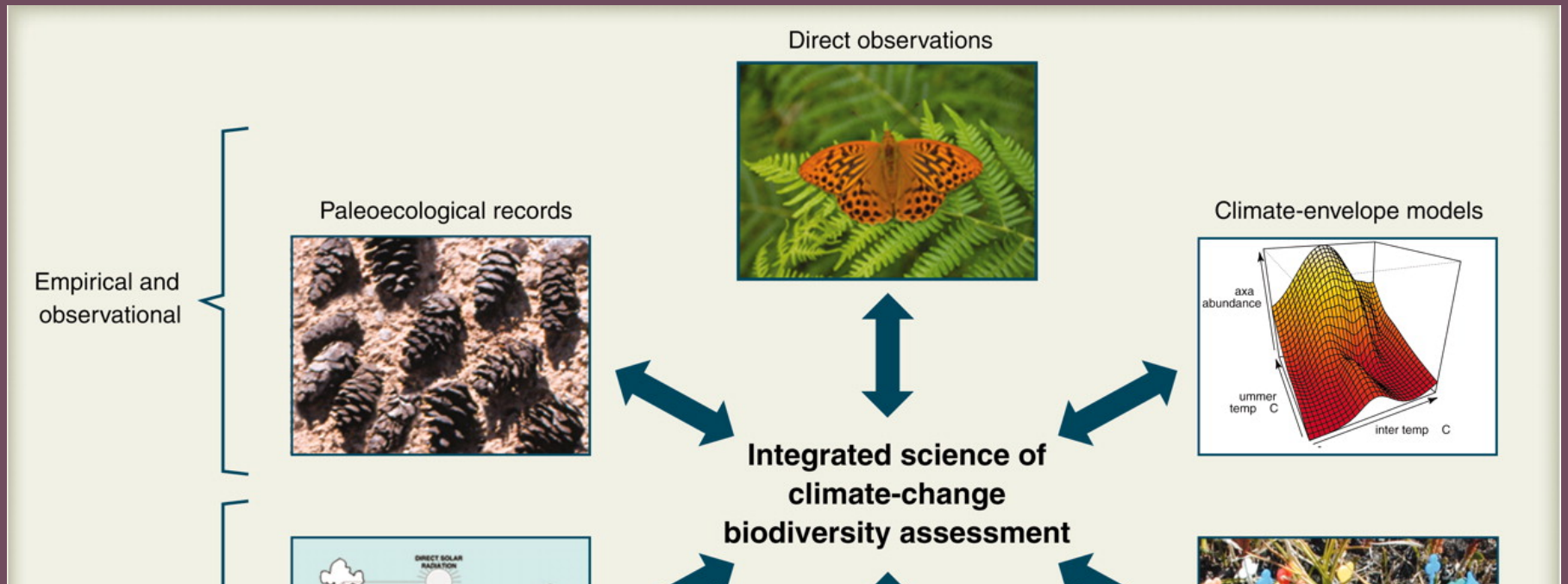
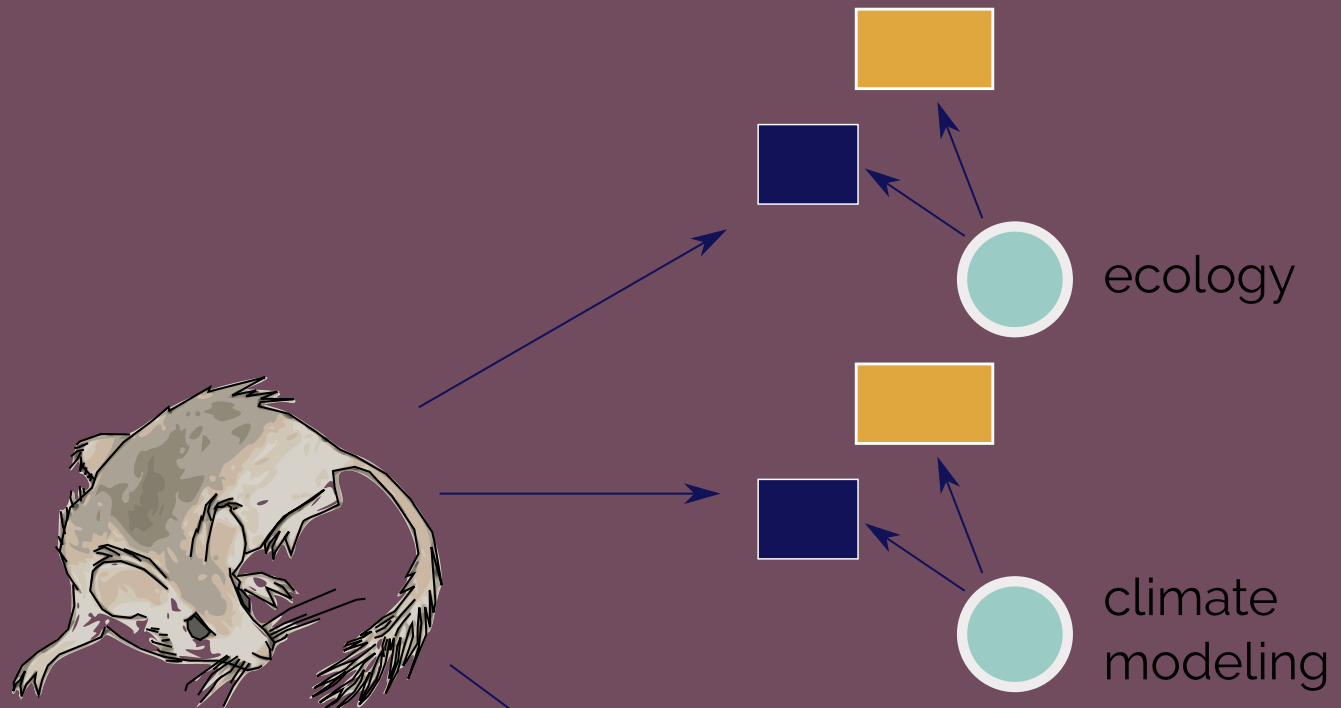
sociology
political sciences
climate change
psychology
climate modeling
earth sciences
ecology


Direct observations
Paleoecological records
Climate-envelope models
Empirical and observational
axa abundance
ummer temp C
inter temp C
Integrated science of climate-change biodiversity assessment


ecology
climate
modeling

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All recognize metadata's potential value, but when the rubber meets the road, an unfunded mandate to be altruistic . . . does not prove highly attractive. **Introduced in order to reduce data friction, metadata creates its own kind of friction**.

Edwards *et al*. 2011. *Social Studies of Science*

Researcher

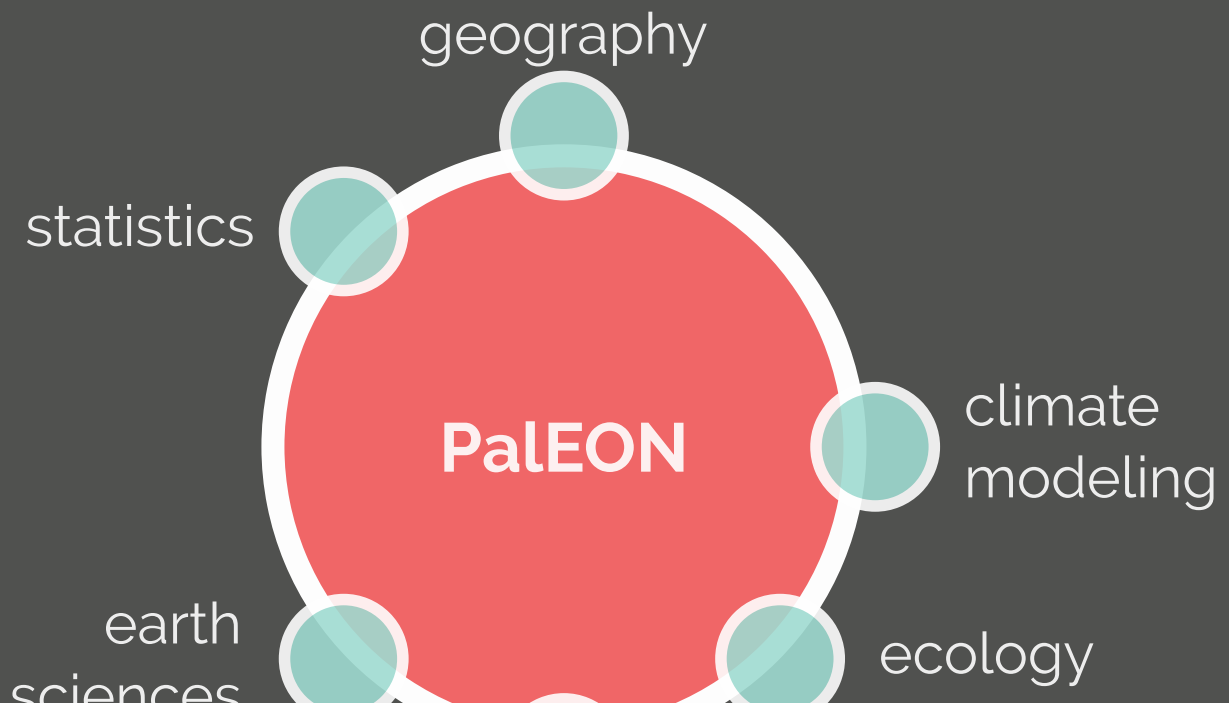
!=

Informatician

Connections & design principles must be fleshed out.

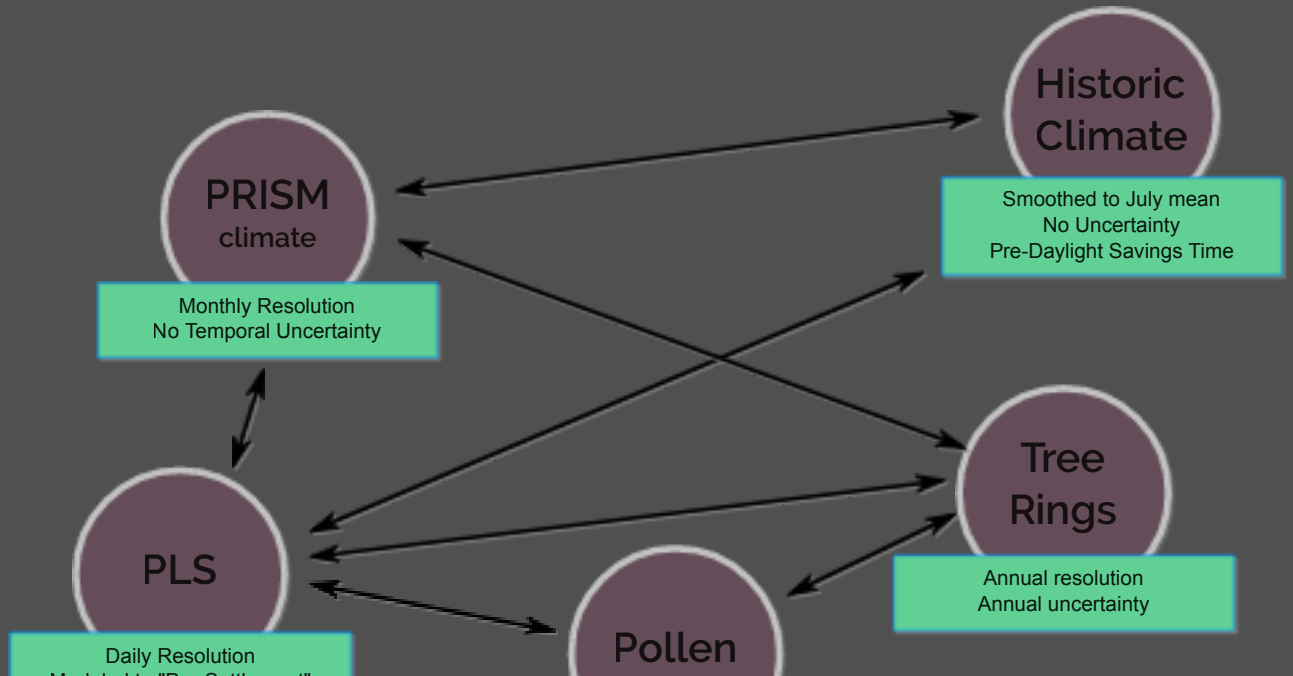
Case Studies

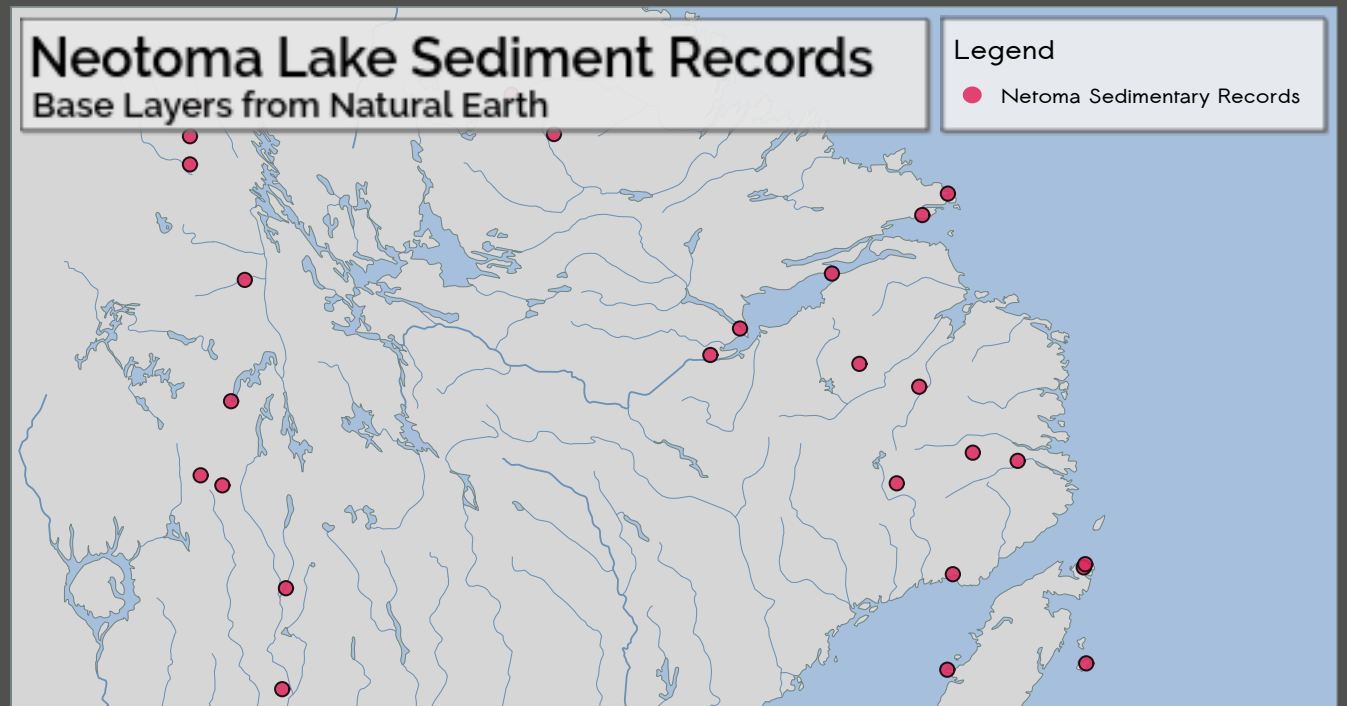
Interdisciplinary research in Earth System Evolution

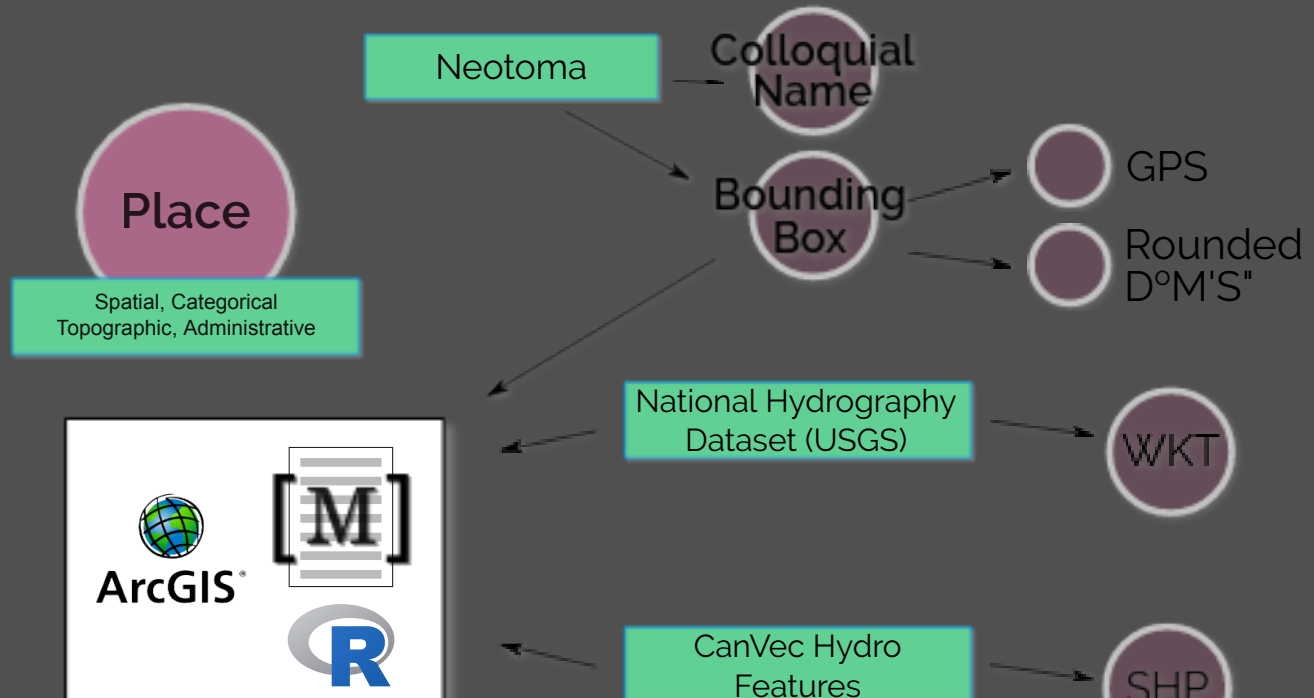

geography
statistics
PalEON
climate
modeling
earth
sciences
ecology

Varying Concepts of Time	Varying Provenance
Varying Spatial Representation	Varying Applications

Concepts of Time Vary

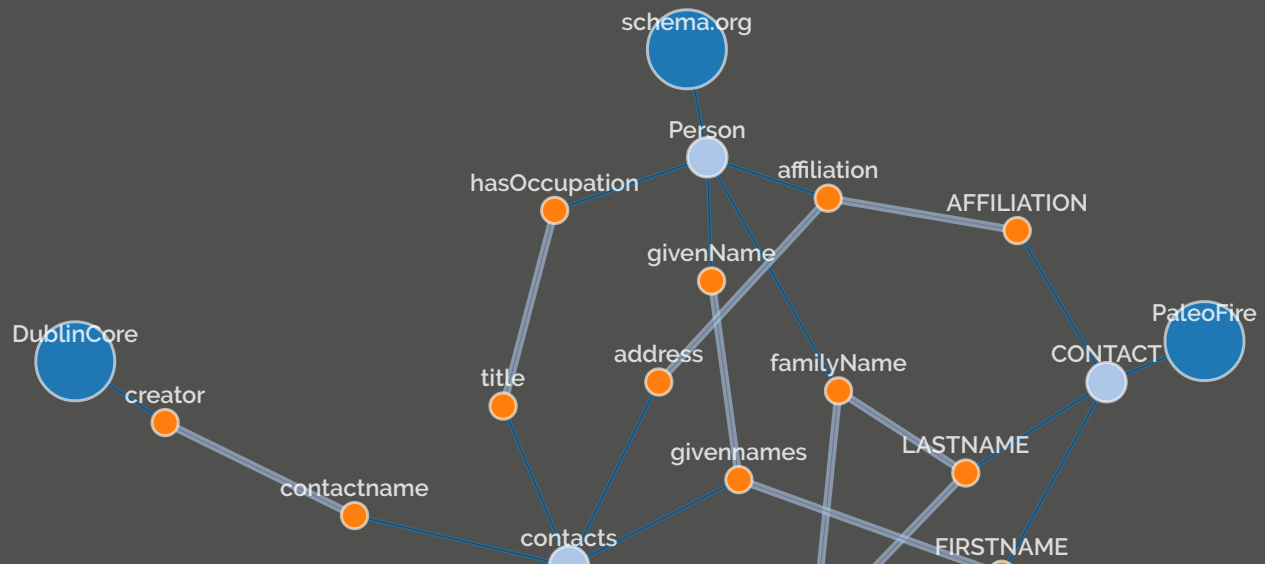



Neotoma Lake Sediment Records
Base Layers from Natural Earth
Legend
Neotoma Sedimentary Records

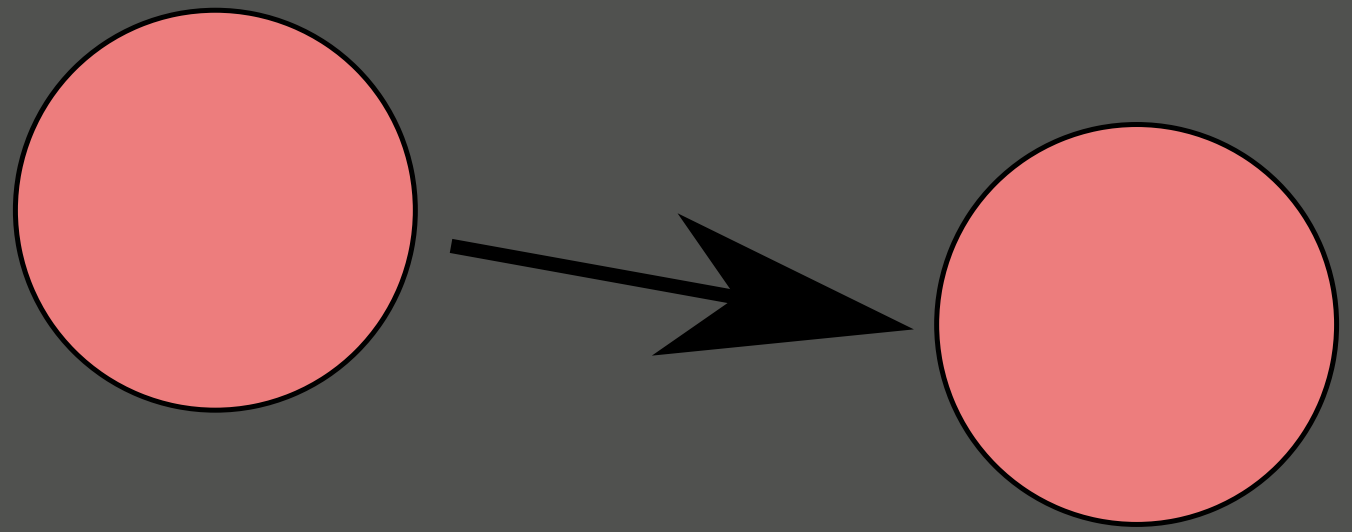

Neotoma
Colloquial Name
Place
Spatial, Categorical
Topographic, Administrative
Bounding Box
GPS
Rounded D°M'S"
National Hydrography Dataset (USGS)
WKT
ArcGIS
CanVec Hydro Features
SHP

Making Connections Sustainable

Connecting Standards



Disciplinary Bridges



Questions