OTN Database Nodes
A Community of Telemetry Data Managers
OTN-affiliated Stations (hexbins), Databases and Nodes and (potential) Data Partners
Three main components of acoustic telemetry data

**Detection data:** protected but not very informative without associated *tagging activity* data to add the ‘what’ to the ‘where’ and ‘when’.

**Tagging activity:** The history of which tags are in which animals, where those animals were released, how long the tag will live, and all auxiliary measurements and observations made at tagging time by the researchers. Very sensitive, embargoed for tag life + 2 years.

**Receiver deployments:** generally uncontroversial and publishable data. Useful for informing potential collaborators of existing equipment deployed in their intended study areas that could detect their tags.
How data gets in:

- Organization holds metadata and data files in their choice of document manager
- OTN scripts QC the files before loading
- OTN scripts load the files into raw tables
- Some project-internal QC is done, data loaded to what are called ‘cache’ tables
- More QC is done, database-wide this time
- Data is loaded to inherited tables, now visible in master aggregate schema
- Repopulation of the aggregated schemas (discovery, erddap, geoserver) to reflect the new data
- Building of detection extract/summary files that can be shared with each project’s stakeholders and include all detections across all member projects
- Mystery tags among products published to ‘discovery’ schema. Can be cross-referenced by other nodes + OTN if access granted
- Scripts that do QC / translation are developed and disseminated via OTN GitLab
How Data Moves:

- Project Schemas (tags, station deployments, detections)
  - moorings, animals, tags

- Parent Schema

- QC

- Data Acquisition

- Discovery
  - project metadata
  - summaries / node aggregation

- GeoServer
  - station data
  - publication scripts

- ERDDAP
  - ERDDAP: Earlier access to scientific data

All arrows == GitLab-shared Python/SQL scripts
Models of collaborative acoustic telemetry arrays in the U.S. ACT, FACT, and iTAG
Node Toolset - Community of Acoustic Telemetry

DMs

- Continuously evolving data parsers and insertion scripts for common data formats

- Data managers can author their own scripts or otherwise enhance the existing toolset

- Lot of progress in the last 6 months resulting in more visual QC checks as well as a faster loading process
Node, Toolbox, among the projects @ gitlab.oceantrack.org

- A platform for code-sharing with permissions ranging from personal to completely public
- Mechanism for documentation, feedback, feature suggestion, and dissemination
- Contributions can be suggested with code forking or through issue-tracking
OTN Mission

To create a **global partnership** to construct and sustain a scientific platform and the associated trained personnel to **collect, store, share, analyze, and use** aquatic tracking and environmental **data** to **support sustainable management** of valued aquatic species.

How do we facilitate the sharing of cross-project detections while respecting the individual data rights of the groups who are doing the tagging and deploying the receivers?
Potential features:

• Within co-operating nodes, possible to cross-reference database detections without formal unification (dblink-style querying from A-B)

• Could even link a subset of one node with another, though it would be more work (creation of a subsetted-aggregated schema)

But remember...

The OTN Database Node

.... is just the part inside the dotted line
In [3]: # Create the map adjust the marker size and the zoom as needed
   interactive_map(ri_file, marker_size=20, zoom=12)

Out[3]:
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