

OTN Database Nodes A Community of Telemetry Data Managers

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OCEAN TRACKING NETWORK





OTN-affilated 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:



All arrows == GitLab-shared Python/SQL scripts











Node Toolset - Community of Acoustic Telemetry

- **Definition** Use of the second seco
- 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

In [18]: #Plot Weekly Sum by Species
#Required: station id, species
station_id = ['HFX']
species = 'all'
#Optional: isStacked, schema, unique
isStacked = True
schema = 'discovery'
unique = False
pl.plot weekly sum by species(engine, station id, species, isStacked, schema, unique)

In [25]: #Plot Weekly Heatmap by Station ID

```
#Required: station_id
station_id = ['JDF']
#Optional: stationList, schema, unique
stationList = []
schema = 'discovery'
unique = False
```

pl.plot_weekly_heatmap_by_station(engine, station_id, stationList, schema, unique)



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Node, Toolbox, among the projects @

					Projects (99)	sort: Recently created
					▲ Marie Auger-Méthé / GRFshark	0.13 MB
Projects 133		Users 99		Groups	Brad Covey / codar_data_processor	0.34 MB
					A Marie Auger-Méthé / DCRWtseal	0.23 MB
					Brad Covey / erddap_demo	0.15 MB
					Cam McCandless / ipython-utilities	2.72 MB
New Project		New User		New Gr	▲ Ben Adams / ipython-utilities	2.8 MB
Latest projects		Latest users		Latest gro	▲ Marie Auger-Méthé / GRFacoustic	0.17 MB
OTN Glider Group / waveglider-geoj	a day ago	Dugald Thomson	5 days ago	Ocean-Glide	▲ Brad Covey / ocean_gliders_canada	0.75 MB
Ryan Gosse / Tutorials	22 days ago	Naomi Tress	28 days ago	repo-transfe	OTN Statistical Modelling Group / HammondBay	0.38 MB
Sean Carey / OTN Toolbox	28 days ago	Sarah Colborne	29 days ago	otn-trackatł	OTNDC / sentinel-acoustic-receiver-range-testing	1.3 MB
Brad Covey / cycleplot	about a month ago	fb3779f12adc7d3213a8162cd14cec1a	2 months ago	Ocean Glide	CTN Glider Group / wgms_extractor	0.32 MB
OTN Glider Group / argos_parser	2 months ago	Damian Lidgard	2 months ago	OTN Partner	A Marie Auger-Méthé / Albatross	0.18 MB
SeaCycler / seacycler_frontend	2 months ago	Bernadette	2 months ago	OTN Statisti	A Marie Auger-Méthé / GLSandAcoustic	0.0 MB
Ocean Gliders Canada / live_schemer otn-trackathon / sharkbait	2 months ago 2 months ago	Jeff Jackson Margaret Whitmore	2 months ago 2 months ago	OTN Externa	▲ Karl Vollmer / server-metrics	0.43 MB
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 Sunday					Ben Adams / OTN Database Node Puppet Installer	2.74 MB

- 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



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OTN

To create a **global biblic field** 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 fea

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In [3]: # Create the map adjust the marker size and the zoom as needed interactive_map(ri_file, marker_size=20, zoom=12)









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