US Animal Telemetry Network
Steering Group Meeting SG-5

August 06, 2019
Meeting Minutes

I.   Voting Member Input

- B. Woodward introduced Dr. Megan McKinzie, the new Data Coordinator for the ATN DAC.
- B. Woodward discussed our intention to schedule our next meeting, SG-6, to be a 2-day in-person meeting likely in the NOAA Building in Silver Spring in early November.
- M. Weise discussed the possible need to push for proposals for FY-20 funding if current projects will be winding down in next few months; he also suggested considering options for third year of funding for current projects.

II.   Non-Voting Member Input

- K. Holland expressed a desire to clarify the process by which projects could apply for funding and projects would be evaluated and selected for support.
  - *ACTION ITEM: Discuss with SG and funders about when to solicit for FY20 topics and projects using defined process. Determine if/when an open call should be used to ensure transparency and fairness*
- K. Holland brought up the question of whether there is a cost associated with getting WMO ID numbers assigned to those tags whose ocean profile data would be inserted onto GTS.

III.   ATN Updates (B. Woodward, Chair ATN Steering Group)

B. Woodward called for consensus on the meeting agenda and provided a brief update on ATN activities from August 2018-August 2019. The update included the following:

- We have sharpened the overall ATN message, to emphasize that our primary goal is to **Provide Unity, Stability and Continuity to the U.S. National Marine Animal Telemetry Infrastructure**
- Dr. Megan McKinzie was officially hired as DAC Data Wrangler in March 2019. Megan is now the primary interface between the telemetry community and the ATN DAC.
- The ATN portion of the IOOS website has been streamlined and updated and provides easy access to relevant ATN documents, including Workshop Reports, under the "Documents" tab.
  - https://ioos.noaa.gov/project/atn/
- The ATN DAC Data Portal was opened to the public on May 1. SG Members are encouraged to check out the portal at https://portal.atn.ioos.us/ where they can provide feedback via the red button on the upper right corner of the map display
- A major activity during the first three years of the ATN has been to convene stakeholder driven workshops in all of the IOOS Regions Reports from three of these are available on the ATN website at: https://ioos.noaa.gov/project/atn/
  - SECOORA – CARICOOS Animal Telemetry Network Workshop Summary Report
  - AOOS Animal Telemetry Network Workshop Summary Report
  - GCOOS Animal Telemetry Network Workshop Summary Report
- Also available on the website are the ATN Coordinator Reports #1 & #$2 to BOEM

- Five 2-year funded baseline projects were initiated in 2018:
  - Two data wranglers/managers: FACT and ACT Acoustic Networks
  - High Priority, Strategically Located, Georgia Coastal Receiver Array off St. Simon's Sound – has received data from more than 670 animals, 41 species, 46 research groups, 10 agencies
  - ARGOS Satellite Data Fees Payment Program for ATN Researchers
  - Develop the Next Generation of Animal Movement Analysis Tools
- Google questionnaires were developed for soliciting telemetry asset inventory capabilities
  - Reached out to 300 acoustic PI's (primarily on East coast so far) and about 200 satellite PI's.
  - Received 130 responses so far and will soon be loading data into web map display.
- Initiated a project for GTS dissemination of animal-borne ocean profiles. The ATN DAC will perform R/T QC on ocean profiles from animal-borne tags automatically ingested from WC and SMRU, transform them into BUFR coded messages and insert them onto the WMO Global Telecommunications System (GTS) for model assimilation
- B. Woodward provided a link to a telemetry community paper with 65 authors, which will be a reference for OceanObs'19 **"Animal-Borne Telemetry: an integral component of the ocean observing toolkit", Rob Harcourt et al.,** Frontiers in Marine Science, 26 June 2019, https://doi.org/10.3389/fmars.2019.00326 (pdf)

IV.   Review of Actions from SG-4
- **Provide list of PI's for DAC Folks (M. Weise)**
  - **STATUS: COMPLETE**
- **Create Google folder for storing/viewing ATN documents. (B. Woodward)**
  - **STATUS: ON-GOING (This is a folder where ATN documents under preparation can be housed, reviewed and edited)**
- **Circulate ATN inventory data fields Google document and link to the Inventory Map Portal for feedback. (B. Woodward)**
  - **STATUS: COMPLETE (Google questionnaires automatically populate spreadsheet)**
- **Distribute updated language for the Process for Identifying and Funding Priority Observations for feedback. (B. Woodward, M. Weise)**
  - **STATUS: COMPLETE (tabled discussion of when to initiate a call for project descriptions for FY20)**
- **Send email to reactivate SG Task Teams. (B. Woodward)**
  - **STATUS: COMPLETE - Will re-evaluate needs for specific team(s)**
- **Prepare draft text describing "What it means to submit data to the ATN DAC" (B. Woodward, J. Young)**
  - **STATUS: COMPLETE - covered in the ATN Data Policy document**
- **Prepare draft document describing the ATN DAC data policy – schedule open discussion of it at SG-5 (M. Weise, B. Woodward)**
  - **STATUS: COMPLETE - draft is now undergoing review**
- **Set up a demonstration of the research workspace capabilities once DAC is in operational mode (B. Woodward, M. McKinzie)**
  - **STATUS: Ongoing (we are implementing small, focused workshops to help people register and run through basic tutorials)**
- **Generate a Google spreadsheet of upcoming meetings to assess SG member attendance (Kruti, Callan)**
  - **STATUS: ON-GOING (solicit from members what telemetry relevant meetings they are attending/are aware of and recommend where participation is needed)**

- **Decide date for posting call for Short Topic Descriptions for FY-19 funding (Mike, Bill, Sam)**
  - o **STATUS: COMPLETE (canceled)**
- **Explore options of designing an ATN logo (Sam, Brady)**
  - o **STATUS: ON-GOING (final voting phase)**

V.   Items for Review, Feedback, Discussion, and Decision

A. SG Terms of Reference – Member Re-enlistment and Chairperson Election
- B. Woodward noted this is central component of meeting and will define what membership looks like in next 2 years.
- **Membership Enlistment – 2-year terms with maximum of 2 terms**
  - o Members willing and able to serve another term: M. Weise, J. Price, S. Hayes, S. Simmons, W. Turner, K. Hart, J. Young, G. Skomal, K. Holland, R. Wells, Matt Ogburn
  - o Pending: J. Levenson
- **Chairperson Election – 1-year term, election required**
  - o Nominations: M. Weise nominated B. Woodward (seconded by G. Skomal and R. Wells); S. Hayes nominated S. Simmons (seconded by J. Price & J. Young)
  - o Both nominees expressed ability and willingness to serve as chairperson. S. Simmons noted that members should consider her busy schedule and potential to be in better position to serve in 2020.
  - o Voting: Unanimous vote for B. Woodward. Appreciation expressed towards S. Simmons for willingness to serve next year.
  - o **Chairperson elected: B. Woodward**
  - o S. Simmons noted willingness to aid in responsibilities and provide support during the coming year in prep for her upcoming term.

B. Workshops & Reports (B. Woodward)
- Objective: Hosting workshops around country with stakeholders and the science community in each of the 11 IOOS Regions to ID existing assets and capabilities and priority regional baseline needs for ATN observations.
- Specifically, what are uses of telemetry data? Why are they doing this? What are challenges/opportunities associated with management of data & infrastructure?
- 7 Workshops have been held covering 10 of the 11 IOOS regions (still working on Great Lakes region) with a total of 138 speakers
- Great Lakes Observing System and scientific group (GLATOS) may not necessarily want a stakeholder workshop, but might consider one that is more technically oriented
  - o B. Woodward is working with them on what that should actually look like
- Callan at COL working on notes taken at the very large west coast workshop to put it into content information that we will insert into our standard report layout format.
  - o B. Woodward noted hope that this report will be ready by mid-October 2019 and final one from the Northeast region by December 2019
- B. Woodward noted importance of what is learned in each of these regions
  - o Primary goal is to compile national themes – are there common areas, capabilities, gaps in observing assets, etc.? What are priorities? How do they differ from one region to another? How can we bring that info together into actionable tasks/projects so that we can provide stability/continuity in national infrastructure

- B. Woodward summarized some information from 3 of the 7 workshops:
  - Infrastructure, challenges, opportunities separated by region
  - East Coast, Gulf, & Alaska telemetry activities are very regionally focused yet do have significant commonality among them. There is a difference in the amount of acoustic telemetry vs. satellite telemetry in the regions, particularly in terms of how well they're supported (strong vs. weak infrastructure).
  - Observational Needs: very regionally dependent with some overlap.
  - Some representatives have discussed needs from commercial side, including that port authorities recognize responsibility to be compliant (we do see variation in this from one region to another) and individuals in fishing industry have chosen to speak at workshops, indicating desire to work with scientists.
  - High commonality among all regions in terms of who uses data and their purposes.
- B. Woodward proposed option to discuss this in more detail, possibly for a half-day if there is 2-day in person meeting in November 2019.
- M. Weise noted that only a few SG Members were on the original task team that wrote the ATN implementation plan, including what priorities, gaps, and needs are, and decided to do this at regional level rather than national. M. Weise also noted that distilling information down into common themes across the board is a huge job and it might be useful to have additional help reviewing the information.
  - *ACTION ITEM: Identify a small group of SG members to develop effective approach for visual presentation and organization of national data (themes, gaps, needs) from regional workshops to lead to actionable tasks.*

C. **ATN Logo (S. Simmons, B. O'Donnell)**
- S. Simmons created spreadsheet to rank feedback received ahead of meeting, including the following comments:
  - Logo should emphasize name, not just the acronym; represent a variety of animals; be kept simple for printing purposes; suggest movement
- B. O'Donnell worked with website designers and developed the suite of options previously shared in PDF document. Majority of SG members have already provided feedback.
  - S. Simmons created a point scheme for ranking. Most popular options had multiple taxa represented
  - *ACTION ITEM: B. O'Donnell and S. Simmons will send out top 2 logos with current comments/feedback and allow SG members to add changes and provide final vote on newest versions*

D. **Operational DAC – Research Workspace**
- B. Woodward provided update to status of the research workspace:
  - In year 2018-2019, DAC went through a transition of Data Assembly Center capability, which has been a complicated process and many pieces have been refined/added.
- M. McKinzie discussed the concept of the research workspace and what it provides to members.
  - A community tool that is a main data management tool for Axiom, and links with data portal to pull in high-level information that is displayed and visualized in the portal.
  - Utilizes project-level information (title, abstract, purpose, contact information) to bring into the system through research workspace
  - Other researchers use it as a data storage and management system (uploading variety of files to workspace), such as with acoustic data, raw form data, or slightly more

processed data that has been manipulated/truncated. Then they set up various levels of collaboration for their research.

- o Can also be used for data manipulation/visualizations, such as using python/R codes to do research on data that is stored in the research workspace. Thus, it increases processing time and capabilities.
- o Some real-time users interact with systems through project registration app, where they go to log project level information and have an interactive tool where they can keep track of/update deployment logs

- M. Weise mentioned that 6-8 datasets from several PIs have gone through the entire process of registering, bringing in metadata, getting minted with DOI, and archiving, at this point, with DataONE.
  - o Huge milestone for development of DAC
- B. Woodward indicated it has been a long road to connect and create an automatic pathway for archiving data at NCEI, but that major strides have been made in the last few months.
- J. Young posed the question of how ATN projects are identified in the DAC.
  - o M. McKinzie noted that all projects are linked under the ATN 'campaign' and are surface-level discoverable, separating ATN projects from Axiom-related projects using the research workspace. Can also create further subsets/links and an organizational page.
- B. Woodward noted that everything done so far has been exclusively for satellite data in order to move as quickly as possible; however, planning has now begun for also ingesting acoustic data into the DAC.
- B. Woodward discussed Year 2 Plans/Priorities for the ATN DAC, including:
  - o Make sure there are automated pathways from data portals through which data can be ingested from satellite tagging manufacturers; enhance Dtags and multisensory tags and disseminate through ATN data portal (high priority for next few months); create pathways to long-term archive data centers, national data centers and making it available for research, management, etc.; operationalize and enhance ATN DAC system tools – would like J. Young to help with this process, in particular by participating in a call on Aug 19 focused on ingesting acoustic detection data into the DAC, integrating it with other data layers and developing products needed by stakeholders.
- B. Woodward opened floor to receive member feedback on DAC Portal:
  - o S. Simmons had some comments, but would like to develop task team activity to become educated in more detail in terms of what's possible, what's not.
  - o M. Weise encouraged individuals to use red feedback button on Portal itself for small-scale concerns and bring larger items, e.g., what may be missing, to the attention of an SG task team, allowing prioritization of large problems over smaller concerns.
  - o S. Simmons noted concern of SG members not knowing what would be a large-scale or small-scale issue.
    - *ACTION ITEM: Organize and schedule 1-hour webinar to educate SG members regarding DAC research workspace and coordinate feedback for Axiom.*
  - o J. Young suggested inviting individuals from educational community (student or teacher) to ensure website/portal is freely available and usable by the public.
  - o W. Turner noted that it would be useful for the DAC to incorporate geospatial data products of relevance to the telemetry community, as is currently done now with IOOS data/products.
    - B. Woodward stated that Axiom has plans to add data layers and provide access to them in the DAC.

E. Data Policy Document

- B. Woodward referenced the data policy document attached to the Google meeting invite and noted that some SG members have already provided feedback.
    - o It was noted that document covers all ATN data policy and management aspects. It needs to be accurate and represent the guidance from the group so all SG members are invited to review it an provide comments
- B. Woodward opened floor to suggestions on how feedback can be collected:
    - o K. Holland stated that the document spells out quite well a good starting point, but had some concerns about embargo situation in terms of near real time data that can still be captured on screen, even if not downloadable. K. Holland is concerned with protecting data (e.g. lobbying groups might have access to dataset before data is complete).
    - o J. Young asked if there is a way to prevent sensitive projects from giving away specific location? Indicated that providing exact locations of spawning sites may open animal up to being overfished or exploited.
    - o B. Woodward noted that during an embargo period of time, the public is unable to discover or download data; nevertheless there needs to be a larger discussion regarding J. Young's concerns.
    - o M. McKinzie noted that when data is embargoed, only access is the visualized tracks (and project-level overview information). Individual PI's would also be reminded when their embargo date is coming up to ensure they are ready to release data. Information will never released without complete metadata records and written permission from the PI.
    - o M. Ogburn shared concerns about data being published in real-time or a day later and possibly revealing spawning aggregation hotspots. From the very beginning, the ATN data policy has been structured around the idea of fulfilling the needs of the supporting Federal agencies and would likely need to have customized policies on how to handle non-federal data.
    - o B. Woodward suggested addressing these concerns offline, as SG members can send emails with feedback to B. Woodward or M. McKinzie.
        - ▪ M. Weise suggested implementing 3-4 week deadline to provide feedback, then send out a finalized version once comments are implemented for review.
        - ▪ *ACTION ITEM: Request for feedback and implement deadline for SG members. B. Woodward to gather edits into a policy document and synthesize into Google docs for final review.*

VI. New Items (B. Woodward)
Funding From Other IOOC Agencies

- B. Woodward displayed FY-19 funding diagram/flowchart
- M. Weise suggested that ATN would most likely be at same level for next 2-3 years.
    - o Also noted that discussions are needed on shifting the initial funding setup, such as considering more agencies that might contribute and obtaining additional funding for additional projects.
- B. Woodward shared a list of ATN SG Federal agency members – ONR, BOEM, NOAA/NMFS (currently providing funds to ATN) & then Smithsonian, Marine Mammal Commission, NSF, USGS, NASA, COE
- B. Woodward discussed notion of seeking funding from other SG member agencies, which is consistent with the original plan of the ATN to increase funding to level of $5 Million.

- M. Weise suggested considering what agencies might want to see with those additional funds & identify what they might contribute to.
    - *ACTION ITEM: Determine future funding opportunities through identification of agency needs to achieve funding goals.*
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VII. Summary and Next Meeting
- B. Woodward indicated that he would send out a doodle poll shortly to assess availability for the next SG meeting, SG-6. Will consider possibly first week in November.

Meeting Attendees

Steering Group Members

Hart, K.	USGS	kristen_hart@usgs.gov
Hayes, S.	NMFS	sean.hayes@noaa.gov
Holland, K.	UH	kholland@hawaii.edu
Levenson, J.	BOEM	Jacob.levenson@boem.gov
O'Donnell, B.	MMC	bodonnell@mmc.gov
Ogburn, M.	Smithsonian	OgburnM@si.edu
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Simmons, S.	MMC	ssimmons@mmc.gov
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Turner, W.	NASA	woody.turner@nasa.gov
Weise, M.	ONR	michael.j.weise@navy.mil
Woodward, B.	IOOS/ATN	bill.woodward@noaa.gov
Young, J.	FWRI	Joy.Young@myfwc.com

Others

McKinzie, M.	MBARI	mmckinzie@mbari.org
Rahman, S	IOOC	srahman@oceanleadership.org

Action Items

#	Action Item	Point	Due Date
1	Create Google folder to organize in-progress projects and for SG members' reference if needed.	B. Woodward	
2	Craft strategic plan/procedure to re-evaluate funding each fiscal year, including how to use limited funds for supporting the infrastructure.	B. Woodward	
3	Review task teams and projects to determine if they are necessary going forward.	M. Weise, B. Woodward	TBD (posthoc)
4	Review new package (ADEPTHER) for data visualization, funded by NPS	K. Hart, M. McKinzie	
5	Organize and schedule 1-hour webinar to educate SG members on system tools (e.g. registration app, etc.)	M. McKinzie	
6	Identify small group of SG members to develop effective approach for visual presentation and organization of national data (themes, gaps, needs) from regional workshops to lead to actionable tasks.	B. Woodward, M. Weise, TBD	
7	Organize and schedule 1-hour webinar to educate SG members regarding DAC research workspace and coordinate feedback for Axiom.	M. McKinzie	Within 4 weeks
8	Determine future funding opportunities through identification of agency needs to achieve funding goals. Develop 1-2 pager defining importance and options for funding, including 1) baseline operations, and 2) ATN project/topic support	M. Weise	Ongoing
9	Discuss with SG and funders about when to solicit for FY20 topics and projects using defined process. Determine if/when an open call should be used to ensure transparency and fairness	B. Woodward, M. Weise	TBD
10	Request feedback and implement deadline for SG members. B. Woodward to gather edits into a policy document and synthesize into Google docs for final review.	B. Woodward	Within 3-4 weeks

On-Going Action Items

#	Action Item	Point	Due Date
1	Generate a google spreadsheet of upcoming meetings to assess SG member attendance.	K. Desai, C. Yanoff	Ongoing
2	Explore options of designing an ATN logo	S. Simmons, B. O'Donnell	Ongoing