U.S. IOOS 2021 DMAC
VIRTUAL ANNUAL MEETING AGENDA
June 15 - 17

DAILY SCHEDULE [all times Eastern]:

1:00 - 1:45 PM: Presentations/Plenary
1:45 - 2:15 PM: Break
2:15 - 3:00 PM: Presentations/Plenary
3:00 - 3:30 PM: Break
3:30 - 4:45 PM: Breakout Discussion Groups
4:45 - 5:00 PM: Wrap up/Report Out

Tuesday, June 15th

1300 Introduction/Meeting Kickoff (Micah Wengren/IOOS) - slides

1305 US IOOS Office Updates (Krisa Arzayus/IOOS) - slides

1320 IOOS Operations Division Updates (Derrick Snowden/IOOS) - slides

1335 IOOS Google Summer of Code 2021 (Filipe Fernandes/SECOORA, Micah Wengren/IOOS) - slides
- Overview of IOOS GSoC Projects and Schedule
- Introduce 2021 IOOS GSoC Students to the DMAC community

13:45 Q&A/Break

1415 GLOS Seagull Project (Tim Kearns/GLOS, Sneha Bhadbhade/GLOS)
- The Great Lakes Observing System is building a next gen IoT technology platform to support marine observations, data tunneling, edge computing, analysis, discoverability and accessibility to regional data and information. Seagull is a platform with a wide range of services and apps that can provide data contributors and information consumers an intuitive yet comprehensive solution.

1430 IOOS Cloud Sandbox - v2 Infrastructure as Code using Terraform; integration of access via JupyterHub (Patrick Tripp/RPS) - slides
- Provide updates on development on the IOOS Cloud Sandbox
- Terraform Infrastructure as Code (IaC)
- Integration with JupyterHub

1445 SanctSound: Acoustic Observing Systems & Data Portal (Brian Stone/Axiom, Carrie Wall Bell/NCEI) - slides
- Provide an update on the SanctSound project, a three year passive acoustic monitoring effort across 7 national marine sanctuaries and one national monument

- Demo the latest capabilities of SanctSound's web portal being developed to allow users of varying backgrounds to learn about the project and explore the data

1500 Q&A/Break

1530 Breakout Discussions

Breakout #1: Modeling and Data Science in the Cloud Leads: Rich Signell, Patrick Tripp	Session Description: ● This will focus on running coastal models and analyzing the output in a cloud environment. ● Will cover progress that has been made over the past year in this area with different tools and architectures. ● Discuss problems encountered and share ideas.
Breakout #2: Data Products and applications to meet user needs (challenges & lessons learned) Lead: Gerhard Kuska	Session Description: Panelists: ● Jennifer Brown (Sanctuaries and IEA infographics partnership) - slides ● Bob Currier (MBON dashboard) ● Melissa Karp (NMFS/DISMAP) - slides ● Sylvia Rodríguez-Abudo (Pa' la Playa Beach App) - slides ● Kelly Knee (Data Portal Tools to Support Offshore Operations)

1645 Wrap up/Report Out

1700 DMAC-Themed 'Happy Hour' (Optional)

Wednesday, June 16th

1300 ESIP Marine Data Cluster (slides) & Biological Data Cluster (slides) (Chris Olson/R2R, Abby Benson/USGS)

- ESIP enables and supports high quality virtual and in-person collaborations amongst cross-domain data professionals on common data challenges and opportunities.
    - The goal of the Marine Data Cluster is to bring together ESIP members working with data in the marine geosciences to discuss advancements and challenges in their field, and to build relationships to foster future collaborations.
    - The Biological Data Standards Cluster aims to provide the biological data community in the US with guidance, best practice documentation, training, and community building for biological data standards.

1315 CIOOS update: A brief overall update of what CIOOS has been up to recently and what is coming up (Mike Smit/CIOOS) - slides

- What we're excited about (mostly forward-looking: what's next for CIOOS?)
- Our approach to collaborative cross-country development on shared projects

1330 WMO/netCDF/WIS 2.0 (Kevin O'Brien/PMEL) - slides

- Kevin will discuss the latest developments in the WMO to support CF-NetCDF as a data format for real time global data distribution. This work is focused on the evolution of the WMO Information Strategy (WIS) 2.0 and will leverage more modern distribution services

1345 Q&A/Break

1415 ATN DAC: Quality Controlled Animal Bourne Ocean Profiles on the GTS (Kyle Wilcox/Axiom) - slides

- Using ioos_qc for quality checks
- BUFR message generation using bufr_tools

1430 GliderDAC update/QC Thresholds (John Kerfoot/Rutgers) - slides

- Development of a status dashboard for providing up to date information on the status of datasets for data providers
- Discussion of tools allowing data providers to upload native glider files for processing to DAC-compliant NetCDF files.
- Discussion on plans for providing automated and standardized QC.

1445 Proper QC of ADCP Data: The GulfHub Experience (Bruce Magnell/WHG) - slides

- Newly available oil-industry data that are now accessible through the public GCOOS Gulfhub portal, focusing mainly on the current profile data resulting from the BSEE mandate ("Notice to Lessees", NTL)
    - The characteristics of this NTL data, including the massive size of the database of quality-screened data, its spatial and temporal coverage, and the uses to which this data may be put.
    - The quality-control issues affecting the NTL data, specifically those which require expert intervention in post-processing to screen out invalid data and correct metadata errors. Of interest to DMAC may be the question of whether automated processing can be substituted for human inspection.

1500 Q&A/Break

1530 Breakout Discussions

Breakout #1: Advancing marine life data management Leads: Abby Benson, Gabrielle Canonico, Matt Biddle	Session Description: This panel discussion will provide insights and experiences with various topics related to marine life data management. Including CIOOS' advancements on biological data integration, Passive Acoustic Monitoring cyberinfrastructure and BioTrack. Panelists: ● Kirsten Larsen (NCEI marine life archival) ● Jon Pye (CIOOS) - slides ● Carrie Wall (PAM cyberinfrastructure/SanctSound portal) - slides ● Megan McKinzie (BioTrack/ATN DAC) - slides
Breakout #2: AI/ML-based applications in NOS and IOOS Leads: Greg Dusek, Felimon Gayanilo, Jeremy Cothran	Session Description: Session starts with brief talks (5 min) by the co-chairs to provide an overview of NOAA and NOS and IOOS AI/ML activities. The talks will outline typical challenges for implementation, including data preparation /readiness and shared infrastructure. We will then transition to discussion on topics such as: where machine learning and AI have been applied to problems of interest to NOAA NOS and IOOS, how to address the needs for AI shared infrastructure, capabilities needed for NOS and IOOS to institute an AI-enabled information system. The session will conclude with discussion of possibilities and challenges of AI implementation in order to provide recommendations for how to move forward. Brief presentations (5 min max): Greg Dusek (NOAA AI Strategy/Implementation), others TBD

1645 Wrap up/Report Out

1700 DMAC-Themed 'Happy Hour' (Optional)

Thursday, June 17th

1300 Faster Visualizations of Gridded Data (Luke Cambpbell/Axiom) - slides
- A faster alternative to visualizing Gridded Data
- Sampling strategies and performant rasterization of both structured and unstructured grids

1310 Processing and presentation of World Ocean Database (Greg Williams/RPS) - slides
- How do you QC, publish, and present a dataset of 15-million profiles spanning 250 years?
- We address the challenge of visualising and using WOD in decision-making environments.

1325 ERDDAP New Features in Action (Kevin O'Brien/PMEL, Bob Simons/NMFS) - slides
- Bob Simons will talk about new features in ERDDAP v2.12.
- Kevin will demonstrate the use of the ERDDAP ingestion capabilities with a bit of a different spin. This demonstration will focus on creating a single metadata repository to support distributed contributors.

1345 IOOS ERDDAP Implementation: GTS and Sensor Map Transition (Micah Wengren/IOOS, Shane St. Savage/Axiom) - slides
- Progress update on ERDDAP GTS transition with NDBC
- Plans to ingest 8 RA ERDDAPs into Sensor Map in FY21 & workflow/architecture

1400 Q&A/Break

1430 BSEE/NTL Data Services Transitioned to GCOOS from NDBC: Updates (Felimon Gayanilo/GCOOS) - slides
- The transition of data services for US Department of the Interior, Bureau of Safety and Environmental Enforcement Notice to Lessees and Operators (BSEE/NTL) data to GCOOS
- Status of the transition and planned features for the data portal.

1440 Saildrone Data Handling (Eugene Burger/PMEL) - slides
- Working with Saildrone Inc, PMEL has standardized the delivery of meteorological and Oceanographic data from Saildrone observing platforms
- The data delivery and data handling pipeline is now being modernized although we have encountered some unexpected obstacles that I will explain

1455 National Water Model Data Access API (Dalton Kell/RPS) - slides
- API updates (direct NetCDF output, using with libnetcdf/netCDF4-python)
- Data updates: serving NWM V2.1 short range

1505 WebCOOS: Best Management Practices for Video Data (Kyle Wilcox/Axiom) - slides
- Ingesting streaming data
- Providing real-time streaming access
- Standardizing formats and metadata

1515 Q&A/Meeting Wrap Up/Feedback
- Meeting evaluation/survey
- Feedback, comments, closing thoughts

1545 Adjourn Meeting