MEETING REPORT

Global Ocean Observing System

AniBOS Steering Committee Meeting

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Executive Summary

The AniBOS (Animal Borne Ocean Sensors) Steering Committee convened for two three-hour online sessions on 5 and 9 February 2026. The meeting brought together 23 participants including Steering Committee members and representatives from GOOS and partner programmes. It was the second formal Steering Committee meeting since AniBOS was established at the founding Hobart meeting in November 2019.

Key Issues and Discussions

AniBOS Network Status. Co-Chairs Clive McMahon and Fabien Roquet reported strong progress. AniBOS has established a continuous time series of ocean and behavioural observations primarily in the southern Indian Ocean and is expanding into the tropics, with sea turtle deployments informing tropical storm and cyclone forecasting. Seal and turtle data are now routinely ingested into regional ocean models in Australia. A new pipeline developed to publish animal tracking data to OBIS (real time) and GBIF (delayed mode) is near operational. An animal welfare and ethics best-practices paper covering six taxa has been submitted for peer review.

Animal Welfare and Ethics. The submitted AniBOS Ethics best practice paper and plans for online deployment reporting and species-specific workshops were highlighted. The need to integrate ethics and data reporting was emphasised to reduce burden on researchers. The OCG Vice-Chair for Standards confirmed the paper can be submitted for formal OCG endorsement once published.

Data Infrastructure. The fragility of the current real-time data pipeline was shown with a 6–8 week BODC pipeline outage in 2025 which demonstrated the risk of relying on unfunded in-kind infrastructure. The Data Committee is developing minimum metadata standards, a QC pipeline, and a user manual for new contributors. Real-time publication to OBIS is imminent.

KINEIS Satellite Constellation. The transition from Argos to the new KINEIS constellation is generating significant improvements in location accuracy and, crucially, a substantial increase in data throughput. This is seen as a potential game-changer for data volume and profile resolution. SMRU is actively investigating how to exploit the new system.

OceanOPS Monitoring. The current view of AniBOS from the OceanOPS GOOS shows 2,500 platforms tracked from 11 countries, with improving programme attribution and sensor identification.

Science and Community Building. Compelling science must drive the network. The meeting identified the need for a flagship community paper to rally the network, active recruitment of early-career scientists, engagement with OceanObs'29, and closer collaboration with MegaMove (Ana Sequeira) to leverage complementary biological datasets.

Communications. An initial external communications strategy framework was presented, with priorities including a website refresh, GOOS branding alignment, stakeholder mapping, and development of case studies. LinkedIn and BlueSky were identified as preferred platforms.

AniBOS Steering Committee Meeting

Presentations from Day 1 are available here and from Day 2 here

Session 1: Opening — AniBOS Network Update

Co-Chairs Clive McMahon and Fabien Roquet opened the meeting and provided an overview of AniBOS progress and the outlook for the network.

Presentation Summary

Clive McMahon presented a summary of achievements since AniBOS was established at the founding meeting in Hobart in November 2019. Key highlights included:

- A continuous time series of ocean and behavioural observations maintained in the southern Indian Ocean, with expanding coverage into the tropics.
- Tropical observations primarily from sea turtles collecting subsurface data to inform tropical storm and cyclone development, supported by IMOS funding.
- AniBOS network vision endorsed by the UN Decade of the Ocean Science Programme.
- Seal and turtle observations now routinely ingested into regional ocean models (e.g. the BRAN model in Australia).
- An extensive publication record demonstrating the value of the collected data.
- Deployment of new-generation SMRU tags with significant technical advances.
- A pipeline developed by Ian Jonsen and Jonathan Pye to ingest animal behavioural data (SMRU SRDLs and Wildlife Computers) into OBIS in real time and GBIF in delayed mode, going live shortly.
- A best-practices animal welfare and ethics paper submitted for review, led by Sara Labrousse.
- A best-practice manual for SMRU CTDs endorsed by Ocean Best Practices, in process of translation to OCG best practices.
- A community paper on circumpolar Antarctic bathymetry in preparation.

Key Challenges Identified

- Securing long-term funding for network infrastructure, dedicated QC personnel, and regional data QC centres.
- Automation of real-time data, particularly conductivity sensor QC, and delayed-mode processing.
- Succession planning and community engagement, including involvement of younger scientists.
- Developing a communications and outreach strategy.
- Integration of data from other platforms and animal-borne sensors beyond SMRU SRDLs.

Discussion

Fabien Roquet noted that this was the second formal Steering Committee meeting since AniBOS was established, and emphasised the importance of the occasion as an opportunity to reinvigorate the network. He echoed the need to build on the collaborative spirit that made the predecessor MEOP programme successful.

Thanks were extended to Emma Heslop (IOC-UNESCO/GOOS) and Champika Gallage (WMO) for their support in organising the meeting.

Actions

- Steering Committee to develop better cross-committee communication structures between the Steering Committee, Data Committee, and Ethics Committee.
- Data Committee to work with Fiona Carse on the real-time ingestion of salinity observations.
- Pursue endorsement of the best-practices ethics paper through the GOOS best-practices facility once published.
- Evaluate the impact of the new KINEIS (https://kineis.com/en/about-us/) satellite constellation on data volume, quality, and processing workflows.
- Clive McMahon to liaise with Ana Sequeira and Fabien Roquet on integration between AniBOS and MegaMove. A meeting between the three to be scheduled within weeks.

Session 2: Report Out & Discussion

2a. Animal Welfare and Ethics Committee Update

Presenter: Sara Labrousse

Presentation Summary

Sara Labrousse presented an update on the Animal Welfare and Ethics Committee, centred on a best-practices paper recently submitted for peer review. The paper provides the first comparative perspective on constraints and ethical considerations across six taxa: cetaceans, fish, pinnipeds, seabirds, sea turtles, and sirenians. Key aspects include:

- A review of the effects of capture, tagging, and device-effects on animal welfare, covering scientific and ethical rationale for tagging.
- Group-specific guidelines on handling, tagging, and device deployment covering drag, weight, buoyancy, and species-specific considerations.
- A focus on improving reporting of negative tagging outcomes (e.g. tag failures, attachment issues), as there has historically been a reluctance to report such events.
- A new online reporting system for deployment studies has been trialled, covering study period, device numbers, recovery rates, conservation stage, and device specifications. The form is still being refined and an email-return mechanism needs to be resolved.
- Plans to publish species/taxa-specific field protocols on the AniBOS website, to be contributed by the community and updated regularly.
- Plans to organise annual workshops by taxa group (e.g. pinnipeds, sharks, turtles) to facilitate deeper discussion of best practices that cannot be adequately addressed through online forms alone.
- The Committee is working with the Data Committee to ensure that welfare reporting and data reporting are integrated wherever possible, reducing the reporting burden on researchers.

Discussion

Mark Hindell raised the question of whether AniBOS should have a mechanism to ensure that only data from deployments using approved attachment methodologies can be shared through the network. Sara Labrousse noted this would be better addressed by the Steering Committee, while Clive McMahon acknowledged it was a valid point and noted that ethics and welfare subcommittees, alongside minimum standard protocols, would already provide a filter.

Abed El Rahman Hassoun (OCG Vice-Chair for Standards and Best Practices) welcomed the paper and indicated that once published, it could be submitted for formal endorsement as an OCG best-practice document.

Fabien Roquet suggested that alongside the online reporting form, a simple Excel template could be offered as an alternative to lower the reporting burden, particularly for researchers with multiple deployments. Sara Labrousse agreed, noting the importance of keeping reporting as simple as possible.

Kevin Obrien highlighted the potential for integrating the ethics reporting process with OceanOPS registration, enabling machine-to-machine data exchange and reducing duplication of data entry. Clive McMahon and Sara Labrousse indicated this would be a goal for future iterations.

Christophe Guinet stressed that online forms alone will not be sufficient to capture all welfare issues, and that direct discussions among researchers working on the same taxa are essential. He noted that what constitutes good practice varies between closely related species (e.g. Weddell seals vs southern elephant seals).

Melinda Holland (Wildlife Computers) noted the difficulty of incentivising researchers to enter even basic metadata, and raised concerns about siloing between projects. She emphasised the value of manufacturers being able to share best-practice knowledge with newer researchers.

Ana Sequeira welcomed the ethics-first approach of the meeting, and noted the importance of also considering the 'elephant in the room' — the question of how many animals need to be tagged to answer the scientific questions at hand, and whether the community should be more strategic about redirecting tagging effort to undersampled taxa when sufficient data already exist for some groups.

Actions

- Sara Labrousse to progress the online deployment reporting system in coordination with the Data Committee, aiming for simplicity while capturing key welfare and data-relevant fields.
- Ethics Committee to explore organising annual species/taxa-specific workshops to facilitate peer discussion of best-practices.
- Once the ethics paper is published, pursue formal endorsement through the OCG Standards and Best Practices process (Abed El Rahman Hassoun).
- Data Committee and Ethics Committee to continue their November discussions and agree on a shared reporting approach.

2b. Data TT Update

Presenter: Ian Jonsen

Presentation Summary

Ian Jonsen presented on the activities of the AniBOS Data Committee and the current state and future vision for real-time data infrastructure. He opened by reminding participants that AniBOS's core business as a GOOS network is the real-time supply of ocean observations — principally CTD profiles — to operational forecasting groups. Key points covered:

- Current metadata and data flow: Three data assembly centres (DACs) — IMOS, ATN (Animal Telemetry Network, USA), and OTN (Ocean Tracking Network, Canada) — form the backbone of AniBOS. An ERDDAP server established by Kevin O'Brien now makes metadata discoverable by OceanOPS.
- The BODC processing pipeline (UK), which routes CTD profile data to end users via the Global Telecommunications System (GTS), suffered a 6–8 week outage in 2025. This pipeline is currently maintained as an in-kind service with no dedicated funding, highlighting a critical vulnerability in the current infrastructure.
- Data Committee activities include: developing a minimum metadata standard aligned with the GOOS Passport requirements; establishing an ERDDAP prototype server for machine-to-machine metadata; developing a data assembly and quality control pipeline for SMRU and Wildlife Computers data (implemented initially by IMOS, to be adopted by OTN); developing a user manual for new programmes joining AniBOS (in progress, draft due before end of 2026); and establishing a publishing pipeline to OBIS (real time) and GBIF (delayed mode) for bio-eco data.
- A future, more streamlined vision for AniBOS data infrastructure includes: multiple DACs operating common metadata and QC protocols as a virtual global DAC; automated machine-to-machine metadata flow to OceanOPS; real-time publication to OBIS and delayed-mode publication to GBIF; and a common pipeline for CTD profile data to the GTS or WIS 2.0.
- The bio-eco data publishing pipeline, developed by Ian Jonsen and Jonathan Pye with funding from IMOS, OTN, and French partners, converts Argos QC output to Darwin Core format and publishes to OBIS and GBIF in an automated fashion. Currently a proof-of-concept using IMOS SMRU data; going live shortly.
- Data Committee needs include: dedicated funding or in-kind personnel; regular guidance on priorities from the Steering Committee; and Steering Committee liaison to AniBOS contributors to expand network participation.

Discussion

The transition from Argos to the new KINEIS satellite constellation generated substantial discussion. Christophe Guinet reported that KINEIS tracks appear much closer to GPS quality, and Ian Jonsen confirmed early comparative analysis with double-tagged datasets supports this assessment. Both noted that the state-space model currently central to location QC may no longer be necessary with KINEIS data, though the wider data assembly machinery remains relevant.

Melinda Holland provided additional context on KINEIS: the system uses forward-backward modelling, delivering improved and 'maturing' locations as more passes are received; a five-fold increase in message receptions has been observed in equatorial regions, with near-continuous coverage at high latitudes. However, data dissemination from the KINEIS portal has been problematic (crashes, incomplete security and format finalisation), and automated ingestion is not yet possible. Wildlife Computers is in active dialogue with CLS and KINEIS to address this.

Fabien Roquet highlighted that the real game-changer of KINEIS is bandwidth: with far fewer retransmissions needed, the same power budget can deliver more profiles or better resolution data. SMRU is actively investigating how to exploit this.

Fiona Carse (Met Office) noted that very few ocean forecast centres currently assimilate tag salinity data, partly due to a high-bias issue identified in a 2014 Met Office study that led to a decision to exclude salinity. Fabien Roquet confirmed that sensor calibration has improved significantly since then, and that it would be timely to reassess this, potentially with a peer-reviewed publication, to help forecasting centres reverse their exclusion decisions.

Megan McKinzie (ATN) described the current practical workflow: researchers must report metadata directly to the DAC immediately upon deployment to enable data conversion and GTS transmission. The more places information must be reported, the higher the risk of errors and inconsistencies (e.g. discrepancies between researcher-reported species or deployment dates and manufacturer portal data). An API-based approach to reduce duplication was identified as a priority.

Ana Sequeira noted that the standardisation framework published from OceanObs'19 could serve as a useful reference for AniBOS metadata identifiers, to ensure interoperability. Megan McKinzie confirmed this framework was already referenced when developing the AniBOS ERDDAP metadata fields.

Actions

- Data Committee to work with Fiona Carse and oceanographic experts to develop a proposal to reinstate real-time assimilation of tag salinity data by forecasting centres, supported by updated QC uncertainty documentation.
- SMRU (Kennedy Wilson) to report on the impact of KINEIS on data volume and processing at a future meeting.
- Ian Jonsen and OTN to bring the OBIS bio-eco publishing pipeline live with IMOS data.
- Data Committee to complete a draft user manual for new AniBOS contributors by the end of 2026.
- Data Committee to continue development of the ERDDAP metadata endpoint towards operational deployment at OTN.
- Steering Committee to provide regular priority guidance to the Data Committee.

2c. OceanOPS and AniBOS

Presenter: Victor Turpin (WMO/OceanOPS)

Note: OceanOPS is the WMO-IOC Joint Operational Centre for ocean observing, operating under the Observations Coordination Group (OCG). The OCG sits under GOOS (Global Ocean Observing System) and coordinates across 17 ocean observing networks, of which AniBOS is one.

Presentation Summary

Victor Turpin presented on how OceanOPS monitors and tracks the AniBOS network, and on the progress made in collaboration with the AniBOS Data Committee. Key points:

- OceanOPS has 2,500 AniBOS platforms in its system, compiled from multiple sources: the Meop database, the Coriolis database, a GTS extract provided by Fiona Carse, and the recently established AniBOS metadata endpoint. 11 contributing countries have been identified, though a significant proportion of platforms (~300) remain of unknown origin.
- Time series data show that the number of deployed tags grew strongly over the first decade, then stabilised with year-on-year variation. In 2025, 194 tags were identified under AniBOS — a reasonable figure, though country diversity appears to have reduced.
- Australia, USA, France, and UK are the major identified contributors. The 'unknown' category remains substantial but is being progressively reduced through improved monitoring.
- Improvements in the last two years include: better programme attribution (knowing which institution and country is responsible for each tag); better sensor identification (moving from 'generic CTD sensor' to specific tag types); and establishment of the AniBOS metadata endpoint (ERDDAP server hosted by NCEI or PML, to be confirmed) enabling regular automated harvesting by OceanOPS.
- A three-step registration workflow has been implemented: (1) programme and vocabulary setup under OceanOPS; (2) unique platform ID (YGOS/WMO ID) assignment with basic deployment metadata; (3) metadata harvesting from the AniBOS endpoint. IMOS and ATN are currently feeding metadata; OTN to join soon.
- Data endpoints for AniBOS have been mapped: delayed-mode data available via NCEI and Meop/Coriolis; real-time data via Copernicus Marine (fed by Coriolis) and the GTS (visualised via OSMC/NOAA). Victor noted some discrepancy between the Coriolis and OSMC views of real-time data — alignment between these endpoints remains a priority.
- Victor's recommendations to the Steering Committee: (1) develop a clear framework defining what constitutes an AniBOS tag and programme, including data pathway requirements (drawing on the Argo model); (2) mandate the AniBOS Data Team to implement the data component of this framework; (3) continue to expand the harmonisation effort to more national programmes.

Discussion

Clive McMahon clarified the current distinction: AniBOS tags are those supplying physical EOVs (principally CTD profiles) to the operational system. Behavioural-only tags do not currently qualify as AniBOS instruments per se. Victor Turpin's recommendation is that a formal framework should encode this distinction and clarify the data pathway requirements — making explicit what is and is not an AniBOS deployment.

Christophe Guinet expressed surprise at the large number of platforms of unknown origin and offered to help attribute unknown deployments, particularly around Kerguelen Island where CNRS and IMOS programmes operate. Victor Turpin confirmed this is feasible and estimated around 300 platforms requiring review. He also confirmed that maps showing tag deployments by deployment location (rather than country) are technically feasible and could be useful for programme advocates seeking to demonstrate the scientific value of specific field sites.

Emma Heslop (GOOS) noted that the original AniBOS intent was to consolidate the physical data infrastructure before expanding into bio-eco data, and encouraged continued progress in that direction. She noted that GOOS is working to better integrate bio-eco data streams

across the OCG, potentially allowing AniBOS to contribute to multiple panels (physics, biogeochemistry, BioEco).

Fabien Roquet asked how metadata gaps could be addressed in practice — for example, integrating Meop metadata with the OceanOPS system. Victor Turpin indicated that an initial reconciliation via Excel exchange is realistic, and that a crosswalk between Meop and OceanOPS IDs would be the starting point. Fabien indicated he plans to release an updated Meop dataset before summer 2026 and would coordinate with Victor.

Megan McKinzie (ATN) described the complexity of the current metadata workflow: researchers must report to the DAC at deployment, who then applies for WMO/YGOS IDs and pushes data to the GTS. Multiple reporting points increase the risk of errors. An API-based solution to reduce this burden was identified as a medium-term goal.

Ana Sequeira suggested that the AniBOS metadata identifier framework be cross-referenced with the standardisation framework published from OceanObs'19, to promote interoperability with other animal movement datasets. Megan McKinzie confirmed this had already informed the AniBOS ERDDAP metadata field design.

Actions

- Victor Turpin and Data Committee to undertake a metadata reconciliation exercise to attribute unknown platforms, beginning with Kerguelen Island-region deployments (Christophe Guinet to assist).
- Victor Turpin to develop maps showing deployments by deployment location (rather than country), to support programme advocacy.
- Fabien Roquet and Victor Turpin to coordinate on integration of the updated Meop database with OceanOPS metadata, ahead of the planned Meop release in summer 2026.
- Steering Committee to develop a formal AniBOS framework document defining criteria for AniBOS participation, including data pathway requirements, drawing on the Argo model (Victor Turpin and Data Committee to lead).
- Victor Turpin and Data Committee to agree on and validate the definitive AniBOS real-time data endpoints, resolving discrepancies between Coriolis/OSMC views.

Session 3: AniBOS Opportunities

Presentation Summary

Clive McMahon and Fabien Roquet presented a summary of opportunities and priorities for AniBOS development, framing the discussion for Session 3. Key themes included:

- Geographic and taxonomic expansion of the network, including into tropical regions (turtles, sharks) and undersampled areas such as the Indian Ocean.
- Improving QC for emerging platforms and data streams beyond SMRU SRDLs.
- Expanding regional data QC hubs, drawing on the Argo model, with associated funding requirements for training.
- Incorporating AI and advanced statistical methods to support QC automation, particularly for delayed-mode data.
- Greater community engagement, including involvement of early-career scientists.

Discussion

Fabien Roquet emphasised that science must drive the network's activities, not just infrastructure. He noted that MEOP's early success was built on community papers that gave researchers a clear incentive to participate and share data. AniBOS needs to identify compelling scientific projects that bring people together — for example, a Southern Ocean community paper, or a coordinated sea turtle observing effort in the Indian Ocean.

Ana Sequeira echoed the need for community-building through science, and highlighted two opportunities: (1) exploring potential synergies with the Biologging Intelligence Platform being developed by Katsufumi Sato (Clive McMahon to follow up); and (2) preparing for OceanObs'29, which she noted is approaching and could serve as both a milestone and a networking event. A community paper targeting OceanObs'29 was proposed.

Monica Muelbert urged the group to think beyond data mining and database integration to actively filling observational gaps — particularly in geographic areas where coverage is sparse, and in low- and middle-income countries. She also flagged the importance of welcoming existing national programmes that may have their own funding but feel uncertain about joining.

Fiona Carse raised the issue of salinity data assimilation, noting that very few ocean forecast centres currently use tag salinity due to historical bias issues. She presented data from the Ocean Predict community showing limited uptake. Fabien Roquet confirmed that sensor calibration has improved considerably, and that the time is right to reassess assimilation, potentially supported by a peer-reviewed publication.

Emma Heslop suggested that OCG and WMO could help communicate updated guidance on salinity uncertainty to the operational modelling community in a structured way, similar to how Argo has pushed messages about delayed-mode data use. Ian Jonsen noted that the Data Committee can build the infrastructure to implement real-time QC, but needs oceanographers to direct what is feasible.

Actions

- Clive McMahon to investigate potential synergies with the Biologging Intelligence Platform (Katsufumi Sato) and report back to the Steering Committee.
- Steering Committee to develop a strategy for engagement with OceanObs'29, including potential for a community paper and/or in-person meeting.
- Data Committee and oceanographic experts to develop a proposal to reinstate real-time tag salinity assimilation, supported by updated QC documentation.
- Steering Committee and OCG to develop a plan for welcoming national programmes and filling observational gaps, particularly in under-represented regions.
- Fabien Roquet to identify a candidate Southern Ocean community science paper that could attract broad participation as a rallying point for the network.

Session 4: Metrics and Performance

MegaMove Presentation — Ana Sequeira

Ana Sequeira presented on MegaMove, a global scientific initiative coordinating marine megafauna movement and conservation data at a global scale. Key points:

- MegaMove brings together tracking data for ~15,000 individuals across more than 100 species of marine megafauna including cetaceans, penguins, seals, polar bears, dugongs, turtles, and flying birds.
- The initiative was endorsed by the UN Decade of Ocean Science, with a focus on understanding how species are impacted by multiple concurrent threats (fishing, shipping, pollution, climate change) as they move through a dynamic ocean.
- A standardisation framework using three CSV files was developed (published in Methods in Ecology and Evolution) to enable data integration and interoperability at four levels of standardisation, including Darwin Core alignment. This framework is hosted via OTN's GitHub infrastructure.
- A landmark paper published in Science in 2024 used the dataset to identify ocean areas used by multiple species for important behaviours, informing implementation of the High Seas Treaty.
- A vulnerability assessment paper (end of 2025) assessed 100+ species against 23 at-sea threats; temperature extremes and plastic pollution affect the largest number of individuals, while longline and fixed-gear fishing show the highest severity.

Discussion

Fabien Roquet asked how MegaMove could connect with AniBOS, and whether physical data (temperature, pressure, light) held in MegaMove-linked datasets could feed into AniBOS. Ana Sequeira acknowledged that some datasets do include such variables but coverage is patchy and inconsistent; she noted that AniBOS is better placed to pursue this. The potential for a collaborative approach to connecting the two networks' researcher communities was identified as a priority.

Rachel Holser (UC Santa Cruz) highlighted the potential for archival temperature data from older Wildlife Computers tags (non-CTD), noting that Teresa Keates had developed a coding framework for ingesting such data. She flagged NASA as a potential funding avenue, given their interest in animal-collected ocean data for validating satellite measurements, and specifically noted interest in backscatter sensors as an alternative to CTDF.

Dan Costa noted that MegaMove papers on sample size justification and data framework design are directly relevant to AniBOS, and that the original rationale for AniBOS was to start with physical data (clearer sharing norms, more willing community) as a stepping stone toward broader animal movement data integration.

Ian Jonsen emphasised that the real-time OBIS publishing pipeline already incorporates MegaMove-derived standardisation approaches, and has the scaffolding to be extended to more complex behavioural data types beyond location data.

Monica Muelbert highlighted the role of GOOS Regional Alliances as a possible avenue for both funding and engagement, noting that regional alliances may not yet be well aware of AniBOS's capabilities.

Regarding OCG network performance attributes, Emma Heslop noted that GOOS is developing a health index framework for OCG networks that will track delivery against attributes for emerging and mature networks. Annual or biennial Steering Committee meetings will be one of the tracked indicators of network health. She encouraged the group to review the OCG network attributes as a guide.

Actions

- Clive McMahon, Fabien Roquet, and Ana Sequeira to meet within the coming weeks to develop a plan for AniBOS–MegaMove collaboration.
- Rachel Holser to follow up with Melinda Holland (Wildlife Computers) on decoding legacy archival temperature data and developing documentation before this capability is lost.
- Rachel Holser to explore NASA funding opportunities for animal-collected ocean observation data.
- Steering Committee to review OCG network attributes and assess AniBOS performance across them, feeding into the GOOS network health index framework.
- Steering Committee to engage GOOS Regional Alliances to raise AniBOS visibility and explore funding opportunities at the regional level.

Session 5: Funding and Communications

5a. Funding

Discussion

Clive McMahon opened the funding discussion by noting that most AniBOS activities are currently delivered on a voluntary basis. Core funding from IMOS (Australia) and CNRS (France) underpins the observing programme. IMOS is approaching its 20th anniversary and a new five-year funding cycle is expected from June 2027. OTN has AniBOS explicitly in its strategic plan and has dedicated data management resources accordingly.

Ian Jonsen urged realistic prioritisation: what must be done now (e.g. maintaining the real-time data pipeline), what should be done once core needs are met, and what is aspirational. The Met Office BODC pipeline outage was highlighted as a concrete example of the fragility of unfunded infrastructure.

Rachel Holser noted two months per year of dedicated salary support available from the SEACOOS/IOOS project for US AniBOS activities, and offered to take a lead role in a funding working group. She flagged NOAA and NASA as funding targets, and highlighted uncertainty in the current US funding environment.

Ian Jonsen identified the European AMRIT (Advanced Marine Research Infrastructures Together) project, led by Laurent Mortier, as a potential source. AMRIT previously provided funding to support the OBIS publishing pipeline work. He and Fiona Carse shared the project link.

Jon Pye noted that framing AniBOS contributions as 'research infrastructure' — rather than research — has been effective at OTN for securing data management resources. He encouraged others to adopt this language in proposals.

Megan McKinzie (ATN) confirmed that the ATN statement of works includes tasking to expand real-time sensor data infrastructure, and flagged ongoing work to bring Wildlife Computers data into the ATN pipeline and open pipelines for cormorant oceanography data.

Emma Heslop suggested looking at how Ocean Gliders secured dedicated European funding through a focused infrastructure project, and noted that France, Korea, Japan, and China are major funders of ocean observing that could be targeted. Clive McMahon noted ongoing

engagement with Chinese colleagues (Sun Yat-sen University) and potential for a summer school in Indonesia for sea turtle tagging.

Actions

- Rachel Holser, Sam Simmons, and Melinda Holland to form a small funding working group to identify and pursue funding opportunities across jurisdictions.
- Steering Committee members to adopt 'research infrastructure' framing in funding proposals.
- Ian Jonsen and Fiona Carse to circulate the AMRIT project link to the group and identify a lead to approach Laurent Mortier.
- Steering Committee to explore European funding opportunities, including those analogous to the Ocean Gliders infrastructure project.

5b. Communications — AniBOS Stakeholders, Roles and Communication

Presenter: Isobel Lerpiniere

Presentation Summary

Isobel Lerpiniere presented an initial framework for an external AniBOS communications strategy. Key elements:

- Current AniBOS comms are limited: a website, a dormant X/Twitter account, limited SEO/discoverability, and links from partner sites including GOOS. The new GOOS communications toolkit and refreshed branding provide an opportunity for alignment.
- Proposed communications objectives: engage key decision-makers; increase visibility and discoverability of AniBOS data; build trust and participation; increase brand reputation; and generate awareness of societal benefits.
- Core narratives identified: observing the inaccessible; informing climate and ocean prediction; protecting ecosystems and biodiversity; data liberation and interoperability; ethical science; and global collaboration.
- Initial stakeholder mapping was presented, plotting stakeholders along axes of interest and influence, to guide how different audiences should be communicated with.
- Near-term priorities: develop a communications strategy to 2030 aligned with the UN Ocean Decade; refresh AniBOS branding in line with the new GOOS visual identity; update the website; improve SEO; and undertake stakeholder mapping.
- Aspirational: establish active LinkedIn and/or BlueSky presence; develop case studies demonstrating the value of AniBOS data across the three GOOS delivery areas (climate, weather, ocean health).

Discussion

Monica Muelbert cautioned against too radical a rebrand, noting the importance of maintaining recognition and identity that has been hard-won with the physical oceanography community. Isobel Lerpiniere clarified the intent is to streamline the logo in line with GOOS, not to overhaul the identity.

Fabien Roquet raised the relationship between the MEOP brand and AniBOS, noting that MEOP is well known in the community and should not be discarded. Clive McMahon argued that MEOP should remain the primary data centre identity, with AniBOS as the broader

network framing. He suggested a future 'Meop-AniBOS' naming convention. Jon Pye affirmed the value of retaining successful heritage brands.

Emma Heslop offered to connect Isobel Lerpiniere with GOOS communications officer Laura Stukonyte to coordinate on the website refresh and ensure AniBOS is well represented in the updated GOOS digital presence. She also encouraged development of use cases to demonstrate data value across GOOS delivery areas, and noted that GOOS is seeking case studies for its website.

Fiona Carse raised the sensitivity of animal welfare communications, noting that some communications teams are cautious about association with tagging programmes. Clive McMahon confirmed this is central to the communications strategy — the ethics and welfare work positions AniBOS as a responsible, socially licensed programme.

Megan McKinzie suggested a priority action of adding clear contact points for DACs by region to the website, so that potential contributors know who to approach. This could also help address metadata gaps identified in the OceanOPS data.

Ian Jonsen raised the need for an internal communications plan alongside the external strategy, and called for a commitment to a chosen tool (e.g. Slack, email, regular subcommittee update emails) and adherence to it.

Actions

- Isobel Lerpiniere to lead development of a written AniBOS communications strategy to 2030, to be shared as a collaborative document with the Steering Committee for comment.
- Isobel Lerpiniere to connect with GOOS communications officer Laura Stukonyte on website refresh and GOOS branding alignment.
- Website to be updated with DAC contact points by region (Megan McKinzie to provide ATN contact details; others to follow).
- Steering Committee to develop and commit to an internal communications plan, including regular subcommittee update emails and a communication cadence between SC, Data Committee, and Ethics Committee.
- Develop case studies demonstrating AniBOS data value across GOOS delivery areas (climate, weather, ocean health) for use on the AniBOS and GOOS websites.
- Develop a concise, printable one-pager or postcard for use at conferences (Megan McKinzie to lead concept).
- Refresh AniBOS logo in line with GOOS branding update, while preserving core identity.

Session 6: Wrap-Up — Governance, Membership, Actions, and Next Steps

Summary

Clive McMahon summarised key take-home messages from the two meeting days and opened the floor for discussion on governance, membership, and priorities for 2026.

Governance and Membership

The following changes to Steering Committee membership were agreed:

- Isobel Lerpiniere was welcomed as a permanent Steering Committee member, to lead communications activities.
- Rachel Holser (UC Santa Cruz) welcomed as a Steering Committee member, to support funding initiatives.

Sam Simmons noted that Terms of Reference include provisions for member rotation (initial terms of two or four years to allow staggered turnover). It was agreed that:

- Steering Committee members will be reminded of the ToR rotation terms by email following the meeting.
- Members wishing to rotate off are encouraged to indicate this, along with suggested successors.
- Clive McMahon noted that he will, in the next few years, look to transition from the co-chair role, though no immediate changes are planned. Succession planning for co-chair leadership is a priority.

Jon Pye raised the possibility of an executive committee or advisory group to retain institutional knowledge as members rotate, drawing on the OTN model. Ana Sequeira supported this concept. Emma Heslop noted that GOOS is developing network maturity criteria that include governance as a component, and will be tracking indicators such as the frequency of Steering Committee meetings.

Meeting Frequency

It was agreed that:

- An annual Steering Committee meeting will be held, with the next scheduled for February–March 2027.
- Intersessional meetings will be convened to address specific tasks (e.g. the communications working group) and to maintain communication between the SC, Data Committee, and Ethics Committee — approximately quarterly, online.
- A suggestion to have a brief update from the subcommittee leads to the SC after each subcommittee meeting was supported.

Priority Actions for 2026

- Improve cross-committee communication between the Steering Committee, Data Committee, and Ethics Committee, with a formal internal communications plan.
- Data Committee to work with Fiona Carse and oceanographic experts on reinstating real-time tag salinity assimilation.
- Develop a data best-practices document (quality control, assurance, and workflows) from the Data Committee, analogous to the ethics best-practices paper.
- AniBOS user manual for new contributors to be completed in draft by the end of 2026.
- Monitor performance of the new Kineis satellite constellation and SMRU Generation 2 tags; evaluate implications for QC workflows.
- Develop regional data visualisation products (e.g. deployment maps by location) to support programme advocacy.
- Pursue formal endorsement of the ethics and welfare best-practices paper once published.

- Begin planning for OceanObs'29 engagement, including potential community paper and in-person meeting.
- Dan Costa to lead engagement with International Polar Year (IPY) planning on behalf of AniBOS.

Other Actions Noted

- Clive McMahon to investigate synergies with Katsufumi Sato's Biologging Intelligence Platform.
- Clive McMahon and Ana Sequeira to follow up on turtle data integration (SMRU tags and Mega Move datasets).
- Clive McMahon to follow up with Weidong Yu (China) on collaborative opportunities and the proposed Indonesia sea turtle tagging summer school.

Annex 1: Attendees

The following individuals attended one or both sessions of the AniBOS Steering Committee meeting held on 5 and 9 February 2026.

Steering Committee Members

- Clive McMahon — Sydney Institute of Marine Science (SIMS), Australia (Co-Chair)
- Fabien Roquet — University of Gothenburg, Sweden (Co-Chair)
- Christophe Guinet — CNRS, France
- Mark Hindell — University of Tasmania, Australia
- Melinda Holland — Wildlife Computers, USA
- Ana Sequeira — Australian National University (ANU), Australia
- Samantha Simmons — SMRU Consulting, UK
- Monica Muelbert — National Institute of Science and Technology, Brazil
- Fiona Carse — Met Office, UK (Data Committee Co-Chair)
- Megan McKinzie — Monterey Bay Aquarium Research Institute (MBARI), USA; ATN Data Manager
- Ian Jonsen — Stochastic QC / IMOS, Australia (Data Committee Co-Chair)
- Sara Labrousse — CNRS/LOCEAN, France (Ethics Committee Co-Chair)
- Daniel P. Costa — University of California Santa Cruz, USA
- Isobel Lerpiniere — Sydney Institute of Marine Science (SIMS), Australia
- Champika Gallage — World Meteorological Organisation (WMO)

Additional Participants

- Emma Heslop — IOC-UNESCO, supporting GOOS
- Victor Turpin — WMO / OceanOPS
- Kevin Obrien — WMO / OceanOPS (OCG Vice-Chair for Data)
- Jonathan Pye — Ocean Tracking Network (OTN), Canada
- Juliet Hermes — South African Environmental Observation Network (SAEON); OCG Co-Chair
- Abed El Rahman Hassoun — GEOMAR, Germany; OCG Vice-Chair, Standards and Best Practices
- Rachel Holser — University of California Santa Cruz (Costa group), USA
- Ana Sequeira — Australian National University, Australia

Annex 2: Agenda

AniBOS Steering Committee Meeting — February 2026

Format: 2 × 3-hour sessions with 15-minute break | Online (Microsoft Teams)

- Thursday 5 February 2026: 20:30–23:30 Paris/GMT+1
- Monday 9 February 2026: 20:30–23:30 Paris/GMT+1

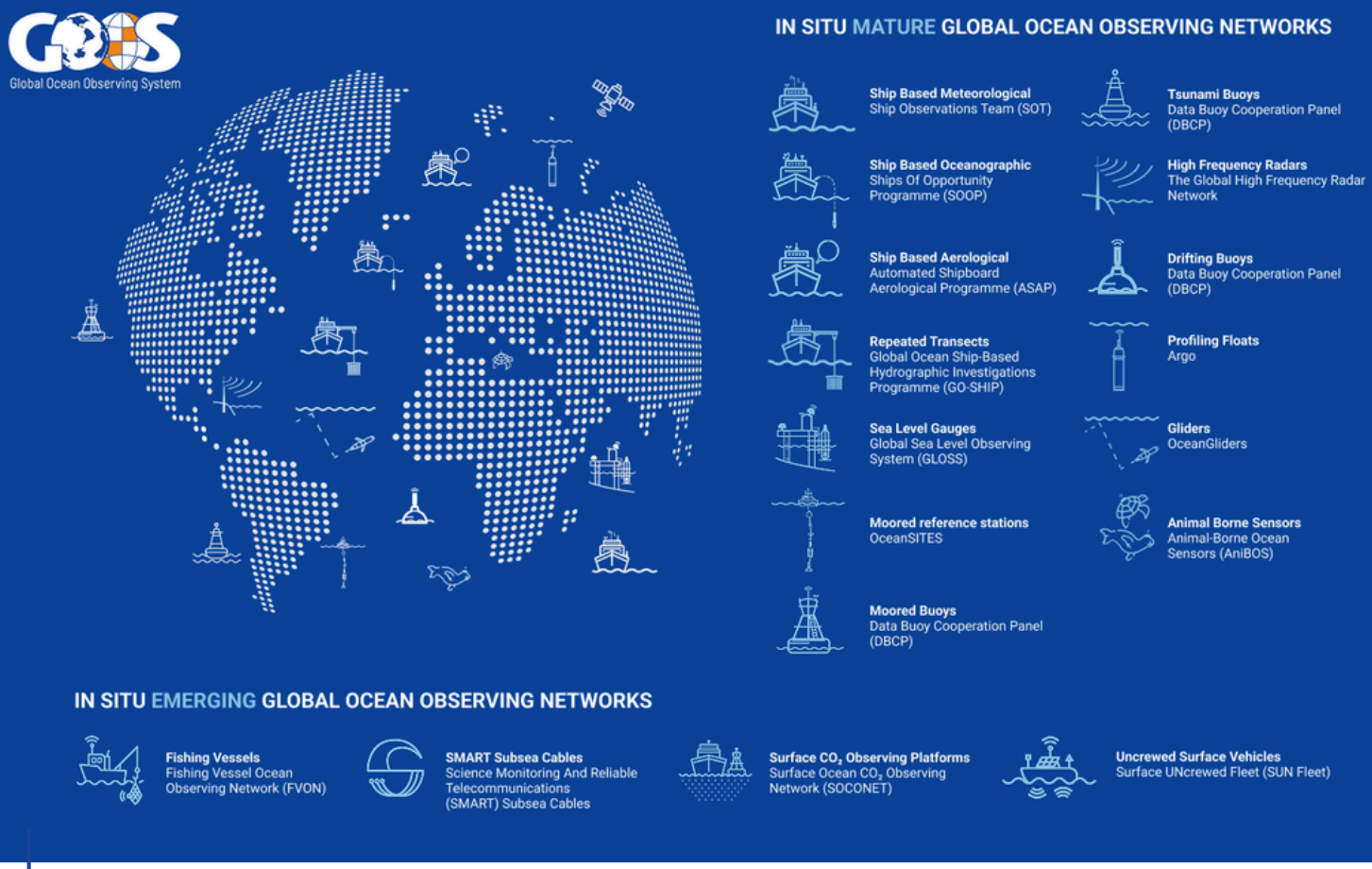
Meeting Objectives

- Establish a plan for regular Steering Committee meetings with clear feedback linkages to the Data and Ethics Committees.
- Review and revise Steering Committee membership as required.
- Develop a plan for obtaining funding to support data management efforts and OceanOPS support fees.
- Define AniBOS requirements toward national programmes.
- Define tangible objectives to assess programme performance (implementation, data, practices).
- Prioritise activities and objectives for AniBOS groups in 2026.
- Consider endorsement of best-practice documents through GOOS.

Agenda Overview

Time	**Thursday** [Feb 05] - Day 1	**Monday** [Feb 09] - Day 2
20:30	**Session 1: Opening** AniBOS Network Update - view from the Co-Chairs looking forward - Clive McMahon - 15 minutes	Co-Chairs summary previous session - 5 mins **Session 4: metrics and performance** Ideas to define tangible objectives to assess the performance of the program (implementation, data, practices) - Christophe Guinet and Ana Sequeira - 5 mins - 40 mins discussion
	Session 2: Report out & discussion Data TT Update - Ian Jonsen - 10 minutes Animal welfare and Ethics Committee Update - Sara Labrousse 10 minutes OceanOPS and AniBOS - Victor Turpin - 10 mins Discussion 30 minutes	**Session 5**: **Funding and Comms** A) Funding today and what could AniBOS see for the future - Clive McMahon - 5 minutes 25 mins discussion

21:45	BREAK 15 mins	BREAK 15 mins
22:00	Discussion continues…	B) AniBOS Stakeholders & roles and communication - Isobel Lerpiniere 5 mins
22:30	**Session 3: AniBOS opportunities** Setting ideas for work ahead - Clive and Fabien - 10 mins	Discussion 40 mins
22:40	Discussion 50 mins	**Session 6: Wrap Up** Membership, governance, regular meetings, actions - Clive McMahon and Fabien - 50 mins



The Global Ocean Observing System (GOOS)

AniBOS is one of the observing networks contributing to the Global Ocean Observing System (GOOS) – a programme led by the Intergovernmental Oceanographic Commission (IOC) of UNESCO, and co-sponsored by the World Meteorological Organization (WMO), UN Environmental Programme (UNEP) and the International Science Council (ISC).

GOOS provides leadership and coordination for a global system of sustained ocean observations, based on a set of Essential Ocean Variables. It is the foundation for data-driven solutions for weather and extreme event forecasting, climate adaptation, coastal and maritime risk responses, biodiversity stewardship, and sustainable ocean economies. Through a globally integrated infrastructure of ocean observing networks, national and regional observing initiatives, and with the guidance of its expert panels, GOOS ensures the delivery of essential ocean information that supports ecosystems, economies, and communities worldwide.

GOOS *in situ* mature ocean observing networks

The GOOS *in situ* mature observing networks provide long-term, global, high-quality, observations of Essential Ocean Variables – the minimum set of measurements that are needed to assess ocean state and variability for important global ocean phenomena, and to provide essential data for applications that support societal benefit. The real-time visualizations of all mature GOOS network platforms and their metadata can be accessed through OceanOPS – the operational coordination and monitoring centre of GOOS.

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