

La Réunion, Wednesday 07 October 2026

SC-CIRCULAR n° 2026-09

Subject: SIOFA SC Workshop on the scientific data management framework (WS2026-DAT)

Dear Heads of Delegation of the Scientific Committee,

Dear Observers,

Dear Colleagues,

At SC11, the Scientific Committee agreed to hold workshop WS2026-DAT (SC11 report, paragraph 108) to progress the management of scientific data generated through SIOFA-related scientific projects, surveys, and collaborative research initiatives within the Convention Area. These data assets include physical and biological samples and associated records, VME observations, environmental DNA (eDNA) data, oceanographic and acoustic datasets, bathymetric data, high-resolution imagery and video, and derived analytical outputs.

The WS2026-DAT workshop is proposed to be in virtual format on **Thursday 26 November 2026 at 07:00-11:00 UTC**, and the proposed agenda, timetable, and working arrangements are given below (<https://siofa.org/meetings/WS2026-DAT/>).

The purpose of WS2026-DAT is to consider the elements of a SIOFA Scientific Data Management Framework (SDMF) and an implementation workplan for scientific data that fall outside routine commercial fisheries data submission requirements.

The output of the Workshop will be a Convener's report containing recommendations from the Workshop including consideration of a Scientific Data Management Framework (SDMF) and associated workplan for implementing the SDMF for the Scientific Committee at SC12 in March 2027.

Please provide any comments on the proposed Terms of Reference, Provisional Agenda, the Timetable, and the Meeting Arrangements by the Wednesday 21 October 2026 to the Science Officer (marco.milardi@siofa.org) and the Secretariat (secretariat@siofa.org). Following any responses, we will circulate the final Terms of Reference, Agenda, and Meeting Arrangements.

Sincerely yours,



Alexis Martin & Alistair Dunn

SIOFA WS2026-DAT Conveners

SIOFA SC WORKSHOP – SIOFA scientific data management framework workshop (WS2026-DAT)

Proposed Agenda and Working Arrangements

1. Background

SIOFA scientific projects, surveys, and collaborative research initiatives within the Convention Area have generated a diverse and growing body of primary and derived scientific data. These assets include SIOFA project data sets, physical and biological samples, VME observations, environmental DNA (eDNA) records, oceanographic measurements, acoustic datasets, bathymetric data, and high-resolution imagery and video.

While ownership and access provisions may be governed by programme-level arrangements, SIOFA currently has no overarching framework or metadata catalogue for the long-term stewardship, integrity, traceability, and controlled accessibility of these scientific assets. As ecosystem-based fisheries management, spatial modelling, and VME assessments place increasing demands on data continuity and reproducibility, this gap creates a risk to the continuity and reproducibility of scientific advice.

This workshop aims to address that gap by identifying the core elements of a Scientific Data Management Framework (SDMF), the requirements for a SIOFA Scientific Data Metadata Catalogue, and a phased workplan for implementation.

The SDMF is specifically concerned with scientific data generated in the context of SIOFA-related research that fall outside the routine commercial fisheries data submission requirements. This includes, but is not limited to:

- physical and biological samples collected during scientific surveys or observer programmes
- VME indicator records and video or imagery transects
- environmental DNA (eDNA) sequence data and associated metadata
- oceanographic and acoustic datasets
- bathymetric data with associated uncertainty information
- derived analytical outputs (model inputs/outputs, standardised CPUE indices) traceable to the above, and
SIOFA scientific consultancy project data, files, and outputs.

2. Objectives

The aims of the Workshop are to:

1. Develop the substantive elements of a Scientific Data Management Framework (SDMF) for consideration by SC12, covering scope, governance, data stewardship, preservation, integrity, traceability, access, and alignment with recognised data-management principles.
2. Define a practical approach for creating a structured inventory of SIOFA-related scientific data assets and identify the minimum metadata fields and standards to be captured in a SIOFA Scientific Data Metadata Catalogue.
3. Agree to a phased implementation workplan identifying priority actions, responsibilities, Secretariat inputs, consultation needs, and deliverables to be progressed before and after SC12.

3. Terms of Reference for the Workshop

The proposed Workshop arrangements are:

1. The Workshop will be open to all representatives of the SIOFA Scientific Committee, including Observers.
2. The Workshop will be convened by Alexis Martin (FR-OT) and Alistair Dunn (SC Chair).
3. The Workshop will meet online via video conference (Zoom) on **Thursday 26 November 2026 at 07:00-11:00 UTC**.
4. A Convener's report of the Workshop will be compiled by the Workshop Conveners and presented at the 12th annual meeting of the SIOFA Scientific Committee (SC12).

4. Provisional Agenda

1. Opening and administrative arrangements

- a. Welcome by the Workshop Conveners and introduction of participants
- b. Adoption of the meeting objectives and agenda; appointment of rapporteur(s); confirmation of reporting arrangements

2. Scope and guiding principles

- a. Confirm the scope of scientific data covered by the framework and the boundary with routine commercial fisheries data submission requirements
- b. Confirm guiding principles: long-term stewardship, integrity, traceability, controlled accessibility, preservation of non-replicable primary data, and alignment with Findability, Accessibility, Interoperability and Reusability (FAIR) principles

3. Core policy and governance elements of the framework

- a. Governance arrangements, data stewardship roles and responsibilities, including relationships among the Secretariat, data providers/custodians, CCPs, scientific projects, and relevant partners
- b. Data lifecycle requirements: ingestion, validation, quality control, version control, provenance, audit trails, and traceability between primary data and derived analytical outputs
- c. Data preservation and security: backup, disaster recovery, integrity checks, archival formats, long-term retention, and role-based authentication
- d. Access and use conditions consistent with ownership, confidentiality, programme-level agreements, and authorised scientific use

4. Scientific Data Metadata Catalogue and inventory of data assets

- a. Approach for compiling an initial inventory of existing SIOFA-related scientific data assets, including legacy and ongoing datasets
- b. Minimum catalogue metadata: dataset title and description; data type; spatial and temporal coverage; project/survey; data owner and custodian; access conditions; storage location; format; version; persistent identifier where available; quality/validation status; and links to related samples, media, analytical products, and publications
- c. Metadata and interoperability standards relevant to different data types, including biodiversity and geospatial standards

5. Technical implementation options

- a. Overview of existing or envisaged technical tools and constraints

- b. Functional requirements for storage and discovery, including relational and spatial functionality, management of large imagery/video assets, persistent identifiers, access control, and interoperability
- c. Identification of a proportionate pilot or minimum viable architecture to support phased implementation

6. Implementation workplan

- a. Sequence of priority actions: data inventory, gap analysis, policy development, technical pilot, and progressive integration of legacy and future datasets
- b. Responsibilities, consultation with relevant partners and data custodians, indicative milestones, and Secretariat inputs required for SC12 and subsequent implementation

7. Recommendations for SC12

- a. Review and agree the principal recommendations to be included in the Convener's report
- b. Confirm priority actions, unresolved issues requiring further work, and proposed next steps

8. Meeting close

5. Timetable

5 November 2026: The Conveners will distribute a summary background document, including a draft data-inventory/metadata-catalogue template and a short description of potential data-management tools for consideration.

12 November 2026: Deadline for submission of Workshop papers.

19 November 2026: Deadline for registration of participants to the Workshop (via email to the SIOFA Secretariat Science Officer).

26 November 2026: Meeting of the Workshop via videoconference at 07:00-11:00 UTC.

3 December 2026: Distribution of the draft Convener's report for participant review and finalisation.

17 December 2026: Deadline for participant comments on the draft Convener's report.

13 February 2027: Submission of the final Convener's report by the deadline for SC12 Working Papers.

6. Selected open-access background references

The following resources are freely accessible and will be submitted as background information to the workshop.

Orientation and practical policy design

[1] Science Europe (2021). Practical Guide to the International Alignment of Research Data Management — Extended Edition. DOI: 10.5281/zenodo.4915861. Relevance: A concise, implementation-oriented guide to core data-management-plan requirements and criteria for selecting trustworthy repositories; useful for defining scope, minimum expectations and review questions. [Download \(Zenodo\)](#).

[2] Wilkinson, M. D. et al. (2016). The FAIR Guiding Principles for scientific data management and stewardship. *Scientific Data*, 3, 160018. DOI: 10.1038/sdata.2016.18. Relevance: The short foundational article defining Findability, Accessibility, Interoperability and Reusability, with the important distinction that FAIR does not mean that all data must be open. [Download PDF](#).

[3] Higgins, S. (2008). The DCC Curation Lifecycle Model. *International Journal of Digital Curation*, 3(1), 134–140. DOI: 10.2218/ijdc.v3i1.48. Relevance: A compact lifecycle view of curation actions from creation or receipt through preservation, access, reuse and transformation. The companion one-page DCC diagram is especially suitable for workshop discussion. [Open-access IJDC article](#); [Download visual lifecycle model](#).

[4] Briney, K., Coates, H. & Goben, A. (2020). Foundational Practices of Research Data Management. *Research Ideas and Outcomes*, 6, e56508. DOI: 10.3897/rio.6.e56508. Relevance: A readable synthesis of the practical building blocks of research data management, including planning, documentation, organisation, storage, preservation and sharing. [Open-access article and PDF](#).

[5] Science Europe (2020). Implementing Research Data Management Policies Across Europe: Experiences from Science Europe Member Organisations. Relevance: A short, visual collection of implementation lessons on policy development, stakeholder engagement, communication, support services and data-steward roles. [Download PDF](#).

[6] Science Europe (2021). Practical Guide to Sustainable Research Data. DOI: 10.5281/zenodo.4769702. Relevance: Three maturity matrices help organisations assess policy, funding and environmental dimensions and identify proportionate next steps for sustainable long-term stewardship. [Download \(Zenodo\)](#).

Trust, preservation and rights

[7] Lin, D. et al. (2020). The TRUST Principles for digital repositories. *Scientific Data*, 7, 144. DOI: 10.1038/s41597-020-0486-7. Relevance: A short framework for repository Transparency, Responsibility, User focus, Sustainability and Technology; useful for testing governance and preservation arrangements. [Download PDF](#).

[8] CoreTrustSeal Standards and Certification Board (2025). CoreTrustSeal Requirements for Trustworthy Data Repositories 2026–2028. DOI: 10.5281/zenodo.17660462. Relevance: A structured checklist covering organisational infrastructure, digital-object management, security and technical infrastructure; useful even when formal certification is not an immediate objective. [Download \(Zenodo\)](#).

[9] Research Data Alliance–CODATA Legal Interoperability Interest Group (2016). Legal Interoperability of Research Data: Principles and Implementation Guidelines. DOI: 10.5281/zenodo.162241. Relevance: Six practical principles for making ownership, licences, restrictions, confidentiality and permitted reuse explicit across jurisdictions and partner organisations. [Download \(Zenodo\)](#).

Metadata and interoperability standards

[10] DataCite Metadata Working Group (2024). DataCite Metadata Schema Documentation for the Publication and Citation of Research Data and Other Research Outputs, Version 4.6. Relevance: An authoritative field-level reference for persistent identifiers, creators, titles, dates, versions, rights, geolocation and relations among datasets, samples, media, software and publications. [Download PDF](#).

[11] Wieczorek, J. et al. (2012). Darwin Core: An Evolving Community-Developed Biodiversity Data Standard. PLOS ONE, 7(1), e29715. DOI: 10.1371/journal.pone.0029715. Relevance: A short introduction to the widely used biodiversity standard for taxon, occurrence, location, event and related information. [Download PDF](#).

[12] CF Conventions Committee (2025). NetCDF Climate and Forecast (CF) Metadata Conventions, Version 1.13. Relevance: The principal technical reference for self-describing gridded and multidimensional environmental data, including coordinates, units, standard names and provenance-related processing information. [Download PDF](#).

Marine-sector architectures and experience

[13] Tanhua, T. et al. (2019). Ocean FAIR Data Services. Frontiers in Marine Science, 6, 440. DOI: 10.3389/fmars.2019.00440. Relevance: A sector-wide synthesis of how FAIR principles can be implemented for ocean data through interoperable services, standards, persistent identifiers, provenance and coordinated infrastructure. [Open-access article and PDF](#).

[14] Schoening, T. et al. (2022). Making marine image data FAIR. Scientific Data, 9, 414. DOI: 10.1038/s41597-022-01491-3. Relevance: A concise and highly visual treatment of the distinctive problems posed by very large marine-image collections, with a proposed image FAIR Digital Object and workflow linking raw data, derived products, metadata and tools. [Download PDF](#).

[15] Felden, J. et al. (2023). PANGAEA — Data Publisher for Earth & Environmental Science. Scientific Data, 10, 347. DOI: 10.1038/s41597-023-02269-x. Relevance: A detailed, operational case study of a mature environmental data repository, covering governance, curation workflow, relational and geospatial infrastructure, persistent identifiers, interoperability, quality control and long-term preservation. [Download PDF](#).