



SIOFA | APSOI

Southern Indian Ocean Fisheries Agreement
Accord relatif aux Pêches dans le Sud de l'Océan Indien

Convener's Report of the Southern Indian
Ocean Fisheries Agreement (SIOFA)
Scientific Committee (SC) Workshop on the
Development of E-Monitoring Standards
(WS2026-EMS)

Virtual

21 January 2026

Agenda item 1 – Opening of the Workshop	4
a. Welcome from Convener.....	4
b. Introduction of meeting participants	4
Agenda item 2 – Administrative arrangements	4
a. Adoption of the meeting objectives and agenda	4
b. Appointment of rapporteurs.....	4
c. Introduction of the existing documents in support of the specific meeting objectives.....	4
Agenda item 3 – Introduction to E-Monitoring	4
a. Introduction of the existing documents in support of the specific Workshop objectives	4
b. FAO E-Monitoring – Deep Sea Project First phase and other developments	5
c. SIOFA CCPs experiences in E-Monitoring for collecting scientific data	5
d. Recommendations	6
Agenda item 4 – E-Monitoring considerations for fisheries managed by SIOFA	6
a. Deep water demersal longlining (i.e., Patagonian toothfish, snappers, lutjanids, hapuka)...	6
b. Deep water bottom and midwater trawling (i.e., orange roughy and alfonsino).....	6
c. Shallow water bottom trawling (i.e., lizardfish and scads).....	7
d. Shallow-water handlining (i.e., Carangoides spp., snappers, emperors and groupers)	7
e. Pelagic longlining (i.e., oilfish)	7
f. Jigging (i.e., squid)	7
g. Recommendations	7
Agenda item 5 – Recommendations for SC11 consideration	7
Agenda item 6 –Review of key report recommendations in plenary	8
Agenda item 7 – Meeting close	8
Annex A – List of registered participants	9

List of Annexes

Annex A List of registered participants

Agenda item 1 – Opening of the Workshop

a. Welcome from Convener

1. The Workshop was convened by Dr Sebastián Rodríguez Alfaro (European Union).
2. The Convener opened the Workshop and welcomed the participants.

b. Introduction of meeting participants

3. The list of registered participants is included in Annex A.

Agenda item 2 – Administrative arrangements

a. Adoption of the meeting objectives and agenda

4. The meeting objectives (WS2026-EMS-ADM-03) and agenda (WS2026-EMS-ADM-04) were adopted.

b. Appointment of rapporteurs

5. The SIOFA Science Officer, Dr Marco Milardi, served as rapporteur and supported the Convener in preparing the Convener's report.
6. The Convener introduced the meeting and report arrangements.
7. The Convener noted that the draft convener's report would be circulated to the workshop registered participants by 4 February 2026 and invited them to provide their comments by 18 February 2026. The Convener report, once revised, will be submitted to SC11 by the deadline for the submission of working documents, on 21 February 2026.

c. Introduction of the existing documents in support of the specific meeting objectives

8. The Convener advised the Workshop that the meeting documents are available on the dedicated page on the SIOFA website (<https://siofa.org/meetings/WS2026-EMS>).

Agenda item 3 – Introduction to E-Monitoring

a. Introduction of the existing documents in support of the specific Workshop objectives

9. The Convener introduced document WS2026-EMS-01, which reported the history of SIOFA Scientific Committee (SC) and Meeting of the Parties (MoP) discussion on E-Monitoring (EM), as recorded in meeting reports. This document shows the evolution of consideration within the SIOFA bodies on EM, based on the principle that EM could integrate but is unlikely to fully substitute the work of Scientific Observers. The Convener underlined that the MoP tasked the SC to develop e-monitoring standards for gear types other than pelagic longlines, using the Indian Ocean Tuna Commission (IOTC) e-monitoring standards as a basis, IOTC Resolution 23/08, following the recommendations of the SC10.
10. The Convener then introduced document WS2026-EMS-02, which collects the relevant paragraphs of existing SIOFA Conservation and Management Measures (CMMs). The paper includes excerpts from SIOFA CMM 01, 02 and 08 that are related to the electronic monitoring of fisheries. The Convener also clarified that EM-related paragraphs of SIOFA CMM 10 were not included in this paper as they are related to compliance, rather than scientific observation.
11. The SIOFA SC Chair, Mr Alistair Dunn, presented document WS2026-EMS-03 to the Workshop. This document reproduces a paper published by Pierre *et al.* in 2024 within an academic journal (*Reviews in Fish Biology and Fisheries*). This research work aimed to review the data collection capabilities of EM and considered approaches to

increasing efficiency, including cost effectiveness, of EM. Methods to increase efficiency and decrease costs of EM review should be applied from the programme design phase, through data collection and review. During the EM data review, costs may be reduced by sampling imagery optimally to meet monitoring objectives.

12. Model outputs reported in document WS2026-EMS-03 show that EM review requirements increase as catch frequency decreases, dispersion of catch events increases, and when more precise catch estimates are required. Geographical stratification reduced the amount of review required for more commonly caught species and when catch events were focused in a limited area. Optimising review rates across multiple monitoring objectives was most effective for more commonly caught species.
13. The Workshop discussed the use of Artificial Intelligence (AI) on the information collected through EM, considering its use for scientific purposes. The discussion underlined that part of the Scientific Observers tasks may be related to Compliance (e.g., the observation of deployment of bycatch mitigation devices).
14. The Workshop also discussed the use of AI to record catch composition. The Workshop recognised that AI could separate dissimilar species/families but is not yet able to distinguish across different species within a genus, especially if they look similar.
15. The Workshop noted that a human review of recorded footage could help record or verify the catch composition.
16. The Workshop thanked Mr Dunn for presenting this work.
17. The Convener briefly introduced document WS2026-EMS-05, which reported IOTC Resolution 23/08. The Workshop noted that, contrary to IOTC which is characterised by relatively uniform fisheries and a high volume of catches, SIOFA will be challenged by the diversity of fisheries and the low volume of catches under its competence. The Workshop also noted that the fishery-specific discussion in SIOFA should focus on specific scientific needs to guide the setting of the standards.

b. FAO E-Monitoring – Deep Sea Project First phase and other developments

18. Dr Anthony Thompson, Food and Agriculture Organization of the UN (FAO), presented document WS2026-EMS-04, which reported the key outcomes of the FAO Workshop on the use of sensors and video cameras by scientific observers to record deepwater shark catches, which was held on 31 August 2021.
19. The FAO Workshop underlined that EM consists of a system of sensors that detect gear movement indicating fishing activity, cameras that record fishing activities, GPS tracking of vessel movements, satellite reporting of system status, and a control unit that stores recorded information.
20. The FAO Workshop also highlighted that, if the system is used to collect Compliance information, it could free up time for Scientific Observers to perform more specific duties. EM tools can also support the work of Scientific Observers on the collection of scientific data, allowing for a higher quality of biological data on retained species, bycatch and discard reporting which enables better implementation of the Ecosystem Approach to Fisheries Management (EAFM) and improve impact assessments.
21. Dr Thompson also underlined that, while the use of AI remains promising, not much has changed in terms of AI capabilities since the FAO Workshop was held in 2021.
22. The Workshop thanked Dr Thompson for presenting this work.

c. SIOFA CCPs experiences in E-Monitoring for collecting scientific data

23. Australia reported that they are deploying EM in their longline domestic fisheries (both pelagic and demersal) and recently made a decision to extend this programme in 2026 to trawl and other fisheries. The Australian programme aims to use EM in combination

- with one human observer on board. Australia is also involved in work towards the adoption of EM standards in SIOFA, in the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) and in IOTC.
24. China reported that they are working on EM systems targeted on squid fisheries observation, especially within the framework of the South Pacific Regional Fisheries Management Organization (SPRFMO).
 25. The EU reported that EM has been deployed within scientific and testing projects carried on board EU-flagged vessels. Within SIOFA, the EU vessels have already collected EM data, but this data is yet to be accessed and analysed.
 26. France (on behalf of its Overseas Territories) reported that their domestic lobster fisheries use EM to record position and effort. Their domestic and SIOFA toothfish longline fishery also uses EM to improve the data collection and observer safety, especially in adverse weather conditions (e.g camera during tally period). This fishery also deploys real-time data verification tools to improve the quality of data collection, as well as real-time backup and submission of data to improve data security. Their domestic demersal fish survey also recently started using electronic measuring board.
 27. Japan reported that they have yet to fully introduce EM in domestic and high-seas fisheries. However, work has been ongoing domestically to develop AI image processing for mackerel and tuna fisheries, with the goal to identify catch composition. In 2023, some vessels have introduced EM to obtain MSC certification for longline tuna fishing operations on the high seas. However, challenges include the difficulty and time required for analysis, and concerns have been raised about potential privacy concerns for crew members.
 28. Thailand reported that Thai overseas fishing vessels are required to use an Electronic Monitoring (EM) system on board for compliance purposes. The EM is unable to identify fish species caught by trawlers and it can only detect large catches or bycatch which are easily distinguishable with eyes, such as sharks or sea turtles. Further details of the EM system are provided in Thailand's National Report.

d. Recommendations

29. The Workshop recommended that the SC identifies areas where EM can be applied to scientific data collection and data quality check, as well as areas where the information collected for Science and Compliance might overlap.
30. The Workshop recommended that the SC considers the potential of EM to provide assistance to onboard Scientific Observers, improving safety at sea and the ability of Scientific Observers to undertake other duties.

Agenda item 4 – E-Monitoring considerations for fisheries managed by SIOFA

a. Deep water demersal longlining (i.e., Patagonian toothfish, snappers, lutjanids, hapuka)

31. The Workshop considered the advantages of harmonising the SIOFA EM for demersal longlining targeting Patagonian toothfish to be consistent with that which might be developed in CCAMLR, to ensure that vessels can transition from one area to the other without further modifications to EM equipment.
32. The Workshop also considered the use of EM to collect length frequency, catch composition and bycatch data in these fisheries.

b. Deep water bottom and midwater trawling (i.e., orange roughy and alfonsino)

33. The Workshop noted that EM for deep water bottom and midwater trawling fisheries

is less useful than for other types of fisheries. This is mostly related to the reduced ability of EM to collect data on catch composition, unless catch is processed through a conveyor belt.

34. The Workshop also noted that the Cook Islands are in the process of developing EM for trials at sea (Para 171 of the MoP6 Report).

c. Shallow water bottom trawling (i.e., lizardfish and scads)

35. The Workshop noted that EM could be useful for identifying catch composition in shallow water bottom trawling fisheries.
36. The Workshop also noted that EM could be useful to develop length frequency data collection, in a second step.

d. Shallow-water handlining (i.e., *Carangoides* spp., snappers, emperors and groupers)

37. The Workshop noted that EM could be useful for identifying catch composition in shallow water bottom handlining fisheries.
38. The Workshop also noted that EM could be useful to develop length frequency data collection, in a second step.

e. Pelagic longlining (i.e., oilfish)

39. The Workshop noted that there was no further development from the SC and MoP indication on this fishery, which already provided clear recommendations (MoP12 Report Para 174) on this fishery.

f. Jigging (i.e., squid)

40. The Workshop noted the progress made on EM for squid jigging within the SPRFMO working groups, and that the Chinese jigging fleet is very uniform in construction and composition, and will be likely equipped with similar EM gear, especially for Compliance purposes, on the basis of the SPRFMO standards.
41. The Workshop also noted that, to date, there is very little activity in this fishery within the SIOFA Area.

g. Recommendations

42. The Workshop recommended that the SC develop a multi-phase work programme on EM standards during the next annual meeting, perhaps addressing position and effort in a first phase, and catch monitoring in a following phase, for each established fishery.
43. The Workshop recommended that the SC considers harmonising the SIOFA EM standards for demersal longline fisheries for toothfish to be consistent with that which might be developed by CCAMLR.
44. The Workshop recommended that the SC considers the outcome of any future trials to better understand what EM standards would be needed in bottom and midwater trawling fisheries.
45. The Workshop recommended that the SC considers harmonising the SIOFA EM standards for squid jigging fisheries with those being developed in SPRFMO, and that this harmonisation could be done at a later stage, when this fishery is more developed in SIOFA.

Agenda item 5 – Recommendations for SC11 consideration

46. The Workshop recommended that the SC identifies areas where EM can be applied to scientific data collection and data quality check, as well as areas where the information collected for Science and Compliance might overlap.
47. The Workshop recommended that the SC considers the potential of EM to provide assistance to on board Scientific Observers, improving safety at sea and the ability of

Scientific Observers to undertake other duties.

48. The Workshop recommended that the SC develops a multi-phase work programme on EM standards during the next annual meeting, perhaps addressing position and effort in a first phase, and catch monitoring in a following phase, for each established fishery.
49. The Workshop recommended that the SC considers harmonising the SIOFA EM standards for demersal longline fisheries for toothfish to be consistent with that which might be developed by CCAMLR.
50. The Workshop recommended that the SC considers the outcome of any future trials to better understand what EM standards would be needed in bottom and midwater trawling fisheries.
51. The Workshop recommended that the SC considers harmonising the SIOFA EM standards for squid jigging fisheries with those being developed in SPRFMO, and that this harmonisation could be done at a later stage, when this fishery is more developed in SIOFA.

Agenda item 6 –Review of key report recommendations in plenary

52. The Workshop reviewed the report recommendations in plenary.

Agenda item 7 – Meeting close

53. The Convener thanked the participants for their active contributions.
54. The Workshop thanked the Convener and the Secretariat for organising and running the meeting, and the effective preparation of the Workshop.
55. The meeting was closed at 10:58 a.m. UTC, 21 January 2026.

Annex A – List of registered participants

Delegation	Title	First name	Last name	Position	Organisation
Australia	Mr	Trent	Timmiss	HoD	ABARES
Australia	Mr	David	Power	Advisor	AFMA
Australia	Mr	Rich	Cottrell	Advisor	ABARES
China	Dr	Heng	Zhang	HoD	East China Sea Fishery Research Institute, Chinese Academy of Fishery Sciences
China	Mr	Jun	Yu	Advisor	Shanghai Ocean University
China	Dr	Jiaqi	Wang	Advisor	Shanghai Ocean University
China	Ms	Tinglin	Li	Advisor	China Overseas Fisheries Association
China	Dr	Yue	Jin	Advisor	Yellow Sea Fisheries Research Institute, Chinese Academy of Fishery Science
European Union	Mr	Roberto	Sarralde Vizuete	Advisor	IEO
European Union	Ms	Vanessa	Rojo Méndez	Advisor	IEO
France OT	Dr	Alexis	Martin	HoD	MNHN
France OT	Mrs	Charlotte	Chazeau	Alternate	MNHN
France OT	Mr	Nicolas	Gasco		MNHN
Japan	Dr	Takehiro	Okuda	Head of Delegation Scientific Committee	Fisheries Resources Institute, Japan Fisheries Research and Education Agency
Japan	Dr	Midori	Hashimoto	SC Alternate	Fisheries Resources Institute, Japan Fisheries Research and Education Agency
Japan	Mr	Taisuke	Iwano	Head of Delegation	Fisheries Agency Government of Japan
Japan	Mr	Kazuki	Tsuda	Alternate	Fisheries Agency Government of Japan
Japan	Mr	Hideki	Moronuki	Advisor	Japan overseas fishing association
Mauritius	Dr	Luvna	Caussy	Alternate	Ministry of Agro-industry, Food-security, Blue Economy & Fisheries
Mauritius	Mr	Kawol	Doorvanand	Alternate	Ministry of Agro-industry, Food-security, Blue Economy & Fisheries
Thailand	Dr	Pavarot	Noranarttragoon	HOD	Department of Fisheries, Thailand
Thailand	Mr	Weerapol	Thitipongtrakul	Alternate	Department of Fisheries,

Convener's Report of the Southern Indian Ocean Fisheries Agreement (SIOFA) Scientific Committee (SC) Workshop on the Development of E-Monitoring Standards (WS2026-EMS)

Delegation	Title	First name	Last name	Position	Organisation
					Thailand
Thailand	Mr	Udomsin	Auksonphaob	Participant	Department of Fisheries, Thailand
Thailand	Ms	Tirabhorn	Yothakong	Participant	Department of Fisheries, Thailand
Thailand	Mr	Prasit	Luesrithawornsin	Participant	Department of Fisheries, Thailand
Thailand	Ms	Praphayapath	Thonroshrapee	Participant	Department of Fisheries, Thailand
Thailand	Ms	Kanyarat	Woraprayoth	Participant	Department of Fisheries, Thailand
Thailand	Ms	Jidapha	Setthatham	Participant	Department of Fisheries, Thailand
Thailand	Ms	Supranee	Chatthong	Participant	Department of Fisheries, Thailand
Chinese Taipei	Ms	Chia-Jung	Wang	Delegate	Fisheries Agency
Convener	Dr	Sebastián	Rodríguez Alfaro	HoD	Marine Sciences/EU
Observers - FAO	Dr	Anthony	Thompson	Observer	Deep-sea Fisheries project, FAO
SIOFA SC Chair	Mr	Alistair	Dunn	SC Chair	Ocean Environmental
SIOFA SC Vice Chair	Ms	Charlotte	Chazeau	SC Alternate	MNHN
SIOFA SC Vice Chair	Dr	Zhou	Fang	SC Alternate	Shanghai Ocean University
SIOFA Secretariat	Mr	Thierry	Clot	Executive Secretary	SIOFA Secretariat
SIOFA Secretariat	Mr	Pierre	Peries	Data Officer	SIOFA Secretariat
SIOFA Secretariat	Mr	Johnny	Louys	Compliance Officer	SIOFA Secretariat
SIOFA Secretariat	Dr	Marco	Milardi	Science Officer	SIOFA Secretariat