



# G7 FSOI Resource Strategy Group to support the Biogeochemical Argo Array 2030

SUMMARY REPORT of the FIRST SESSION

**28-29 March 2022**

## 1. WELCOME AND INTRODUCTIONS

Maria Hood, Head of the EU Office of the G7 Future of the Seas and Oceans Initiative Coordination Centre, opened the meeting by welcoming the delegations to this first meeting of the G7 FSOI Resource Strategy Group to support the Biogeochemical Argo Array. A participants list is provided in **Annex 1** and the agenda in **Annex 2** of this report.

Maria provided a brief overview of the G7 FSOI and its Resource Strategy Groups to open the meeting. She explained that the G7 FSOI working group in 2021 agreed that the main 'value added' role of the G7 in the observing system is resource mobilization, and that G7 FSOI activities are carried out in 2 categories: Resource Strategy Groups and Scientific / Technical Support to GOOS Expert Panels.

The Resource Strategy Groups bring together G7 government representatives responsible for funding ocean observations to agree on common investment priorities and implementation strategies, or to carry out reviews and foster dialogues on G7 ocean observing governance, coordination, and funding mechanisms. These include:

- The Global Biogeochemical Argo Fleet
- Enabling Digital Twin Ocean Capability
- Governance, Coordination, and Funding of Sustained Ocean Observations
- Net-Zero Carbon Emissions Ocean Capability

## 2. TERMS OF REFERENCE

The Goal, Scope, and Terms of Reference for the Biogeochemical Argo RSG were reviewed and approved. The approved TORs are provided in **Annex 3**.

## 3. PRESENTATIONS BY THE BGC ARGO MISSION TEAM

BGC Argo co-chair Hervé Claustre opened this session with an overview of the BGC Argo programme, presenting a summary of the programme's development, its current governance structure, and participating countries.

BGC-Argo co-chair Ken Johnson followed this with an overview of the mission implementation status, including scientific and technical successes and challenges, and reviewed international

implementation commitments and priorities in the short term (1-2 years) and medium term (5 years).

#### 4. G7 MEMBER INFORMATION SHARING

The G7 members were invited to provide short presentations about their national interests, priorities, plans and commitments for the BGC Argo array. These overviews complemented the brief written reports submitted by Members prior to the meeting. These reports are available for Members on the password protected site for the Resource Strategy Group.

#### 5. DECISIONS

**Decision 1.** The G7 FSOI RSG should work with the BGC-Argo Mission Team and OceanOPS to develop and maintain a clear set of targets for G7 countries to be reviewed annually by the G7 to track implementation progress and leverage support.

**Decision 2.** The G7 FSOI should make a strong statement of commitment and forward planning for establishing the global array by 2030 to assure sensor developers of the long-term perspective for their services and as a way of encouraging new sensor developers to participate in the development of the array.

**Decision 3.** The G7 FSOI RSG should encourage the BGC-Argo Mission Team to establish standard requirements for each BGC variable to initiate a dialogue with private-sector sensor developers and encourage development of multiple sources of sensors.

**Decision 4.** The G7 FSOI RSG should encourage the BGC-Argo Mission Team and OceanOPS to develop a centralized portal of deployment opportunities by basin building on existing cruise-sharing information and tools in partnership with groups such as the US Marine Facilities Planning, the EuroFLEETS alliance, and the International Research Ship Operators group.

**Decision 5.** The G7 FSOI RSG should work with the BGC-Argo Mission Team and science-policy communication professionals to develop a science-policy brief to increase the awareness and visibility of the BGC-Argo programme at the ministerial / agency and international / intergovernmental levels as well as with non-specialists outside of the traditional science and environment sectors. Additionally, similar efforts should focus on outreach to potential operational user communities.

#### 6. CLOSING

Maria and Katy thanked the delegations and experts for their contributions to the RSG discussions and thanked the Argo co-chairs Ken, Hervé, Susan, and Toshio for their presentations and guidance.

Maria informed participants that the national reports and presentations will be made available on the G7 FSOI web site in a password protected page for the RSG, and that delegations would be provided with the link and password in the coming days. She noted that the report of the meeting will not be made public but that a Summary Report would be developed for public sharing following the approval of the full RSG report.

## ANNEX 1. DELEGATIONS AND INVITED PARTICIPANTS

### **BGC Argo and Argo Mission Team Leads:**

Ken JOHNSON (USA) – BGC Argo co-chair  
 Hervé CLAUSTRE (FR) – BGC Argo co-chair  
 Susan WIJFFELS (USA) – Argo Steering Team co-chair  
 Toshio SUGA (Japan) – Argo Steering Team co-chair

### **G7 Delegations**

<i>Government Representatives</i>	<i>Scientific Experts</i>
<b>Canada</b>	
Andrew STEWART DFO, G7 FSOI national focal point  Lana SHAYA DFO	Katja FENNEL Dalhousie University, BGC Argo International Mission Team  Blair GREENAN DFO, Argo Steering Committee, Director Argo Canada
<b>EU</b>	
Zoi KONSTANTINOU (DG MARE) <i>Could not attend:</i> Agnès ROBIN (DG RTD) Nicolas SEGEBARTH (DG RTD) Fabienne JACQ (DG DEFIS)	<i>Euro-Argo experts present in other delegations and Argo Mission Team.</i>
<b>France</b>	
Alain LAGRANGE Ministry for Research; G7 FSOI focal point  Jean-Marie FLAUD Ministry for Research; EURO Argo ERIC Council	Pierre-Yves LETRAON Ifremer / Mercator Ocean International, Euro-Argo ERIC Council  Sylvie POULIQUEN Ifremer, Euro-Argo ERIC programme manager; Argo Data Team co-chair
<b>Germany</b>	
Kerstin JOCHUMSEN BSH  Elisabeth SCHULZ Project Management Jülich	Arne KÖRTZINGER GEOMAR  Henry BITTIG Leibniz-Institute for Baltic Sea Research Warnemünde  Mirja SCHODERER German Development Institute, Bonn  Ramona HAEGELE German Development Institute, Bonn
<b>Italy</b>	
Elena MAURI EuroArgo ERIC council; National Institute of Oceanography and Experimental Geophysics	Emanuele ORGANELLI National Research Council
<b>Japan</b>	
Gen TOTANI	Tetsuichi FUJIKI

MEXT, G7 FSOI National Focal Point	JAMSTEC, BGC Argo Mission Team  Shigeki HOSODA JAMSTEC
<b>UK</b>	
Christopher GREEN – <i>could not attend</i> DEFRA, G7 FSOI National Focal Point  Angela HATTON National Oceanographic Centre Southampton	Giorgio DALL'OLMO Plymouth Marine Laboratory, UK Bio Argo  Brian KING National Oceanographic Centre Southampton, UK Argo
<b>USA</b>	
David LEGLER NOAA  Henrietta EDMONDS NSF  Kandace BINKLEY NSF	Andrea FASSBENDER NOAA PMEL  Oscar SCHOFIELD Rutgers University

**G7 FSOI Coordination Centre Staff**

Maria HOOD, EU G7 FSOI Coordination Centre, Mercator Ocean International  
Lillian Diarra, EU4OceanObs Communications Officer, Mercator Ocean International  
Vincent Legros, Marketing Officer, Mercator Ocean International  
Katherine HILL, UK G7 FSOI Coordination Centre

## ANNEX 2. AGENDA

DAY 1: 12h00-14h00 UTC

### **12h00 – 12h20 UTC WELCOME AND INTRODUCTIONS**

Welcome and overview of the G7 FSOI and its Resource Strategy Groups (5') – *Maria Hood and Katherine Hill, G7 FSOI Coordination Centre*

Round-table Introductions by delegation (head of delegation to present their members) – *1-2 minutes per delegation.*

Introductions of the Argo International Mission Team – *1 minute per member.*

### **12h20 – 12h30 TERMS OF REFERENCE**

Discussion and approval of goal, scope, and Terms of Reference for the Resource Strategy Group.

### **12h30 – 13h15 PRESENTATION BY THE BGC ARGO MISSION TEAM (30' presentation, 15' Q/A)**

Overview of the international programme strategy and implementation, governance, data management and sharing, participating countries – *Hervé Claustre, BGC Argo Co-Chair.*

Implementation status, commitments, gaps; scientific, technical, and implementation challenges; priorities for short term (1-2 years) and medium-term (5 years) – *Ken Johnson, BGC Argo Co-Chair.*

Open discussions, questions / answers

### **13h15 – 13h55 G7 MEMBER INFORMATION SHARING (5' per delegation)**

*Reminder:* please send your written input prior to the meeting if possible.

### **13h55 – 14h00 WRAP UP DAY 1 *Maria Hood and Katherine Hill, G7 FSOI Coordination Centre***

DAY 2: 12h00-14h00 UTC

### **12h00 – 12h10 OVERVIEW OF DAY 1 *Maria Hood and Katherine Hill, G7 FSOI Coordination Centre***

### **12h10 – 12h40 OPEN DISCUSSIONS Based on 3a and 3b from day 1, identify common goals and priorities for investment.**

### **12h40 – 13h30 KNOWLEDGE TO ACTION: DEMONSTRATING BENEFITS, AWARENESS RAISING, AND OUTREACH**

Review activities that demonstrate benefits of BGC Argo (e.g., links with Decade programmes, use cases / demonstrators, etc.) – *BGC Argo Mission Team (20') + Open discussions (15')*

Identify opportunities to develop high-level communiques at key international / intergovernmental forums. (15')

**13h30 – 14h00**

**CLOSING AND ACTIONS**

*Maria Hood and Katherine Hill, G7 FSOI Coordination Centre*

## ANNEX 3. TERMS OF REFERENCE

**Goal** – achieve implementation of the full global BGC-Argo network by 2030.

**Scope** – annual information sharing on implementation progress and identifying priorities for coordinated joint investment and/or actions.

### **Terms of Reference for the RSG :**

Share information annually between the G7 members and the International Mission Team on implementation progress and funding commitments for BGC Argo.

Review scientific / technical / logistical challenges and identify priorities for coordinated G7 investment or joint activities:

- Review links between the core, deep, and BGC components of OneArgo and links to other aspects of the global ocean observing system on which Argo depends (e.g., repeat hydrography and satellite remote sensing).
- Review data sharing infrastructure issues and identify issues requiring specific G7 support or coordinated action.
- Review technology R&D issues (sensor development, availability, new sensors, full-suite of sensors on floats, etc.)

Identify opportunities for awareness raising at the international / intergovernmental level of the utility and benefit of BGC Argo data; develop and publish joint high-level communiqués to mobilize enhanced support.

Encourage and foster support for the development of use cases and applications using BGC Argo data for (e.g.) carbon budget verification, fishery management and ocean modelling and prediction, biodiversity, impact of extreme events and synergies with Earth Observation from space.