

Report for the year 2019 and future activities

SOLAS 'country' **compiled by: 'Name'**

This report has two parts:

- **Part 1:** reporting of activities in the period of January 2019-Jan/Feb 2020
- **Part 2:** reporting on planned activities for 2020 and 2021.

*The information provided will be used for reporting, fundraising, networking, strategic development and updating of the live web-based implementation plan. As much as possible, please indicate the specific SOLAS 2015-2025 Science Plan Themes addressed by each activity or **specify an overlap between Themes or Cross-Cutting Themes.***

- 1 Greenhouse gases and the oceans;
 - 2 Air-sea interfaces and fluxes of mass and energy;
 - 3 Atmospheric deposition and ocean biogeochemistry;
 - 4 Interconnections between aerosols, clouds, and marine ecosystems;
 - 5 Ocean biogeochemical control on atmospheric chemistry;
- Integrated studies of high sensitivity systems;
Environmental impacts of geoengineering;
Science and society.

IMPORTANT: *This report should reflect the efforts of the SOLAS community in the entire country you are representing (all universities, institutes, lab, units, groups, cities).*

First things first...Please tell us what the IPO may do to help you in your current and future SOLAS activities. ?

PART 1- Activities from January 2019 to Jan/Feb 2020

1. Scientific highlight

As part of International Ocean Carbon Coordination Project (IOCCP; www.ioccp.org) with headquarters at IOPAN in Sopot, Maciej Telszewski (Director) and Artur Palacz (Project Officer) in 2019 engaged in a number of coordination and communication activities promoting the development of a global network of ocean carbon and biogeochemistry observations, supporting in part the implementation of the 2015-2025 SOLAS Science Plan.

IOCCP and SOLAS provided a joint contribution to the first meeting of the IOC-UNESCO Working Group on Integrated Ocean Carbon Research. The *Variability in the Oxycline and Its Impacts on the Ecosystem* (VOICE; <http://www.ioccp.org/voice>) initiative concluded its preparatory stage with the publication of an OceanObs'19 Community White Paper. A number of other OceanObs'19 Community White Papers relevant for SOLAS science benefited from our contributions (see list below).

In the area of technical capacity building, IOCCP and SOLASco-sponsored the IOC-GO₂NE summer school on oxygen (<http://mel.xmu.edu.cn/summerschool/go2ne/index.asp>). During IOCCP-BONUS INTEGRAL training course on a suite of biogeochemical sensors (<http://www.ioccp.org/2019-training-course>) there were several sessions with direct relevance to the main themes of SOLAS, including on calculating air-sea fluxes using the FLuxEngine toolbox (led by Jamie Shutler) and on biogeochemical modelling (led by Véronique Garçon). Course materials with video lectures were made available online. In addition, we conducted a prototype technical workshop on "Underway CO₂ data and metadata quality control procedures," future editions of which could be of interest to SOLAS researchers.

2. Activities/main accomplishments in 2019 (e.g., projects; field campaigns; workshops and conferences; model and data intercomparisons; capacity building; international collaborations; contributions to int. assessments such as IPCC; collaborations with social sciences, humanities, medicine, economics and/or arts; interactions with policy makers, companies, and/or journalists and media).

Organization of an international symposium called the Sopot Forum for Young Scientists.

Presidency in EurOcean.

Leaders in the POLAND-AOD network.

Polish coordination in the NASA Maritime Aerosol Network.

Membership in the Scientific Council of the Climate Forum – Science on Climate.

Coordination of the Sopot Association for the Advanced Sciences activities.

Organization of a number of public events, promoting science.

Workshop on underway CO₂ data and metadata quality control procedures

1-3 April 2019, Sopot, Poland

4th Global Ocean Acidification Observing Network Science Workshop

14-17 April 2019, Hangzhou, China

Global Ocean Acidification Observing Network Executive Council

13, 18 April 2019, Hangzhou, China

8th Session of the Global Ocean Observing System Steering Committee

30 April - 3 May 2019, Kiel, Germany

IOCCP & BONUS-INTEGRAL Training Course on a Suite of Biogeochemical Sensors

10-19 June 2019, Kristineberg, Sweden

Global Ocean Oxygen Network Summer School

2-4 September 2019, Xiamen, China

OceanObs'19 Conference
16-20 September 2019, Honolulu, USA

Oxygen Data Platform Scoping Workshop
11-12 November 2019, Sopot, Poland

14th Session of the International Ocean Carbon Coordination Project (IOCCP) Scientific Steering Group & Global Ocean Observing System Biogeochemistry Panels of Experts
13-15 November 2019, Sopot, Poland

3. Top 5 publications in 2019 (only PUBLISHED articles) and if any, weblinks to models, datasets, products, etc.

Evans, K., Chiba, S., Bebianno, M.J., Garcia-Soto, C., Ojaveer, H., Park, C., Ruwa, R. Simcock, A.J., Vu, C.T., Zielinski, T., (2019). The global integrated world ocean assessment: Linking observations to science and policy across multiple scales; *Frontiers in Marine Science*, DOI: 10.3389/fmars.2019.00298;

Palacz, AP, M Telszewski, G Rehder, and HC Bittig (2019), Training the next generation of marine biogeochemists, *Eos*, 100, <https://doi.org/10.1029/2019EO136334>. Published on 06 November 2019.

Olsen, A., Lange, N., Key, R. M., Tanhua, T., Álvarez, M., Becker, S., Bittig, H. C., Carter, B. R., Cotrim da Cunha, L., Feely, R. A., van Heuven, S., Hoppema, M., Ishii, M., Jeansson, E., Jones, S. D., Jutterström, S., Karlsen, M. K., Kozyr, A., Lauvset, S. K., Lo Monaco, C., Murata, A., Pérez, F. F., Pfeil, B., Schirnack, C., Steinfeldt, R., Suzuki, T., Telszewski, M., Tilbrook, B., Velo, A., and Wanninkhof, R.: GLODAPv2.2019 – an update of GLODAPv2, *Earth Syst. Sci. Data*, 11, 1437–1461, <https://doi.org/10.5194/essd-11-1437-2019>, 2019.

Garçon V, Karstensen J, Palacz AP, Telszewski M, Aparco Lara T, Breitburg D, Chavez F, Coelho P, Cornejo M, Dos Santos C, Fiedler B, Gallo N, Grégoire M, Gutierrez D, Hernandez-Ayon M, Isensee K, Koslow T, Levin L, Marsac F, Maske H, Mbaye BC, Montes I, Naqvi W, Pearlman J, Pinto E, Pitcher G, Pizarro O, Rose K, Shenoy D, Van der Plas A, Vito MR and Weng K (2019) Multidisciplinary Observing in the World Ocean's Oxygen Minimum Zone Regions: From Climate to Fish—The VOICE Initiative. *Front. Mar. Sci.* 6:722. doi: 10.3389/fmars.2019.00722

Tilbrook B, Jewett EB, DeGrandpre MD, Hernandez-Ayon JM, Feely RA, Gledhill DK, Hansson L, Isensee K, Kurz ML, Newton JA, Siedlecki SA, Chai F, Dupont S, Graco M, Calvo E, Greeley D, Kapsenberg L, Lebrech M, Pelejero C, Schoo KL and Telszewski M (2019) An Enhanced Ocean Acidification Observing Network: From People to Technology to Data Synthesis and Information Exchange. *Front. Mar. Sci.* 6:337. doi: 10.3389/fmars.2019.00337

4. Did you engage any stakeholders/societal partners/external research users in order to co-produce knowledge in 2019? If yes, who? How did you engage?

We run workshops and science fairs, open lectures and projects with kids related to marine environment.

PART 2- Planned activities for 2019/2020 and 2021

1. Planned major national and international field studies and collaborative laboratory and modelling studies (incl. all information possible, dates, locations, teams, work, etc.).

1. Ny-Alesund Flagship programs, ongoing activities.
2. Summer Arctic campaign using the r/v Oceania and in cooperation with an international team of researchers.
3. NASA AERONET, ongoing activities.

2. Eventslike conferences, workshops, meetings, summer schools, capacity building etc. (incl. all information possible).

1. CommOcean Conference December 2020 in Sopot, Poland
2. Organization of Open Science Days May 2020.
3. Organization of an international conference for young scientists entitled: Where the World is Heading (May 2020).
4. Participation in European Maritime Day, Cork, Ireland, May 2020.
5. Participation in UN Oceans Conference, Lisbon, Portugal, June 2020.

3. Funded national and international projects/activities underway.

A number of projects to be submitted during 2020/21.

4. Plans / ideas for future national or international projects, programmes, proposals, etc. (please indicate the funding agencies and potential submission dates).

A number of projects to be submitted during 2020. We will seek funding on national and international levels.

5. Engagements with other international projects, organisations, programmes, etc.

1. IOCCP.
2. NASA AERONET (agreement until 2029).
2. Ny-Alesund Flagship programs.
3. Bilateral agreement with the Alfred Wegener Institute.
4. Global Observing Network for Reference Surface Water pCO₂ Observations.
5. Global Ocean Observing System (GOOS).

6. EurOcean.

7. Global Ocean Acidification Observing Network (GOA-ON).

Comments