

Summary report of the 4th meeting of the international Scientific Advisory Board (SAB) meeting of the French Oceanographic Fleet (FOF) held at 22nd October 2020 at Ifremer La Seyne sur Mer (some participated via Video conference)

Welcome

The SAB members were welcomed by Pascal Morin. Because of the dynamic Covid-19 pandemic some members including the chairman attended via video-conference.

Introduction of a new SAB member: Catherine Kissel

Catherine Kissel was introduced as a new SAB member. She briefly summarized her scientific background as physical paleo-oceanographer with emphasis on reconstructions of the past variability in deep water masses, interhemispheric (high/low latitudes) comparisons together with reconstructions of the past changes in the main rivers sedimentary discharges and run-off (precipitation on land, monsoon at low latitudes, links with high latitude climate). Catherine Kissel was several times chief scientist on the French research vessel “Marion Dufresne”.

Proposition of Fleet Activity Key Principal Indicators by Pascal Morin

The issue to evaluate the effectiveness and the importance of research vessels as large and expensive infrastructures by both qualitative and quantitative indicators describing their activity and impact were already discussed during previous SAB Board meetings in Paris and Brest. The presentation “Activity and Impact Indicators for the VLRI French Oceanographic Fleet” given by Pascal Morin during the 4th SAB meeting provided a very good overview about existing indicators for very large research infrastructures defined by French, European and international organizations (CSTF, MESRI, ESFRI, OECD). By far the largest number of “key performance indicators” with 21 was proposed by the EU for ESFRI’s and 25 “core impact indicators” by the OECD. The ESFRI indicators should follow the “RACER” criteria (**R**elevant, **A**ccepted, **C**redible, **E**asy to monitor, **R**obust), while OECD applies SMART criteria (**S**pecific, **M**easurable, **A**chievable, **R**elevant, **T**imely). The presenter explained the proposed strategy for the French Oceanographic Fleet with 9 Objectives in focus and 6 Impact

indicator types identified. In summary the proposed strategy with 9 strategic objectives and 6 Impact types would result in 25 Key Principal Indicators together including 4 additional Performance Indicators. The SAB was asked to give a statement on the relevance of the chosen indicators and on the total number of Key Performance Indicators. The Chairman expressed his gratitude for the interesting and comprehensive overview which must have cost a lot of time and effort and opened the discussion.

Most SAB members found the proposed number of indicators to be too high and expect difficulties to collect them, thus recommended a reduction to a maximum of 10-15. These would have to be selected specifically to meet the needs of the fleet. The **final decision was that a questionnaire will be circulated to the SAB members after the meeting to identify max. 15 indicators**. All proposed KPI's should be categorized regarding their relevance by each SAB member with numbers 3, 2 or 1 (Important, Average or Low).

There were also a number of questions and discussion points at a very detailed / specific level summarized together with the reply by Pascal Morin below:

- It is not appropriate to concentrate on the number of top ranked scientific journals. Many marine scientific disciplines publish their results in more appropriate but somewhat lower ranked journals. The total number of publications based on the results of a single cruise will be always an underestimate value because of difficulties to find all in data-bases

Reply: We try to collect all publications based on science carried out onboard our vessels. Chief scientists are annually asked to provide information on new cruise related publications. The number of top ranked papers is a KPI for ESFRI and OECD initiatives and FOF indicators have to be comparable with other research infrastructure indicators.

- Indicator "Teaching": Why are "schools at sea" not considered as important indicator

Reply: It is planned to take "Floating Universities" also into account

- The indicator "energy consumption" was considered as a critical one because this may have influence on future cruise planning (reduction of ship time or vessel speed to reduce fuel costs)

Reply: It is not meant to reduce ship-time or vessel speed but more a long-term initiative to become more environmentally friendly with the commissioning of new research vessels with lower fuel consumption and/or “green” fuels

- The use of number of transit days as a measure for the effectiveness of the management was considered as problematic

Reply: The larger vessels of the fleet are operating globally with transits from France to the Pacific for example at several years’ intervals. It is envisaged to have “valorized” transit times in future by hosting “Floating Universities” or other continuous measurements (bathymetry using SMF, ADCP, ferry boxes, etc.) which will optimize transits.

- What is meant with the term “users”? There exists direct (onboard) and indirect (land based) users.

- **Reply:** Number of users documented will be the ones having been at sea for sampling and those on land doing sample analysis who are direct users documented in the proposals and the ones using the data during 10 years after a given cruise or even later. We will document only the direct and indirect users

- How will the amount of public available data be collected?

Reply: Digital Object Identifiers (DOI’s) are now attributed to all cruises to allow us to get the information on public data utilization. For present and past cruises SISMER has tools to get this information.

- The number of users served versus potential total number of users from ship-time applications which include also all rejected users is not clear

Reply: With the ratio we have a standard indicator but this is not a KPI

- Regarding the definition of the objectives was a Board member not convinced about Objective #9

- **Reply:** In principle agreement - we must be more ambitious with Objective #9. A new ambitious objective will be proposed.

Presentation of the Fleet Communication Plan by Chloé Batisou

The presentation focused on three major topics to be addressed in public outreach during the coming years:

1. **The Human component:** who are the people of the French Oceanographic Fleet serving the interest of the French scientific community. Preparation of a campaign with portraits of scientists, crew and technicians onboard the FOF
2. **The Science component:** From the abyss to the ocean-atmosphere interface, promote these campaigns that seek to respond to the major challenges and current issues in marine science and technology.
3. **Innovation and the development of new technologies component:** The oceanographic fleet innovates and designs cutting-edge technology to better observe and understand the ocean. The FOF responds to the coordination and partnership framework of the Decade of Ocean Sciences proclaimed by the United Nations General Assembly

Olivier Lefort added after the presentation that the key point of the described communication efforts is that there is only one voice about the fleet but nothing about the science and the people in the background. This has to be improved.

One Board member explained that they will produce a movie onboard “Marion Dufresne” and also pedagogical material (online media for a broad audience). What are the plans to interlink between the communication department and the scientists onboard ? The reply was that it will be impossible to link up with every PI on all ships. But with the help of Pascal Morin and others it might be possible to support the most interested PIs.

Progress of the two deep-sea ROVs scenario: Jan Opderbecke

This was just an informative presentation because there were not so many new things to present due in particular to the ongoing pandemic. Just an overview where Ifremer and partners are and where they want to go. Progress was made more particularly on the preparation of Victor 6000 modernization.

Presentation of the new 6000m AUV (Coral project)

The new AUV will be presented to the public the next day with a baptism ceremony including naming the vehicle. The system is 4.5 m long and weighs 2.7 tons in air. It

will primarily serve for high resolution mapping, side-scan imagery, and sub-bottom profiling. Even hovering is possible to take high resolution still photographs in very good quality which might be included in high resolution terrain models.

Permanent sensors installed in the vehicle include ADCP, CTD, Turbidity, redox, oxygen and pH sensor. The principle idea is not to change this composition too much in order to avoid technical complications.

Progress on the Fleet Renewal Plan

The roadmap of the fleet renewal plan was worked out together with the Ministry during four meetings until today. Olivier Lefort presented the schedule for the large research vessels. Modernization of Pourquoi pas? is planned for 2024, but the budget (25 Mio. Euro) is not guaranteed yet.

Coastal and regional vessels: Alis decommissioned in 2033 but there is no budget solution for renewal of this vessel. The alternative proposal of the Ministry is a moderate modernization with a budget of ca. 1 Mio. Euro

The question about definition and the size of the new “Marion Dufresne” was answered that the project teams of vessel renewal are actually in phase 1 which includes working groups with scientists to define the requirement for the new vessels. The discussion about the size of the new “Marion Dufresne” is still underway.

Next date spring meeting

Pascal Morin proposed to have the spring SAB meeting for two days during the first two weeks in April 2021. He informed the SAB about his approaching retirement and that the next meeting will be organized by his successor. It might be that he will attend the meeting to support this new person.