

NAOS: PREPARING THE NEW DECADE FOR ARGO

By P-Y. Le Traon⁽¹⁾, F. D'Ortenzio⁽²⁾, M. Babin⁽³⁾, H. Claustre⁽²⁾, S. Pouliquen⁽¹⁾, S. Le Reste⁽¹⁾, V. Thierry⁽⁴⁾, P. Brault⁽⁵⁾, M. Guigue⁽⁶⁾, M. Le Menn⁽⁷⁾

¹ IFREMER, Brest, France

¹ UPMC/LOCEAN, Paris, France

³ CNRS/UMI Takuvik, Québec, Canada

⁴ UBO/IUEM/LPO, Brest, France

⁵ NKE, Hennebont, France

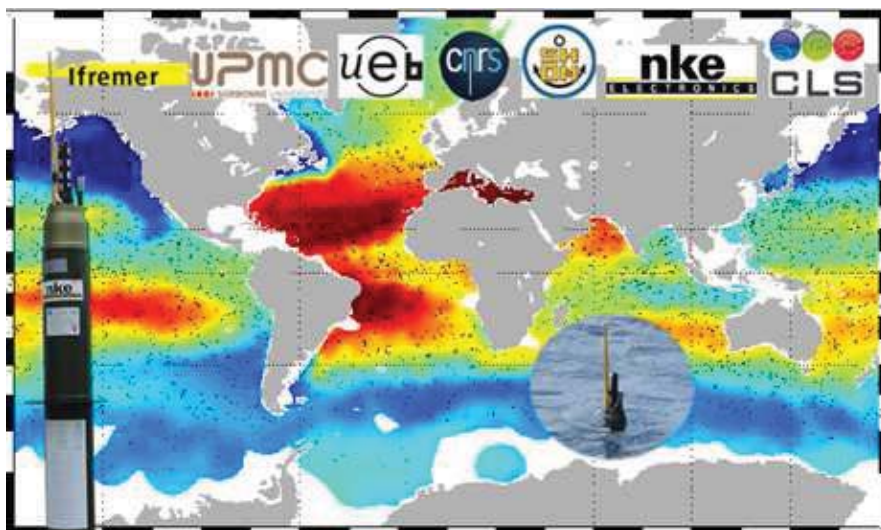
⁶ CLS, Toulouse, France

⁷ SHOM, Brest, France

NAOS (Novel Argo Ocean observing System) is one of the 52 projects selected as part of the *Equipex* call for proposals from the French *programme d'investissements d'avenir*. The overall objective of the project is to consolidate and improve the French and European contribution to the international Argo observing system and to prepare the next decade of Argo. The challenge is to set up an effective monitoring of the world ocean and to strengthen French leadership in ocean and climate research and prediction.

The project has two main objectives:

- To strengthen the French contribution to the Argo core mission (temperature and salinity from the surface down to 2000 m depth) by deploying between 10 to 15 additional floats per year over the 2012-2019 time period (110 floats in total). With the NAOS Argo floats, the French contribution to Argo will reach the target of 70 to 80 floats deployed each year.
- To develop, validate and deploy the next generation of French Argo profiling floats. 70 new generation floats will be deployed in three pilot areas: Mediterranean Sea, Arctic and North Atlantic. New float capabilities will include: more efficient design of the vehicle, improved transmission rates, integration of biogeochemical sensors, deeper measurements and under ice operations in the polar seas.



NAOS is a partnership between Ifremer (coordinator), UPMC (co-coordinator), CNRS, UBO/IUEM (PRES UEB), SHOM, CLS and the SME NKE. The scientific coordination of the project is ensured through a scientific steering committee co-chaired by P.Y. Le Traon and F. D'Ortenzio. This committee met twice (September 23rd, 2011 and January 4th, 2012). The steering committee refers to a governing board. The first governing board meeting was held on January 4th, 2012.

The project is organized around five main work packages:

- WP1: Consolidation of the French contribution to Argo (resp. S. Pouliquen)
- WP2: Development of the new generation of French Argo floats (resp. S. Le Reste)
- WP3: Floats with biogeochemical sensors in the Mediterranean Sea (resp. F. D'Ortenzio)
- WP4: Floats with biogeochemical sensors in the Arctic (resp. M. Babin)
- WP5: Deep floats with oxygen sensors in the North Atlantic (resp. V. Thierry).

The project started in June 1st, 2011 and will end in December 2019. Development and testing of prototypes will be conducted in WP2 from June 2011 to June 2014. Procurement of floats for WP1, 3, 4 and 5 will be done from January 2012 to January 2016. The first WP1 and WP3 series (2012 and 2013) will use existing models of French Argo floats (Provior and Arvor). The following series will benefit from WP2 advances. WP4 and WP5 floats will be solely based on new models developed in WP2.

NAOS is now well on track. The project office was set up, the WWW site developed (<http://www.naos-equipex.fr>) and the first communication actions have started. Project tasks have entered an intensive phase: float technical specifications, testing, procurement for the first

prototypes, tenders or orders of the first series, actions to improve at sea monitoring tools, protocols for validation and testing of floats, etc

The involvement of the wider French oceanography community through the *Groupe Mission Mercator Ocean Coriolis* (GMMC) will be essential to the success of NAOS. Interactions are first needed so that the new NAOS floats meet expectations from the GMMC. Array design studies (e.g. OSSEs) for the next generation of Argo floats (biogeochemical, deep and Arctic floats) should also be conducted as part of GMMC activities. On the longer run, a strong involvement of GMMC groups in the data analysis of the new floats (prototypes and series) will be essential. Developing the use and testing the impact of NAOS floats in Mercator Ocean data assimilation systems will also be critical.

To ensure a good interaction between NAOS and the GMMC, NAOS is regularly discussed during the Mercator Ocean/Coriolis scientific council meetings and Coriolis executive committee meetings. NAOS activities will be presented regularly at GMMC meetings and NAOS annual meetings will be open to the GMMC. The NAOS meeting in 2012 will be held at Ifremer in Brest on June 21st and 22nd. All GMMC groups are strongly invited to participate !

For more information on the NAOS project, see <http://www.naos-equipex.fr> or contact us at naos@ifremer.fr

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