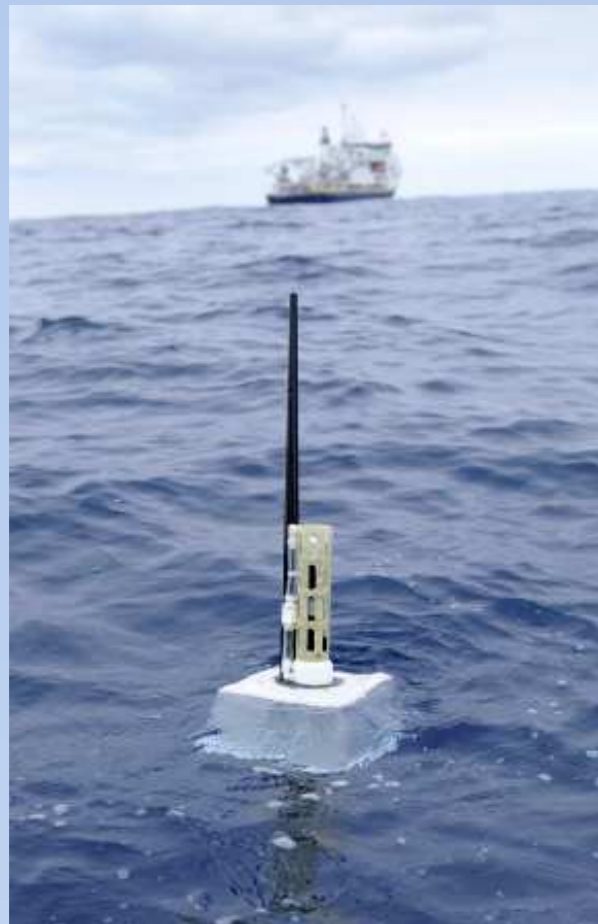


# Subsurface profiling floats : Arvor & Provor family



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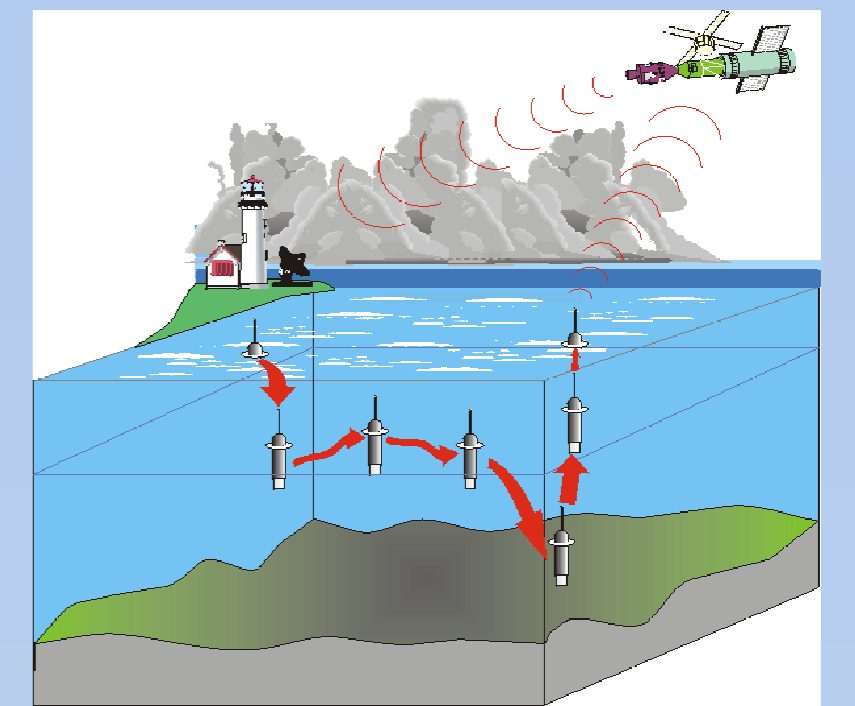
## ARVOR: a self ballasted profiling float for ARGO



This profiling float has been developed for the needs of the ARGO community. It is designed for temperature and salinity measurements, and is less bulky and lighter than other existing floats. It is based on the Provor, but it has been optimized (size and weight) while maintaining the same performances.

### Arvor features:

- More than 250 cycles at 2000 m depth, 110 points transmitted
- Permanent CTD pumping during profile (spot sampling could be configured)
- Ready and easy to deploy: Height: 156 cm without antenna, weight < 20 kg, no pre-ballasting
- Smart grounding management
- Argos or Iridium satellite transmission (with remote control), Argos 3rd generation available soon.



Argo cycle: one profile from 2000m depth, every 10 days, during 4 years.

**Results at sea: hundreds of Arvor profiling floats operational at sea since 2009**

## DEEP-ARVOR: a CTD & DO profiling float for Argo

The first prototype of Deep-Arvor was deployed in summer 2012. Deep-Arvor is designed to achieve more than 150 profiles from 3500 meters depth, with CTD continuously pumping and oxygen measurements. High resolution profiles (up to 1000 samples) are transmitted via the Iridium satellite system. Deep-Arvor maintains the self-ballasting feature of Provor/Arvor and the easy deployment of Arvor thanks to its light weight.

### Deep-Arvor features:

- Full scale accuracy of CTD: 3500 meters,
- Pressure withstanding: 4000 dbars
- 150 profiles at 3500 meters depth,
- Seabird pumped CTD + Aanderaa 4330 optode (raw data: phases + T),
- Fully programmable cycle during operation (period, parking & profile pressure, alternate pressure to go deeper every n cycle...),
- Over 1000 points profile with CTD & DO transmitted (programmable),
- Weight in air: 26 kg, hull diameter 14 cm, total length 216 cm.



**Results at sea: Qualification of the prototype at sea since August 2012. Still cycling, 30 cycles done (07/11/12)**



## ARVOR-C: A virtually moored profiling float for coastal seas

The Arvor-C is a vertical untethered profiling float, designed to operate in coastal seas, for short to long term monitoring. It can be considered as a "virtual mooring", its drift is reduced thanks to:

- anti-drift claws, preventing drift while on standby on the seafloor between profiles
- a high rate Iridium data transmission, reducing time spent at surface

**Results at sea: More than 1000 cycles during many campaigns at sea, mean drift: < 200 m/day**

## PROVOR: towards a multi-sensor platform

Provor was initially dedicated to the measurement of temperature and conductivity for the needs of operational oceanography. It has currently been given a new vocation: a multi-sensor platform designed for bio-geochemical purposes. It can be remotely controlled to focus on specific phenomena (e.g. sampling as low as 1 meter slices).

### Additional sensors to Provor CTS3 (CTD measurements):

- Dissolved oxygen
- Irradiance
- Transmittance
- fluorimeter ChlA, CDOM, backscattering
- Nitrate sensor

### Results at sea:

**Provor operational at sea for 10 years**

**Provor multi-sensors operational at sea since 2008**

