

HPLC sampling protocol used at EPEA station

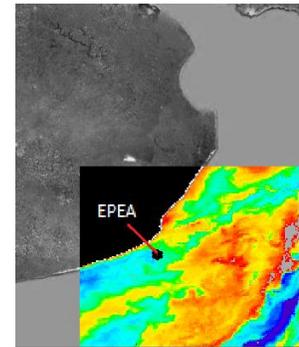
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1. Introduction

The EPEA time series station was started in 2000 and since 2003 belongs to ANTARES (www.antares.ws), a network of Latin American time series stations whose main goal is the study of long-term changes in coastal ecosystems to distinguish those due to natural variability from those due to external perturbations (anthropogenic effects).

Different research groups at the INIDEP (the National Institute of Fisheries Research and Development of Argentina) sample at the EPEA station, monitoring chemical, environmental and bio-optical variables as well as the bacterioplankton, phytoplankton, zooplankton and the ichthyoplankton communities. EPEA station is located on the Argentine shelf (38°28'S, 57°41'W), 27.0 nautical miles from Mar del Plata city and 13.5 nautical miles from the coast and has a depth of 50 m. EPEA is characterized by a temperate regime, with annual sea surface temperatures between 10°C and 21°C and salinity values ranging between 33.5 and 34.1. Occasionally the site can receive less salty waters coming from the North, influenced by the La Plata River, driving salinity values to less than 31.0. Its oceanographic regime is described as the transition between high salinity coastal waters to the medium shelf (Guerrero *et al.*, 1997).



2. Sample collection

The sampling protocol used at EPEA station follows (Hooker *et al.*, 2005).

Water collection. Water samples for the determination chlorophyll-a concentration and other pigments are taken from surface with a bucket and from different depths using Niskin bottles. Recently a rosette with 6 Niskin bottles of 4 liters was implemented. When using a bucket, care is taken not to touch the ship's hull while lifting, otherwise the sample is discarded. The sample is transferred with a funnel to a dark container which is previously rinsed with the water sampled three times.

Filtering. A volume of approximately 1500 ml of seawater from each sampled depth is filtered in dim light on board onto a 25 mm-GF/F glass fiber filters using vacuum (< 5 PSI). A new filter is used for each sample. Then, the filters are carefully put onto absorbent paper with the filtrated facing up, folded in the middle and dried from the outside face, never touching the material collected with the fingers.

The folded filters are wrapped with aluminum foil; a label is placed within an inner fold and another in the outside.

Storage. Samples are stored on board in liquid nitrogen immediately after being filtered. The liquid nitrogen thermo is moved to the laboratory and once there, the samples are transferred into an ultra freezer (-80°C). Finally, the samples are shipped overseas inside a cardboard-wrapped polystyrene container with enough amount of dry ice until arriving to destiny. Particularly, these samples were transported in dry ice to Scripps and then in a liquid nitrogen dewar to NASA.

3. Caveats of the data

Samples of the cruises PD0212-3 and OB0212 were transported from Mar del Plata, Argentina, to Sao Paulo, Brazil, then to Scripps and finally to Greenbelt, USA. While in Argentina, we can guarantee that the samples were properly refrigerated. However, Dr Robert Frouin commented that unfortunately the box containing the samples of the cruises PD0212-3 and OB0212 arrived with almost no dry ice to Scripps.

4. References

- Guerrero, R., & Piola, A. (1997). Masas de agua en la plataforma continental. In E. Boschi (Ed.), *Antecedentes históricos de las exploraciones en el mar y las características ambientales* (Vol. 1, pp. 107-118). Mar del Plata: INIDEP. Publicaciones especiales.
- Hooker, S.B., Van Heukelem, L., Thomas, C., Claustre, H., Ras, J., Barlow, R., Sessions, H., Schlüter, L., Perl, J., Trees, C., Stuart, V., Head, E., Clementson, L., Fishwick, J., Llewellyn, C.A., Aiken, J. 2005. The second SeaWiFS HPLC Analysis Round-Robin Experiment (Sea-HARRE-2). NASA/TM-2005-212785.