



**WICOS (Implementation of the water quality monitoring in the Western Iстриan Coastal Sea) is an Adriatic New Neighbourhood Programme-INTERREG/CARDS-PHARE Project, with main objectives:**

- **Scientific support to the implementation of a strategy for the environmental protection and sustainable development of the sensitive coastal Adriatic Sea areas (CAOS)**
- **Estimation of long-term changes in the Adriatic ecosystem**
- **Evaluation of the relative importance of climatic fluctuations and oceanographic conditions variability vs. the anthropogenic impact of eutrophication.**

Since the observed area is Northern Adriatic, WICOS could easily be retained as continuation of the REQUISITE project, measuring the same parameters and having a complete view in the Northern Adriatic ecosystem. As in REQUISITE, our partner is Struttura Oceanografica Daphne; ARPA-ER, Cesenatico, Italy.

The WICOS project started in August 2008 and will last for one year.

## BULLETIN FOR FEBRUARY 2009

The bulletin was primarily edited in accordance to measurements, and observations of the scientific and technical staff of Center for Marine Research (CMR) of the Ruđer Bošković Institute.

The description of the state in the marine ecosystem refers to the profile of seven stations 1 Nm distant from the western Iстриan coast (WIC), as required by the program WICOS. In the

case that the sampling along the Rovinj-Po River Delta (RV-Po) was performed in the next few days to the measurement along the WIC, all data obtained were compared and described in the bulletins.

The monitoring of the RV-Po profile is realized within the Croatian National Monitoring Program (Projekt "Jadran"), for which are available time series data from 1965 and is representative for the waters along the northern Adriatic. The profile includes 14 stations up to the limit of Italian territorial waters, of which at seven are performed complete measurements of all oceanographic parameters.

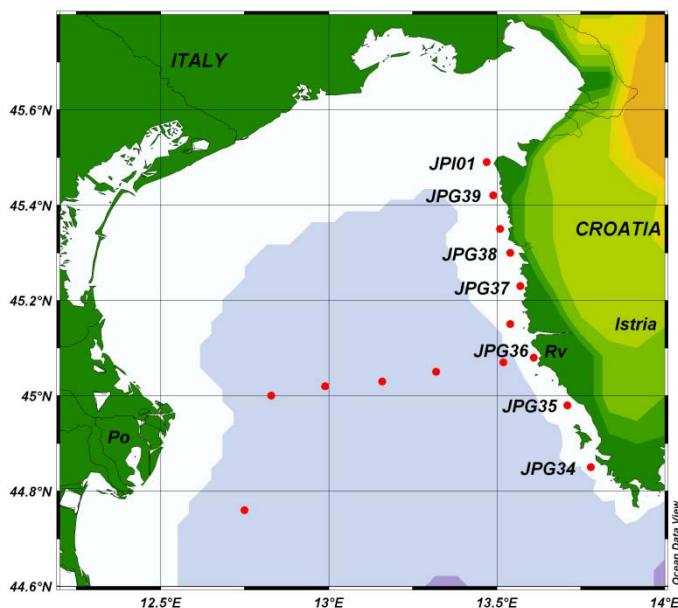


Figure 1.

The measurement cruises were carried out using the oceanographic vessel "Vila Velebita" of the CMR.

## Situation at sea

The sampling along the western Istrian coast (WIC profile) was performed on February 20<sup>th</sup> 2009, while the one at stations between Rovinj and the Po delta (Po-RV) on February 22<sup>th</sup> (Fig. 1).

The water column continued to be quite homogenous in most of the WIC profile, with temperature values around 9-9.5 °C, common for January. The bottom layers of the water column at the southern stations were slightly warmer (10.5-11 °C), according to the influence of high saline water from the middle Adriatic.

Salinity was quite uniformly distributed (37.4-37.8) on most of the WIC profile (Fig. 2) but, even if only slightly, significantly below average. In the second half of January and during most of February, the inflow of freshwater from the Po was exceptionally high and therefore the influence of river inputs was present throughout the basin to the west coast of Istria. The salinity along the RV-Po profile was similar to that along the WIC, indicating that most of the riverine water is flowing southward along the Italian coast. Lower surface salinity at station JPG38 (36.9) indicated the Mirna River local influence.

Salinity of the lower part of the column at the southern stations was higher (up to 38.3) and next to the long-term average (Fig. 2). Usually in February high salinity waters predominate in most of the northern Adriatic basin, as the river inputs in this month are generally minimal.

Dissolved oxygen was about 100 % saturation, and chlorophyll *a* concentration was minimal (0.2-0.5 µg/L) throughout the water column of the WIC profile, as usual in February.

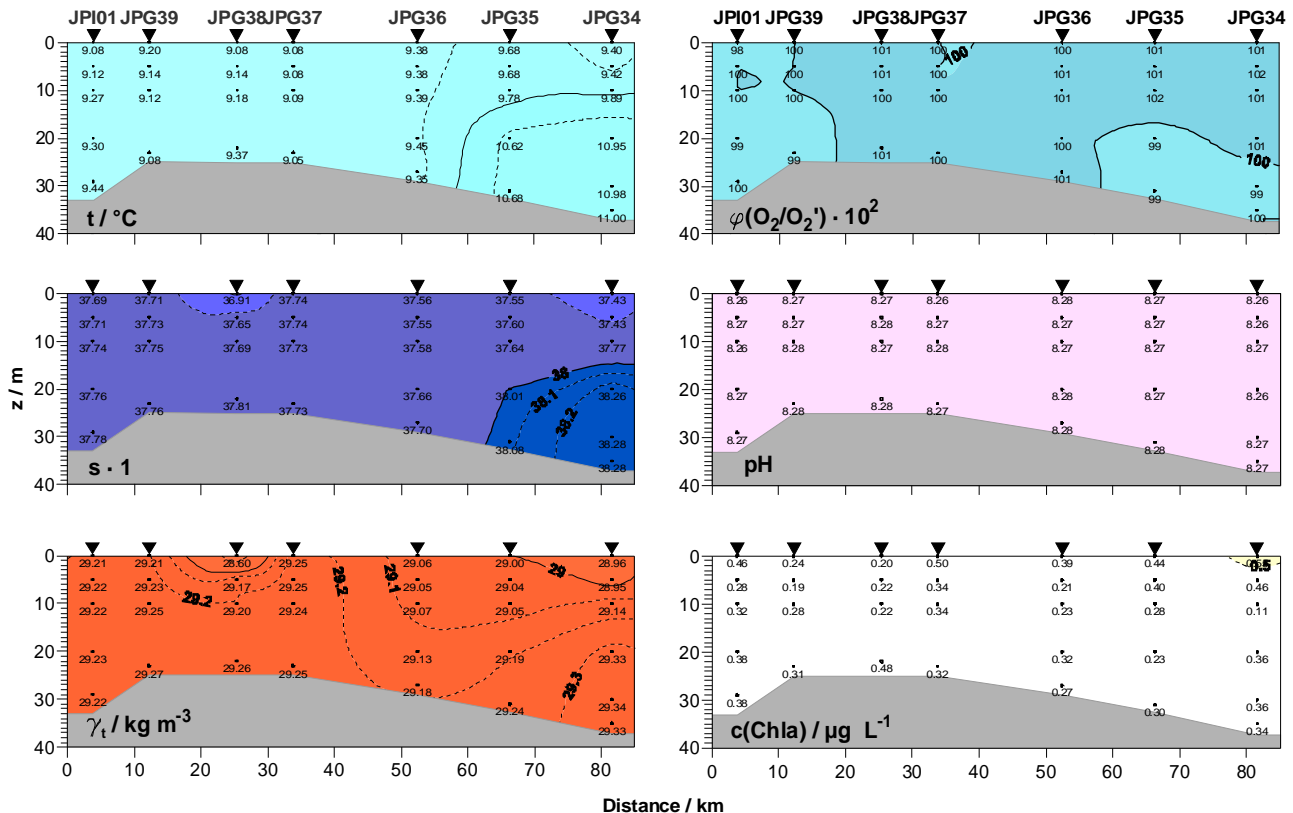


Figure 2.

Nutrients were also evenly distributed in most of the area studied and with minima next to long-term averages. The water column was still unstable. Only in the surface layer of a station JPG38, in front of the Mirna River estuary slightly higher concentrations of nitrate, orthophosphate and orthosilicate were recorded (Fig. 3).

The color of the sea was generally greenish blue and transparency, as assessed by measurements with the Secchi disc (13-20 m), was higher compared to previous months in the WIC profile.

The distribution and values of all parameters along the RV-Po profile was similar to that of the WIC.

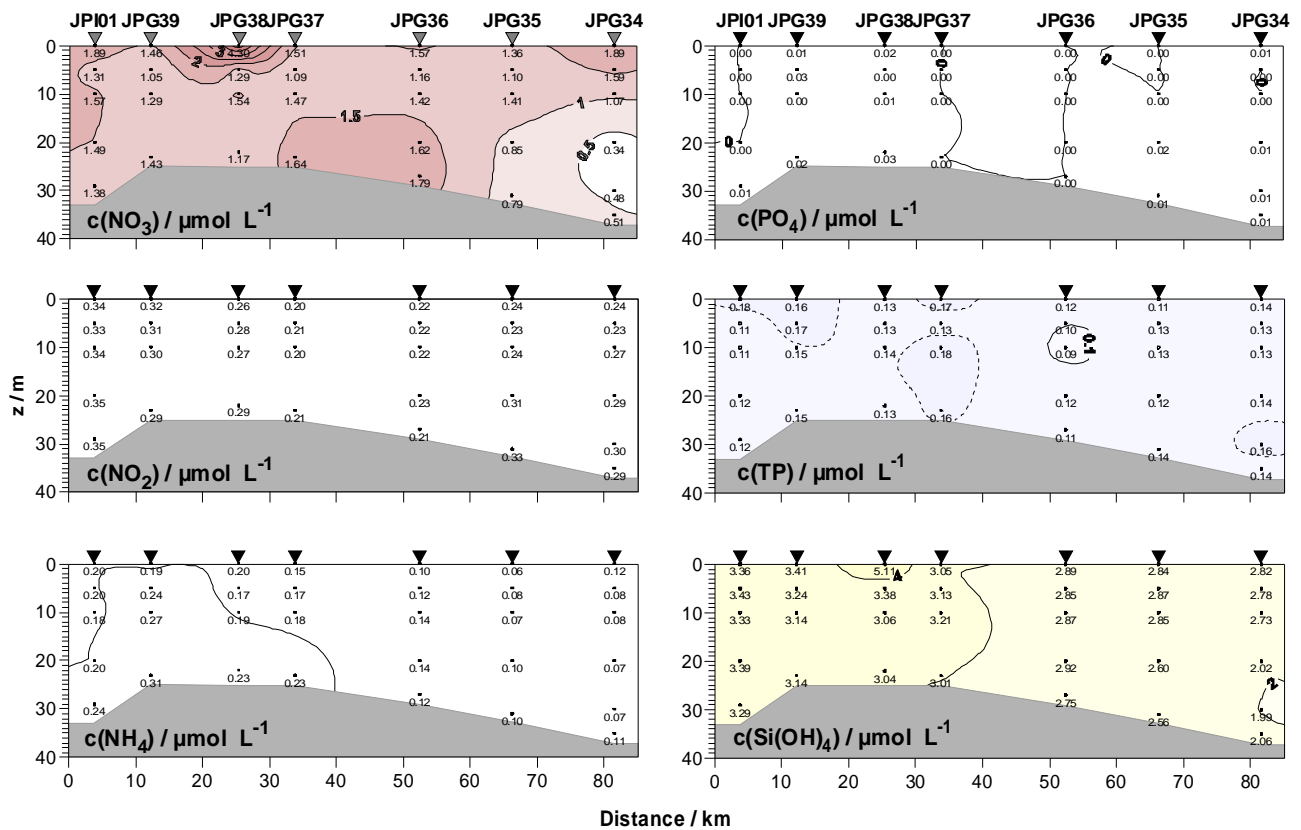


Figure 3.

### Unusual phenomena

Like in the previous months, there was no presence of mucilaginous aggregate, jellyfish, or any other type of unusual phenomena. Even the marine snow was present in negligible quantities.