



**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 AUGUST 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

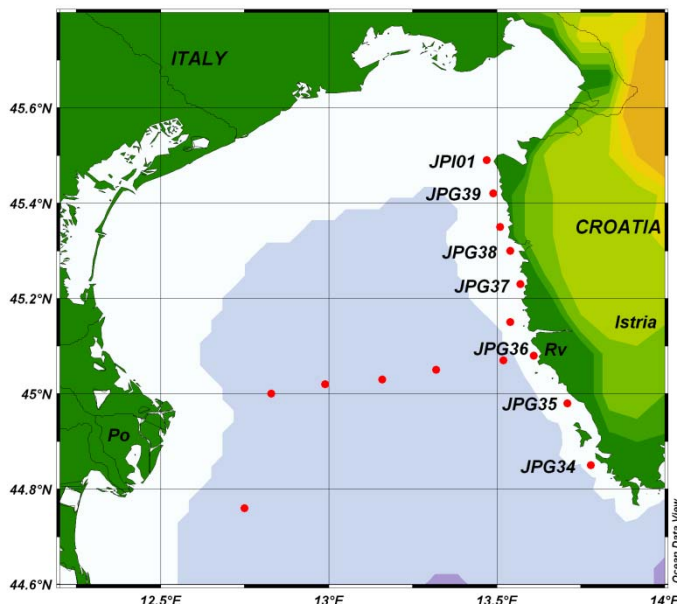


Figure 1.

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.

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

## Situation at sea

The sampling along the WIC profile was performed on the 4<sup>th</sup> of August 2009 and on the 5<sup>th</sup> at stations between Rovinj and the Po River Delta (RV-Po) (Fig. 1).

The water column was distinctly stratified with values 26,3-27,5°C at the surface, and 18,5-18,9°C near the bottom along the WIC profile (Fig. 2). At both profiles there were no distinct thermoclines, although temperature gradually decreased toward the bottom.

Salinity was lower at surface of both profiles (35,0-36,1 WIC; 32,0-36,1 RV-Po profile). The values increased gradually toward the bottom, where they reached values ~ 37,8 along the WIC (Fig. 2) and 37,9 along the RV-Po. Surface salinity on JPG38 (35,0) was lower than at other stations of the WIC profile, pointing the local influence of the Mirna River, and even lower (32,0) at the stations off the Po Delta.

Like in July, the oxygen saturation level was ~ 110%, at surface layer, while near the bottom values were reduced (84-94% along the WIC profile; Fig. 2, and to 70% at the RV-Po). These values are typical for the summer season. Chlorophyll *a* concentration was, as in July, higher in the bottom layer, a phenomenon typical for the northern Adriatic in summer.

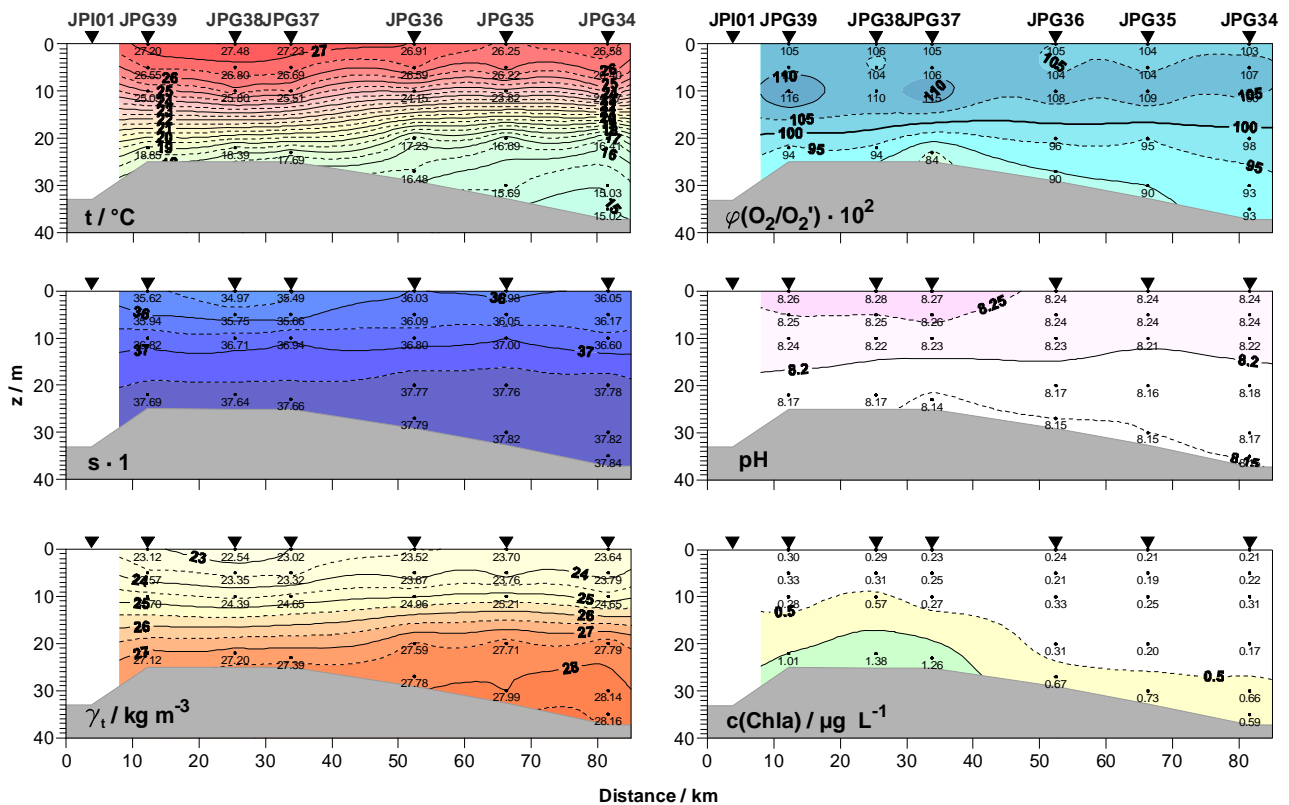
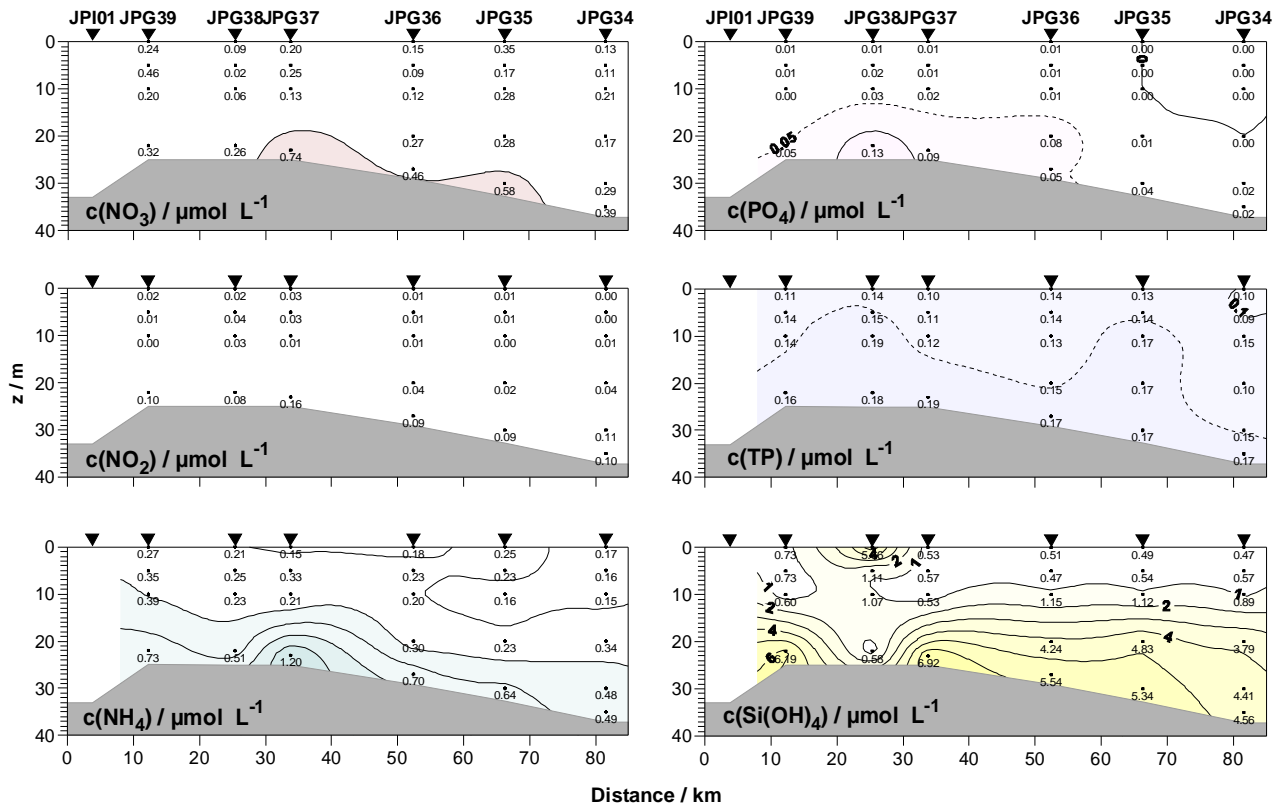


Figure 2.

Nutrient concentrations were minimal along the WIC, including nitrate at surface layer, even though salinity was quite reduced (Fig. 3). Assimilation processes and mixing with more saline water prevailed on the influence of riverine waters formed in the area off the Po Delta,

during their eastward transport. Ammonium, orthosilicate and orthophosphate (in the northern part of the profile only) accumulations in the bottom layer have been more marked than in July. Nitrite and nitrate bottom concentrations were slightly higher than in the remainder of the water column, indicating that nitrification started.



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Figure 3.

The sea color was generally greenish blue and transparency, as assessed by measurements with the Secchi disc, varied between 10-15 m along the WIC, and 4-10 m along the RV-Po profile, slightly better than the previous months.

### Unusual phenomena

Marine snow was moderately abundant. There was no sign of jellyfish.