

Transitional water monitoring system in the Lagoon of Marano and Grado

As partner of the SHAPE project (IPA Adriatic Programme), ARPA FVG has installed a transitional water monitoring system in the Lagoon of Marano and Grado. The aim is to assess the water quality of the lagoon environment and to evaluate critical situations that may occur, with particular attention to dissolved oxygen.

The instruments are located in the western part of the lagoon (Marano), in areas considered important for the assessment of environmental quality. The system consists of 5 SMATCH multiparametric probes and 2 altimeters (ALTUS). The probes are mounted on buoys specifically developed to work in the lagoon environment. The 5 variables measured by the probes are: Depth, Temperature, pH, Conductivity and Dissolved Oxygen. The probes work autonomously and continuously. Data are transmitted every 30 minutes and are received on ARPA FVG server every 24h by means of a GPRS antenna.

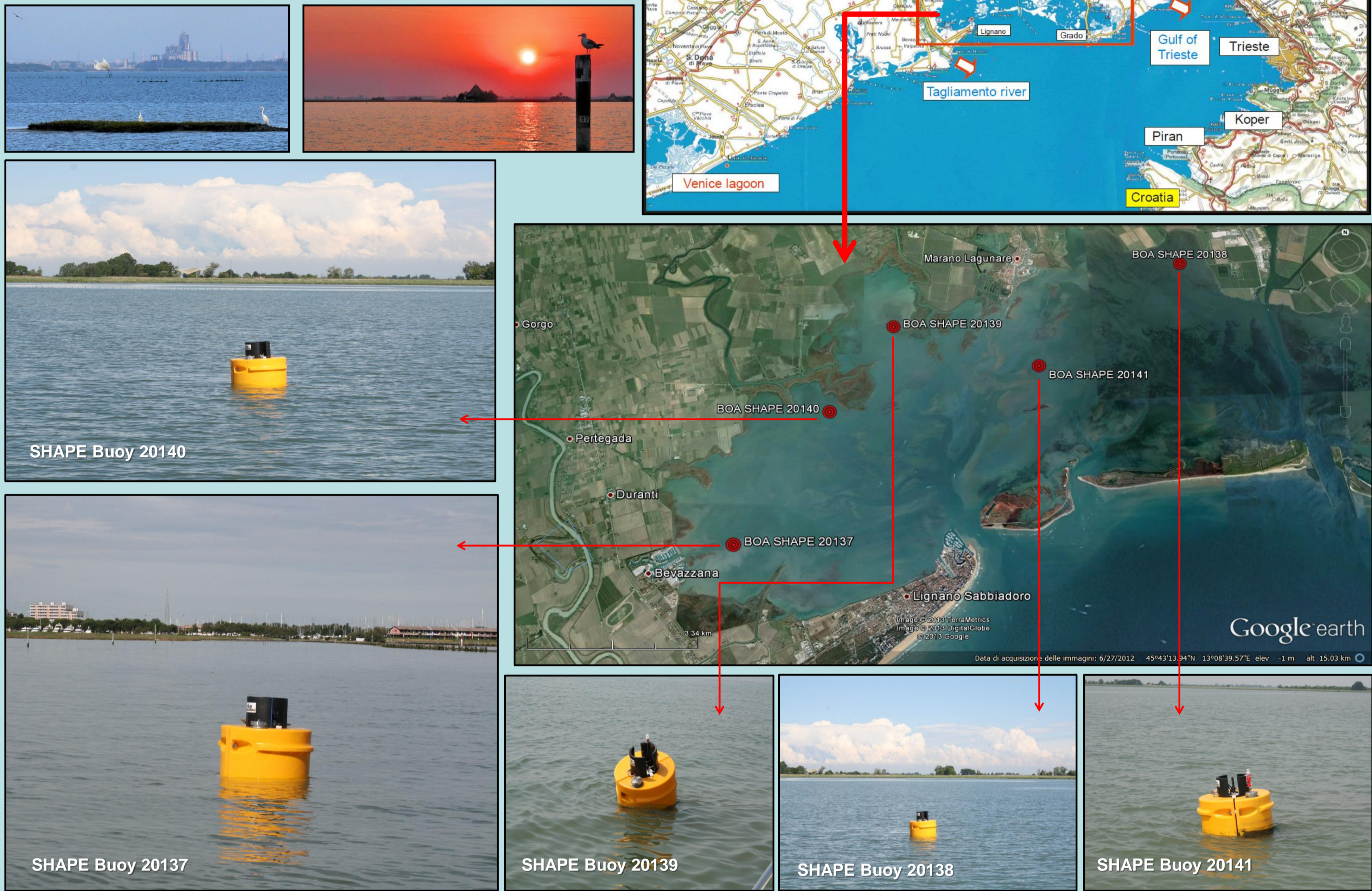


Fig.1 Satellite view of the Marano Lagoon and SHAPE project instruments location.

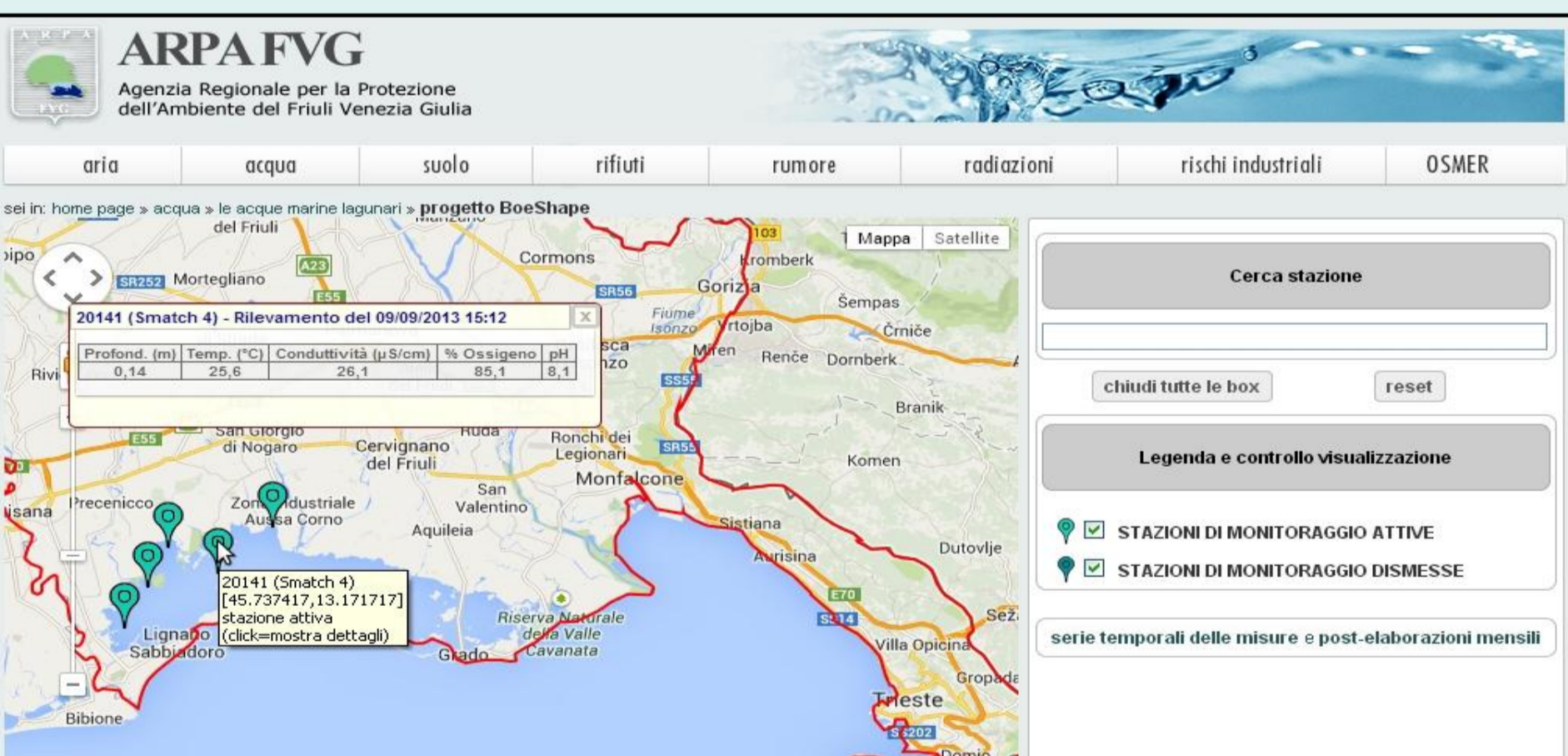


Fig.2 Graphical user interface developed by ARPA for the monitoring system of the Marano and Grado Lagoon.

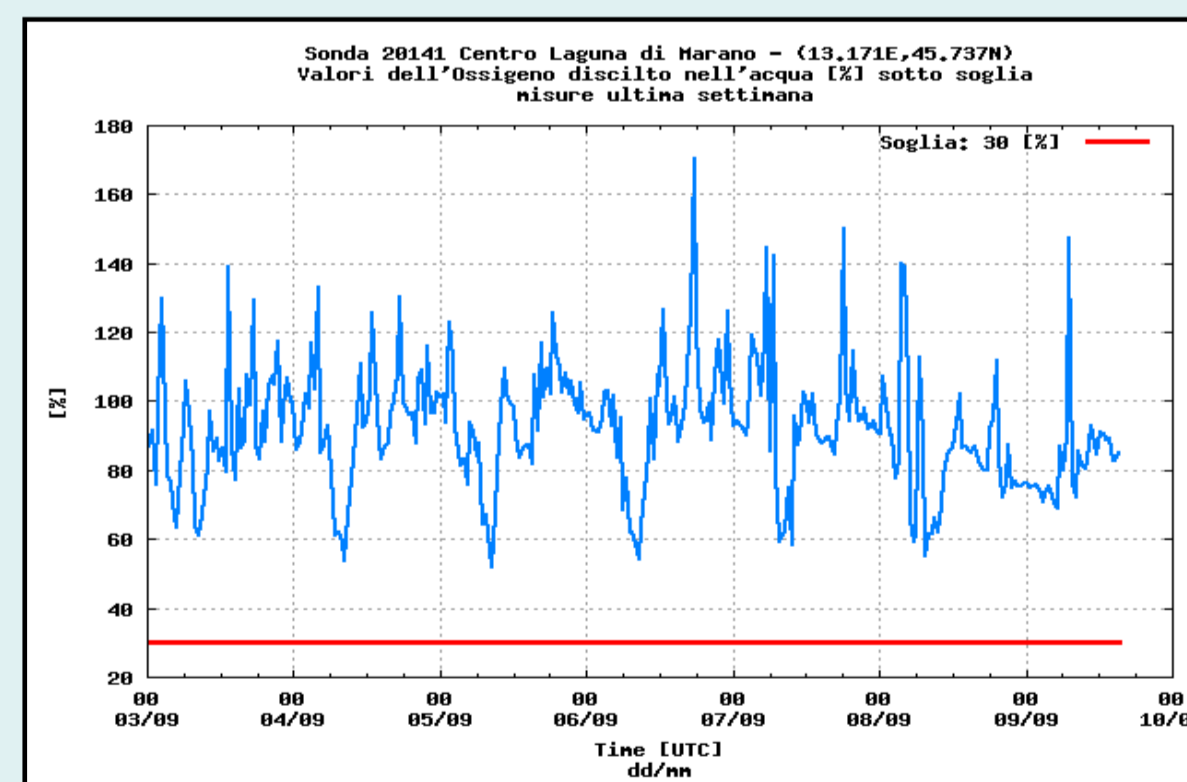


Fig.3 Example of data elaboration automatically generated by the system, based on the data sent by a SMATCH probe.



Fig.4 Some pictures of the installation of the instruments acquired by ARPA FVG with funds of the SHAPE project.

The standing monitoring system allows to observe the behavior of dissolved oxygen during the day, showing maximum values in the afternoon and minimum values between late night and early morning. The values sometimes reach critical thresholds, but only for short time. Temperature and pH are generally correlated with dissolved oxygen.