

An Application of 'AQUAMOD' Trophic Model to the Marine Ecosystem along the Emilia-Romagna Coastal Region in the Adriatic Sea

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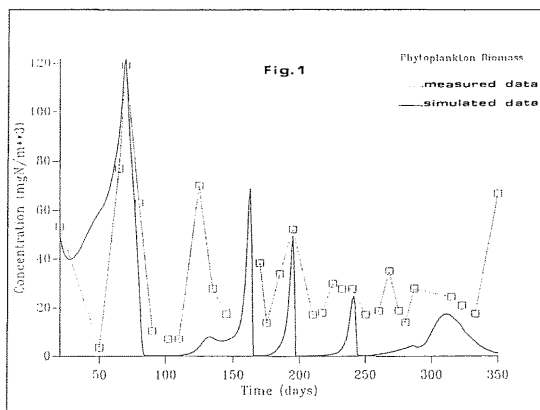
The trophic model 'AQUAMOD' (HULL and LAGONEGRO, 1988; LAGONEGRO *et al.*, 1991) has been applied for the first time to a coastal marine ecosystem. This model is able to simulate the dynamics of micro and macro-algae, macrophytes and zooplankton, giving also the fluxes of nutrients, oxygen, dissolved and particulate dead matter and sediments. The phytoplankton growth is limited by nutrient's concentrations, temperature and light.

By means of the existing data collected in the coastal sea of the Emilia Romagna Region, three groups of phytospecies (winter, spring-autumn and summer groups) have been taken into account in the model's equations. Two zooplankton species have also been introduced into the model: the first for describing the winter grazing, the second for the summer one.

The nutrient's concentrations and water temperature have been assigned through the measured data.

The model simulates the time evolution of the phytoplankton species and the zooplankton ones. The results have been compared with the measured values of chlorophyll *a*. Good correlations have been obtained between measured and simulated data.

In Fig. 1 the results of the simulation concerning the data collected at a station near Cattolica are reported.



REFERENCES

- HULL V. & LAGONEGRO M., 1988.- AQUAMOD : an introductory purpose simulation model of plankton dynamics. *Coenoses* 3, 55-60.
- LAGONEGRO M., HULL V., FALCUCCI M. & CIGNINI I., 1991.- Simulating aquatic system : a model of ecological processes. *Coenoses* (in press).