A Numerical Barotropic Model of Marine Currents in the Archipelago of La Maddalena.

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Summary. — The marine currents inside the archipelago of La Maddalena between Sardinia and Corsica islands have been studied. The results of an implicit numerical barotropic unidimensional model are discussed and compared with experimental data.

1. — Introduction.

The archipelago of La Maddalena is situated North-East of Sardinia, between this island and Corsica. A channel (Bucinara) separates the archipelago from the coast of Sardinia; its width is no larger than (2–3) km. The archipelago is formed by Maddalena, Caprera, Razzoli, S. Maria, S. Stefano, Spargi and Budelli islands (fig. 1) with a total area of about 250 km². The general aspect of the coast is indented, characterized by little promontories, bays and narrow channels. Also the topography of the bottom is variable with large cracks, reefs and little islands. The mean depth is about 40 m.

The average meteorological situation is characterized by the presence of strong winds blowing mainly from the West. Other important winds have an easterly direction.

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Fig. 1. — Geographical description of the archipelago and definition of the channels and of the integration points.