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SOCIB, a new internationally open glider infrastructure in the Balearic Islands

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2 SOCIB (Balearic Islands Coastal Observing and Forecasting System). Parc Bit, E-07121, Palma de Mallorca, Spain.

Following the glider developments at IMEDEA (CSIC-UIB) since 2005 and now in the framework of the SOCIB, the new Balearic Islands Coastal Observing and Forecasting System, we are developing a new glider facility for routine glider operations establishing a "gliderport" in the Balearic Islands. SOCIB has improved the existing glider infrastructures providing new glider units, new electronics, ballasting and operations labs, a new 1000 m pressure chamber as well as a coastal 10 m rib for glider deployment and recovery. The actual IMEDEA/SOCIB glider fleet consists of 4 Slocum gliders and it will be expanded to 10 units (7 Slocum and 3 Seagliders) in 2012. Additionally, the IMEDEA facilities at Calanova harbor (Bay of Palma) include a coastal ship and a warehouse/coastal laboratory available to support glider operations.

Since 2005, a major effort has been carried out at IMEDEA to assess and demonstrate the use of gliders for ocean monitoring. More than 20 glider missions have been performed, collecting ~15.000 hydrographic and biogeochemical profiles. Gliders have specifically contributed to the better understanding of mesoscale and sub-mesoscale process (1-20 km) in the upper ocean, including the coupling between the physical and bio-geochemical process of the marine ecosystem. In combination with remote sensing observations, high-resolution glider data have allowed to advance on new methodologies to improve coastal altimetry. The more recent SOCIB/IMEDEA glider operations have focused on the routine monitoring (since January 2011) in the Ibiza Channel. First results have reported a new view of the temporal and spatial variability of the Atlantic and Mediterranean N/S exchanges through the channel. This glider track will be maintained in a routine basin and additional permanent glider sections will be progressively considered in the Balearic sub-basin.