

# **SURFACE CURRENTS REMOTE SENSING BY HF RADAR. DATA ANALYSIS AND PRACTICAL APPLICATION. THE TRADE AND THE SIMOC PROJECTS.**

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Since 2008 the Portuguese Hydrographic Institute (IHPT) is involved in using surface currents remote sensing by High Frequency RADAR and its respective data analysis and application. That purpose is being achieved by means of two main projects: SIMOC (Coastal Currents Monitoring System) and TRADE (Trans-regional RADARS for Environmental applications). The SIMOC (from 2008 to 2012) endeavoured an initial approach by conducting a pilot experiment in 2008 around Sines Harbour followed by three six months periods (from 2010 to 2012) where the stations were deployed in Sines, Nazaré and Lisboa areas respectively. For each of these four periods data analysis were conducted as well as data comparison with different systems for currents and for sea state. These two stations are now in the final six month period and in September 2012 are supposed to be transferred from the actual Lisbon positions to their final destination, still to be established. The TRADE (2012) is a partnership between Portuguese and Spanish entities, aiming to cover the Iberian southern margin from Sagres to Gibraltar. Once the hardware chosen is the CODAR OS 12MHz antenna, the radial coverage is until 90Km per station achieving about 40Km off coast. These stations are now deployed in the Gibraltar area (two ground monopole with one bistatic) and other two are being installed in Huelva (Spain) to Vila Real de Santo António (Portugal) area. In terms of applications the IHPT, Puertos del Estado, Cádiz University and Qualitas Instruments are developing tools for merging data, visualization and coordination as well as more operational applications as drift models with some oil spill action capacity as well as wind back and forecast analysis.

## **References:**

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