

The WAVY drifters and their role in Ocean Observation

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Abstract:

Surface drifters have been used for a long time to gather information about Ocean motion. Availing of the most recent technologies in sensing, processing, and transmitting ocean data, a family of new surface drifters has been developed in the EU-funded project MELOA: the WAVY drifters.

The WAVY family of drifters range from small drifters, suitable for beach and surf zone studies, to somewhat larger drifters, tailored for coastal and long-term open ocean observations, and consists of five members, namely WAVY Basic (WB), WAVY Littoral (WL), WAVY Ocean (WO), WAVY Ocean-plus (WO+) and WAVY Ocean-Atmo (WA). The main characteristics of all WAVY drifters are their small size and weight, making them very easy to handle; their optimized buoyancy, minimizing their vulnerability to direct wind effect; and the internal mass distribution, that minimizes the pendular motion and allows a high rate of position acquisition and data transmission. Other characteristics, such as wave measurement ability and energy management, will be presented.

The WAVYs are currently at different TRL. The WB and WL are at TRL 8, having been validated and used in real operational environments in a series of demonstrative use cases; the WOs are currently at TRL6 and being used in use cases designed to bring it to TRL8.

MELOA also developed a suite of user-oriented data and SW products, accessible to anyone, that not only facilitate the interface with the drifters, but also allow easy handling and dissemination of both the raw and processed data acquired by the drifters to central ocean data repositories and even creation or use of custom software.

This communication will present to the community of Ocean Observation scientists this new tool for Lagrangian tracking of surface currents, coupled with wave measurement, and the associated data services.