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SEACAMS:
Observing High Energy Marine Environments for Marine Energy Applications

AIMS: To improve the success of deployments in high energy marine environments though knowledge sharing and field deployments with the aim of informing future industry and academic field campaigns and providing a networking opportunity for those working in marine environments to connect with marine technology companies to improve future deployment strategies.

RATIONALE:

SEACAMS2 is working to develop techniques for deploying moorings in complex energetic tidal environments. In collaboration with Marine Scotland Science, SEACAMS2 will run a knowledge exchange workshop to pool the experiences, successes and failures of marine deployments. The aim is to produce a document which identifies marine environments by their physical characteristics (e.g: bed structure, turbidity, mean current velocities, wind/wave exposure) and suggests appropriate equipment and methodologies by which to take observational measurements.

METHODS:

Our own experience breaks the planned deployment down into three main areas (with the exception of suitable weather / tide windows) –

Vessel suitability	Mooring Design	Deployment / Retrieval Strategy
For an ADCP deployment we required a vessel which had the ability to hold station and undertake controlled manoeuvres to aid the deployment. We also required the vessel to have a minimum of two winches.	Low resistance frame with capacity to mount a large quantity of weight. Modifications made to frame to increase the friction between the frame bottom and the sea bed. The bedframe is attached to a mid-water acoustic release via a grounding line and anchor clump.	Use of hydraulic release for deployment Retrieval using an acoustic release with the back up option, in the case of acoustic release failure, of a floating grounding line / grapple.

Fig.1 – ADCP mooring frame set up

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