



## **Fine resolution simulation of internal tides in the North West European Shelf (AMM60)**

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The shelf seas, relative to their size, contribute a disproportionate fraction to total global primary production. In seasonally stratified shelf seas mixing processes at the pycnocline mediate the transfer of biological and physical fluxes that in turn control this biogeochemical cycle. Regional models generally poorly simulate mixing processes at the pycnocline, instead forming an interface between surface driven mixing and bottom boundary layer driven mixing. It is hypothesised that internal waves, missing from shelf wide regional models, are responsible for missing mixing. Internal tides are diagnosed in a 1.8km Northwest European shelf NEMO simulation and favourably compared against FASTNET hydrographic observations. We anticipate this new class of fine resolution simulation, which can simulate non-locally propagation of momentum along the pycnocline, to form the basis of improved parameterisations for shelf sea mixing.