



MUSSEL FARMING SITE SELECTION



FIGURE 1: OPTIMAL SITES FOR MUSSEL AQUACULTURE (IN GREEN) FOR NORTH-WEST EUROPE

Application: Allows mussel farmers to identify or confirm areas suitable for mussel farming. This can help in the selection of optimal farming areas and licencing applications.

Users: Operators and decision makers in the mussel farming sector.

Availability: Maps available at 1km resolution, updated yearly.



FIGURE 2: MUSSEL FARMING, ATLANTIC

Source data: Sea surface temperature from GHRSSST (<http://ghrsst.org>) or ODYSSEA (Piolle *et al.* 2010) projects, chlorophyll-a concentration from Globcolour project (GlobColour, 2014), significant wave heights from CERSAT/IFREMER (Arduin *et al.* 2010).

Methodology: The mean climatology and percentiles of the above mentioned data are computed over the previous six years. This takes into account the inter-annual variability of these parameters. Data combinations are then done to exclude the areas which do not correspond to the thresholds adapted to the species.

Depth and distance to the coast can also be applied to improve the definition of optimal site locations.

Limitation: Mussel farming is generally done in very shallow areas and in productive waters. Earth Observation might present limits of detectability (and so reliability) on such areas, that prevents close-to-the-coast identification.

The optimal site location for mussel farming has proven to be in line with location of known farming sites (with limitation expressed above).

References: Arduin F., Rogers E., et al. (2010). Semiempirical Dissipation Source Functions for Ocean Waves. Part I: Definition, Calibration, and Validation. *Journal Of Physical Oceanography*, 40(9), 1917-1941.

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Piolle J. F., Autret E., Arino O., Robinson I.S., Le Borgne P., (2010), Medspiration, toward the sustained delivery of satellite SST products and services over regional seas, ESA Living Planet Symposium, Bergen.