



BIVALVE MATURATION INDICATORS



FIGURE 1: THE MATURATION STAGE IS A CRITICAL POINT OF BIVALVE REPRODUCTIVE CYCLES (TOP: STRIPED VENUS, BOTTOM: WEDGE SHELL)

Application: Monitoring the reproductive cycle for two bivalves species (Striped Venus – *Chamelea gallina* and Wedge Shell – *Donax trunculus*). This information can be used to support legal fisheries closures.

Users: Fishermen, operators and decision makers in the fisheries sector.

Availability: One map per week at a 1 or 2 km resolution, depending on SST data.

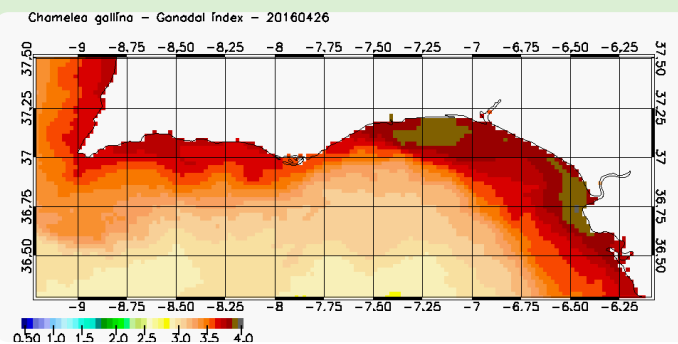


FIGURE 2: INDICATORS OF THE TWO BIVALVES SPECIES MATURATION HAVE BEEN DEVELOPED FOR THE SPANISH GULF OF CADIZ. HERE: POTENTIAL GONADAL INDEX FOR STRIPED VENUS (26/04/2016)

Source data: Weekly Sea Surface Temperature (SST) from GHRSS (http://ghrsst.org) or ODYSSEA (Piolle *et al.* 2010) projects.

Methodology: A regression model was developed between the sea surface temperatures and bivalves maturation stage using laboratory analyses of Condition index and Gonadal index. Using this model, prediction of bivalve maturation stage can be achieved from satellite remote sensing of SST data with several weeks in advance. Weekly SST maps are used to evaluate the potential spatial changes in the development of the bivalve reproductive cycle.

The maturation period in bivalves is a critical phase of the reproductive cycle of bivalves. In the Northern Gulf of Cadiz the maturation period is observed between January – March for Wedge Shell and between February – May for Striped Venus.

References: 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.