

”GlassEel2D”: a software to simulate glass eel behavior in estuaries.

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“GlassEel2D” is the Graphical User Interface of a code implementing the two-dimensional glass eel behavior model described in [1], allowing the simulation of glass eel migration in tidal estuaries.

The main features of “GlassEel2D” are the following:

- parameterization of glass eel entries in the estuary: number, mass, duration, type of accumulation, mortality;
- visualization of glass eel evolution as successive images or as a movie.
- extraction of the hydrodynamic data (heights of water and currents) used by the model at chosen fixed points of the estuary;
- possibility to load and save a set of parameters representing a given simulation.

To use “GlassEel2D” one needs to provide data such as the river bathymetry, upstream flow rates and luminosity conditions (turbidity, nebulosity, moon phases).

This tool can be used by managers:

- to estimate the upstream migration speed of glass eels according to hydrological data,
- to detect the environmental conditions that stop or slow down their displacement into the estuary,
- to assess the catchability of glass eel runs in estuaries according to the hydroclimatic conditions observed a given day and a given fishing season.

[1] Analysis and visualization of the glass eel behavior (*Anguilla anguilla*) in estuary and estimate of its upstream migration speed. P. Prouzet, M. Odunlami, E. Duquesne and A. Boussouar. Aquatic Living Resources, vol. 22 n. 4, October/December 2009. DOI: 10.1051/alr/2009041.