



Popular science summary of the PhD thesis

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Title of the PhD thesis	<u>Marine Connectivity: Past, Present and Future</u>
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Marine connectivity is the study of the connections related to the dispersal of the early life stages (eggs and/or larvae). It is used to understand the variability of the early life stages abundance and the potential dispersal of non-indigenous species, also to delimitate marine protected areas, among others. Now, with forecast of climatic models, we can also investigate how these connections can be changed in the near or distant future.

The thesis encompasses three manuscripts; the first manuscript provides an overview of the primary commercial fish species in the Atlantic Ocean, encompassing 17 species. Our investigation focused on determining whether the larvae of these species could reach areas of higher productivity compared to their spawning grounds at the time of spawning.

In the second manuscript, we focus on a single species, the Argentine shortfin squid, to explore whether an optimal dispersal strategy can be identified based solely on behavior and dispersal. Specifically, we tested various scenarios, including different diel vertical migration patterns and fixed depth strategies.

In the third manuscript we investigated the effects of change in the sea currents with eggs and larval dispersal of European eel, since larvae drift over 4,000 kilometers from the Sargasso Sea to the European coast. With climate change projected to alter ocean circulation, we investigated how these changes could impact the larval dispersal.