{rokbox title=|Entropy map and significant difference :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-impact-climate-change-surface-stirring-and-transport-mediterranean-sea-sergiacomi-et-al-2020-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-impact-climate-change-surface-stirring-and-transport-mediterranean-sea-sergiacomi-et-al-2020.jpg{/rokbox}

Enrico Ser-Giacomi, **Gabriel Jordá Sánchez**, Javier Soto-Navarro, Sören Thomsen, Juliette Mignot, Florence Sevault, Vincent Rossi, 2020.
Impact of Climate Change on Surface Stirring and Transport in the Mediterranean Sea.
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Abstract: Understanding how climate change will affect oceanic fluid transport is crucial for environmental applications and human activities. However, a synoptic characterization of the influence of climate change on mesoscale stirring and transport in the surface ocean is missing. To bridge this gap, we exploit a high-resolution, fully coupled climate model of the Mediterranean basin using a Network Theory approach. We project significant increases of horizontal stirring and kinetic energies in the next century, likely due to increments of available potential energy. The future evolution of basin-scale transport patterns hints at a rearrangement of the main hydrodynamic provinces, defined as regions of the surface ocean that are well mixed internally but with minimal cross-flow across their boundaries. This results in increased heterogeneity of province sizes and stronger mixing in their interiors. Our approach can be readily applied to other oceanic regions, providing information for the present and future marine spatial planning.

Keywords: