

EGU21-12802, updated on 27 Jul 2021

<https://doi.org/10.5194/egusphere-egu21-12802>

EGU General Assembly 2021

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NEMO in Caribbean archipelago

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Recently, the ocean dynamics of the Caribbean region has seen growing interest due the societal consequences of Sargassum beaching and storm surges, among other occasional extreme phenomena. Understanding the hydrodynamics in this area (mean currents and water mass properties, and mechanisms of variability) becomes urgent, to support operational developments forecasting the occurrence of such extreme phenomena, and also before one can foresee the local impacts of climate change. Building from an existing regional configuration at $1/12^\circ$ (~10km), we implemented version 4.0.5 of NEMO to study the ocean dynamics of the Caribbean archipelago. This preliminary configuration is used to support sensitivity studies to atmospheric conditions, over the past 20 years. It also hosts AGRIF zooms to refine grid resolution up to 1km in the vicinity of the French islands, to enable a better understanding of the local dynamics.