2022_71_Physics_Toumi: A global tropical cyclone model

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Tropical cyclones are one of the most dangerous natural hazards now and more so in the future(1). Much about their fascinating genesis and evolution remains insufficiently understood (2). It is proving challenging to model this phenomenon because of the wide range of scales in time and space as well as the vast range of processes involved. Everything we know about the weather affects a tropical cyclone. In this project you will build a new global model of tropical cyclones. You will use an existing model (3) to start with and improve it with better physics. We have recently found new solutions that describe some of the key processes better. Once you have created a new global TC model you will simulate the impact of climate change and the important Pacific El Nino oscillation. You will join the largest research group in Europe working on tropical cyclones.