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COYOTES PROJECT (COMOROS & MAYOTTE: VOLCANISM, TECTONICS AND SEISMICITY)

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Poster

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Abstract:
In order to understand the unprecedented underwater telluric event of the Mayotte Seismo-Volcanic (MSV) crisis (2018-2020), it appears essential to reach a critical level of knowledge on the evolution of the seismicity, volcanic activity and geodetic deformation, but also on the geodynamic context. This includes the kinematics and the characterization of the lithospheric and crustal structures, on both short- and long-term and regional and local scales. Towards this goal, the COYOTES project aims to better understand the regional geodynamic and geological context of the north Mozambique Channel. The objectives are to understand the distribution of active and recent deformations around the Comoros Archipelago, in particular the Mayotte Island, to image the crustal structuration and to study the recent tectono-sedimentary evolution. Both the link with the East African rift system and the role of Mesozoic inherited structures in the spatial distribution of present-day deformation associated to the MSV crisis will be investigated. This updated geodynamic and geological knowledge will be used to improve the assessment of the volcanic and seismic hazards. The main work-packages are 1) Current seismic sequence, deformation and kinematics; 2) Recent and active volcanism and tectonics in the Comoros archipelago; 3) Long-term geodynamics: Regional structuration and inheritance. It will integrate new onshore and offshore acquisitions of geological and geophysical data, their interpretation as well as modelling.

The COYOTES project (2020-2024) is funded by the French National Research Agency (ANR), involving three thesis, one post-doc and more than 40 scientists from the BRGM, IPGS/EOST, IPGP, IsTep, ENS, La Réunion University, EPOC, Ifremer, SHOM, GEOPS, LMV, GET, ISTO, OVPF, ... (http://www.geocean.net/coyotes/doku.php?id=start). The project is linked with the SISMAORE oceanographic campaign that will occur on the R/V *Pourquoi Pas?* from December 2020 to February 2021.





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