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Evaluation of Boulder Deposits Linked to Late Neogene Hurricane Events

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Contributions in this collection discuss storm deposits dating from Neogene time between 23 and 1.8 million years ago, as well as the last 1.8 million years, including the Pleistocene and Holocene. As today, past hurricane events were responsible for the erosion of rocky shorelines due to the impact of storm waves, in addition to flood deposits due to heavy rainfall after big storms, resulting in landfall. The former typically resulted in coastal boulder deposits (CBDs) and the latter in coastal outwash deposits (CODs). Study locations covered by this treatment include three within the confines of Mexico's Gulf of California and three in the northeast Atlantic Ocean, including the Canary Islands and Azores, as well as the coast of Norway. Rock types canvassed in these studies are dominated by igneous rocks that include surface flows such as andesite and basalt as well as surface exposures of plutonic rocks that originated deep below the surface such as granite and near-mantle rocks like low-grade chromite. These rock types reflect a range in rock density, which has an effect on the ability of storm waves to degrade rocky shores in the production of CBDs. The site-specific studies in this collection also share an application treating the shape of boulders resulting from shore erosion. The collection is introduced by a survey covering Neogene CODs registered in the geological literature and a concluding paper focused on the use of satellite images as a means for detecting previously unrecognized coastal storm deposits.

