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? WHY THE WEATHER ? Mailed Nov. 29, 1929.

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SWELL FROM DISTANT STORMS

Many islands and coasts of the Atlantic are subject to heavy swells, which roll in regardless of the presence or absence of wind and are sometimes very violent. The most celebrated waves of this sort are the "rollers" of Ascension and St. Helena, in the South Atlantic. They come on without warning and produce a heavy surf, which makes the landing of small craft difficult or impossible. Their origin has been the subject of more or less controversy. They have been ascribed to earthquakes, submarine volcanoes and the return of the waters after being heaped up by the trade winds, but it is now generally agreed that they are caused by distant storms in either the South Atlantic or the North Atlantic. Many lives have been lost through the capsizing of boats in these waves.

The heavy seas, known locally as "resacas", that occasionally visit the Bay of Rio de Janeiro and the adjacent coasts afford another interesting example of swell traveling for long distances and being converted by the shoaling of the water from long, smooth undulations into leaping and destructive waves. At Rio these waves, on striking the sea wall, sometimes send a solid sheet of water 100 feet high.

The dangerous swell that frequently occurs in the open roadsteads of Morocco is generally due to cyclonic storms crossing the Atlantic. For the past eight years it has been successfully predicted on the basis of wireless reports from Portugal and the Azores of sea disturbance in those regions. There is an interval of about 15 hours between the occurrence of a northwest swell on the Portuguese coast and its appearance on the coast of Morocco.

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