

A Science Service Feature

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? WHY THE WEATHER ?

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By Charles Fitzhugh Talman,
Authority on Meteorology.

A LAND OF DROUGHT

One of the most notoriously drought-stricken regions in the world -- apart from actual deserts -- is a portion of northeastern Brazil, having an area of about 100,000 square miles and lying back of the coast in the broad salient that juts into the Atlantic, with its apex at Cape St. Roque. The normal rainfall, which occurs mainly during the period from November or December to May or June, is sufficient for agricultural needs, but wide departures from the normal are common. Thus in some years the rainy season brings excessive downpours and destructive floods, while in others the total rainfall is far below the average. The pinnacle of disaster is reached when two or three abnormally dry years occur in succession. The droughts of this "Nordeste" of Brazil have cost great loss of life and have periodically disturbed the economic affairs of the country on a large scale. Enormous irrigation works were started here some years ago, but most of them remained unfinished.

These droughts are evidently due to variations of some kind in the trade winds and they are found to coincide with droughts in other parts of the southern hemisphere, such as Australia, South Africa and the South Sea islands. They occur at times when the paths of high-pressure areas (anticyclones) crossing South America are shifted considerably south of their average latitudes. In other words, they are tied up with widespread abnormalities of atmospheric circulation, and as such conditions develop gradually, there is reason to hope that eventually they may be predicted long in advance, according to some such system as has long been employed in India in predicting (in quite general terms) the rainfall of the southwest monsoon, on the basis of reports of meteorological conditions in distant parts of the world.

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21st and B Sts.,
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