According to the report of the United States Nicaragua surveying party for 1895, by A. G. Menocal, Civil Engineer, U. S. N. (Forty-ninth Congress, first session, Senate Ex. Doc. No. 99, p. 36), Col. W. O. Childs, an American engineer, made the first careful survey for a canal by this route in 1850-51. His meteorological records were taken at Rivas from September 7, 1850 to March 11, 1851, and in the valley of the San Juan River, from the latter date to September 25, 1851.

Commander E. F. Lull, U. S. N., in charge of the United States Survey expedition of 1872-73 (see —— Congress, session ——), obtained a meteorological record from July 1 of this expedition to May 14, 1873, at Virgin Bay, 4 miles south of Rivas.

The National Institute of Granada established a well conducted system of meteorological observations in 1880 at Granada (N. 11° 56', W. 85° 51'; elevation, 229.6 feet). The monthly means for 1883 and 1884 are given by Menocal in his report of 1885, in lieu of any special observations by his own survey party, which left Washington December 17, 1884, beginning operations in Nicaragua on January 22, and leaving that country May 12, 1885. This record as published by him is as follows (the thousands have been omitted from the rainfall):

### RAINFALL OF MASAYA AND GRANADA, NICARAGUA

**By A. J. Henny, Chief of Division.**

Dr. Earl Flint, for many years voluntary observer of the Smithsonian Institution and the Signal Service, and the present correspondent of the Weather Bureau for Nicaragua, furnishes the following table of rainfall, as observed by Mr. Cline.

Masaya is in latitude 12° 2' N., longitude 86° W.; Granada is in latitude 12° N., longitude 85° 56' W. Observations were made by Mr. William Cline, civil engineer, at Masaya,

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1 Reprinted from the April Review.