

TABLE 1.—Progressive diminution of the partial intensity in the "red part" of the solar spectrum in relation to the total intensity as determined by actinometric measurements made during the Polish expedition to Siam in 1923—Continued.

(C) MOUNT PANGERANGO, JAVA. HEIGHT, 3,023 METERS.

( $\phi=6^{\circ} 45' S.$   $\lambda=106^{\circ} 58' E.$  of Gr.)

1923	At noon.			11-13 hours.		Remark.	
	Zenith distance.	Air mass.	Air temperature, C.	Max Q (pr.cal., cm. <sup>2</sup> min.).	Per cent of the intensity in the "red part."		
					Observ.		Reduced.
June 15..	30	0.81	16	*1.6	*42	54	*In "consequence" of the clouds the actinometric measurements were made during the morning hours only; the values, reduced at noon, are only provisional.
June 16..	30	0.81	11	*1.6	*43	55	
June 17..	30	0.81	13	*1.6	*43	55	

(D) ON BOARD THE MOTOR SHIP "FALSTRIA," DANISH EAST-ASIATIC CO.

July 23..	16	1.04	29	1.20	45	58	Indian Ocean, 4° N., 61° E.
July 28..	8	1.02	31	1.12	45	58	Gulf of Aden, 11° N., 47° E.
July 31..	0	1.00	32	1.17	45	58	Red Sea, 18° N., 40° E.
Aug. 1..	3	1.01	32	1.17	47	60	Red Sea, 22° N., 38° E.
Aug. 5..	15	1.04	27	1.28	47	60	Mediterranean Sea, 32° N., 32° E.
Aug. 7..	18	1.05	29	1.38	48	61	Mediterranean Sea, 34° N., 24° E.
Aug. 9..	22	1.08	28	1.28	49	63	Mediterranean Sea, 38° N., 16° E.

(E) CONTINENT OF EUROPE.

Aug. 13..	29	1.14	34	1.30	50	64	Montpellier, 43° 6' N. Agric. Met. St.
Aug. 21..	36	1.23	29	1.17	51	65	Paris, 48° 8' N. Observ. Parc St. Maure.
Sept. 13..	48	1.49	24	1.88	51	65	{Sun veiled. Warsaw 52° 2' N., 21° 0' E. Gr. Polish Meteorological Institute.
Sept. 17..	50	1.54	22	1.17	52	67	

NOTE.—The values of Max Q are provisional. The percentages of the partial intensity in the "red part" in relation to the total intensity of the solar radiation were obtained with a red-glass filter (Schott F 4512; thickness, 4 mm.). The transmissibility of the red glass (1 mm.) is: 94 per cent for  $\lambda=0.644 \mu$  (5 per cent for  $\lambda=0.578 \mu$ ). The "reduced" values are greater in proportion  $1/(0.94)^2$ .

[Readers of the REVIEW will be interested to know that in a recent letter Doctor Gorczyński states that he has definitely decided upon a journey to America, although the date of the journey is still uncertain.

His program of work includes the following:

(a) Critical comparisons between the Abbot pyrheliometer, the Ångström pyrheliometer, and the Michelson actinometer.

(b) A study of the bolometric work of the Astrophysical Observatory of the Smithsonian Institution.

(c) In cooperation with the United States Weather Bureau, an attempt will be made to obtain a series of measurements of the total and partial intensities of solar radiation in North, Central, and South America, in order to complete the series obtained on his recent expedition to southern Asia. Special attention will be given to the question of the progressive diminution in intensity of the red part, and also other parts, of the solar spectrum, between the temperate zones and the equator, the diurnal and monthly variations in these intensities, and the relation between the meteorological elements and solar radiation.

Doctor Gorczyński can be assured of a hearty welcome and cordial cooperation when he arrives in the United States.—H. H. K.]

WARM FALL WEATHER IN ALASKA AND RUSSIA, 1923.

The daily weather reports from Alaska received by cable and radio by the United States Weather Bureau show the prevalence of relatively high temperature for the season and this is confirmed by press dispatches that appear from time to time. The latest of these, reproduced below, shows, however, that at Dawson, at least the season is only about a week later than in 1922.

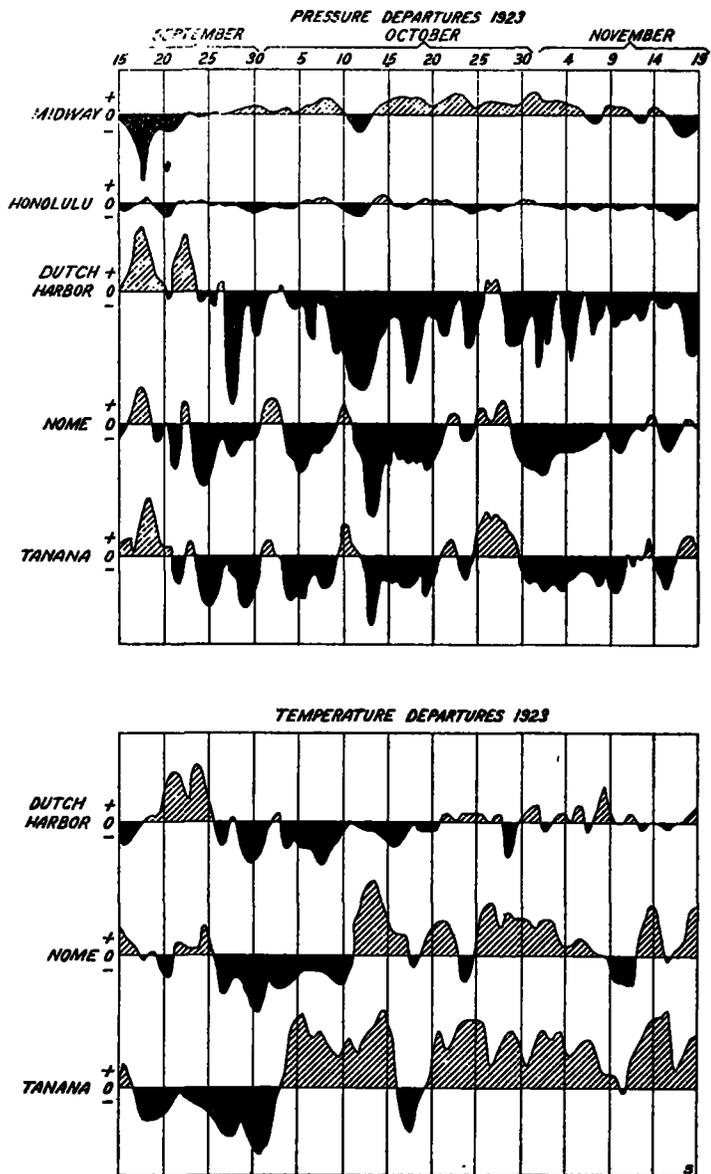


FIG. 1.—Pressure and temperature departures for Alaskan stations, autumn, 1923.

YUKON FREEZES LATE.<sup>1</sup>

DAWSON, Y. T., November 24.—At noon to-day the Yukon River was frozen over here for the first time this winter, the latest date in the memory of the oldest "sourdoughs" residing in the Territory.

Three weather records have been broken this year. Last year the river was covered with ice on November 16. The season of navigation on the river opened May 10, 1923, two weeks earlier than any on record here. From May to November 24, the mean temperature was 57 degrees Fahrenheit.

As illustrating the very close connection between pressure and temperature in Alaska the graph presented in Figure 1 has been prepared. The upper part of

<sup>1</sup> Washington (D. C.) Star, Nov. 26, 1923.

the figure shows the pressure oscillations above and below the normal for 5 stations, as follows: Midway Island and Honolulu representing the Pacific area and 3 points in Alaska, viz, Dutch Harbor on the island of Unalaska N. lat. 53° 54', W. lon. 166° 32'; Nome on the coast in the Bering Sea area, N. lat. 64° 30', W. lon. 165° 24'; and Tanana in the interior on the Yukon River N. lat. 65° 8', W. lon. 152° 0'.

The warm weather does not appear to have been confined to Alaska, as witness the following clipping from the *New York Herald* of Nov. 24, 1923:

Moscow, November 23.—Wild flowers and cherry trees are in bloom in the Ukraine and the temperature in Kiev is above 60 Fahrenheit. Reports received here say it is the latest winter for decades.

—A. J. Henry.

#### METEOROLOGICAL OBSERVATIONS ON SHIPPING BOARD VESSELS.

Instructions have been issued under date of October 25, 1923, to masters of Shipping Board vessels having continuous radio service to take two meteorological observations daily at 7 a. m. and 7 p. m., 75th meridian time (noon and midnight G. M. T.) when in certain prescribed areas and to transmit them to the United States Weather Bureau in Washington, D. C.

Detailed instructions are given as to the transmission as follows: Ships in the Atlantic, the Gulf of Mexico, and the Caribbean Sea should transmit directly, or by relay, through Shipping Board vessels only, to United States Naval shore stations, except that those on transatlantic routes when out of range of United States Naval Radio stations should transmit their messages to the French Meteorological Service, Paris, France.

Shipping Board vessels in the Pacific Ocean may transmit to radio shore stations of the United States Navy, the Federal Telegraph Co., or the Radio Corporation of America.

Ships not having continuous radio service will take but a single observation daily at 7 a. m., 75th meridian time, and if an operator is not on duty at 7 a. m. the observation will be taken at 7 p. m., 75th meridian time, and transmitted as described in the foregoing paragraph.

Areas from which observations are desired and address to be used: North of latitude 10° N. when in Gulf of Mexico, Caribbean Sea, and Atlantic Ocean, address messages to Government Observer, Washington, D. C., when in range of United States Naval Radio stations; when out of range of such stations address messages to "Metro Paris, via Brest Mengan."

Between latitude 10° N. and 25° N. and east of longitude 110° W. in the Pacific Ocean, address messages to "Government Observer, San Francisco, California." Elsewhere in the Pacific north of latitude 10° N., address messages to "Government Observer, San Francisco, California."

#### FLOOD IN CANAL ZONE, OCTOBER 20-23, 1923.

Mr. R. Z. Kirkpatrick, Chief Hydrographer, Canal Zone, has kindly supplied the editor with the following details of the great flood which came down the Chagres River and passed into Gatun Lake October 20 to 23, 1923. It will be remembered that Gatun Lake was formed by damming the waters of the Chagres at Gatun, thus forming a lake with an area of 164 square miles. This lake, at elevation 87 feet above sea level, contains 192.24 billions cubic feet of water collected from a drainage area above Gatun of 1,320 square miles.

For two days preceding October 17 the Canal Zone had strong day and night winds from the south running up to 34 miles per hour. Sea rough. Representative dry-season conditions (except for the direction of the wind) up to night of October 20-21. Heavy rains then started, particularly over the northern end of Gatun Lake watershed. About 35 inches in all fell there between midnight October 20 and midnight October 26, breaking all previous rainfall records, although those of Colon go back to 1862.

The resulting flood seriously disarranged traffic both by canal and by rail; slides on the railroad prevented traffic for several days.

For several hours on October 22-23 water was entering Gatun Lake at the rate of 300,000 c. f. s. at a time when 11 spillway gates and four lock culverts were discharging at the rate of 188,000 c. f. s. The spillways were opened in order to reduce the lake level below 87 feet, since at that level there is some flood hazard at this season.

During the 48 hours ending midnight October 24 the rainfall at the following-named stations, all in the Atlantic watershed, amounted to:

Gatun.....	27.9 inches.
Colon.....	27.6 inches.
Monte Lirio.....	26.1 inches.

These 48-hour records exceed those of any previous month of October, and the record at Colon goes back to 1862. At Gamboa, in the interior near the divide, the amount for the same time was but 14.8 inches, an amount which had been exceeded only six times by the total October rainfall since the beginning of records in 1881. At Alhajuella, on the upper Chagres, the rainfall amounted to 18.9 inches. At Pedro Miguel and Balboa, both on the Pacific side, the fall was 9.1 and 7.3 inches, respectively. Thus it is seen that in this extraordinary rain-storm the normal relations between the Atlantic and the Pacific slopes greater rainfall on the latter than on the former was maintained.

Another feature of very considerable interest was the very rapid runoff from a tropical area as exemplified by the Chagres River on October 22-23, making it necessary to open 11 spillway gates and 4 lock culverts.—A. J. Henry.