TABLE 1.—*Solar radiation intensities during October, 1924*

[Gram-calories per minute per square centimeter of normal surface]

Date	8 a.m. 75th mer. time	Sun's zenith distance 78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon Local mean solar time
		Air mass									
		A. M.					P. M.				
	e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.
Washington, D. C.											
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
Oct. 1	4.75	0.87	1.01	.....	1.33	1.50	1.28	1.11	0.95	0.84	5.36
2	6.76	.....	.....	1.00	1.18	1.43	1.23	1.05	0.91	0.81	6.76
3	7.57	0.96	1.01	1.14	1.25	.....	1.08	.....	.....	.....	7.04
8	9.14	.....	.....	.....	.....	1.48	1.31	1.07	0.98	0.92	6.50
9	5.36	0.92	1.01	1.16	1.31	1.49	1.27	1.03	0.93	0.80	5.56
10	6.02	1.01	1.12	1.24	1.37	1.55	.....	.....	.....	.....	5.56
13	4.95	0.98	1.08	1.21	1.37	1.60	.....	.....	.....	.....	3.30
14	6.02	0.81	0.88	1.03	1.19	1.42	.....	.....	.....	.....	4.95
21	3.45	0.94	1.04	1.18	1.33	1.48	.....	.....	.....	.....	3.30
22	3.81	0.91	1.00	1.17	1.34	.....	.....	.....	.....	.....	3.30
23	4.17	.....	0.98	1.14	1.32	1.54	1.32	0.97	0.86	0.75	3.45
24	4.57	.....	0.76	0.91	1.09	.....	.....	.....	.....	.....	4.95
Means	.....	0.92	0.99	1.12	1.28	1.50	1.25	1.05	0.93	0.82	.....
Departures	.....	+0.14	+0.14	+0.18	+0.17	+0.04	+0.14	+0.13	+0.14	+0.12	.....
Madison, Wis.											
Oct. 1	4.57	.....	.....	0.93	1.14	1.38	1.07	.....	.....	.....	7.04
2	78.7	.....	.....	.....	1.04	.....	1.14	.....	.....	.....	9.83
17	7.57	.....	.....	.....	1.07	.....	.....	.....	.....	.....	9.14
21	4.57	1.03	1.11	1.22	1.33	1.47	1.33	.....	.....	.....	4.37
22	4.57	.....	1.05	1.18	1.33	1.53	1.33	1.05	.....	.....	4.37
23	3.45	.....	.....	.....	1.18	.....	.....	.....	.....	.....	4.37
27	3.99	.....	.....	.....	1.23	.....	1.18	.....	.....	.....	3.81
31	6.27	.....	.....	.....	1.32	.....	1.30	1.15	.....	.....	6.02
Means	.....	(1.03)	(1.08)	1.11	1.20	.....	1.22	(1.10)	.....	.....	.....
Departures	.....	+0.31	+0.16	+0.05	+0.02	.....	+0.04	+0.08	.....	.....	.....

* Extrapolated

TABLE 1.—*Solar radiation intensities during October, 1924*—Contd.

Date	8 a.m. 75th mer. time	Sun's zenith distance 78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon Local mean solar time
		Air mass									
		A. M.					P. M.				
	e.	5.0	4.0	3.0	2.0	1.0	2.0	3.0	4.0	5.0	e.
Lincoln, Nebr.											
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
Oct. 1	6.27	0.87	1.00	1.14	1.31	1.51	.....	.....	.....	.....	6.76
2	6.76	.....	0.99	1.07	1.29	.....	0.91	.....	.....	.....	6.76
9	8.18	.....	.....	.....	.....	1.52	1.28	1.15	1.01	0.93	6.02
13	4.37	0.95	1.03	1.15	1.32	1.52	.....	.....	.....	.....	4.57
16	8.81	.....	0.54	0.69	0.99	.....	0.99	.....	.....	.....	9.83
23	2.62	.....	1.00	1.12	1.30	.....	1.26	1.09	0.94	0.79	3.45
24	3.30	0.83	0.95	1.08	1.20	1.35	.....	.....	.....	.....	3.63
31	3.45	0.79	0.91	1.28	1.39	.....	.....	1.12	0.95	.....	3.00
Means	.....	0.86	0.92	1.08	1.26	.....	1.11	1.12	0.97	0.86	.....
Departures	.....	−0.04	−0.04	−0.03	−0.02	.....	−0.14	+0.04	+0.03	+0.03	.....

TABLE 2.—*Solar and sky radiation received on a horizontal surface.*

[Gram-calories per square centimeter of horizontal surface]

Week beginning—	Average daily radiation: Washington	Madison	Lincoln	Chicago	New York	Average daily departure from normal: Washington	Madison	Lincoln
	cal.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*
Oct. 1	389	352	342	277	327	+61	+68	−11
8	415	267	306	251	357	+107	+12	−17
15	328	225	287	205	301	+41	−5	−5
22	276	266	321	208	266	+12	+60	+59
Excess or deficiency since first of year on Oct. 28, 1924	.....	.....	.....	.....	.....	+1,301	−7,038	+2,850

551.506 (261.1)

WEATHER OF NORTH AMERICA AND ADJACENT OCEANS

NORTH ATLANTIC OCEAN

By F. A. YOUNG

The following table shows the average sea-level pressure at a number of land stations on the coast and islands of the North Atlantic. The readings are for 8 a. m., 75th meridian time, and the departures are only approximate, as the normals were taken from the Pilot Chart and are based on Greenwich mean noon observations, which correspond to those taken at 7 a. m., 75th meridian time.

Station	Average pressure	Departure
	Inches	*Inches*
St. Johns, Newfoundland	29.82	−0.12
Nantucket	30.13	+0.11
Hatteras	30.17	+0.14
Key West	29.91	−0.07
New Orleans	30.10	+0.09
Swan Island	29.73	−0.18
Turks Island	29.95	0.00
Bermuda	30.08	+0.06
Horta, Azores	30.12	+0.01
Lerwick, Shetland Islands	29.78	0.00
Valencia, Ireland	29.82	−0.09
London	29.92	+0.02

It will be noticed from above table that while the departures were not especially large, they varied considerably. The unusually low pressure in the Caribbean Sea was due to the number of tropical disturbances that prevailed during the month. The barometric readings at Horta ranged from 29.64 inches on the 26th to 30.38 inches on the 1st, and at Lerwick from 29.14 inches on the 6th to 30.42 inches on the 14th.

Taking the ocean as a whole, the month was one of the stormiest Octobers on record. Tropical disturbances, described elsewhere in the REVIEW, were unusually frequent, one of them being exceptionally severe. In northern waters the number of days with winds of gale force was considerably in excess of the normal for the current month, and over the middle and eastern sections of the steamer lanes was fully equal to and in some localities greater than the normal for January, which is considered the most tempestuous month of the year.

The number of days in which fog was reported was considerably less than the normal over the Grand Banks and slightly above over the greater part of the steamer lanes and off the European coast; it was recorded on from 2 to 4 days along the American coast, north of the 35th parallel, and on 2 days in the Gulf of Mexico.

On the 1st the Icelandic LOW was unusually well developed, with a barometric reading of 28.50 inches at Seydisfjord, and moderate to strong gales over the region between the 35th meridian and the European coast. On the 2d there was a disturbance of limited extent near 30° N., 55° W., that traveled slowly northward, and on the 4th was central near 42° N., 50° W.; it then curved sharply eastward and on the 6th was about 5° north of the Azores. Four storm logs relating to this disturbance, covering the period from the 2d to 6th, will be found in Table 1.

On the 6th there was also a deep depression central about 10° west of the north coast of Scotland, with strong northerly gales in the western quadrants, as shown by storm log in table.

From the 8th to 10th a disturbance of limited extent moved slowly eastward over the northern steamer lanes,

reaching its greatest intensity on the 9th, near 52° N., 50° W., where northwest gales, force 10 were encountered.

From the 8th to the 11th northerly winds of gale force were reported at different points along the American coast, between Nova Scotia and Florida, accompanied for the most part by comparatively high barometric readings.

On the 12th there was a disturbance in the vicinity of Newfoundland that moved rapidly eastward, and on the 14th was central near 55° N., 23° W. On the 12th there was also a LOW in the Gulf of Mexico that was responsible for moderate easterly gales between the 25th and 30th parallels.

On the 15th there was a depression in the western part of the Caribbean Sea that afterwards developed into an exceptionally severe tropical disturbance that reached its greatest intensity on the 19th. This disturbance is described elsewhere in the REVIEW. Storm logs from vessels involved appear in the table below.

Charts VIII to XII cover the period from the 17th to 22d, inclusive. On the 19th there was a LOW over Newfoundland, as shown on Chart X; this moved slowly eastward, increasing in force, reaching its greatest intensity on the 22d, and was central on the 23d near 58° N., 25° W.

This disturbance was closely followed by a second that was over Newfoundland on the 24th, although at time of observation on that day no especially heavy winds were reported; it developed rapidly, however, in its eastward course, and on the 25th was central near 50° N., 35° W., with strong gales over the region between the 30th and 50th meridians. During the next 24 hours the easterly movement of this LOW was slight, as on the 26th the center was near 50° N., 30° W., and on the 27th about 10° west of the north coast of Ireland. On the 26th the storm area extended as far south as the Azores, while by the 27th it had contracted somewhat.

These two disturbances were closely followed by a third that on the 27th was central near 50° N., 47° W., with northerly gales in the western quadrants. Pursuing a more northerly course than its predecessors, this LOW on the 31st was off the north coast of Scotland. During its progress reports of gales were received from vessels over the greater part of the steamer lanes, the storm area at times extending as far south as the 35th parallel. (See Table of Ocean Gales and storms.)

TABLE OF OCEAN GALES AND STORMS, OCTOBER, 1924

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Highest force of wind and direction	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN								*Inches*					
American Press, Am. S. S.	Avonmouth	New Orleans	31°46′ N.	53°48′ W.	1st	7 a. m., 2d	2d	29.71	se.	se., 9	s.	se., 9	Steady se.
Boschdijk, Du. S. S.	New York	Rotterdam	41°48′ N.	51°25′ W.	3d	4 a. m., 4th	4th	29.63	ene.	ne., 9	nnw.	ne., 9	ene.-n.
Binnendijk, Du S. S.	Rotterdam	Philadelphia	45°27′ N.	42°31′ W.	5th	7 a. m., 5th	5th	29.76	sse.	nne., 10	nw..	nne., 10	ssw.-nne.
Duquesne, Am. S. S.	Manchester	New Orleans	44°20′ N.	25°50′ W.	6th	1 p. m., 6th	6th	29.49	s.	nw., 4	n.	n., 10	ssw.-nw.-n.
Eastern Star, Am. S. S.	Kotka, Finland	Boston	57°58′ N.	22°35′ W.	5th	10 p. m., 5th	7th	29.31	wsw.	w., 7	w.	nw., 10	sw.-w.-nw.-w.
Lackawanna, Br. S. S.	New York	Avonmouth	44°04′ N.	47°27′ W.	11th	8 p. m., 12th	13th	29.38	ese.	sw., 7	wsw.	s., 9	ssw.-sw.
Stockholm, Swed. S. S.	Gothenburg	New York	57°50′ N.	22°04′ W.	14th	8 p. m., 14th	15th	29.43	sw.	s.	w.	s., 9	s.-w.
La Marea, Br. M. S.	Central America	do	19°00′ N.	86°15′ W.	15th	6 a. m., 16th	18th	29.19	wnw.	nw., 7	ne.	ne., 10	nw.-n.-ne.
Knockfierna, Br. S. S.	Port Arthur	Panama	18°50′ N.	84°10′ W.	15th	4 p. m., 18th	19th	29.44	ene.	sse., 10	sw.	11	sse.-ssw.
Toco, Br. S. S.	Canal Zone	Port Arthur	20°27′ N.	85°07′ W.	18th	2 a. m., 19th	19th	28.18	se.	se., 8	w.	ne., 12	se.-ne.-nw.
Cockaponset, Am. S. S.	Antwerp	Galveston	25°27′ N.	79°23′ W.	20th	5 a. m., 21st	21st	29.36	sse.	sw., 10	wnw.	wsw., 11	sse.-wnw.
Mesaba, Br. S. S.	London	New York	42°30′ N.	55°06′ W.	19th	10 p. m., 19th	20th	29.38	wnw.	w., 9	wnw.	10	wnw.-nw.
Volendam, Du. S. S.	Rotterdam	do	45°46′ N.	41°45′ W.	20th	2 p. m., 20th	21st	29.08	wsw.	w., 8	wsw.	wsw., 9	
Nienburg, Germ. S. S.	Bremen	Philadelphia	48°29′ N.	29°32′ W.	22d	8 p. m., 22d	23d	29.30	sw.	s., 10	n.	s., 10	s.-w.-n.
Nortonian, Br. S. S.	Liverpool	Galveston	39°10′ N.	47°21′ W.	24th	10 p. m., 24th	25th	29.66	wnw.	wnw.	w.	wnw., 10	
Verentia, Br. S. S.	New York	London	47°30′ N.	32°00′ W.	24th	2 a. m., 26th	28th	28.35	sw.	sw.	sw.	sw., 10	s.-w.
Sinaia, Fr. S. S.	Marseille	New York	37°30′ N.	29°40′ W.	25th	4:30 p. m., 25th	28th	29.23	se.	nnw., 10	nnw.	nw., 11	se.-sw.-nw.
Anaconda, Am. S. S.	Rotterdam	do	46°14′ N.	44°02′ W.	27th	4 p. m., 27th	28th	29.50	wnw.	wnw., 7	wsw.	9	wnw.-wsw.
Sacandaga, Am. S. S.	Liverpool	Savannah	45°50′ N.	35°13′ W.	28th	8 p. m., 28th	29th	29.51	nw.	nw., 8	w.	9	nw.-w.
Dakarian, Br. S. S.	New York	English Channel.	50°15′ N.	1°15′ W.	29th	4 a. m., 30th	Nov. 1	29.53	wsw.	w., 8	w.	w., 8	Steady w.
NORTH PACIFIC OCEAN													
Reiyo Maru, Jap. S. S.	Karatsu, Japan	Vancouver	44°59′ N.	159°46′ E.	1st	4 p. m.	1st	29.81	sw. x w.	s.x w.,9	sw. x w.	s. x w., 9	s. to sw. x w.
Crosskeys, Am. S. S.	Kobe, Japan	Seattle	42°45′ N.	156°00′ E.	3d	10 a. m.	3d	29.87	n.	n., 7	nne.	nne., 9	nnw. to nne.
Siberia Maru, Jap. S. S.	Yokohama	Honolulu	32°27′ N.	170°47′ E.	4th	8 p. m., 5th	6th	29.81	n.	nnw., 8	ene.	nnw.-n.-ene. ene., 8	
Achilles, Br. S. S.	do	Victoria	49°48′ N.	171°19′ W.	7th	1:37 a. m., 9th	9th	29.71	s.	ssw., 8	w.	ssw., 8	s. x e.-s.-sw.-w
Reiyo Maru, Jap. S. S.	Karatsu	Vancouver	49°06′ N.	163°54′ W.	8th	8 p. m.	8th	29.98	ssw.	ssw., 8	sw.	ssw., 8	s.x w.-ssw.-sw.
Anna E. Morse, Am. S. S.	Portland, Oreg.	Yokohama	47°18′ N.	166°15′ E.	9th	3:30 a. m.	9th	29.57	sse.	sse., 8	sw.	sse., 8	sse.-sw.-nw.
Yuri Maru, Jap. S. S.	Vancouver	Norfolk, Va.	46°30′ N.	126°06′ W.	13th	5 a. m., 15th	15th	29.26	e.	e., 9	sse.	e., 9	e.-sse.
Makura, Br. S. S.	Honolulu	Vancouver	38°10′ N.	142°10′ W.	13th	8 p. m., 14th	15th	29.69	wnw.	wnw., 8	nnw.	wnw-nnw., 8	wnw.-nnw.
Santa Cruz, Am. S. S.	do	Tacoma	40°30′ N.	137°55′ W.	14th	8 a. m., 14th	15th	29.40	nw.	nw., 6	nnw.	nw., 10	nw. steady.
Meton, Am. S. S.	Manila	San Francisco	34°53′ N.	152°30′ E.	14th	1:30 a. m., 16th	16th	29.88	ne.	ene., 7	ene.	ene., 8	Steady.
Do	do	do	44°15′ N.	170°58′ W.	22d	5 p. m., 22d	23d	29.82	nw.	nw., 8	nw.	nw., 8	nw., steady.
Hollywood, Am. S. S.	Borneo	do	40°40′ N.	161°15′ W.	22d	4 p. m., 22d	24th	29.65	wnw.	nw.	w.	nw., 10	nw., steady.
Makura, Br. S. S.	Victoria	Honolulu	46°08′ N.	129°24′ W.	23d	8 p. m., 23d	24th	29.45	s.	s., 8	sw.	s., 8	s.-sw.
Do	do	do	38°32′ N.	139°12′ W.	25th	5:30 p. m., 25th	26th	29.62	sw.	sw., 9	nw.	sw., 9	ssw.-sw.-wsw-wnw.
Shabonee, Br. S. S.	Nagasaki	San Pedro	43° N.	178° W.	25th	8 p. m., 25th	26th	29.65	sw.	wsw., 8	nw. x n.	wnw., 9	wsw.-wnw.
West Chopaka, Am. S. S.	Yokohama	San Francisco	36°28′ N.	179°48′ W.	27th	6 a. m., 28th	28th	29.61	ne.	ssw., 8	ssw.	sse., 9	sse.-ssw.
Meton, Am. S. S.	Manila	do	43°13′ N.	143°58′ W.	27th	11 a. m., 27th	28th	29.26	sw.	wsw., 8	nw.	nw., 9	wsw.-nw.
Celtic Prince, Br. S. S.	Honolulu	Yokohama	34°28′ N.	140°01′ E.	28th	3 p. m., 28th	29th	29.83	wnw.	sse., 7		8	sse.-wnw.
Storviken, Nor. S. S.	Japan	Portland, Oreg.	48°11′ N.	135°11′ W.	28th	4 a. m., 28th	29th	28.81	wnw.	wnw., 8	w nw.	n., 11	w.-n.
President Jefferson, Am. S. S.	Yokohama	Seattle	42°07′ N.	157°35′ E.	28th	5:15 p.m., 29th	29th	29.43	s.	sse., 10	nw. x w.	sse., 10	s.-se.-nw. x w.
Hauraki, Br. S. S.	Vancouver	San Francisco	47°30′ N.	124°50′ W.	28th	7 p. m., 28th	30th	28.88	se.	se., 9	w.	se.-s., 9	
Hannawa, Am. S. S.	Yokohama	Portland	44°05′ N.	156°38′ E.	28th	10 p. m., 29th	29th	29.47	s.	s., 11		s., 11	s. steady.
Meton, Am. S. S.	Manila	San Francisco	40°35′ N.	130°14′ W.	29th	2 a. m., 30th	30th	29.69	ssw.	ssw., 8	ssw.	ssw., 8	ssw. steady.
Hawaii Maru, Jap. S. S.	Yokohama	Victoria	48°23′ N.	172°11′ E.	28th	11 a. m., 31st	Nov.1	29.48	se. x s.	e., 3	se. x e.	se. x e., 8	se.-e.-s.