BIBLIOGRAPHY.

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

C. FITZHUGH TALMAN, Professor in Charge of Library.

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

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On the distribution of wind velocity when abnormal propagation of sound occurs. Appendix: On the velocity of sound propagation in windy atmosphere. [Tokyo, 1920.] p. 63–69. 26 cm. (Reprint, Phys.-math. soc. of Japan, Proceedings, Tokyo. 3d ser., v. 2, no. 4, 1920.)
On the new method of reduction of observations of underground temperature. [Tokyo, 1918.] p. 2–7. 26 cm. (Reprint, Phys.-math. soc. of Japan, Proceedings, Tokyo. 3d ser., v. 1, no. 1, 1918.)
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Daingerfield, Lawrence Hite.
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Mascart, Jean.
Sur l'établissement des moyennes en météorologie. [Paris, 1921.] 3 p. 27 cm. (Extrait, Acad. des science, Comptes rendus, Paris. t. 173, 1921, p. 94.)

Nelson, Edward W.
Lower California and its natural resources. Washington. 1921. 194 p. 31 cm. (National acad. of sciences, v. 16, First memoir.) [Includes notes on climate.]

U. S. Signal corps. Meteorological service.
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Sulla dinamica delle oscillazioni barometriche. [Montecassino, 1921.] 14 p. 27 cm. (Estratto de la Meteorologia pratica, Montecassino. no. 3/4.)

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[Coup d'œil sur l'origine, les rapports, l'importance et les buts de la climatologie.] [Excerpt from Soc. de géographie de Belgrade, Bulletin, v. 5, 1921. p. 53–67.] [Text in Serbian.]

RECENT PAPERS BEARING ON METEROLOGY AND SEISMOLOGY.

C. F. TALMAN, Professor in Charge of Library.

The following titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers and other communications bearing on meteorology and cognate branches of science. This is not a complete index of all the journals from which it has been compiled. It shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau.

Annalen der Hydrographie und maritimen Meteorologie. Berlin. 49 Jahrg., 1921.
Seilkopf, Heinrich. Der Witterungsverlauf in Norddeutschsland beim Vorübergang barometrischer Teildepressionen. p. 145–160. (H. 5.)
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Bieler-Butticaz. Variation d'intensité du son pour différentes conditions atmosphériques à la montagne en hiver. p. 548–550.

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Brazier, C.-E. La résistance de l'air au mouvement des sphères et la vitesse ascensionelle des ballons pilotes. p. 644–646. (17 oct.)

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Effect of salt spray on the ordinary wet-bulb thermometer at Valencia observatory. p. 260–261. (Oct.)
Gatty, Victor H. Visibility. p. 251–252. (Oct.)
Loss of the airship N. S. 3. p. 241–245. [Meteorological conditions.] (Oct.)

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Defant, A. Messungen der atmosphärischen Turbulenz und Energieumsatz bei atmosphärischen Turbulenzwirbeln. p. 268–274.
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Galbas, P. A. Über die Verwendbarkeit von Dunstbeobachtungen für die Prognose. p. 277–278.
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Linke, Franz. Niederschlagsmessungen unter Bäumen. p. 277.
Mazelle. Über die Windverhältnisse in den höheren Luftschichten nach den Pilotierungen in Triest. p. 281–282.
Prohaska, Karl. Klimaänderung innerhalb der letzten Jahrhunderte in Steiermark? p. 285–286.
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SOLAR OBSERVATIONS.

SOLAR AND SKY RADIATION MEASUREMENTS DURING OCTOBER, 1921.

By HERBERT H. KIMBALL, Meteorologist.

For a description of instruments and exposures, and an account of the method of obtaining and reducing the measurements, the reader is referred to this REVIEW for April, 1920, **48**:225.

From Table 1 it is seen that direct solar radiation intensities were generally above normal October values at all the stations except Lincoln, Nebr. At Santa Fe, N. Mex., an intensity of 1.59 gram-calories per minute per square centimeter of normal surface, measured shortly after noon of the 18th, is the highest intensity ever measured at that station in October; and an intensity of 1.44 gram-calories, measured at Madison, Wis., just before noon of the 4th, is within 1 per cent of the maximum October intensity for that station.

Table 2 shows that the total solar and sky radiation received on a horizontal surface was generally above normal at both Washington and Madison, the excess at Washington averaging about 20 per cent of the normal. This excess is attributable principally to the unusual number of days in October with clear skies.

Skylight polarization measurements made on 14 days at Washington give a mean of 63 per cent, with a maximum of 72 per cent on the 14th. At Madison measurements made on nine days give a mean of 68 per cent, and a maximum of 74 per cent on the 4th. These are above the average values for October at both Washington and Madison.

TABLE 1.—*Solar radiation intensities during October, 1921.*

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

Washington, D. C.

Date.	Sun's zenith distance.										
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon.
	75th meridian time.	Air mass. A. M.					P. M.				Local mean solar time.
	e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
Oct. 1	7.29		0.91	1.06	1.22	1.41	1.22				5.79
4	6.76				1.27		1.11				4.57
5	5.79	0.84	0.94	1.07	1.17	1.39	1.17	0.92	0.82	0.73	5.16
6	7.29	0.84	0.94	1.08	1.23	1.43	1.22				4.95
7	7.57	0.66	0.74	0.89	1.09	1.33					8.48
11	8.81	0.55	0.67	0.82	0.99	1.17	0.84	0.70			9.47
12	5.36		0.86	1.03	1.23	1.47	1.28	0.97			3.30
13	4.37	0.75	0.83	1.02	1.22	1.46	1.10	0.92	0.79	0.67	3.45
14	5.79		0.99	1.11	1.28	1.46	1.26	1.10	0.88	0.77	3.63
17	7.87	0.59	0.69	0.83	0.95	1.10					9.47
19	9.14			0.94							8.48
20	7.87				1.21	1.33					4.95
21	4.37		0.89	1.02	1.18	1.37	1.20	1.02	0.90	0.79	3.45
22	5.16		1.06	1.16	1.32	1.49	1.29	1.09	0.96	0.86	3.99
24	7.87				0.68		0.89	0.60			7.87
26	4.17				1.21		1.21	1.04	0.89		3.81
27	5.56			1.00	1.14	1.26	1.03	0.76	0.64		6.02
29	7.57			0.79							7.57
Means		0.70	0.87	0.99	1.15	1.36	1.14	0.91	0.84	0.76	
Departures		−0.04	+0.04	+0.08	+0.05		+0.05	+0.02	+0.09	+0.10	

* Extrapolated.

TABLE 1.—*Solar radiation intensities during October, 1921*—Contd.

Madison, Wis.

Date.	Sun's zenith distance.										
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon.
	75th meridian time.	Air mass. A. M.					P. M.				Local mean solar time.
	e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
Oct. 1	6.27			1.03							7.57
3	6.02		1.05	1.16	1.31	1.48					5.16
4	4.95		1.08	1.20	1.34	1.54	1.31	1.17			4.57
5	5.16		0.90	1.06	1.22	1.43					6.50
6	5.16		0.93	1.06	1.22	1.39					5.36
8	3.81		1.01								4.17
12	4.37		1.02	1.14	1.31	1.50					4.57
13	4.75	0.85	0.97	1.06	1.24	1.48	1.26	1.08			5.16
14	5.16			0.92	1.11	1.32	1.08	0.89			6.02
18	8.48				1.16						9.83
19	6.02	0.42		0.66							5.79
21	5.36			1.13	1.28		1.23	1.02			6.27
22	5.16	0.87			1.23						6.02
Means		0.71	0.99	1.04	1.24	1.45	1.22	1.04			
Departures		+0.01	+0.08	−0.01	+0.07		+0.05	+0.03			

Lincoln, Nebr.

Oct. 4	5.16			1.11	1.34		1.27	1.10	0.96	0.85	7.87
10	5.79				1.17						18.59
12	3.81				1.27	1.45	1.26	1.10	0.96	0.79	5.36
13	2.26		0.96	1.08	1.17		1.06		0.67	0.54	6.02
17	8.81						1.14	1.10	0.98	0.87	8.81
20	4.57		1.02	1.15	1.22				0.99	0.86	5.36
21	4.95	0.89	0.97	1.19	1.30						6.02
22	4.37		0.79	0.99	1.20				0.85	0.71	5.56
27	6.27			1.21			1.32	1.15	0.99	0.89	5.56
31	6.76		0.76	0.85	1.15		1.20	1.00	0.79	0.66	8.48
Means		(0.89)	0.90	1.08	1.23	(1.45)	1.21	1.09	0.90	0.78	
Departures		−0.01	−0.07	−0.04	−0.05		−0.03	+0.01	−0.04	−0.05	

Santa Fe, N. Mex.

Oct. 3	4.95					1.55					6.50
4	5.79		1.14	1.22		1.60					5.56
5	4.57	1.06	1.14	1.25	1.41	1.58	1.40				4.95
18	3.45						1.40	1.28	1.16		2.62
19	3.00	1.16	1.22	1.30		1.63					3.15
20	3.99						1.43	1.18	1.06		4.17
21	3.63						1.46	1.24	1.14		3.63
26	3.99	1.11	1.25	1.33	1.49	1.68	1.46	1.28			4.37
27	3.15	1.11	1.22	1.26							3.00
Means		1.11	1.19	1.27	1.45	1.61	1.43	1.24	1.12		
Departures		+0.02	+0.03	+0.03	+0.07		+0.03	±0.00	+0.01		

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

Week beginning.	Average daily radiation.			Average daily departure for the week.			Excess or deficiency since first of year.		
	Washington.	Madison.	Lincoln.	Washington.	Madison.	Lincoln.	Washington.	Madison.	Lincoln.
	cal.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*
Oct. 1	357	329		+40	+48		+1,973	−3,041	
8	378	272		+71	+20		+2,473	−2,899	
15	335	213		+48	−12		+2,808	−2,985	
22	348	206		+80	+1		+3,366	−2,978	

MEASUREMENTS OF THE SOLAR CONSTANT OF RADIATION AT CALAMA, CHILE, AUGUST AND SEPTEMBER, 1921.

NOTE.—The above reports will be published in a later issue of the REVIEW, not having been received in time for insertion here.—EDITOR.