LATE REPORT FOR SWAN ISLAND, WEST INDIES

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meter, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during July 1946*

STATIONS AND MEAN SURFACE PRESSURES

Standard pressure surface (mb.)	Swan Island, West Indies (1,014.2 mb.)				Standard pressure surface (mb.)	Swan Island, West Indies (1,014.2 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity		Number of observations	Dynamic height	Temperature	Relative humidity
Surface	31	10	26.9	82	500	28	5,871	−8.3	39
1,000	31	135	26.0	82	450	28	6,686	−13.4	41
950	31	590	22.7	81	400	28	7,570	−19.2	42
900	31	1,057	19.7	76	350	28	8,549	−26.1	
850	31	1,548	16.9	69	300	28	9,645	−34.5	
800	31	2,063	14.4	57	250	28	10,892	−44.5	
750	31	2,606	11.3	49	200	28	12,346	−55.8	
700	31	3,179	7.6	47	175	27	13,180	−62.5	
650	31	3,788	3.9	46	150	20	14,122	−68.2	
600	30	4,432	0.2	43	125	8	15,214	−71.5	
550	29	5,119	−3.8	39					

TABLE 2.—*Free-air resultant winds based on pilot balloon observations made near 5 p. m., E. S. T. (2200 G. C. T.), during August 1946. Directions given in degrees from north (N=360°, E=90°, S=180°, W=270°). Velocities in meters per second*

Altitude (meters) m. s. l.	Abilene, Tex. (534 m.)			Albuquerque, N. Mex. (1,630 m.)			Atlanta, Ga. (299 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (512 m.)			Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (220 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (150 m.)			Denver, Colo. (1,627 m.)			El Paso, Tex. (1,198 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	31	152	3.9	31	216	1.8	31	250	0.7	31	9	1.4	31	271	1.5	31	323	4.1	31	130	5.7	29	248	2.8	30	232	1.2	31	179	1.3	25	288	0.7	30	12	2.1	31	192	1.1
500							31	264	1.1										31	136	8.1	29	254	3.3	30	211	1.8	31	183	2.5	25	284	1.5						
1,000	31	150	4.8				31	293	2.0				31	275	2.0	31	324	4.3	31	144	7.4	28	286	2.1	30	239	2.0	31	258	2.0	24	288	2.8						
1,500	29	153	4.7				31	304	2.9	31	340	1.7	31	254	2.5	31	322	3.8	31	154	5.9	27	268	3.9	27	252	4.0	31	272	2.8	22	298	3.0				31	168	1.3
2,000	29	161	4.7	31	218	1.8	29	309	3.2	31	315	1.7	29	276	3.6	31	302	2.2	28	158	4.8	22	273	4.5	24	273	4.8	29	285	3.7	21	296	4.1	30	30	3.0	31	156	1.4
2,500	28	167	4.3	31	230	1.6	27	311	3.0	29	281	3.0	27	277	6.0	31	273	4.2	26	156	3.9	16	275	5.8	18	276	5.6	28	285	4.7	15	293	5.8	29	43	2.2	31	155	1.5
3,000	28	168	4.3	31	238	0.7	25	306	3.2	29	273	5.0	27	289	6.9	31	250	5.0	26	146	3.4	12	290	5.2	18	278	5.8	27	285	6.1	11	299	7.3	28	45	0.8	31	131	0.8
4,000	25	168	2.4	29	324	0.9	23	308	5.4	26	267	9.4	25	289	11.8	31	244	8.6	26	138	2.5				12	280	5.9	21	277	6.4				26	286	2.1	28	170	1.7
5,000	21	76	0.9	29	246	1.8	20	304	6.9	23	268	12.1	23	294	15.2	30	243	11.4	22	155	3.4							13	264	8.8				22	274	5.5	27	198	2.5
6,000	18	80	0.5	27	239	3.2	16	303	9.5	18	276	14.5	19	296	18.5	29	247	11.2	22	157	3.4							10	264	8.4				17	272	8.2	25	196	2.4
8,000	18	213	1.9	20	247	4.7				17	269	18.1	18	290	21.0	23	250	13.8	20	99	5.0													10	265	14.8	16	179	4.1
10,000	15	209	3.0	19	242	7.8							15	283	23.9	19	244	18.6	17	86	6.2																10	164	3.9
12,000	12	194	2.2	14	247	9.6							11	275	25.8	16	251	22.2	15	72	6.8																		
14,000				10	251	9.1										12	256	24.2	13	93	8.7																		

Altitude (meters) m. s. l.	Ely, Nev. (1,910 m.)			Grand Junction, Colo. (1,475 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Joliet, Ill. (178 m.)			Las Vegas, Nev. (673 m.)			Little Rock, Ark. (88 m.)			Medford, Oreg. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (194 m.)			New York, N. Y. (15 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	31	205	2.1	31	240	2.6	31	62	0.4	31	10	1.2	30	120	1.4	31	245	1.4	31	173	2.0	31	148	1.2	31	350	1.1	31	134	2.6	30	257	0.7	31	338	1.5	30	153	0.4
500							31	192	0.7				30	175	1.4	31	279	1.5				31	157	1.5	31	331	1.0	31	144	3.3	30	259	1.6	31	328	1.4	30	259	1.4
1,000							31	232	1.6	31	332	1.1	28	249	2.5	29	267	1.7	31	189	3.6	30	164	0.5	31	322	2.4	31	160	1.8	30	293	2.1	31	308	2.1	28	274	3.3
1,500				31	242	2.8	30	268	2.6	31	276	1.6	28	263	3.1	27	285	2.7	31	192	3.7	29	272	1.0	31	278	1.9	31	168	0.6	28	313	3.4	30	304	3.4	27	274	3.9
2,000	31	206	2.3	31	256	1.9	27	288	4.2	31	258	2.8	25	269	4.5	25	297	3.0	31	196	4.9	24	317	2.6	31	243	1.9	31	81	0.4	26	325	4.1	30	312	4.2	23	264	4.9
2,500	31	218	3.9	31	257	1.8	24	290	6.2	29	255	3.9	21	268	4.8	21	304	6.5	31	203	4.6	22	318	3.8	31	210	3.5	30	117	0.2	25	324	4.5	29	310	5.7	18	275	5.9
3,000	31	214	3.9	31	270	2.8	20	296	8.2	26	251	5.0	20	260	5.6	19	309	7.7	30	206	4.4	21	320	4.7	30	205	5.0	30	113	0.5	25	324	4.2	28	306	7.3	13	282	5.8
4,000	30	223	4.3	30	270	3.1	15	286	10.9	21	259	6.3	17	259	4.5	13	304	10.8	28	215	5.9	15	308	5.5	30	216	6.1	28	147	0.6	17	331	3.5	25	306	8.8			
5,000	27	228	6.0	29	262	4.7	10	295	11.6	16	280	10.5	15	265	4.5	10	316	13.5	28	226	5.0	15	313	6.3	30	221	7.5	24	184	2.2	13	318	4.9	20	308	10.5			
6,000	24	232	7.5	27	266	5.9				12	275	12.6	12	276	5.2				24	233	6.2	14	310	7.9	28	233	9.2	23	175	2.4	10	317	5.8	15	304	11.6			
8,000	15	241	14.8	20	256	8.7													23	231	9.0				23	245	11.7	13	65	1.7				11	297	15.1			
10,000	12	241	21.4	15	250	14.6													19	233	13.0				17	252	12.4												
12,000				10	257	22.6													11	229	17.4																		
14,000																																							

Altitude (meters) m. s. l.	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (396 m.)			Omaha, Nebr. (306 m.)			Phoenix, Ariz. (338 m.)			Rapid City, S. Dak. (982 m.)			St. Louis, Mo. (181 m.)			St. Paul, Minn. (225 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif. (15 m.)			Sault Ste. Marie, Mich. (225 m.)			Seattle, Wash. (116 m.)			Spokane, Wash. (603 m.)			Washington, D. C. (24 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	31	279	5.4	31	184	4.1	31	142	0.9	31	264	1.1	31	73	2.3	30	95	0.2	30	268	1.8	30	130	4.0	31	268	3.7	30	282	2.4	31	292	2.0	31	275	0.5	31	277	0.8
500	31	269	4.1	31	181	4.2	31	210	1.1	31	252	1.8				30	275	0	30	259	2.0	30	134	4.6	31	285	3.0	30	278	2.9	31	320	1.7				31	264	1.9
1,000	29	235	4.0	31	184	4.3	30	216	1.7	31	247	2.2	31	73	2.3	29	274	1.8	30	265	3.6	30	141	5.7	31	265	2.1	28	274	4.1	25	340	1.5	31	231	1.7	31	271	2.3
1,500	29	224	4.0	29	186	4.9	27	246	3.4	31	252	2.2	31	68	2.2	28	298	4.0	29	261	4.3	28	145	5.7	31	247	1.4	25	270	5.4	24	23	0.4	31	240	2.1	28	271	3.7
2,000	29	207	4.0	28	191	4.2	21	261	5.4	31	272	2.1	30	54	0.5	26	303	6.2	24	271	6.2	27	152	5.2	30	213	1.0	23	268	5.9	21	181	0.6	29	240	2.9	24	286	5.2
2,500	29	203	4.0	27	162	3.8	21	279	6.8	30	263	2.4	27	271	2.4	23	312	8.1	23	275	6.9	22	156	4.5	30	215	2.2	22	276	6.8	20	187	1.9	26	237	3.7	23	279	6.6
3,000	29	201	4.2	26	209	3.3	19	292	8.7	30	245	2.2	22	272	6.0	20	309	9.5	19	281	6.5	20	154	3.7	28	209	1.7	18	288	6.3	18	198	3.5	24	246	4.2	20	281	7.3
4,000	29	211	4.9	21	262	3.5	17	301	11.4	29	209	1.6	21	292	10.0	16	316	11.4	14	306	9.3	16	154	2.3	26	204	2.2	14	305	7.5	18	220	4.6	24	249	7.4	20	282	9.6
5,000	27	224	6.4	17	286	5.6	14	295	14.0	29	192	2.4	19	287	13.3	12	322	10.8	13	303	13.5	12	102	1.7	25	224	2.0	11	312	9.0	16	228	5.9	22	252	9.5	14	285	11.7
6,000	27	223	7.4	14	284	6.5				29	185	2.5	18	284	15.6	12	317	12.6							23	219	3.0				15	236	7.1	21	255	13.8	12	276	15.3
8,000	25	230	8.2							21	177	4.1	16	281	17.0										20	205	5.3				14	244	8.3	16	258	18.2			
10,000	24	241	13.1							19	194	6.1													17	211	10.3				10	240	12.3	11	253	20.8			
12,000	19	229	21.7							14	198	7.1																											
14,000	13	240	22.9																																				

TABLE 3.—*Maximum free-air wind velocities (m. p. s.) for different sections of the United States based on pilot balloon observations during August 1946*

Section	Surface to 2,500 meters (m. s. l.)					Above 2,501 to 5,000 meters (m. s. l.)					Above 5,000 meters (m. s. l.)				
	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station
Northeast [1]	34.0	nne.	1,904	3	Nantucket, Mass.	38.4	wnw.	4,112	9	Columbus, Ohio	61.0	n.	11,314	12	Nantucket, Mass.
East-Central [2]	24.1	wnw.	2,500	10	Nashville, Tenn.	26.2	nw.	5,000	8	Louisville, Ky.	60.0	wsw.	13,070	24	Hatteras, N. C.
Southeast [3]	18.1	w.	2,448	11	Birmingham, Ala.	20.8	wnw.	5,000	10	Birmingham, Ala.	39.2	w.	9,304	30	Atlanta, Ga.
North-Central [4]	38.9	w.	2,472	7	Williston, N. Dak.	40.6	wsw.	4,625	8	Bismarck, N. Dak.	63.5	n.	14,792	1	Marquette, Mich.
Central [5]	29.7	sw.	2,005	12	Dodge City, Kans.	41.0	w.	4,237	9	Moline, Ill.	66.0	wnw.	14,666	29	Springfield, Mo.
South-Central [6]	28.7	sw.	1,386	13	Oklahoma City, Okla.	25.4	nw.	4,493	30	Little Rock, Ark.	44.4	wnw.	12,686	29	Tulsa, Okla.
Northwest [7]	42.4	nw.	1,143	7	Ellensburg, Wash.	39.1	sw.	5,000	6	Missoula, Mont.	62.5	w.	17,949	29	Great Falls, Mont.
West-Central [8]	22.7	sse.	1,888	3	Grand Junction, Colo.	27.4	w.	4,667	16	Rock Springs, Wyo.	55.0	wsw.	13,650	28	Oakland, Calif.
Southwest [9]	22.8	e.	1,846	2	Albuquerque, N. Mex.	25.0	s.	3,595	30	Las Vegas, Nev.	45.2	sw.	14,066	30	Fresno, Calif.

[1] Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, and northern Ohio.
[2] Delaware, Maryland, Virginia, West Virginia, southern Ohio, Kentucky, eastern Tennessee, and North Carolina.
[3] South Carolina, Georgia, Florida, and Alabama.
[4] Michigan, Wisconsin, Minnesota, North Dakota, and South Dakota.
[5] Indiana, Illinois, Iowa, Nebraska, Kansas, and Missouri.
[6] Mississippi, Arkansas, Louisiana, Oklahoma, Texas (except El Paso), and western Tennessee.
[7] Montana, Idaho, Washington, and Oregon.
[8] Wyoming, Colorado, Utah, northern Nevada, and northern California.
[9] Southern California, southern Nevada, Arizona, New Mexico, and extreme west Texas.

RIVER STAGES AND FLOODS FOR AUGUST 1946

C. R. JORDAN

Precipitation during August was again spotty, with amounts averaging more than twice the usual amounts on the New England coast and in sections of Florida, Texas, Arizona, Colorado, Missouri, and Illinois. It was dry in the States along the Pacific coast and in the northern and eastern sections of the country, except in northern Michigan, New England, northern Florida, and the southern parts of Georgia and Alabama.

There was no widespread flooding during the month, but local floods caused considerable damage in the vicinity of St. Louis, Mo., and in southern Maine.

Local flood in southern Maine.—An intense storm on August 27, centered over York, Maine, producing an estimated 8 inches of rain between sunset and midnight that resulted in flooding of York Beach and small streams of the area around York. Tides were above normal at the time, which interfered with natural run-off and aggravated flood conditions.

Flash flood in St. Louis region.—About the middle of August phenomenally heavy rains occurred over portions of the Osage, Gasconade, and Meramec Basins, extending eastward over St. Louis and southern Illinois. Total precipitation ranged from 6 to more than 16 inches over a period of 3 or 4 days; total rainfall for August was the greatest of record in some parts of Missouri. Property damage was heavy in the St. Louis area and several persons lost their lives. Flash floods were reported in the Lake of the Ozarks region and in the Gasconade and upper Meramec River Basins. The Missouri River exceeded flood stage slightly at St. Charles, Mo. The Mississippi River at, and for some distance below, the mouth of the Missouri rose rapidly, but the stream did not reach flood stage.

Western Gulf of Mexico drainage.—Heavy rains fell over the lower-central sections of the Nueces, San Antonio, and Guadalupe Rivers from August 28–31. Incomplete reports indicate that 6 to 10 inches of rain fell over a strip 100 miles long by 30 to 40 miles wide, crossing the watersheds northward from Three Rivers, Tex., to Luling, Tex. The heaviest fall reported was 11.82 inches at Chestohowa, Tex. Heavy overflow resulted along the San Antonio River from Falls City to Goliad and also along the upper Atascosa River, a tributary of the Nueces. No record stages occurred and losses were relatively small.

FLOOD STAGE REPORT FOR AUGUST 1946

[All dates in August unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest [1]	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE					
	Feet			*Feet*	
Cape Fear: Lock No. 2, Elizabethtown, N. C.	20	26	28	20.8	27
Waccamaw: Conway, S. C.	7	31	(2)	7.6	Sept. 3
EAST GULF OF MEXICO DRAINAGE					
Apalachicola: Blountstown, Fla.	15	2	4	16.2	3
		7	13	17.6	10
Choctawatchee:					
Geneva, Ala.	23	7	9	26.5	8
Caryville, Fla.	12	7	11	14.0	9
Tombigbee:					
Lock No. 3	33	7	12	41.6	9
Lock No. 1	31	9	12	31.6	10–11
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Meramec: Sullivan, Mo.	11	16	16	15.0	16
Missouri Basin					
Solomon: Beloit, Kans.	18	26	28	20.2	27
Osage: La Cygne, Kans.	25	14	15	25.5	15
Osage:					
Warsaw, Mo.	31	13	17	35.2	14
Lakeside (Bagnell Dam), Mo.	60	13	20	63.9	15
St. Thomas, Mo.	23	14	18	31.5	15
Gasconade: Jerome, Mo.	15	14	16	21.4	15
Missouri: St. Charles, Mo.	25	16	16	25.3	16
WEST GULF OF MEXICO DRAINAGE					
Cibolo Creek: Falls City, Tex.	26	29	29	32.5	29
San Antonio: Goliad, Tex.	35	31	(2)		
Guadalupe: Gonzales, Tex.	20	30	(2)	22.4	31
Nueces: Three Rivers, Tex.	37	31	(2)		

[1] Provisional.
[2] Continued at end of month.