

AEROLOGICAL OBSERVATIONS

[Aerological Division, D. M. LITTLE, in charge]

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Mean free-air temperatures and relative humidities for October, as determined from airplane weather observations, are given in table 1. The departures from normal given in the table are based on normals derived from the number of observations indicated in the note at the foot of the table, where the number of years during which the observations were taken are given by the figures in parentheses. In general, the numbers of observations available for computing the normals at the higher levels are less than those available for the lower levels (indicated in the footnote). To compensate for this discrepancy, the normals are computed by the method of differences.

The mean temperatures for the month at the surface were below normal, except over the southeastern portion of the country and at Lakehurst and Mitchel Field where above-normal temperatures prevailed. The greatest negative departures were -3.3° at Kelly Field and -2.1° at Fargo, while the greatest positive departures were $+1.3^{\circ}$ at Maxwell Field and $+1.1^{\circ}$ at Norfolk. Except over the northwestern part of the country (as shown by the records at Spokane, Wash.) the temperature conditions obtaining at the surface were in general duplicated at the successive upper levels. At Spokane, however, the negative departure of -0.4° at the surface was reversed at all upper levels to positive departures of from $+2.1^{\circ}$ to $+2.5^{\circ}$. The greatest negative departure for all levels was -3.3° at Kelly Field at the surface, and the greatest positive departure was $+3.1^{\circ}$ at Mitchel Field at 4 km. The relatively large departure at Kelly Field, however, decreased gradually in value with height, becoming zero at 4 km and reversing to $+0.7^{\circ}$ at 5 km.

The mean relative humidities were above normal over the greater portion of the country at all levels; but several stations showed a reversal in sign with height, of the departure from normal. At Fargo a negative departure of 6 percent at the surface decreased to zero at 1.5 km, and was between +2 and +4 percent at all levels above 1.5 km. At Maxwell Field the departure was -1 percent at the surface; +2 and +1 percent, respectively, at 0.5 and 1 km; zero at 1.5 km; and then from -4 to -8 percent at all levels above 1.5 km. At Pensacola a similar change took place from +6 percent at the surface to -6 percent at 2,500 m. At Boston the departure was negative at all levels, except at 3 and 4 km where it was +3 percent and +6 percent, respectively. This station showed the greatest range in variation from the normal, from -10 percent at 1 km to +6 percent at 4 km. Spokane was the only station showing a negative departure at all upper levels; the maximum was -10 percent at 1.5 km.

It is interesting to note that this rather spotted condition in the indicated moisture content of the air coincided closely with the precipitation record over the country. For example, the greatest positive departure from the normal relative humidity at all levels was recorded at San Diego where it amounted to +15 percent at 3 km; over southern California, likewise, the most excessive rainfall was recorded, being one and one-half to four times the normal amount. One of the areas showing the greatest deficiency of rainfall was the northwest corner of the country, where, as previously mentioned, the Spokane upper air relative humidities were consistently below normal at all levels. A belt of below normal (25 to 50 percent) precipitation was recorded over the area from North Dakota and Minnesota south-southwestward to

western Texas and New Mexico. This is no doubt due to the fact that a deficiency of moisture, as shown by the upper air relative humidity records, occurred at certain levels, usually near the surface, at all stations in this area. The marked deficiency of moisture in the upper levels at Maxwell Field coincided with the area over Mississippi and Alabama where a marked deficiency of precipitation was also recorded. Except over the States mentioned, precipitation above normal occurred over the greater portion of the area east of the Mississippi River, where the upper air relative humidities also were consistently above normal, especially in the lower levels.

The free-air resultant winds, based on pilot balloon observations made during the month of October, are given in table 2. At the surface and 0.5 km the most outstanding variation from the normal resultant direction occurred at San Diego where the resultant directions for the month were west and west-southwest in contrast with the normal directions of east-northeast and northwest, respectively. The unusual wind directions at these levels, together with the south wind at 1.5 km, no doubt contributed much to the excessive humidity and precipitation over southern California by bringing in an unusual amount of moisture laden air from the Pacific. At 0.5 km also, there is a definite shift of the resultant directions toward the south at Boston, Newark, and Washington, the variation from the normal being between 35° and 47° . At 1 km the same variation persisted at all three stations, but was less pronounced, the range being between 27° and 34° . These variations from the normal direction were apparently due to the marked intensification of several low pressure areas as they passed over or near the region contiguous to, and to the northeast of, the Great Lakes, and which therefore caused strong southerly or southwesterly winds to prevail at such times at these stations. Up to 1 km there was a distinct anticyclonic circulation centered approximately over northwestern Georgia, as indicated by both the current and the normal resultant wind directions. The southerly and southwesterly winds along the western and northern boundary of this area, composed for the most part of tropical maritime air, formed a definite front with the polar continental and polar Pacific air brought in by the northerly and northwesterly winds which obtained at Sault Ste. Marie, Omaha, Albuquerque, Cheyenne, and Fargo. The fluctuations of this front no doubt accounted in part for the above normal precipitation over the Ohio Valley, Arkansas, and east Texas. Another well marked front was indicated in the lower levels, by the resultant directions at Medford and Oakland, respectively, south-southeast to southwest winds prevailing at Medford and northwest to north-northeast at Oakland. This front also marked the boundary between the below-normal precipitation area to the north and the above-normal precipitation area to the south; the flow of air over Oakland apparently was predominantly of Pacific origin. Between 1.5 km and 4 km the most marked variation of the current monthly resultant directions from the normals occurred at stations along the Gulf and Pacific coasts. At Pensacola, the normal directions vary between north and northwest, while those for the current month were between west-southwest and west at these levels. A similar counter-clockwise variation from the normal occurred at Houston. At 4 km for example the normal direction is northwest (306°), while the direction for the current

month was west-southwest (257°). These variations were probably due to the frequent development of low-pressure troughs extending from the lower Mississippi Valley north-eastward to the Ohio Valley, along which tropical air flowed from the Gulf of Mexico. The Pacific coast stations were rather irregular in their variation from normal resultant directions at 1.5, 2, and 2.5 km, but all showed a clockwise deviation at 3 km; the normal directions are between northwest and west, and those for the current month between north-northeast and north-northwest.

The resultant velocities were in general above normal over the eastern portion of the country, and below normal over the western portion. The greatest positive departure from normal (+4.1 m. p. s.) occurred at Sault Ste. Marie,

at 3 km; and the greatest negative departure (-2.8 m. p. s.) at Medford at 3 km, and also at Salt Lake City at 4 km. This distribution of velocities coincided with the average movement of air masses during the month. There were, during the month, frequent outbreaks of polar continental air which moved at near normal speed down over the northern plains and eastern Rocky Mountain States and then increased in speed and, in some cases, in intensity, as they moved southeastward. The increased intensity of several low pressure areas in the region to the north and east of the Great Lakes, as previously mentioned, accounted, no doubt, for the high resultant velocities obtained at Sault Ste. Marie.

TABLE 1.—Mean free-air temperatures and relative humidities obtained by airplanes during October 1936
TEMPERATURE (° C.)

Stations	Altitude (meters) m. s. l.																Number of observations		
	Surface		500		1,000		1,500		2,000		2,500		3,000		4,000			5,000	
	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal		Mean	Departure from normal
Barksdale Field (Shreveport), La. ¹ (52m)	14.0		16.9		14.2		12.7		11.0		9.0		7.1		1.1		-4.5		24
Billings, Mont. ² (1,088 m)	6.7	-0.1					8.9	-0.7	7.0	-0.9	4.2	-0.9	1.2	-0.9	-4.6	0.0	-10.6	+0.4	31
Boston, Mass. ¹ (5 m)	8.1	-1.9	7.9	-0.9	5.6	-1.2	3.8	-1.6	2.3	-1.6	0.4	-1.6	-1.9	-1.8	-7.2	-1.9	-12.9	-1.5	16
Cheyenne, Wyo. ² (1,873 m)	3.4	-0.8							5.6	-0.7	5.1	-1.8	2.1	-2.0	-4.4	-1.5	-11.2	-1.1	31
El Paso, Tex. ² (1,194 m)	12.7						15.5		14.1		11.3		8.1		0.9		-4.6		31
Fargo, N. Dak. ² (274 m)	1.8	-2.1	4.3	-2.2	3.7	-2.7	2.1	-2.6	0.2	-2.5	-2.3	-2.6	-4.6	-2.5	-9.8	-2.4	-15.9	-2.5	30
Kelly Field (San Antonio), Tex. ¹ (206 m)	13.2	-3.3	17.3	-2.1	16.8	-2.1	14.7	-1.6	13.0	-1.4	10.8	-1.2	8.3	-0.8	3.3	0.0	-2.7	+0.7	26
Lakehurst, N. J. ³ (39 m)	10.0	+0.9	10.3	+0.3	8.2	0.0	6.5	-0.4	4.7	-0.4	2.8	-0.1	0.9	+0.1	-4.1	+0.2	-8.0	+2.1	24
Maxwell Field (Montgomery), Ala. ¹ (52 m)	17.0	+1.3	18.8	+0.3	16.6	+0.3	14.1	+0.3	12.8	+0.9	10.9	+1.1	8.5	+1.2	2.8	+1.7	-2.7	+2.7	30
Miami, Fla. ¹ (4 m)	23.3		23.5		20.5		17.7		14.6		12.1		9.6		4.1		-2.0		31
Mitchel Field (Hempstead, L. I.), N. Y. ¹ (29 m)	10.0	+0.9	10.4	+1.0	8.7	+1.2	7.2	+1.1	5.9	+1.5	3.9	+1.8	2.1	+2.1	-1.5	+3.1			23
Murfreesboro, Tenn. ² (174 m)	12.4	+0.4	14.6	-0.3	13.2	-0.2	11.0	-0.2	9.0	0.0	7.3	+0.2	4.8	+0.2	-0.7	+0.4	-6.8	+0.3	31
Norfolk, Va. ² (10 m)	15.4	+1.1	14.7	+0.9	12.0	+0.7	10.1	+0.6	8.0	+0.4	6.1	+0.5	3.8	+0.5	-1.9	-0.1	-7.6	0.0	24
Oakland, Calif. ² (2 m)	12.7		16.6		17.9		15.3		12.9		9.5		6.6		0.3		-6.3		30
Oklahoma City, Okla. ² (391 m)	11.1	-2.0	13.2	-1.6	13.0	-2.9	11.9	-2.4	10.7	-1.5	8.0	-1.5	5.0	-1.4	-1.2	-1.1	-6.7	-0.5	30
Omaha, Nebr. ² (300 m)	8.0	-0.4	10.1	+0.2	10.1	-0.9	8.3	-1.2	6.4	-1.3	3.4	-2.0	1.0	-1.6	-5.2	-1.7	-12.1	-2.1	31
Pearl Harbor, Territory of Hawaii ² (6 m)	23.0	-2.5	22.0	-0.4	18.7	+0.2	15.7	+0.2	13.6	+0.5	12.2	+0.7	9.7	+0.2	2.9	-0.5			30
Pensacola, Fla. ³ (13 m)	17.5	-0.5	19.5	+1.4	16.9	+1.0	14.6	+0.9	12.3	+0.6	10.4	+0.9	8.1	+1.0	2.3	+0.6	-2.8	+1.2	31
Salt Lake City, Utah ² (1,288 m)	6.6						12.0		10.4		6.8		3.0		-3.7		-10.3		31
San Diego, Calif. ³ (10 m)	16.4	-1.0	17.1	-0.1	17.6	0.0	15.3	-0.5	12.1	-1.5	9.0	-1.9	6.1	-1.9	0.6	-1.4	-6.1	-1.6	30
Sault Ste. Marie, Mich. ² (221 m)	3.6		3.3		1.1		-0.6		-2.0		-4.2		-6.4		-11.2		-16.4		30
Scott Field (Belleville), Ill. ¹ (135 m)	9.4	+0.2	13.6	-0.3	13.0	0.0	10.8	0.0	8.4	-0.3	6.3	-0.5	3.6	-0.5	-2.5	-0.7	-8.7	-1.0	18
Seattle, Wash. ³ (10 m)	12.8		14.0		15.3		13.7		12.0		9.9		7.3		1.6		-4.4		5
Selfridge Field (Mount Clemens), Mich. ¹ (177 m)	6.9	-0.4	8.1	-1.5	5.9	-2.0	4.1	-2.1	2.1	-2.1	-0.1	-2.2	-2.6	-2.2	-8.4	-2.4	-15.3	-3.2	31
Spokane, Wash. ² (596 m)	5.8	-0.4			11.6	+2.1	10.9	+2.2	8.8	+2.3	6.3	+2.3	3.4	+2.1	-2.7	+2.2	-8.9	+2.5	31
Washington, D. C. ³ (13 m)	11.4	-0.6	12.4	+0.5	10.2	+0.3	8.6	+0.5	6.3	+0.2	4.3	+0.1	1.8	-0.3	-2.8	-0.2	-9.1	-0.8	29
Wright Field (Dayton), Ohio ¹ (244 m)	9.2	+1.3	11.8	+1.0	9.8	-0.4	8.1	-0.3	5.8	-0.6	3.5	-0.8	1.3	-0.8	-3.8	-0.6	-11.3	-1.5	24

¹ Army.

² Weather Bureau.

³ Navy.

RELATIVE HUMIDITY (PERCENT)

Barksdale Field (Shreveport), La.	86		67		66		63		57		50		43		39		35		
Billings, Mont.	63	+1					54	+2	52	+3	53	+4	52	+3	47	-2	49	0	
Boston, Mass.	72	-2	59	-9	54	-10	55	-4	51	-4	46	-5	50	+3	50	+6	43	-1	
Cheyenne, Wyo.	68	+6							63	+5	56	+6	54	+7	51	+5	47	+1	
El Paso, Tex.	63						53		54		54		55		57		33		
Fargo, N. Dak.	67	-6	63	-3	57	-1	53	0	52	+3	52	+4	46	+2	47	+2	47	+4	
Kelly Field (San Antonio), Tex.	93	+2	70	-7	63	-3	59	-4	53	+1	47	+3	46	+6	38	+6	30	+3	
Lakehurst, N. J.	85	0	71	0	73	+4	67	+5	68	+8	58	+8	54	+8	45	+1	33	-5	
Maxwell Field (Montgomery), Ala.	83	-1	62	+2	60	+1	58	0	42	-8	35	-7	32	-5	30	-4	24	-7	
Miami, Fla.	93		83		79		72		69		61		55		46		39		
Mitchel Field (Hempstead, L. I.), N. Y.	86	0	76	+2	72	+2	70	+6	60	+4	57	+3	52	0	43	-4			
Murfreesboro, Tenn.	91	+6	74	+9	68	+7	63	+5	56	+3	46	0	43	-1	37	-4	33	-3	
Norfolk, Va.	84	+6	72	+4	68	+4	61	+4	58	+6	50	+4	43	+2	41	+6	39	+7	
Oakland, Calif.	82		64		42		35		32		32		31		32		31		
Oklahoma City, Okla.	83	0	73	-2	66	+4	61	+4	53	0	49	0	47	+1	44	-1	37	-1	
Omaha, Nebr.	77	-3	66	-5	60	+2	58	+4	52	+3	54	+7	49	+2	42	-2	42	0	
Pearl Harbor, Territory of Hawaii	88	+13	81	+5	81	+2	77	+3	69	+2	52	-2	42	-1	33	0			
Pensacola, Fla.	86	+6	71	0	68	0	64	+1	55	-1	44	-6	41	-4	39	0	31	-4	
Salt Lake City, Utah	66						50		48		50		52		52		49		
San Diego, Calif.	85	+10	74	+6	57	+7	52	+9	48	+12	48	+14	46	+15	36	+9	30	+7	
Sault Ste. Marie, Mich.	79		74		74		66		55		56		51		49		50		
Scott Field (Belleville), Ill.	92	+3	64	+4	58	+3	53	+2	52	+4	48	+5	44	+3	43	+2	40	+2	
Seattle, Wash.	87		68		48		41		36		33		35		38		38		
Selfridge Field (Mount Clemens), Mich.	87	+4	73	+4	70	+4	63	+4	55	+3	47	+1	45	+2	44	+3	41	+3	
Spokane, Wash.	80	0			55	-9	48	-10	47	-9	48	-7	49	-4	43	-6	39	-8	
Washington, D. C.	87	+11	66	+2	67	+5	62	+4	62	+7	52	+3	48	+3	36	0	33	+3	
Wright Field (Dayton), Ohio	91	+4	74	+3	69	+7	61	+6	60	+11	58	+12	49	+8	41	+3	38	+3	

Observations taken about 4:00 a. m., 75th meridian time, except along the Pacific coast and Hawaii where they are taken at dawn.

NOTE.—The departures are based on normals covering the following total number of observations made during the same month in previous years, including the current month (years of record are given in parentheses following the number of observations): Billings, 91 (3); Boston, 106 (5); Cheyenne, 93 (3); Fargo, 92 (3); Kelly Field, 80 (3); Lakehurst, 84 (3); Maxwell Field, 90 (3); Mitchel Field, 71 (3); Murfreesboro, 93 (3); Norfolk, 171 (8); Oklahoma City, 92 (3); Omaha, 186 (6); Pearl Harbor, 161 (8); Pensacola, 209 (9); San Diego, 197 (8); Scott Field, 64 (3); Selfridge Field, 93 (3); Spokane, 91 (3); Washington, 249 (12); Wright Field, 84 (3). (Departures from normal for Seattle are omitted from this summary because of the paucity of observations.)

TABLE 1.—Mean free-air temperatures and relative humidities obtained by airplanes during October 1936—Continued

LATE REPORT FOR SEPTEMBER, 1936

TEMPERATURE (°C.)

Stations	Altitude (meters) m. s. l.																Number of observations		
	Surface		500		1,000		1,500		2,000		2,500		3,000		4,000			5,000	
	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal		Mean	Departure from normal
Pearl Harbor, Territory of Hawaii ³ (6 m.)	23.4	-2.3	21.9	-0.4	18.3	-0.1	15.3	-0.1	13.3	+0.5	12.0	+0.8	9.7	+0.5	3.6	+0.1	-1.8	-0.2	30

RELATIVE HUMIDITY (PERCENT)

Pearl Harbor, Territory of Hawaii	84	+9	80	+3	84	+3	78	+2	69	0	52	-1	43	+2	33	0	11	-12
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³ Navy.

NOTE.—The departures are based on normals covering the following total number of observations made during the same month in previous years, including the current month (years of record are given in parentheses following the number of observations): Pearl Harbor, 154 (8). The observations are taken at dawn.

TABLE 2.—Free-air resultant winds (meters per second) based on pilot-balloon observations made near 5 a. m. (E. S. T.) during October 1936

[Wind from N=360°, E=90°, etc.]

Altitude (m) m. s. l.	Albuquerque, N. Mex. (1,554 m)	Atlanta, Ga. (309 m)	Billings, Mont. (1,088 m)	Boston, Mass. (15 m)	Cheyenne, Wyo. (1,373 m)	Chicago, Ill. (192 m)	Cincinnati, Ohio (153 m)	Detroit, Mich. (204 m)	Fargo, N. Dak. (274 m)	Houston, Tex. (21 m)	Key West, Fla. (11 m)	Medford, Oreg. (410 m)	Murfreesboro, Tenn. (180 m)															
	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity														
Surface	356	1.9	356	1.2	259	2.9	253	1.6	294	3.2	243	1.1	243	1.1	257	0.4	240	1.9	285	0.9	13	1.3	62	1.9	168	0.6	172	0.8
500	32	2.9	32	2.9	256	7.3	256	7.3	256	7.3	256	7.3	256	7.3	256	7.3	256	7.3	256	7.3	106	1.1	74	3.1	221	.1	194	3.6
1,000	3	2.2	3	2.2	264	8.2	264	8.2	264	8.2	264	8.2	264	8.2	264	8.2	264	8.2	264	8.2	131	.3	94	2.7	215	.4	208	5.1
1,500	314	2.2	314	2.2	253	5.4	274	8.5	294	5.1	275	5.1	270	7.0	299	7.0	311	7.6	303	8.1	263	9.8	299	7.7	299	7.7	299	7.7
2,000	223	.8	283	4.8	286	5.6	284	8.8	294	5.1	275	5.1	270	7.0	299	7.0	311	7.6	303	8.1	263	9.8	299	7.7	299	7.7	299	7.7
2,500	226	3.1	273	6.0	296	5.5	288	10.8	299	7.0	270	7.0	299	7.0	311	7.6	303	8.1	263	9.8	299	7.7	299	7.7	299	7.7	299	7.7
3,000	259	4.6	263	5.4	299	7.7	288	10.8	299	7.0	270	7.0	299	7.0	311	7.6	303	8.1	263	9.8	299	7.7	299	7.7	299	7.7	299	7.7
4,000	253	6.2	276	5.4	303	9.8	299	7.7	299	7.0	270	7.0	299	7.0	311	7.6	303	8.1	263	9.8	299	7.7	299	7.7	299	7.7	299	7.7
5,000	276	3.0	276	5.4	303	9.8	299	7.7	299	7.0	270	7.0	299	7.0	311	7.6	303	8.1	263	9.8	299	7.7	299	7.7	299	7.7	299	7.7

Altitude (m) m. s. l.	Newark, N. J. (14 m)	Oakland, Calif. (8 m)	Oklahoma City, Okla. (402 m)	Omaha, Neb. (306 m)	Pearl Harbor, Territory of Hawaii ¹ (68 m)	Pensacola, Fla. ¹ (24 m)	St. Louis, Mo. (170 m)	Salt Lake City, Utah (1,294 m)	San Diego, Calif. (15 m)	Sault Ste. Marie, Mich. (198 m)	Seattle, Wash. (14 m)	Spokane, Wash. (603 m)	Washington, D. C. (10 m)													
	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity												
Surface	312	1.4	305	0.1	182	0.9	300	0.3	40	1.8	33	4.3	205	1.1	144	3.0	261	0.1	325	0.5	130	0.9	88	1.2	297	0.5
500	254	5.4	351	1.0	197	4.6	253	1.0	90	3.9	13	4.5	239	5.3	256	1.1	263	2.6	263	2.6	50	6.6	233	.8	258	2.8
1,000	273	6.7	22	2.9	232	5.8	273	4.1	87	4.2	56	8.8	261	7.3	311	7.6	272	7.5	201	1.4	233	2.8	233	2.8	266	4.2
1,500	280	8.4	44	2.8	250	4.6	284	6.3	81	1.9	250	1.8	263	6.3	144	2.7	186	1.0	278	10.5	270	1.4	267	2.6	271	5.3
2,000	275	9.3	96	1.7	263	4.1	286	7.9	94	1.2	246	2.6	264	7.0	180	5.5	94	1.6	274	10.6	206	1.5	285	3.8	276	7.2
2,500	289	9.9	20	1.8	262	3.6	284	8.0	88	1.6	252	3.4	278	7.3	235	1.1	70	1.3	292	12.1	323	1.7	293	5.8	271	7.2
3,000	289	9.9	351	3.5	275	4.2	279	8.8	92	2.5	269	4.0	277	8.4	259	1.3	6	3.4	284	13.4	323	3.1	294	6.4	257	9.5
4,000	289	9.9	351	3.5	275	4.2	279	8.8	92	2.5	269	4.0	277	8.4	259	1.3	6	3.4	284	13.4	323	3.1	294	6.4	257	9.5
5,000	289	9.9	351	3.5	275	4.2	279	8.8	92	2.5	269	4.0	277	8.4	259	1.3	6	3.4	284	13.4	323	3.1	294	6.4	257	9.5

¹ Navy stations.

RIVERS AND FLOODS

[River and Flood Division, MONTROSE W. HAYES, in charge]

By BENNETT SWENSON

The floods of late September in the rivers in south-eastern Texas continued into October. The Trinity River overflowed portions of Anderson and Leon Counties, causing property losses of approximately \$21,500, but in the lower reaches flood stages were only slightly exceeded. The flood in the Brazos reached Valley Junction, Tex., on the 1st with a crest 3.6 feet above flood stage. Thereafter there was a rapid flattening out of flood water. Damage was confined principally to Washington and Robertson Counties where property (mostly

matured crops) valued at \$191,000, was destroyed. Although high stages occurred in the lower reaches of the Colorado, Guadalupe, and the Rio Grande Rivers the losses were relatively light because matured crops were mostly harvested, and highways damaged by an earlier flood were mostly unrepaired. Some flooding also continued in the Saluda, Santee, and Savannah drainage basins in South Carolina and Georgia with minor losses mostly to crops and livestock.