

the warning was extended over the remaining interior sections. On local indications the official in charge at Galveston displayed northwest storm warnings at 4:30 p. m. At 8 p. m. of the 17th northwest storm warnings were ordered from Morgan City, La., to Brownsville, Tex., with extension of cold-wave warnings to the Texas coast and over southwestern Louisiana; and at 8:40 a. m. of the 18th storm and cold-wave warnings were issued for the remainder of the Louisiana coast. Gales occurred, as predicted, along the entire Texas coast, and there were destructive tornadoes in a few localities in northern Louisiana.

Small-craft warnings were displayed on the Texas coast on the 9th and 23d and were justified. Northeast storm warnings were ordered displayed on the Texas coast at 8:30 p. m. of the 27th, but the increase in wind velocity was gradual and not sufficient on the 28th to justify storm warnings.

Frost warnings were issued on the 20th for the coast sections of Louisiana and Texas, except for the Lower Rio Grande Valley, and on the 25th for northern Louisiana. Towards the close of the month, vegetation was sufficiently advanced in the eastern portion of the district for frost warnings as far north as Little Rock, Ark.

"Norther" warnings for Tampico, Mexico, were issued on the 9th and 18th.—*R. A. Dyke.*

DENVER FORECAST DISTRICT

Low pressures prevailed in Alaska, western Canada, and on the extreme north Pacific coast from the 1st to the 4th, attended by frequent snows in Montana, northwestern Wyoming, and northern Utah, with temperatures much above normal until the 5th. High pressures in the northwestern sections from the 5th to the 8th, together with a moderate depression that remained over the Southwest, were attended by snows from Montana southward to Colorado and by colder weather that had extended on the 8th to southeastern New Mexico. Low pressures continued in the southern portion of the district until the 14th, and a disturbance of marked intensity advanced from the north Pacific coast southeastward across Colorado during the period from the 13th to the 16th. Precipitation resulted in about all portions of the district from the 12th to the 17th, with the heaviest in western Colorado, northern New Mexico, Arizona and Utah. Severely low temperatures east of the Divide in Montana on the 16th, 17th and 18th accompanied the advance of a HIGH from Alberta. A low of marked intensity, from Alaska, that extended southeastward across the northern and eastern portions of the district from the 18th to the 23d was attended by snow or rain as far southward as Colorado and northern New Mexico. The last important storm of the month developed over the southern portion of the Rocky Mountain region on the 26th and advanced, with decreasing intensity, to southwestern Texas on the 28th. Precipitation resulted from Montana southward to northern Arizona and northern and eastern New Mexico.

Warning of a moderate cold wave in eastern Colorado, extreme eastern New Mexico, and southern Wyoming was issued on the morning of the 8th. The warning was fully verified. Warning of a moderate cold wave in northeastern Wyoming and east of the divide in Montana, which was also fully verified, was issued on the morning of the 12th. On the morning of the 14th warning was issued of a moderate cold wave east of the divide in Montana, and the warning was extended on the evening of the same day to include Wyoming. Verifica-

tion was received in eastern Montana, but the warning failed of verification in Wyoming, owing to the development of a Low over the southern portion of that State. On the morning of the 16th warning was issued of a severe cold wave immediately east of the divide in Montana and in northern Wyoming. The warnings were extended on the evening of the 16th to include all of Wyoming, and moderate cold-wave warnings were issued for eastern and central Colorado. Severe cold-wave warnings were issued on the morning of the 17th for eastern Colorado and moderate cold-wave warnings for that portion of New Mexico east of the mountains. The warnings were verified except in western Wyoming. Warning of a moderate cold wave in extreme western Colorado and southern Utah, issued on the morning of the 28th, was verified in southwestern Colorado and extreme southeastern Utah.

A cold wave without warning occurred in eastern Montana on the 8th, owing to the unexpected strengthening and slow movement of a HIGH over that region. The cold wave, for which warnings were issued on the 28th, extended to southeastern Colorado, for which section warnings had not been prepared.

Warning of heavy snows in southwestern Colorado, northeastern Arizona, and southern Utah was issued on the morning of the 12th, together with livestock warnings for those sections. Heavy snows continued in the region specified until the night of the 16th-17th.

Forecasts of strong winds in eastern Colorado and Wyoming were issued in the interests of aviation on the 1st, 2d, 3d, 15th, 16th, 18th, 19th, 20th, 21st, and 22d. These were generally verified.—*J. M. Sherier.*

SAN FRANCISCO FORECAST DISTRICT

At the beginning of February the pressure over the greater part of the northeast Pacific Ocean was quite low and the subpermanent high-pressure system normally found between California and Hawaii was considerably south of its usual position. Weather conditions over the far western portion of the continent above latitude 35° were much disturbed in consequence; rains were of frequent and general occurrence, and southerly gales prevalent along the north coast. Warnings for the latter, which had been displayed on the Oregon-Washington coast on January 31, were continued almost uninterruptedly, with occasional extensions to cover Puget Sound and the northern California coast, until the 5th, when the pressure rose over the ocean east of the 140th meridian, and several days of comparatively undisturbed weather intervened. Frost warnings, incident to this pressure rise, were issued from the 8th to the 11th, inclusive, for orchard areas in northern California.

Although the barometer was high during the latter period over the far western States and for some distance westward, a change of unusual significance was taking place in the pressure situation over the northeast Pacific Ocean as a whole, which resulted in conditions thereover which were without parallel since the charting of ocean pressures was begun at the San Francisco forecast center, with the possible exception of the period April 1-5, 1926, when a situation similar in type, if not in intensity and length of duration, prevailed. The characteristics peculiar to both these periods were as follows: (1) The development of an oceanic low in the south end of a trough overlying the middle Pacific Ocean, (2) the simultaneous development of a low over the southwestern United States, and (3) the gradual dissolution of the high-pressure ridge which lay between these two low-pressure sys-