

During the remainder of the month the ocean north of the fortieth parallel was swept by one disturbance after the other, with hardly any interval between the storms. On the 22d all of the 16 reporting vessels between the fiftieth meridian and the European coast, north of the fortieth parallel, encountered gales of from 40 to 65 miles an hour, with hail and snow in the western section. On the 23d the most severe weather occurred between the thirtieth and fiftieth meridians, and from that date until the end of the month southerly gales also prevailed off the coast of Europe. Storm logs.

**American S. S. *Potomac*:**

Gale began on the 18th, wind SW. Lowest barometer 29.48 inches at 2 a. m. on the 21st, wind NW., 9, in latitude 49° 48' N., longitude 19° 50' W. End on the 21st, wind WSW. Highest force of wind 9, NW.; shifts NW.-W.

**British S. S. *Kenbane Head*:**

Gale began on the 18th, wind SW. Lowest barometer 29.12 inches at 12.17 a. m. on the 19th, wind WSW., 9, at latitude 52° 36' N., longitude 22° W. End on the 20th, wind S. Highest force of wind 12, in squalls; shifts SW.-WSW.

**U. S. Coast Guard S. S. *Sencca*:**

Gale began on the 20th, wind W. Lowest barometer 29.80 inches at noon on the 22d, wind NW., in latitude 44° 49' N., longitude 48° 20' W. End on the 24th, wind NW. Highest force of wind 11, NW.; steady from NW.

**American S. S. *Carplaka*:**

Gale began on the 21st, wind WSW. Lowest barometer 29.74 inches at 8 a. m. on the 23d, wind W., in latitude 39° 56' N., longitude 39° 40' W. End on the 25th, wind WSW. Highest force of wind 10, W.; steady from west.

**American S. S. *City of Freeport*:**

Gale began on the 24th, wind SSW. Lowest barometer 29.57 inches at 1 p. m. on the 25th, wind SSW., 9, in latitude 51° 10' N., longitude 8° 15' W. End on the 25th, wind W. Highest force of wind 9, SSW.; shifts SSW.-W.

**British S. S. *Vasconia*:**

Gale began on the 24th, wind SW. Lowest barometer 28.86 inches at 3 a. m. on the 25th, wind W. 11, in latitude 46° 23' N., longitude 32° 55' W. End on the 26th, wind W. Highest force of wind 11; shifts SW.-SW. by S.

**Swedish S. S. *Stockholm*:**

Gale began on the 24th, wind SSW. Lowest barometer 28.78 inches at 11 p. m. on the 24th, wind SSW., in latitude 57° N., longitude 19° 25' W. End on the 25th, wind WSW. Highest force of wind 9; shifts SSW.-SW.-WSW.

**British S. S. *Clan Malcolm*:**

Gale began on the 26th, wind SW. Lowest barometer 29.45 inches at 4 a. m. on the 28th, wind SW., in latitude 52° 15' N., longitude 5° 23' W. End on the 28th, wind W. Highest force of wind 10, SW.; shifts SSW.-W.

**British S. S. *Alpine Range*:**

Gale began on the 25th, wind SSW. Lowest barometer 28.80 inches on the 28th, wind SW., 9, in latitude 56° 25' N., longitude 14° 55' W. End on the 28th, wind W. Highest force of wind 10; shifts WSW.-S.

**NORTH PACIFIC OCEAN.**

By F. G. TINGLEY.

Measured by the number of gales reported the weather on the North Pacific Ocean in February was nearly normal in character. The number of days on which

gales were experienced was somewhat less than in 1920 and 1921 and slightly greater than in 1919. Pressure conditions over the more northerly portions of the ocean were abnormal, however. Beginning on the 1st the barometer rose rapidly at Dutch Harbor, where it had been uniformly low since the end of December, and by the afternoon of the 5th had reached a height of 30.84 inches, or about 1.26 inches above normal. Just a month before, on January 5, a barometer reading of 28.40 inches had been recorded at that place. Previous high pressures observed at Dutch Harbor are as follows: 30.94 inches on January 4, 1916, 30.86 inches, March 7, 1918, 30.74 inches, January 19, 1920.

At Honolulu and Midway Island pressure conditions were not specially marked, being approximately normal for the month at both places. On the 16th, when a depression moved northward immediately to the east of Midway Island, the barometer at that place fell to 29.34 inches, the lowest point reached during the month.

February opened with a well-defined anticyclone extending westward from the American coast and an energetic depression over Bering Sea. Vessels east of the Hawaiian Islands on the 1st to 3d were experiencing fresh to moderate northeast gales under conditions similar to those noted during the last week of January. On the 4th there were evidences of an anticyclone advancing eastward from Siberia and by the afternoon of the 5th abnormally high pressure was established over the Aleutians, Bering Sea, and northwestern Alaska. On the front of this area of high pressure a vigorous cyclone developed in the eastern Gulf of Alaska with strong to whole westerly gales prevailing over areas to the southward. On February 4, eastern time, in conjunction with the high pressure area just referred to and another one of somewhat less magnitude over Mongolia a deep depression formed to the eastward of Japan, having a central isobar of 28.98 inches. This depression moved northeastward to Bering Sea, where it dissipated during the 8th. Several reporting vessels on its eastern and southern sides, though at some distance from the center, experienced southerly to westerly gales, reaching force 11 in some cases. Typical storm logs are as follows:

**American S. S. *Hoosier State*, Capt. Thomas Blau.** Observer W. N. Calcutt, Yokohama (February 1) for Manila:

Gale began on 4th, wind SSE. Lowest barometer, 30.17 inches, occurred at 4 p. m., same date, in 34° N., 162° 58' E., wind at time being SE., 9. Gale ended at 10 p. m. of 5th. No shifts in wind. Highest force, 9

**American S. S. *Viniti*, Capt. G. Johnsen, Observer A. G. Graham, Dairen (January 28) for Portland:**

Gale began on 3d, wind SSE. Lowest barometer, 29.10 inches, occurred at noon of 4th in 42° 50' N., 154° 47' E., wind remaining at SSE. Gale ended same day. Highest force, 11. Shifts, SSE., SSW.

During the period from the 7th to the 10th low pressure prevailed off the American coast, the anticyclone which had occupied the region toward the Hawaiian Islands having suddenly, on the 5th, advanced eastward over the continent. On its front strong northerly winds prevailed in the Gulf of Mexico and Gulf of Tehuantepec. The American S. S. *Newport*, Capt. G. McKinnon, Observer W. N. Prencel, felt the full force of this northerly on the 7th when proceeding from Champerico to Salina Cruz.

Captain McKinnon has furnished the following detailed report:

[Position of vessel at beginning of gale, 15° 45' N., 93° 45' W., at end, 15° 15' N., 95° 30' W.]

Date.	Greenwich mean time.	Wind direction.	Wind force, Beaufort.	Barometer.	Thermometer.
Feb. 7	<i>H. m.</i>				°
	0 35	Northerly.....	4	30.03	83
	2 35	do.....	6	30.05	82
	4 35	do.....	8	30.14	80
	6 35	Westerly.....	8	30.15	81
	7 35	West-northwest.....	8	30.12	75
	8 35	Northwest by west.....	10	30.09	75
	9 35	Northwest.....	10	30.09	70
	10 35	Northerly.....	10	30.09	72
	12 35	do.....	10	30.09	72
	14 35	do.....	10	30.11	79
	16 35	North-northwest.....	10	30.11	79
	17 35	Northerly.....	8	30.11	74
	18 35	Northeast.....	6	30.11	74

From 12 noon to 6 p. m., ship's time (6.35 to 12.35 G. M. T.), the *Newport* was about 2 miles from shore and at times the vessel was covered with fine sand. About 9 p. m. a heavy easterly swell commenced. Spoon drift was caused both to lee and windward. The sea throughout the gale was short and choppy.

According to press reports the American S. S. *Fairfield City* arrived at San Pedro from Panama on February 18 with three members of her crew injured and two life-boats and the bridge wrecked as the result of an encounter with a hurricane while coming up the coast. The *Fairfield City* was reported at Panama about the 6th. No other circumstances are known.

Very heavy weather developed in connection with the depression referred to as being in the Gulf of Alaska on the 5th and appears to have continued into the period from the 7th to the 10th when low pressure prevailed off the American coast. The British S. S. *Bessie Dollar*, from Victoria (January 30) for Yokohama, had her bridge wrecked and sustained other damages during this period and was obliged to return to port.

On the 11th an anticyclone which had advanced from the mid Pacific was encroaching upon the California coast. This change to high pressure over the eastern portion of the ocean was but temporary, however. On the morning of the 12th a fresh depression was forming to the east of the Hawaiian Islands, with a northward movement. On the 14th it merged with another depression which had formed over the Gulf of Alaska and moved southward, the center of the combined depression being on the morning of the 14th near latitude 30° N., longitude 143° W. During the next several days it moved slowly northward, then eastward, dissipating off the British Columbia coast on the 18th. Strong gales were experienced by vessels to the southward and westward of the center. At 6 a. m. on the 16th the barometer on the S. S. *Viniti*, previously referred to, fell to 28.92 inches. This was in 48° 08' N., 134° 18' W. The wind at the time was south, later veering to southwest. Highest force, 10.

Following this depression, the North Pacific anticyclone became established between the Hawaiian Islands and the American mainland, while low pressure appeared over the Aleutians. With some unimportant modifications this general and normal distribution continued until the 27th when an extensive and vigorous depression advanced eastward and on the 28th covered the Gulf of Alaska and the ocean area to the southward. On the morning of the 28th the barometer at Kodiak registered 28.64 inches.

The following note regarding conditions in the Japan area from the 12th to the 18th is taken from the Weekly Weather Report for that period issued by the Imperial Marine Observatory at Kobe:

On the 12th several cyclone centers were lying on our east coast, causing a heavy rain storm in eastern Japan. The weather was mostly fine in western Japan, owing to the approach of an anticyclone from the continent. On the 13th a high area occupied Manchuria. The weather was mostly fine in the Far East.

On the 14th the high area was moving eastward while a depression was developing near Formosa, followed by another one from Luzon. On the 15th the high area occupied the Okhotsk Sea. Both depressions were approaching our south coast. Cloudy weather was prevailing in this country. Rain set in in southern Kinsin. On the 16th both depressions grew deeper and approached the Tokaido coast. A heavy rainstorm was prevailing there.

On the 17th one of the depressions traversed southeastern Japan and entered into the Pacific from the neighborhood of Cape Kinkasan, while the other one passed along our southeast coast. A heavy rainstorm prevailed in eastern Japan generally.

NOTES ON WEATHER IN OTHER PARTS OF THE WORLD.

*Newfoundland.*—ST. JOHN'S, February 1.—Strong easterly gales that have been raging for several days have blockaded St. John's Harbor with ice and no shipping can enter or leave the port until there is a change of wind.—*Washington Times, February 1, 1922.*

ST. JOHN'S, February 9.—Newfoundland is besieged again by snow and ice. A blizzard swept over the colony last night and to-day and blocked all traffic. \* \* \*

The gale swept the ice fields back into St. John's Harbor and no ships could leave or enter.—*Worcester (Mass.), Telegram, February 10, 1922.*

*North Atlantic.*—BOSTON, February 2.—Warning of North Atlantic ice fields 7 miles wide and 135 miles long moving south, 215 miles east of Cape Race, was sent out to-day by the Hydrographic Office.—*Washington Times, February 2, 1922.*

*Sweden and the Baltic.*—STOCKHOLM, February 5.—Exceptional cold is being experienced in Sweden, especially in the northern part. Ports and harbors gradually are becoming blockaded with ice, the ferries from Trelleborg to Sassnitz, Prussia, have ceased, and connection with Denmark is maintained only with great difficulty.—*New York Tribune, February 6, 1922.*

REVAL, February 18.—The provisioning of starving Russia has become a task of battling with ice in the Baltic.—*Chicago Post, March 11, 1922.*

GOTHENBURG, February 26.—Further breaking up of the ice blockade at this port permitted the entrance of 14 more ice-bound ships Saturday. There is now open water between Copenhagen and Malmo.—*Washington Evening Star, February 27, 1922.*

*Russia.*—REVAL, February 18.—Petrograd has been icebound for several weeks, and a number of ships, mostly German freighters, have been caught by ice in the Finnish Gulf.—*Chicago Post, March 11, 1922.*

*Germany.*—BERLIN, February 5.—In a raging blizzard the inhabitants of the capital of Germany stood in the streets to-day pumping old wells and trying the frozen hydrants. Berlin is to-day without water, gas, electricity, street cars, or railroads, in the midst of one of the worst winters on record.—*Chicago Tribune, February 6, 1922.*

*Hungary.*—BUDAPEST, February 17.—Hungary is having the hardest winter within a generation which daily claims new victims. The Danube River, which is running high and is full of ice, reaped a heavy toll among