

1. MEAN TEMPERATURE
2. DAILY RANGE OF TEMPERATURE

1. Mean Temperature

In the computation of the true mean temperature, the temperature is repeatedly observed at regular intervals all day to obtain the arithmetical mean of the observed values. This methodology, however, would be difficult to adopt in terms of manpower and cost. In the computation of the approximate mean temperature, the arithmetical mean of the daily maximum and minimum temperature is regarded as the mean temperature (M_2). Since this methodology does not assure accurate values, observations of the temperature were also taken at eight fixed intervals in one day (0000, 0300, 0600, 0900, 1200, 1500, 1800 and 2100 hours) and the arithmetical mean of the observed values was taken as the daily mean temperature (M_1). In Japan, this methodology is used by meteorological offices (at about 150 points) of the Japan Meteorological Agency.

With respect to the monthly and annual means of the temperature, amount of precipitation and various other meteorological factors, it is an international practice to regard the mean value of the past 30 years as the norm. The norm used at present is the mean computed in the 30-year period from 1941 to 1970 and will be used until the mean for the period from 1951 to 1980 is computed.

The 1 : 8,000,000 scale maps showing the mean temperature were prepared on the basis of the mean of the mean temperatures (M_2) computed from the maximum and minimum temperatures which were observed at about 1,200

climatological observatories throughout the country. Concerning the mean temperature of Ogasawara Syotō, Habomai Syotō, Kunasiri Tō and Etorohu Tō, no norms were available for the period from 1941 to 1970. The values available for these islands before 1943 and those observed for their neighboring areas were corrected to estimated norms.

The corrected value of the mean temperature is the balance between the mean temperature (M_1) computed from eight observations per day and the mean temperature (M_2) gained from the maximum and minimum temperatures. The corrected values computed from the observed values of meteorological offices (at about 150 points) throughout the country are distributed within a range of 0°C to -1.0°C, and no distinct trends were observed in terms of region and season.

Annual changes in temperature, unlike those in the amount of precipitation, are distributed in a pattern almost identical with the normal distribution. The standard deviations of the mean temperatures (M_2) for the period from 1941 to 1970 are expressed in the form of isolines.

Sources

1. Japan Meteorological Agency, Climatic Table of Japan, Pt. 1, Monthly Normals (1941-1970), 1971.
2. Japan Meteorological Agency, The Monthly Normals of Temperature and Precipitation at Climatological Stations in Japan (1941-1970), 1972.
3. Central Meteorological Observatory, Climatic Records of Japan and the Far East Area, 1954.
4. Japan Meteorological Agency, Climatic Records of Japan (1951-1960), 1969.
5. Japan Meteorological Agency, Climatic Records of Japan (1961-1970), 1972.
6. Japan Meteorological Agency, Climatic Atlas of Japan, Vol. 1, 1971.

2. Daily Range of Temperature

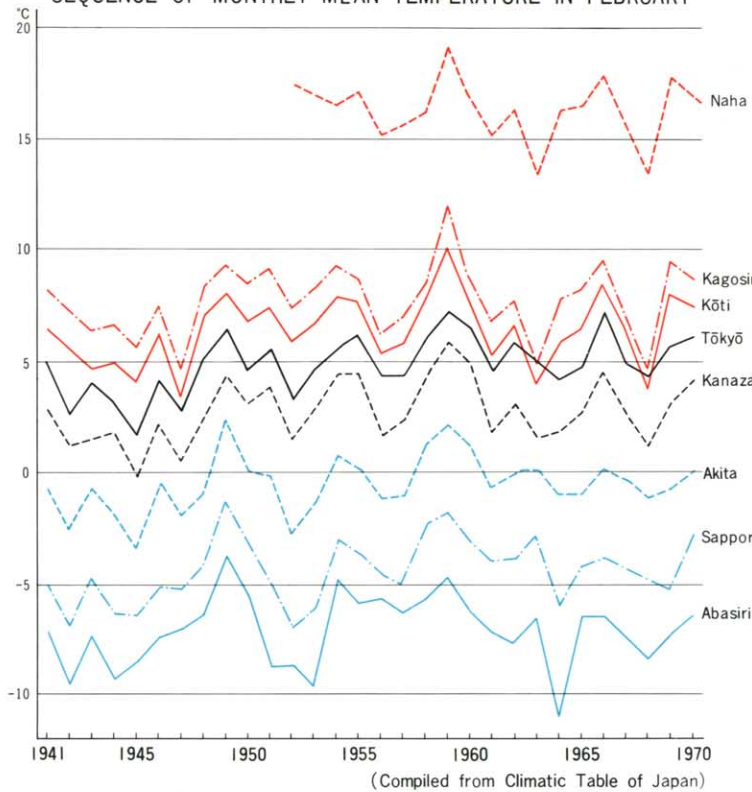
The daily range of temperature represents the balance between the daily maximum and minimum temperatures. In general, the daily range of temperature is wide in the inland areas and narrow in the littoral areas. For these maps, the values from meteorological offices were used, but for the points where the gap is wide, the values available from climatological observatories were used.

The annual range of monthly mean temperature represents the balance between the monthly mean temperature of the hottest month and that of the coldest month. For the computation of the annual range, M_2 values were used.

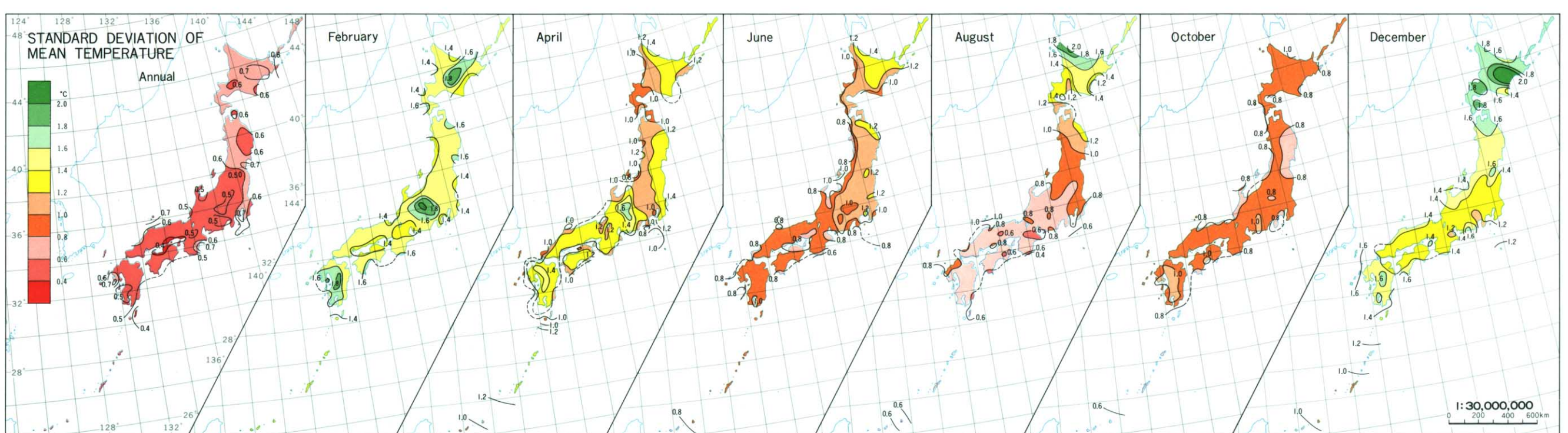
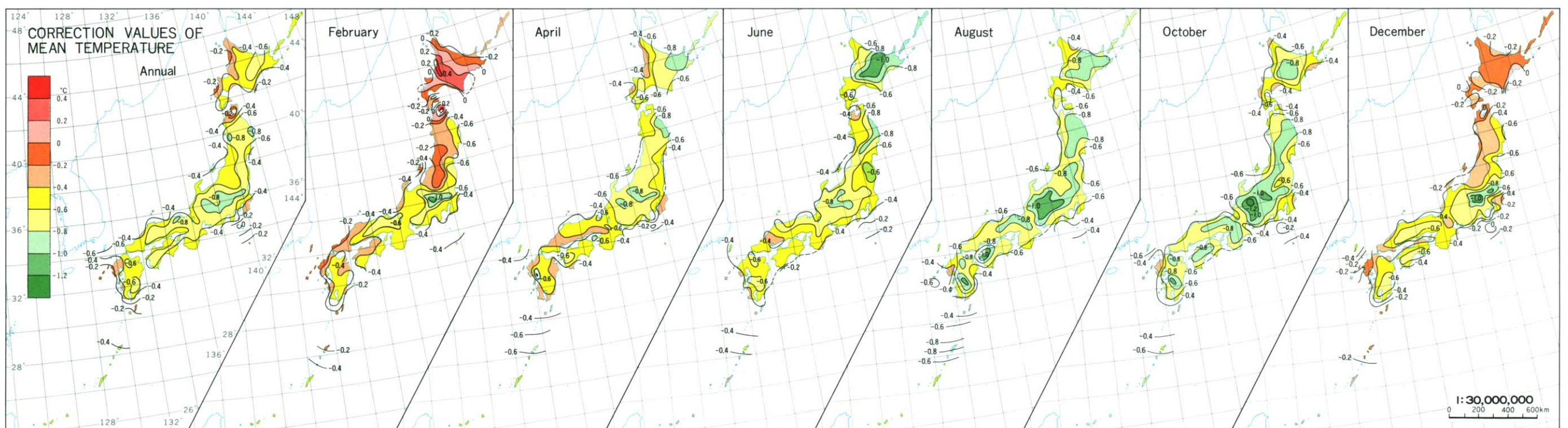
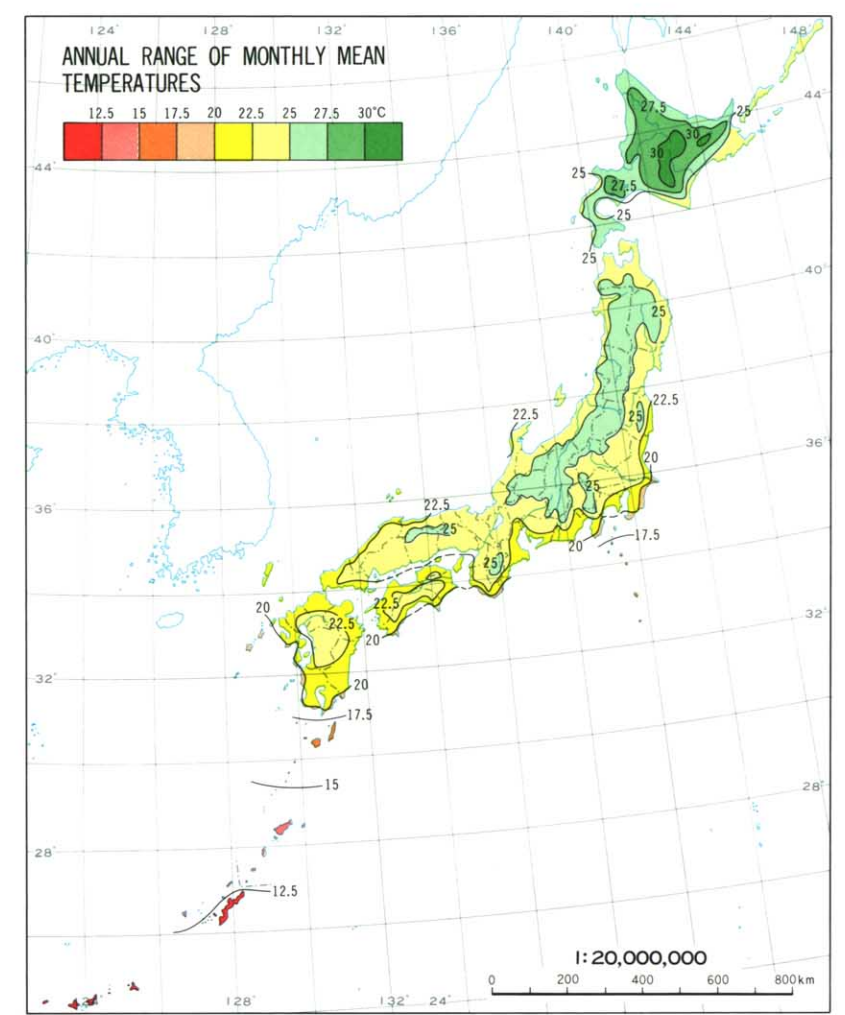
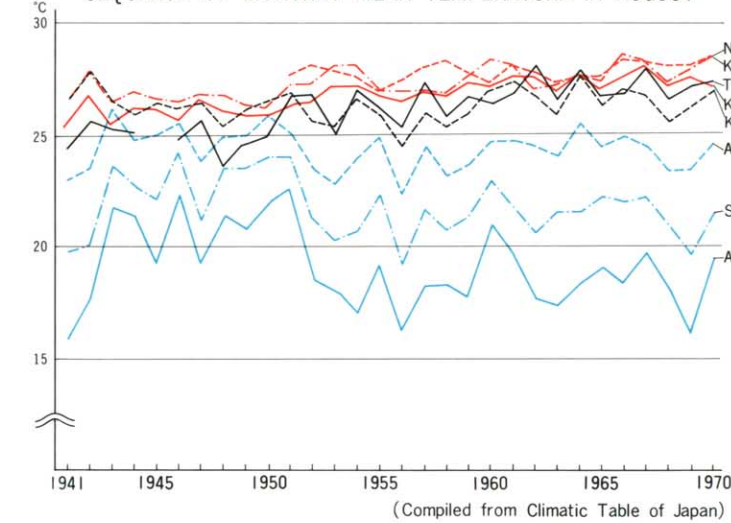
Source

1. Japan Meteorological Agency, Climatic Table of Japan, Pt.2, Monthly Normals by Stations (1941-1970), 1972.

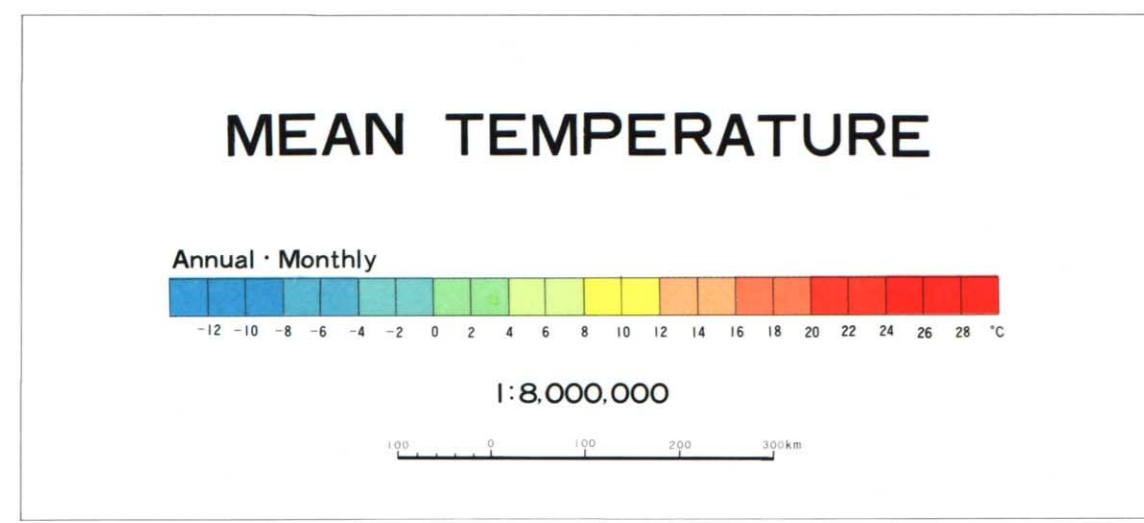
SEQUENCE OF MONTHLY MEAN TEMPERATURE IN FEBRUARY



SEQUENCE OF MONTHLY MEAN TEMPERATURE IN AUGUST



12.1



Annual Changes

