
CHAPTER 10

TEMPERATURE AND DEW POINT

10.1 General

Temperature is a measure of hotness or coldness. On a daily basis, temperature is one of the most widely monitored and disseminated weather parameters obtained from the surface observation.

10.2 Scope

This chapter prescribes the standards for observing and reporting temperature and dew point. The chapter also defines maximum and minimum temperature and prescribes appropriate standards.

10.3 Temperature and Dew Point Parameters

- a. **Temperature.** The degree of hotness or coldness of the ambient air as measured by any suitable instrument.
- b. **Dew point.** The temperature to which a given parcel of air must be cooled at constant pressure and constant water-vapor content in order for saturation to occur.
- c. **Maximum temperature.** The highest temperature recorded/measured during a specified time period.
- d. **Minimum temperature.** The lowest temperature recorded/measured during a specified time period.

10.4 Temperature and Dew Point Observing Standards

The method of obtaining temperature and dew point varies according to the system in use at the station. The data may be read directly from digital or analog readouts, or calculated from other measured values.

10.4.1 Temperature and Dew Point Sensor Range. The range for the temperature and dew point sensors shall be determined by the responsible agency considering the local climatology (Appendix C).

10.4.2 Temperature. Temperature shall be determined to the nearest tenth of a degree Celsius at all stations.

10.4.3 Dew Point. At designated stations, dew point shall be determined to the nearest tenth of a degree Celsius with respect to water at all temperatures.

10.4.4 Maximum and Minimum Temperature. At designated stations, maximum and minimum temperatures that occurred in the previous 6 hours shall be determined to the nearest tenth of a degree Celsius for the 0000, 0600, 1200, and 1800 UTC observations. The maximum and minimum temperatures for the previous 24 hours shall be determined to the nearest tenth of a degree Celsius for the 0000 LST observation.

10.5 Temperature and Dew Point Reporting Standards

10.5.1 Resolution for Temperature and Dew Point. The reporting resolution for the temperature and the dew point in the body of the report shall be whole degrees Celsius. The reporting resolution for the temperature and dew point in the remarks section of the report shall be to the nearest tenth of a degree Celsius. Dew point shall be calculated with respect to water at all temperatures.

10.5.2 Maximum and Minimum Temperatures. At designated stations, maximum and minimum temperatures shall be reported as additive data in the 0000, 0600, 1200, and 1800 UTC and 0000 LST observations (see paragraphs 12.7.2.e, 12.7.2.f, and 12.7.2.g).

10.5.3 Reporting Procedures. Temperature and dew point are reported in the body of the report in accordance with paragraph 12.6.10. Temperature and dew point in the remarks section shall only be reported in METARs (see paragraph 12.7.2.d). Maximum and minimum temperatures shall be reported in the remarks section of the METAR in accordance with paragraphs 12.7.2.e, 12.7.2.f, and 12.7.2.g.

10.6 Summary of Temperature and Dew Point Observing and Reporting Standards

Table 10-1 summarizes the temperature and dew point observing and reporting procedures.

Table 10-1. Summary of Temperature and Dew Point Observing and Reporting Standards

Parameter	Section of Report	
	Body of METAR & SPECI	Remarks of METAR
Temperature	Reported in whole degrees Celsius at all stations.	Reported to tenths of degrees Celsius at designated stations.
Dew Point	Reported in whole degrees Celsius at designated stations.	Reported to tenths of degrees Celsius at designated stations.
Maximum and Minimum Temperatures		Designated stations report at 0000, 0600, 1200, and 1800 UTC.
24-hour Maximum and Minimum Temperatures		Designated stations report at 0000 LST.