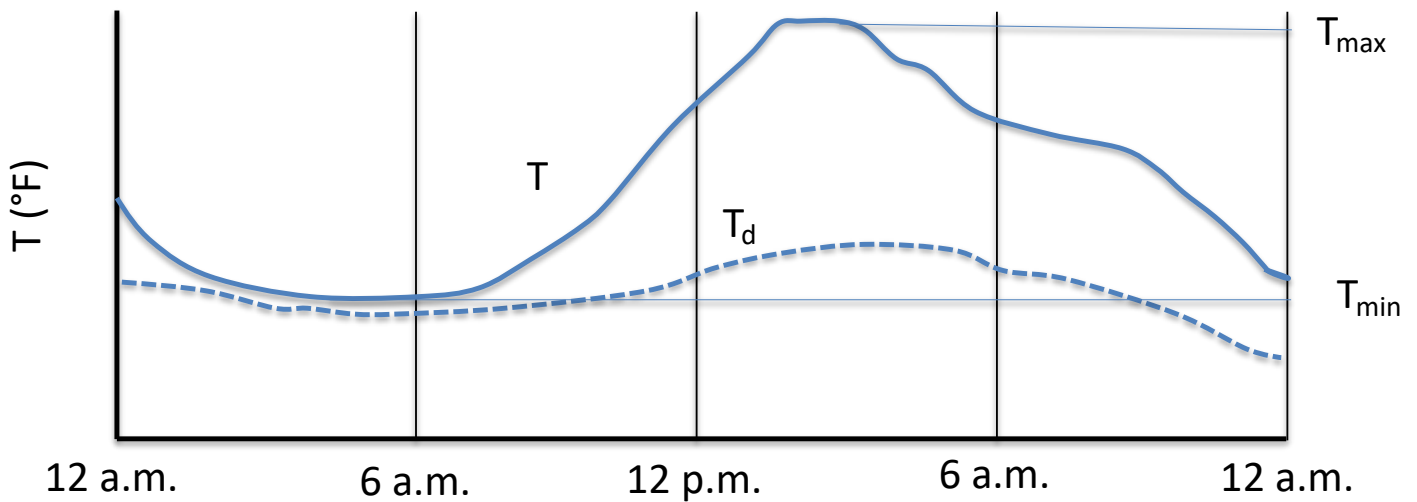


Forecasting Tips—EVSC 3300—Fall, 2023

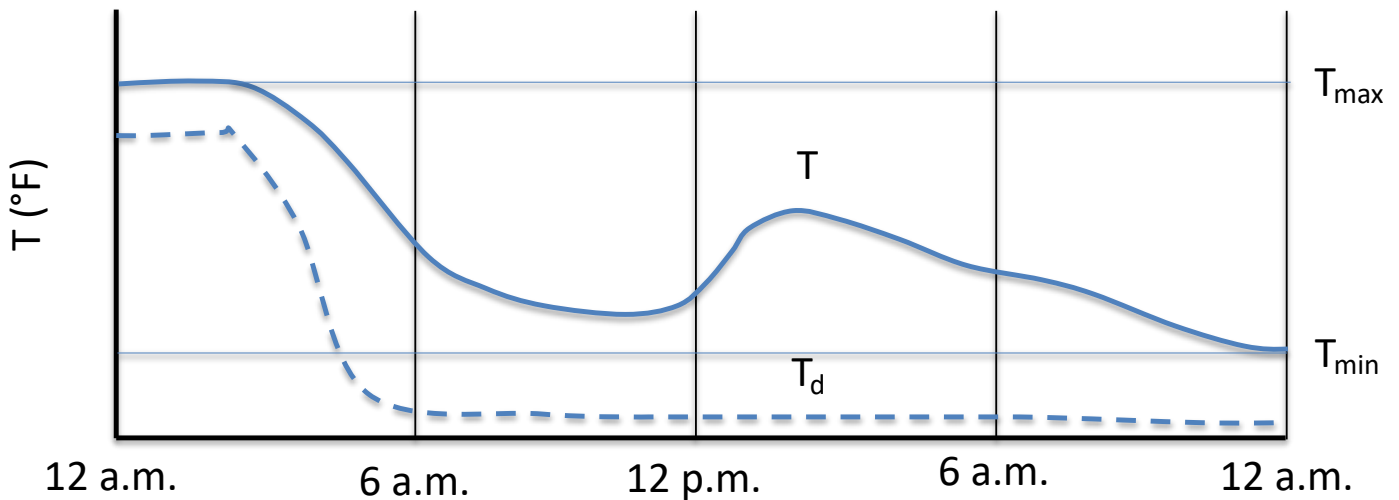
- 1) Be aware of the 24-hour time line (forecasts apply to each 24-hour period from midnight to midnight).

On many websites and apps, the low temperature listed for tomorrow will actually occur the following morning, after midnight.

Typical day; calm, clear night.



Cold front passage at 3 a.m.



2) The National Weather Service is a good place to start.

The 48-hour surface map sequence is here:

http://origin.wpc.ncep.noaa.gov/basicwx/basicwx_ndfd.php

Always be aware of the map time. 1200 Z (or GMT or UTC) = 7 a.m. EST. All weather maps have the verification time listed somewhere.

weather.gov will lead you to the CHO forecast when you select our location.

NBM=National Blend of Models. This is the output from the weather forecast models for each location (https://www.weather.gov/mdl/nbm_text). Our weather station is KCHO. You can find information about how to decode the text products on the left side of the page (NBM v.1 Text Bulletin Key)

3) Forecast Models

Most of the websites found on the class webpage have links to weather forecast model output. Although presented in different formats, the data are from identical models.

Some models are run at 00Z and 12Z, others also at 06Z and 18Z, and some even hourly. These are called the “initialization” times and represent the starting point of the forecast (i.e., there is no error in the initialization). Be certain that you are looking at the most recent model run.

NAM = North American Mesoscale forecast system

GFS = Global Forecast System

ECMWF = European Center for Medium-range Weather Forecasting
RAP = RAPid refresh (updated hourly with new data; higher resolution)

CMC = Canadian Meteorological Center

UKMET = United Kingdom Meteorological Agency

WRF = Weather Research & Forecasting (mesoscale)

“Ensembles” refers to the average of all of the models. In many cases, the mean of all of the model forecasts is better than any individual model.

4) Precipitation

Be aware of the timing of the beginning and end of the precipitation. Winning or losing the contest may depend on whether the rainfall holds off until after midnight!

On the model output maps, the precipitation colors show the amount expected to have occurred over that forecast period.

Here's an example:

"6 hr Precip (in) MSLP (mb) 1000-500 Thick (dam) 12 hour NAM48 valid 12Z FRI 3 Nov 23"

"6 h Precip (in):" the colors on the map show the amount of precipitation (liquid water equivalent) expected to have fallen over the 6-hour period ending at 12Z FRI 3 Nov 23

"MSLP (mb):" the solid lines are surface pressure labelled in millibars

"1000-500 Thick (dam):" this is 1000 to 500 mb thickness in decameters, which we'll be learning about soon. These are the lighter, yellow lines

"12 hour NAM48 valid 12Z MON 26 Oct 20:" This is the 12-hour NAM forecast valid at 7 a.m. EST on Nov. 3, 2023. So the initialization was at 00Z on Nov. 3.