Meteorological Winter (December through February), 2011/2012 Conditional
Temperature Forecast for Philadelphia International Airport (PHL)
in degrees Fahrenheit

If the cold snap starts between	The forecast mean winter temperature is:	67% confidence interval is:	90% confidence interval is:
December 1 - 15	34.5	32.4 – 36.7	30.9 – 38.1
December 16 - 31	35.3	33.1 – 37.4	31.7 – 38.9
January 1 - 15	36.0	33.9 – 38.2	32.4 – 39.6
January 16 - 31	36.8	34.7 – 38.9	33.2 – 40.4
February 1 - 14	37.5	35.4 – 39.7	33.9 – 41.1
February 15 - 29	38.2	36.1 – 40.4	34.6 – 41.8
No cold snap	40.2	38.0 – 42.3	36.6 – 43.8

The normal winter temperature at PHL is 35.4 degrees.

The above conditional forecast is from a multiple linear regression equation that was
derived from data from 1950/51 through 2010/11 that came from PHL. It was found that
the combination of the extended Julian date (beyond 365 or 366 after December 31) of
the first cold snap of the season, the October mean minimum temperature and the
November mean maximum temperature explained approximately 47 percent of the
variance in mean winter temperature.

The technique results in a specific forecast value and associated confidence intervals. So,
if the first cold snap of the season begins on December 24, the forecast of the mean
winter temperature is 35.3 degrees; there is a 67% chance that the mean winter
temperature will fall between 33.1 and 37.4 degrees, and there is a 90% chance that the
mean winter temperature will fall between 31.7 and 38.9 degrees.

For purposes of this forecast, a cold snap is defined as at least three consecutive days
when the temperature does not exceed 35 degrees. Based on data going back to 1950/51,
the likelihood of no cold snap occurring during the winter season is approximately 8%.
Of the 56 winters that did experience at least one cold snap, the mean date of the first
cold snap was December 29.