

## Optimal Fluoride Level and Control Range Worksheet for Calendar Year 2009

**Discussion:** Any public water system that is fluoridating shall determine, and submit to the Department, its annual average of maximum daily air temperatures based on the five calendar years immediately preceding the current calendar year (AMDAT5). The public water system's AMDAT5 is then used in the table below to determine the Optimal Fluoride Level and the Control Range in which to maintain fluoride levels throughout the water system's distribution system.

**Table 64433.2-A  
Optimal Fluoride Levels**

<i>Annual average of maximum daily air temperatures [AMDAT5], degrees</i>		<i>Optimal fluoride level, mg/L</i>	<i>Control Range, mg/L</i>	
Fahrenheit	Celsius		Low	High
50.0 to 53.7	10.0 to 12.0	1.2	1.1	1.7
53.8 to 58.3	12.1 to 14.6	1.1	1.0	1.6
58.4 to 63.8	14.7 to 17.7	1.0	0.9	1.5
63.9 to 70.6	17.8 to 21.4	0.9	0.8	1.4
70.7 to 79.2	21.5 to 26.2	0.8	0.7	1.3
79.3 to 90.5	26.3 to 32.5	0.7	0.6	1.2

**Procedure:** To calculate the AMDAT5, the annual averages for each of the five calendar years, or the five calendar year average can be first determined by the following steps:

- a. A source of daily maximum temperatures for a location in or near the water system must be obtained. One such source is at the website: <http://www.calclim.dri.edu/ccda/data.html>. Other sources may be your City or County Public Works Department, or National Weather Service.
  1. To obtain the maximum daily temperature data from the website listed above select "All Networks" for the area in California the water system is located. From the map, click on a From the map, click on a weather station located near the water system. You may need to try different stations to obtain the daily maximum temperatures for the past five years.
  2. In the left hand column under **Temperature**, click on the bullet entitled **Monthly Temperature Maximum**". Once the data is shown, copy the data to an Excel (or comparable) spreadsheet. Be sure to review the data for accuracy and eliminate space holders such as "-9999".
  3. For future reference, the name of the weather station should be listed here.

- b. From the five years of daily maximum temperature data, calculate the average value. This calculated value is the AMDAT5. List this value below.

AMDAT5: \_\_\_\_\_

- c. Using the AMDAT5 value above and table 64433.2 above, determine the Optimal Fluoride Level and Control Range. List the values below. The control range of fluoride is to be maintained in the water system's distribution system for the calendar year 2009.

Optimal Level: \_\_\_\_\_

Control Range: \_\_\_\_\_