

Using School Exemplars to Debunk the Myth that High Performance Schools Cost More

High performance schools don't have to break the bank

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Story of five Ultra Low Energy elementary schools

Abbot-Downing School
Concord, New Hampshire



Abbot-Downing School
Concord, New Hampshire



Christa McAuliffe School
Concord, New Hampshire



Christa McAuliffe School
Concord, New Hampshire



Mill Brook School
Concord, New Hampshire



Mill Brook School
Concord, New Hampshire



Claiborne Pell Elementary School
Newport, Rhode Island



Claiborne Pell Elementary School
Newport, Rhode Island



Thompson Elementary School
Arlington, Massachusetts



Thompson Elementary School
Arlington, Massachusetts



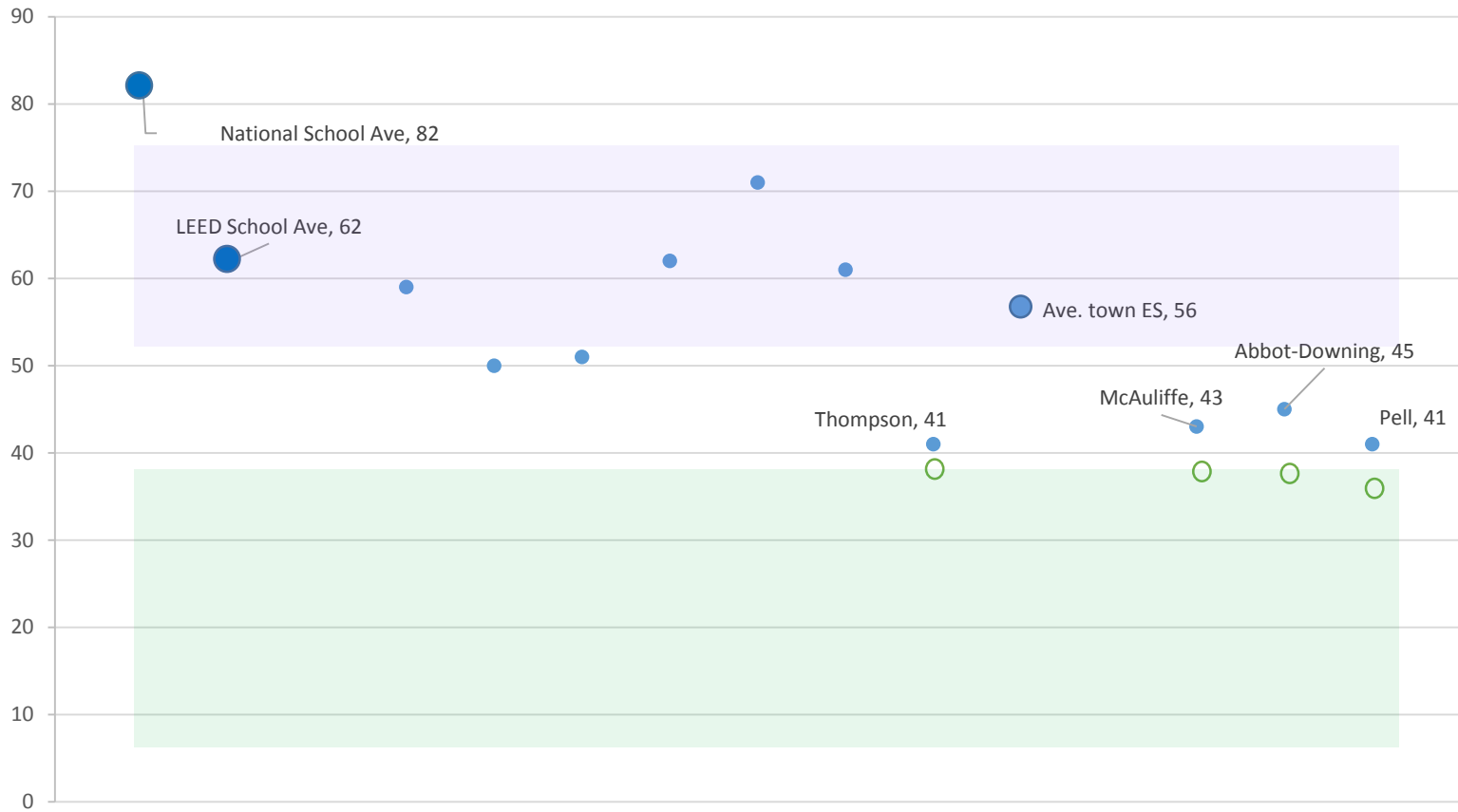
Low Capital Cost

Low Maintenance

Low Utility Bills

EUI

School Energy Use



Alma del Mar Charter
School
Energy Use Charrette

Agenda

- Review Building Use Schedule
- Understanding Energy Use
- Define Project Goals & Expectation
- Review Possible Energy Saving Measures

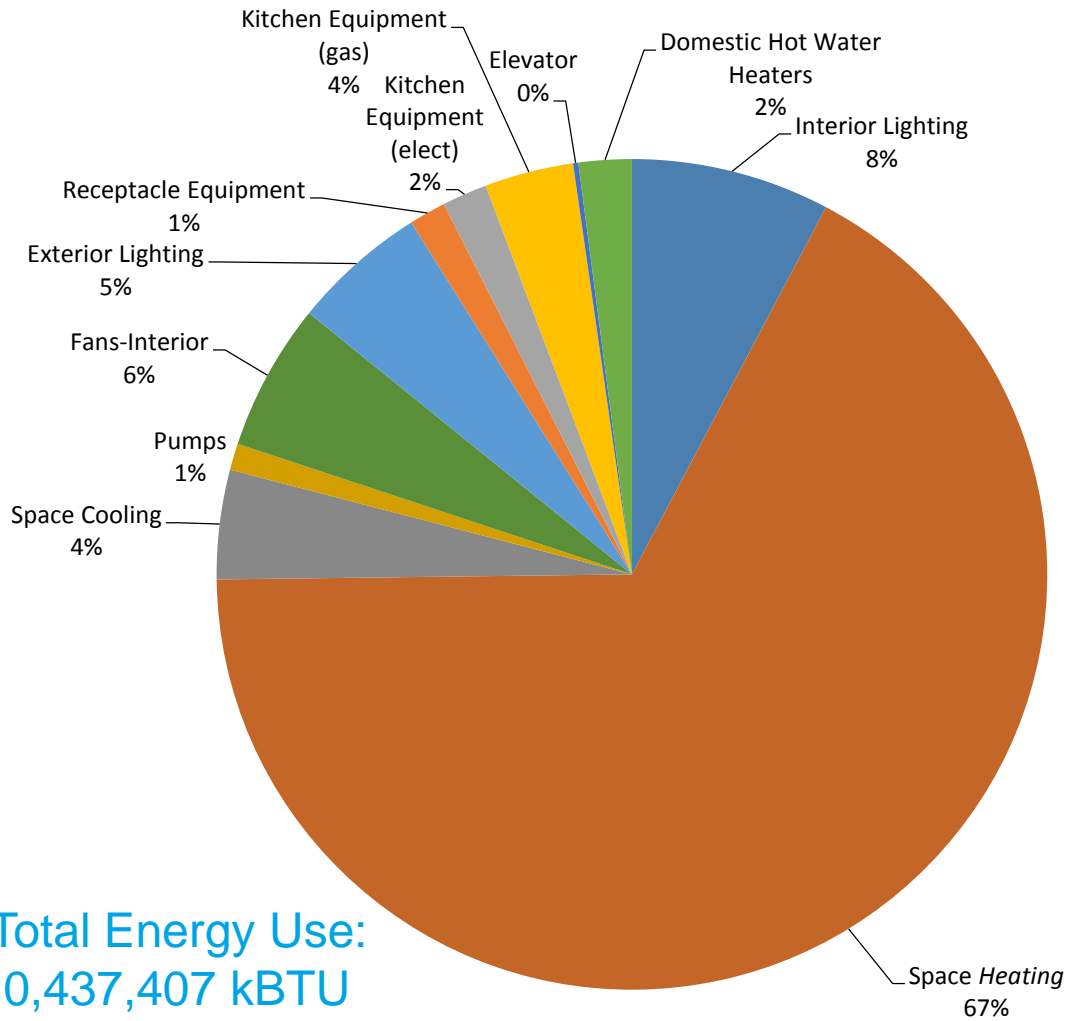
Building Use Schedule

- Normal School Day
- Vacation Weeks
- Weekends
- Summer Schedule / Summer School?

Energy Use

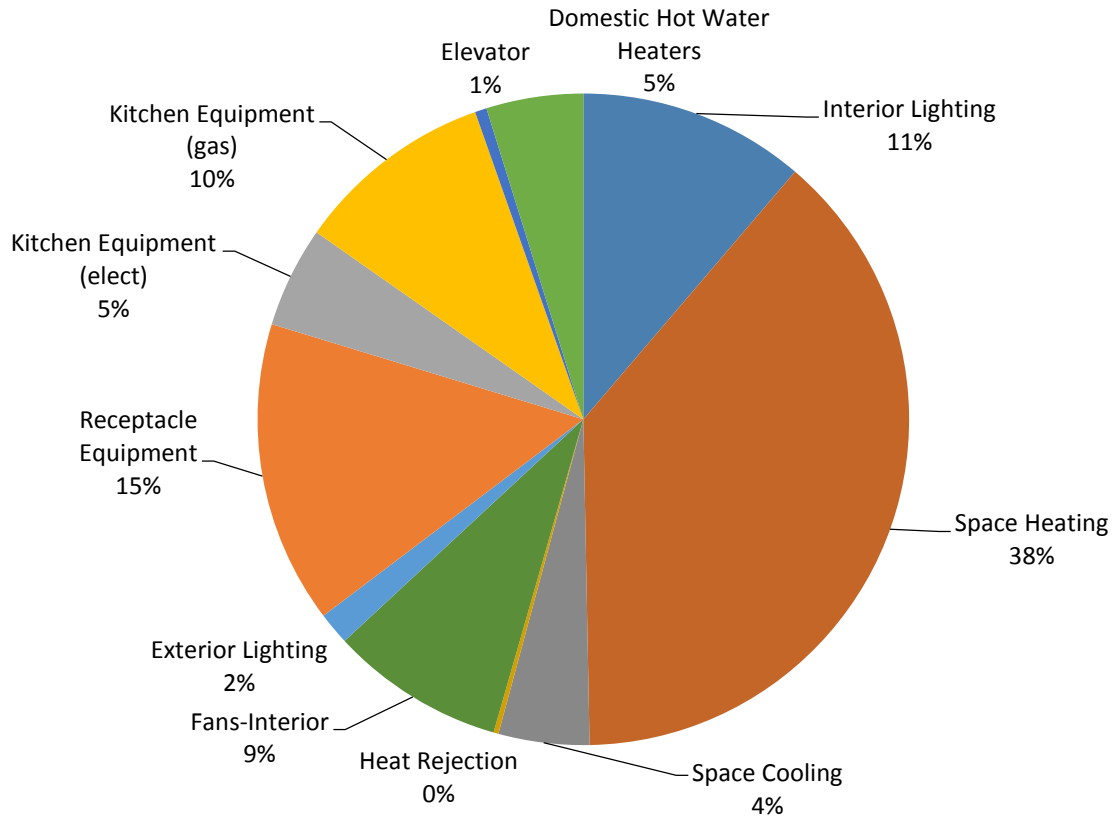
- Where do the energy go?

Energy Use Baseline



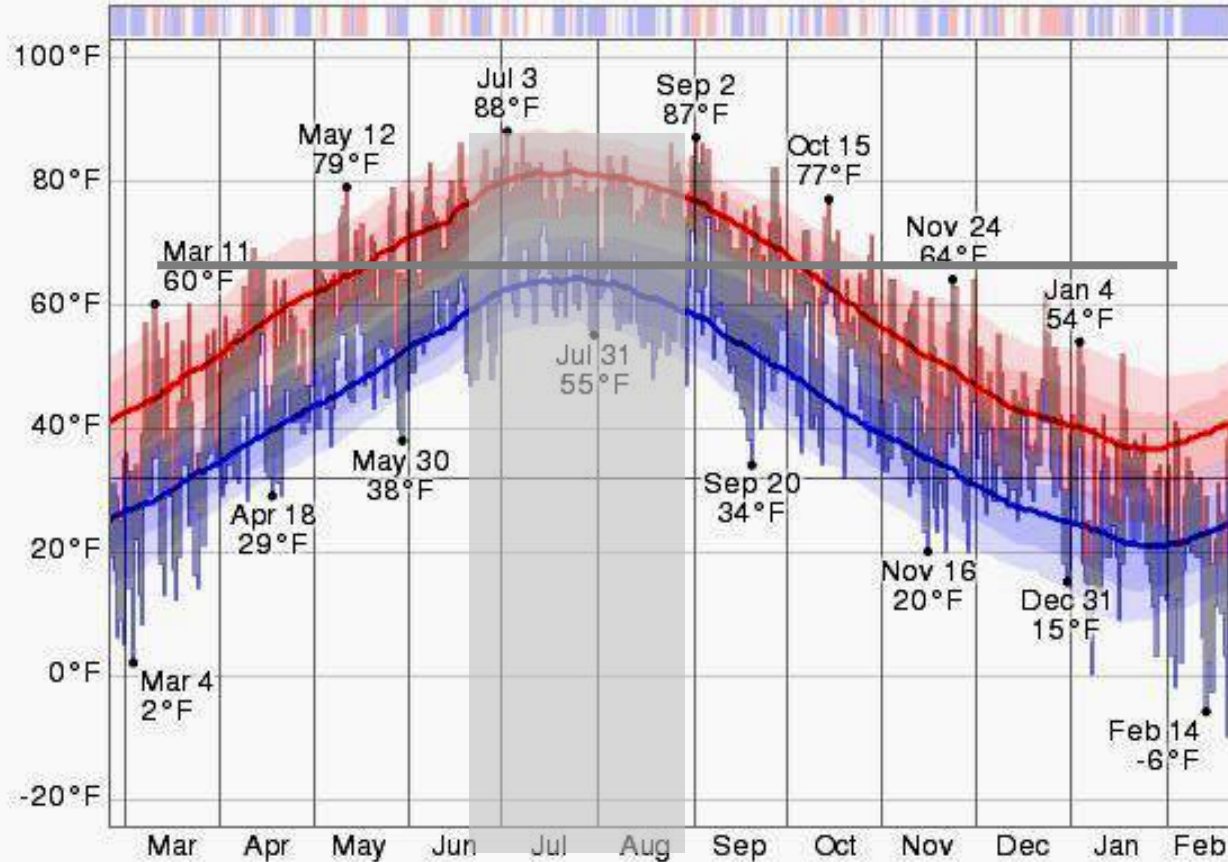
Total Energy Use:
10,437,407 kBTU

Energy Use Proposed



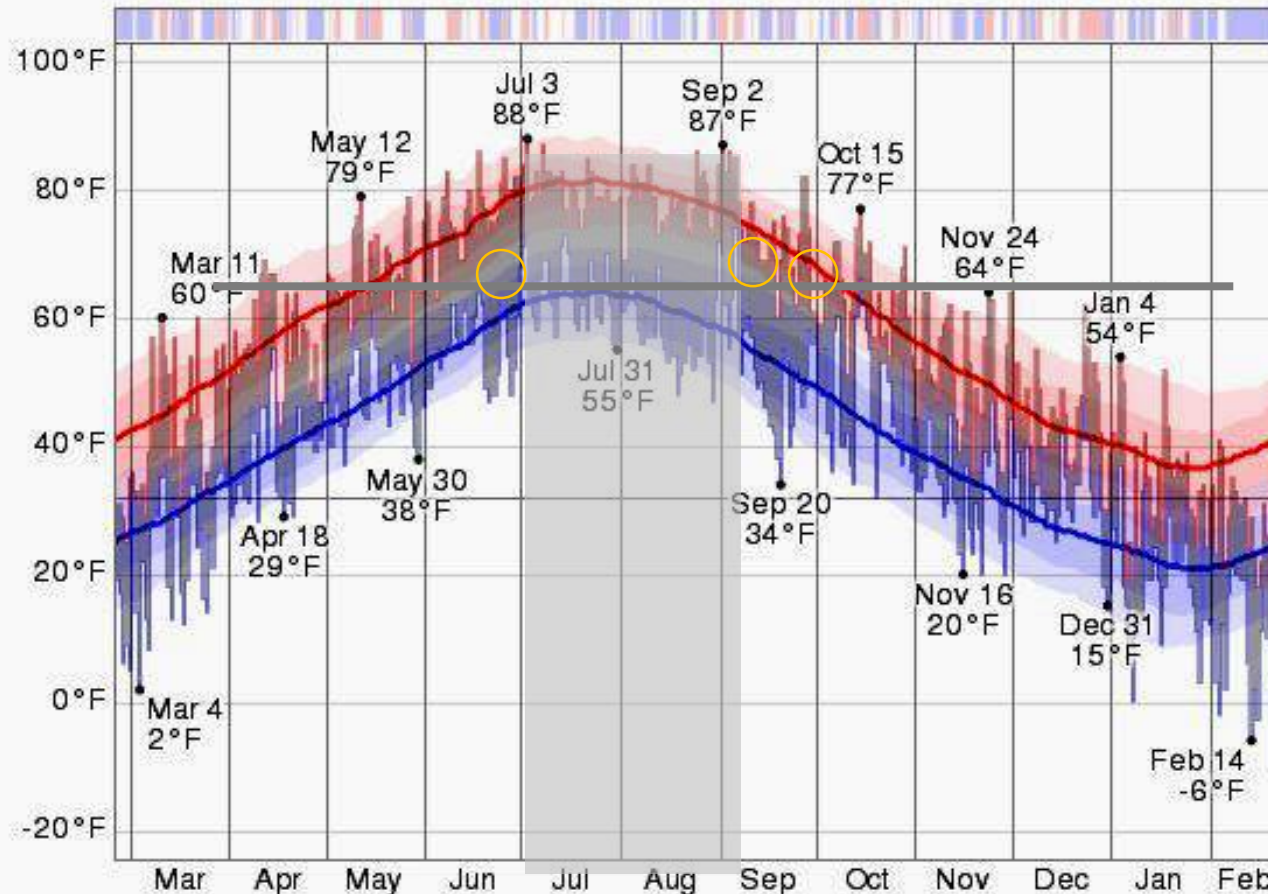
Total Energy Use: 3,655,633 kBTU

Temperature



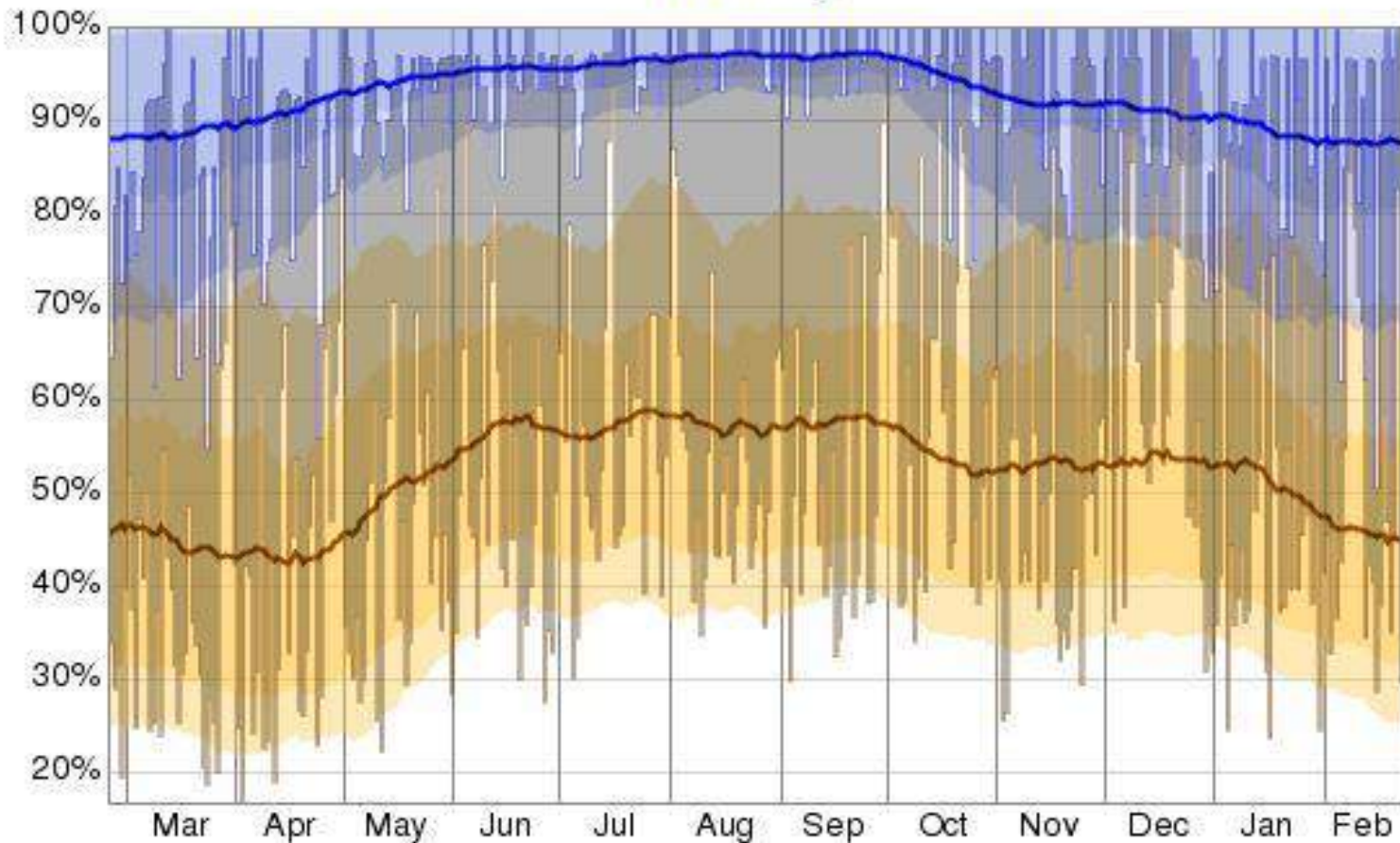
The daily low (blue) and high (red) temperature during the last 12 months with the area between them shaded gray and superimposed over the corresponding averages (thick lines), and with percentile bands (inner band from 25th to 75th percentile, outer band from 10th to 90th percentile). The bar at the top of the graph is red where both the daily high and low are above average, blue where they are both below average, and white otherwise.

Temperature



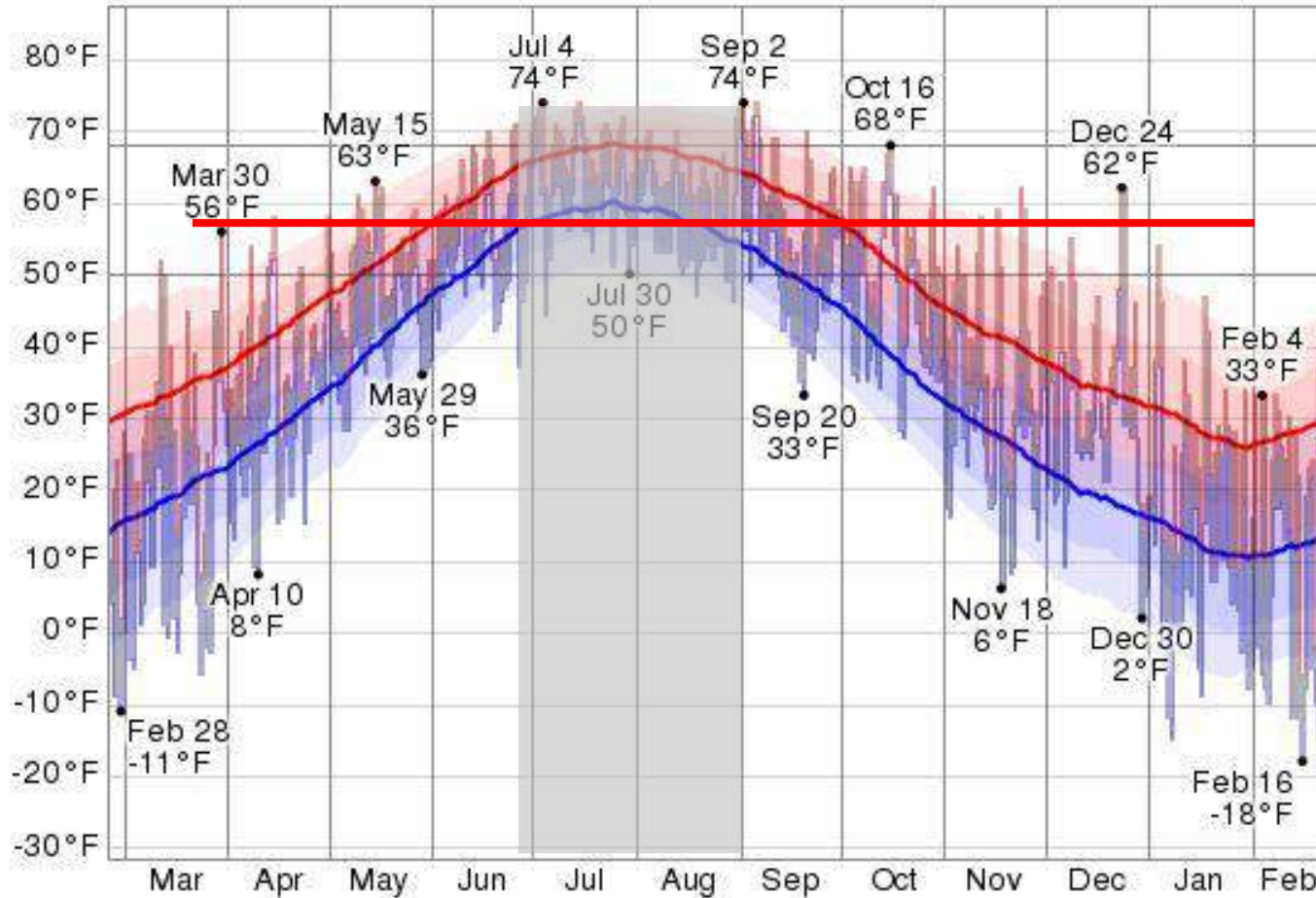
The daily low (blue) and high (red) temperature during the last 12 months with the area between them shaded gray and superimposed over the corresponding averages (thick lines), and with percentile bands (inner band from 25th to 75th percentile, outer band from 10th to 90th percentile). The bar at the top of the graph is red where both the daily high and low are above average, blue where they are both below average, and white otherwise.

Humidity



The daily low (brown) and high (blue) relative humidity during the last 12 months with the area between them shaded gray and superimposed over the corresponding averages (thick lines), and with percentile bands (inner band from 25th to 75th percentile, outer band from 10th to 90th percentile).

Dew Point



The daily low (blue) and high (red) dew point during the last 12 months with the area between them shaded gray and superimposed over the corresponding averages (thick lines), and with percentile bands (inner band from 25th to 75th percentile, outer band from 10th to 90th percentile).

Expectation Human Comfort

