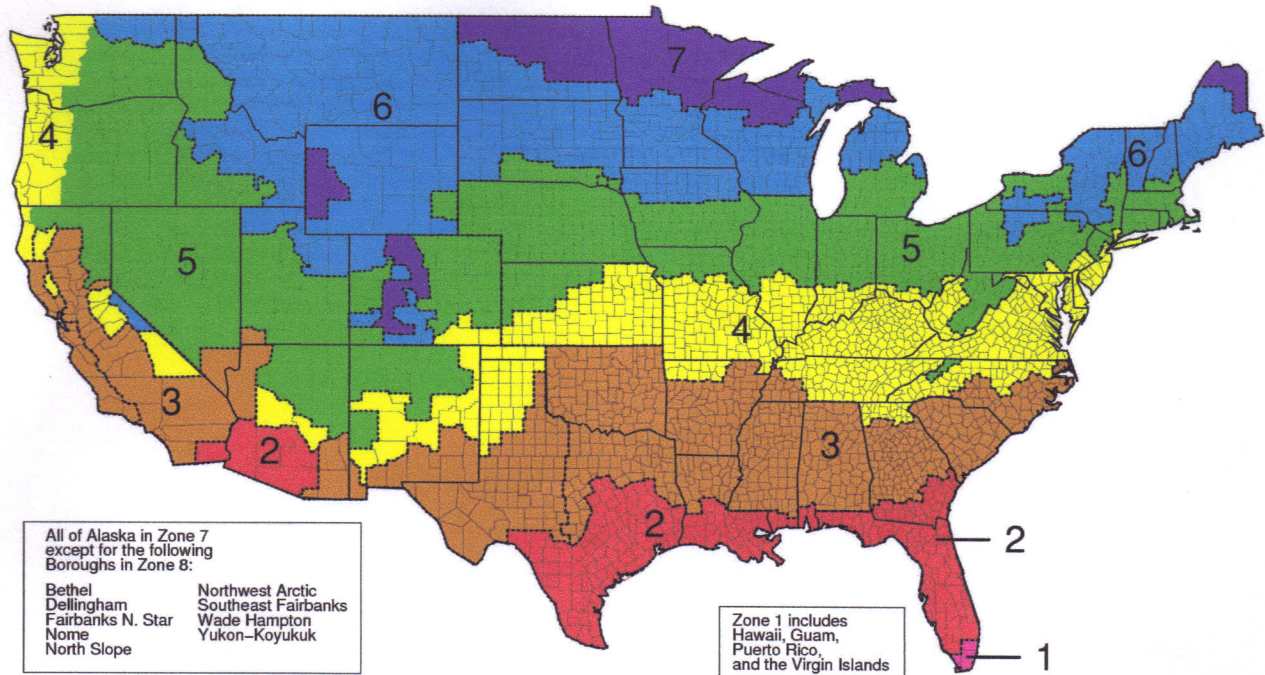




Building Energy Codes RESOURCE CENTER

Energy Code Climate Zones



The 2004 IECC Supplement was the first model energy code to adopt a new set of climate zones. The older IECC zones had been based only on heating degree days, and did not account for cooling energy.

The older climate zones suffered from several shortcomings that the new zones remedy:

1. Too many zones within individual jurisdictions. Many code users have complained to DOE that the code's requirements change too much within code jurisdictions. Reducing the number of zones by roughly half will mean that far fewer users will need to keep track of requirements that differ across the region in which they practice.
2. Poor representation of cooling issues. The older zones are based almost entirely on heating degree-days, which means they do a rather poor job of distinguishing climate factors that affect cooling loads. The new zones better reflect factors that impact cooling, such as cooling degree days, high wet bulb temperatures, and variations in solar radiation.
3. Inconsistent and sometimes conflicting information regarding climate in the code. For example, the pre-2004 IECC's requirements are sometimes based on heating degree-days, sometimes map-based climate zones, and sometimes both. This could result in different requirements in the same location depending on which climate specification is used. The new climate zones consolidate the various code criteria around a single specification—the U.S. map of climate zones.

The new climate zones were developed based on analysis of the 4775 NOAA weather sites and statistical analysis of regional information. The new climate zones are entirely set by county boundaries.

The new climate zones have now been adopted by many other organizations including:



- ASHRAE 90.1
- ASHRAE 90.2
- ASHRAE [Advanced Energy Design Guide for Small Office Buildings](#)
- Building America (modified)
- ENERGY STAR (see [ENERGY STAR Qualified Homes](#))

The development of the climate zones is documented in ASHRAE papers:

- Briggs, R.S., Lucas, R.G., and Taylor, T.; Climate Classification for Building Energy Codes and Standards: Part 1 - Development Process, Technical and Symposium Papers, ASHRAE Winter Meeting, Chicago, IL, January, 2003
- Briggs, R.S., Lucas, R.G., and Taylor, T.; Climate Classification for Building Energy Codes and Standards: Part 2 - Zone Definitions, Maps and Comparisons, Technical and Symposium Papers, ASHRAE Winter Meeting, Chicago, IL, January, 2003
- [Climate Classification for Building Energy Codes and Standards](#)