

## Global Warming Coming to Your Backyard!

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Gardeners have long relied on the United States Department of Agriculture (USDA) hardiness zone map to make good decisions about which plants to use in their gardens. In light of all the information on warming trends, many gardeners are wondering if they are still in the same zone or has it been changed? The first map was created in 1960 by Henry T. Skinner, then the director of the U.S. National Arboretum in Washington, D.C. It was adjusted in 1965 and then revised in 1990 to reflect “changes in the weather” and to include Canada and Mexico. The USDA hardiness zone map divided the US into 11 zones with 0 being the coldest. A good comparison is a thermometer, the higher the number, the warmer the area. So parts of Florida and California which are tropical areas are zone 11. Hardiness is based on several factors and not just on how cold a winter gets; it is all of a region’s weather patterns including the total precipitation, wind, sun, summer heat and humidity as well as the winter snow cover. Weather is also affected by topography so large bodies of water help to moderate temperatures. Hardiness is also genetic and some plants are naturally more tolerant of colder temperatures and some cultivars of the same plant may be hardier because they were selected from plants that showed tougher characteristics.

After only a modest amount of research into climate change, warming trends and hardiness zone changes, it was apparent that I had much in common with the Verizon man who repeatedly asks, “can you hear me now?” There are a lot of mixed messages about climate change and therefore a lot of confusion. The scientists do not agree even about basic definition of terms or how to calculate the changes. Scientists at USDA state that there is a difference between “weather” changes which are happening now and “climate” changes which must be measured over a fifty year period. Many scientists disagree stating that “the definition of climate is data collected over two to three decades.” A period of time long enough to register change. So the debate goes on but where does that leave the gardener for planting information? The USDA is currently working on a revision of its zone hardiness map to include fifteen zones but there is no release date. Other resources for hardiness zone information are the American Horticultural Society (AHS) and the National Arbor Day Foundation. The AHS issued a revised zone hardiness map in 2003 but it was rejected by the USDA due to format and only having fifteen years of temperature recordings as data. In 2006 the Arbor Day Foundation released a new zone hardiness map using the most recent fifteen years of data from the National Oceanic and Atmospheric Administration’s 5,000 National Climatic Data Center cooperative stations across the United States. This new map shows that many areas have become warmer since 1990 when the last USDA map was issued. The Capital Region ranges in winter from minus ten degrees to minus twenty degrees. Many states have large areas that have shifted one full hardiness zone and some areas have warmed two full zones. Some parts of the Northeast have an increase of as much as eight degrees in winter temperatures. The press release for the new Arbor Day Foundation map states

that “the map is consistent with the consensus of climate scientists that global warming is underway.”

Recently professors from Cornell’s School of Horticulture were asked to comment on the effects of this mild winter of ’06-’07 on NYS plants and the consensus was that there may be less spring bloom due to the cold following the long warm period when plants were fooled into thinking it was spring. Damage to fruit flower buds will have the largest economic impact but maple syrup production will be affected. The warmer temperatures may also affect the time when insects emerge. So a word to the wise would be to record dates and temperatures in your garden journal. Soon we may reliably plant peas on St. Patrick’s Day or even Valentine’s Day if warming trends continue!

Sources:

<http://www.arborday.org/media/zonechanges2006.cfm>

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<http://jscms.jrn.columbia.edu/ens/2006-04-04/willhite-zonemap>

Cornell University Department of Horticulture: *Will Warm Winter Wither Plants?*

[http://www.gardening.cornell.edu/warm\\_winter/index/html](http://www.gardening.cornell.edu/warm_winter/index/html)

