

The USDA Plant Hardiness Zone Map – Changes in the 2012 Edition

Knowing their Plant Hardiness Zones helps gardeners to decide which plants are likely to survive through the winter in their particular location. The United States Department of Agriculture (USDA) created the first map of these hardiness zones in 1960, dividing the US and Canada into 10 zones, representing 10 degree differences in average annual minimum temperatures between each zone. The higher the zone number, the warmer it tends to be in that area. The USDA updated the map in 1990, basing the zones on weather data collected between 1974 and 1986. For this version, they also created the 5-degree half-zones, denoted “a” and “b”, for greater accuracy.

In 2012, the USDA released a new and improved version of its Plant Hardiness Zone Map. The data used to create this map was collected over a 30-year period, between 1976 and 2005. According to a news release from USDA’s Kim Kaplan, “for the first time, the new map offers a Geographic Information System (GIS)-based interactive format and is specifically designed to be internet-friendly. The map website also incorporates a ‘find your zone by zip code’ function. Static images of national, regional, and state maps have also been included to ensure that the map is readily accessible to those who lack broadband internet access. The new version of the map includes 13 zones, with the addition for the first time of zones 12 and 13. Each zone is still a 10-degree F band, further divided into 5-degree F zones ‘a’ and ‘b’”.

The zones in this most recent edition of the map have shifted slightly since the 1990 version. Most areas are now categorized as one 5-degree F half-zone higher. That is, their average annual minimum temperatures were found to be somewhat warmer than when the 1990 version was published. This is largely due to the fact that more recent temperature data, collected over a longer period of time was used. Some changes, though, also result from the use of more sophisticated data-collection tools and methods. According to Kim Kaplan, “These include algorithms that considered for the first time such factors as changes in elevation, nearness to large bodies of water, and position on the terrain, such as valley bottoms and ridge tops. Also, the new map used temperature data from many more [weather] stations than did the 1990 map. These advances greatly improved the accuracy and detail of the map, especially in mountainous regions of the western United States.” In some cases, areas were found to be cooler rather than warmer.

Zone numbers in the continental United States range from 3a in northern Minnesota and 3b in northernmost Maine, to 10a at the southern tip of Texas, 10b around Los Angeles and 11b in Key West, Florida. Zones in Massachusetts range from 5a in the Berkshire mountains to 7a on Cape Cod. Most of western Massachusetts is in zone 5b, while most areas in coastal eastern Mass are now designated as zone 6b, where the average annual extreme minimum winter temperature is between 0 and -5 degrees F. Gardeners who live in 6b should be able to grow plants that are hardy to zone 6, as well as any plants whose zones are numbered lower than that (zones 5,4,3,2). These zone 6 gardeners might be challenged to grow plants that are hardy to zone 7b (avg. min. 5 to 10 degrees F) as those plants may not survive in the colder zone 6.

It is important to remember, however, that within each garden location “microclimates” exist which may allow gardeners to grow plants that may be listed at a higher zone number. For example, in a zone 6 garden, there may be a warm, sunny location, with well-drained soil, near a building that is protected from the cold and wind, making that particular location a “zone 7”. Conversely, in that same zone 6 garden, there may be an open, unprotected, low-lying area, where cold settles, making that a zone 5 area, an area where zone 6 plants would struggle.

Access the 2012 USDA Plant Hardiness Zone Map here: <http://planthardiness.ars.usda.gov/PHZMWeb>

-Adapted by Lisa McKeag from an article by Deborah C. Swanson, Horticulturist, UMass Extension/Plymouth County, RETIRED, with source information from press release USDA Unveils New Plant Hardiness Zone Map by Kim Kaplan, USDA