

Seattle area trends warmer in newest USDA plant hardiness map

By AMANDA ZHOU - Seattle Times staff reporter

The Seattle area has climbed into a warmer zone when it comes to wintertime plant survival, according to the U.S. Department of Agriculture.

This month, the USDA announced the newest iteration of its Plant Hardiness Zone Map; it offers a guide for gardeners and growers to determine which perennial plants will survive the winter. The map is developed by taking the average temperature of each year's coldest day over 30 years — between 1991 and 2020 — and assigning it to one of 26 color-coded zones in increments of 5 degrees.

The last map was released in 2012, and this year's iteration includes data from 13,412 weather stations — an increase of about 5,000 stations from the last version. Plant nurseries and catalogs will typically list zone numbers and their color alongside perennial plants.

The new map categorized the Seattle region as “9a” or an average annual coldest day between 20 and 25 degrees. In 2012, Seattle was categorized as “8b” or an average between 15 and 20 degrees, according to Oregon State University professor Chris Daly, the lead author of the map.

According to the USDA, around half of the country shifted to a warmer zone, but the department warned against attributing changes to global climate change since the annual minimum temperature of the year is a volatile statistic and changes could be due to more data being included or more sophisticated modeling methods.

In Washington and Oregon, about a third and a half of the state changed zones, respectively, Daly said.

To the Master Gardeners of King County, the new plant hardiness zone was just another indication of the Pacific Northwest's changing climate and the effects seen in their gardens.

According to a recently published report from the federal National Climate Assessment, average temperatures across the Northwest have risen nearly 2 degrees since 1900, and extremely hot days are becoming more common.

In recent years, Joan Baldwin, the president of the organization, said she has seen azaleas and Washington's native state plant, the rhododendron, turn brown and droop due to longer, hotter and drier summers.

"We're finding a number of species that used to do very well here are now being threatened," she said.

The organization, which has a mission of providing science-based education on sustainable gardening, is also preparing to teach its first class on growing citrus, a fruit that never used to survive in the Pacific Northwest climate 20 or 30 years ago, said Vice President Joe Jennings.

Meyer lemons and other citrus can be grown locally by being kept indoors during the winter months and outdoors during the summer months, he said.

The two horticulture enthusiasts also expressed concern over the resilience of the region's western hemlocks and pine trees and the timing between when plants flower and when there are pollinators around.

While the median annual temperature is rising due to global climate change, which may eventually cause plant hardiness zones to gradually creep warmer, the annual coldest temperature of a year is highly variable and often due to local weather patterns, Daly said.

In the Pacific Northwest, a cold snap often depends on whether there is an

“outbreak” of arctic air from Canada or Alaska, he said, and it’s not clear how climate change will affect the number and intensity of that weather pattern.

“We can’t say with certainty that the changes from one map to the next are solely due to climate change, but it certainly could be a contributing factor,” he said.

In Northeast Washington, Daly said the high mountain areas show more warmer zones compared to the 2012 map, but those differences are due to improved models when it comes to estimating temperature at higher elevations.

Daly also cautioned that the map models the smallest cell in its grid as around a half mile on each side, which means the map won’t reflect temperature differences due to local terrain and topography.

Gardeners should still consider factors like whether the slope is south-facing or whether the land is near water, a heavily forested area or large buildings when it comes to a plant’s ability to withstand the winter, he said.

The USDA also warned that other factors affect plant survival like light, soil moisture, humidity and temperature range.

While the oceans and the Great Lakes are included, the model does not reflect temperature differences due to smaller inland lakes like Lake Washington, Daly said.

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