## Almost half of Dutch plant species are struggling with the heat



The Netherlands has already become too warm for around 100 plant species. If temperatures were to rise by a further four degrees, nearly 500 plant species would be in trouble. That poses dilemmas for nature management.

Temperatures average about 10 degrees Celsius over the year in the Netherlands. The KNMI's climate scenarios show that the average annual temperature may rise to 11 degrees or even 14 degrees by 2085. Wageningen Environmental Research has taken more than 6000 European plant species and determined the temperature zones where they are found. Around 1200 of these species grow in the Netherlands. The Netherlands is actually already too warm for 102 plant species, such as peat mosses and the dwarf cornel. If the average annual temperature increases to 11 degrees by 2085, 162 species will be in trouble. A rise to 14 degrees could lead to the loss of 490 plant species, 40 per cent of all species in the Netherlands. That number includes 180 species on the Red List of threatened plants, such as the wild strawberry and the star gentian.

On the other hand, there will be new plants coming in from the south. Around 200 new species could take hold here if temperatures rise to 11 degrees, or even 1000 species if they reach 14 degrees. That depends, though, on how fast a species spreads.

The future shifts in vegetation will have consequences for nature management, say the researchers. Does it make sense to protect threatened species we may be losing anyway? There is also the question of whether and how we should prepare for the newcomers. The first climate refugeeshave already arrived, including the extremely poisonous water hemlock. Info: wieger.wamelink@wur.nl