

Southwest Gardens Climate Change Adaption

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Contents

Acknowledgments.....	2
The Aim.....	
Introduction.....	3
Devon & Cornwall	
RHS Rosemoor.....	5
Wistman's Woods & Dartmoor.....	7
The Japanese Garden.....	9
The Eden Project.....	10
The Lost Gardens of Heligan.....	12
Trebah Garden.....	14
Tresco & Isles of Scilly.....	16
Conclusion.....	18

Acknowledgments

We would like to thank all the staff who we met along this trip and provided fantastic tours and answered all of our endless questions. Without the Merlin Trust and the RHS, this bursary trip wouldn't have been possible, and we are extremely grateful for their contributions.

The Aim

The project's aim was to investigate how gardens in southwest England are adapting to the challenges of climate change and what lessons can be applied to the future of horticulture. Using climate predictions from the 3Keel Future Climate Mode (2023) for RHS Garden Wisley, we compared predicted changes in temperature and rainfall with observations made during visits to RHS Garden Rosemoor, temperate rainforests found on Dartmoor, The Eden Project, The Japanese Garden, The Lost Gardens of Heligan, Trebah Garden and Tresco Abbey Garden

Throughout the trip, we examined how each site had been responding to the warmer, wetter winters and the hotter, drier summers through plant selection, water management and sustainable horticultural practices. Particular attention was given to resilient and drought tolerant planting, changing seasonal patterns and increasing pest and disease pressures.

By comparing their different environments and management approaches, this project aimed to identify promising plant choices and horticultural strategies that can be utilised to improve the resilience of gardens in the progressing climate conditions, while maintaining their ecological, horticultural and aesthetic value.

Introduction

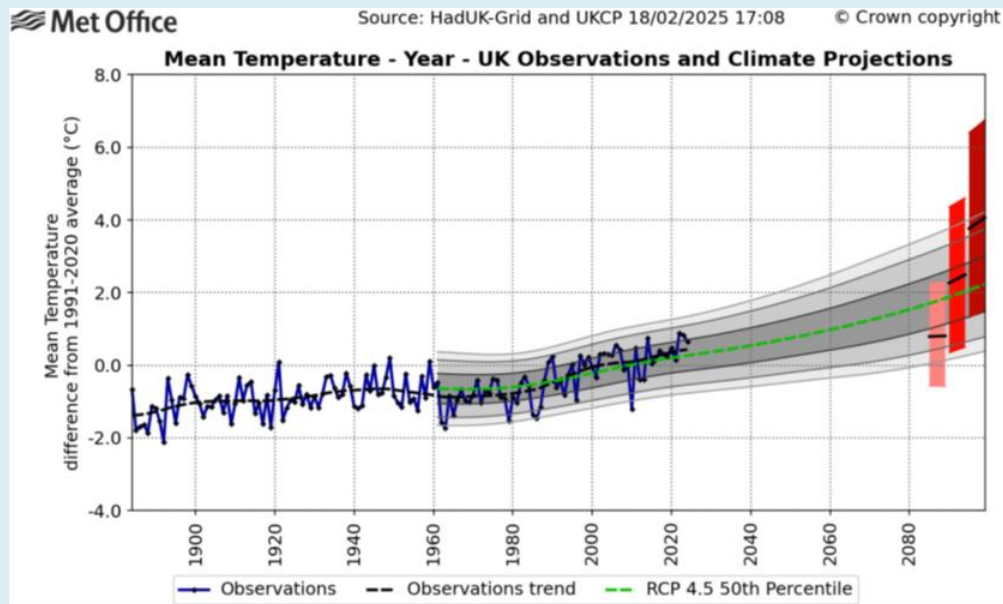
A frequent conversation throughout horticulture at the moment is how we are going to adapt to the changing climate and what methods need to be implemented to further the future of gardens.

We went on this trip looking to understand how horticulture is adapting to the effects of warmer, wetter winters and the hotter, drier summers. We obtained present and predicted weather patterns from Wisley and wanted to compare this with other gardens from the southwest of the country. We specifically looked at disrupted seasonal patterns, increased pest and disease pressures, and the need for resilient/drought tolerant planting.



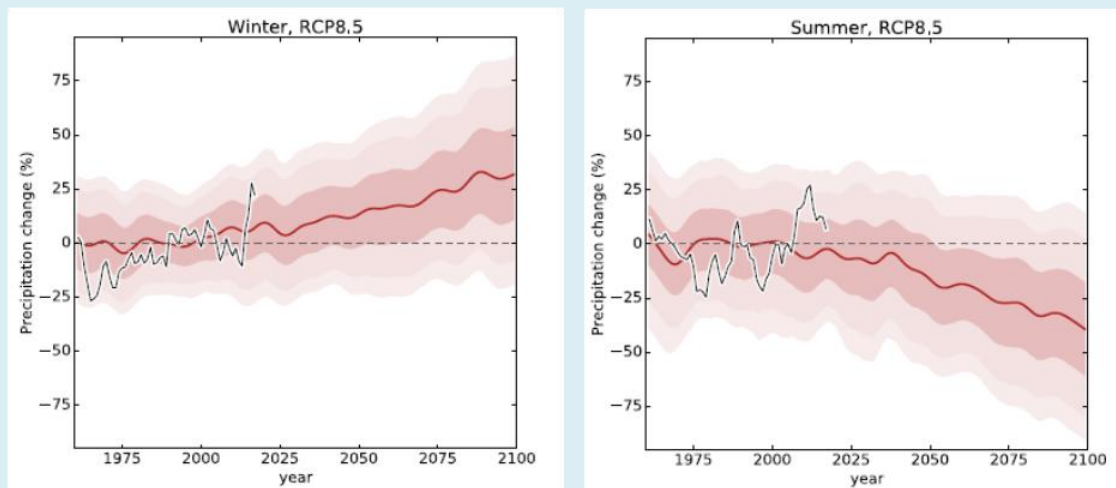
We looked at the data provided from 3Keel's Future Climate Model (2023) for Wisley and compared it to the gardens we visited along our trip in hopes we could find specific taxa that would be resilient to the intense bouts of heat and immense levels of rainfall that are estimated to become more frequent.

Temperatures



<https://www.metoffice.gov.uk/> (2025)

Rainfall



RHS Garden Rosemoor



Improving soil structure with *Phacelia tanacetifolia*, brown mustard and field beans.

Upon entering Rosemoor, we were immediately greeted with nitrogen fixing beds to help replenish the soil. Not only was it visually attractive, but it also acted as ground cover, helping to reduce the labour costs to regularly weed it and it certainly attracted the pollinators. The tour, led by Peter Adams was fantastic, as he gave insight to how Rosemoor are adapting their edibles area and orchards to be more pollinator friendly, incorporating 'No Dig' and reducing monocrops.



Stream that leads to the lake.

Due to its location, Rosemoor receives significantly more rain than Wisley and experiences some particularly harsh frosts. Therefore, many of their plants need to be able to survive potential water logging and freezing temperatures as their summers don't reach the same highs as Surrey. Their ideas of using different heights and levels to improve drainage as well as transporting water around the garden was particularly impressive.



Cytisus 'Lena'

When discussing drought tolerant planting, Cytisus is one that is a hardy plant with low water requirements and can survive in poor nutrient, rocky, dry soils once it has established.

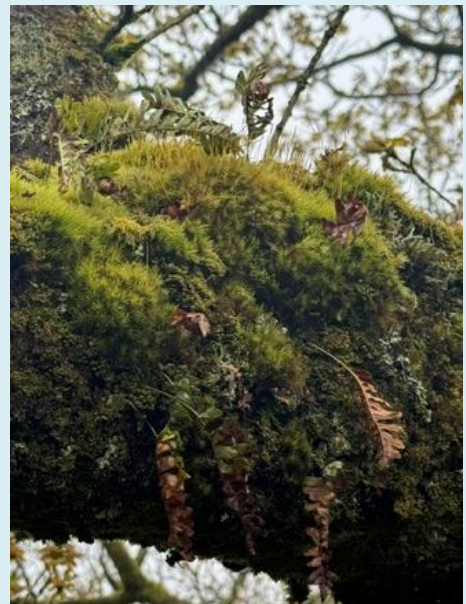
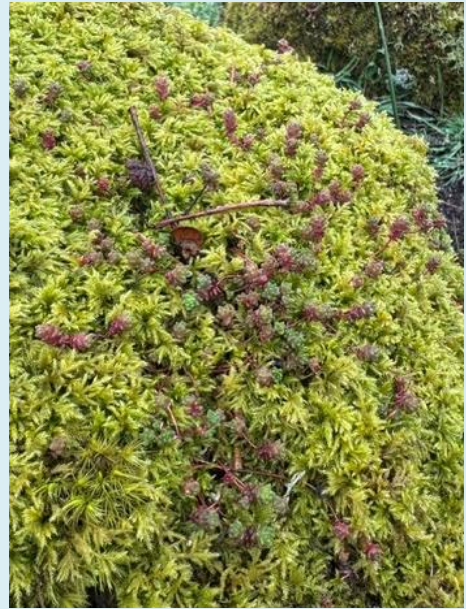
Wistman's Woods & Dartmoor

While travelling across Devon, we crossed into Dartmoor. Known for its unpredictable, but typically wet weather, it felt useful to stop and view what plants are present in its damp conditions. Wistman's Woods is a renowned temperate rainforest, known for its dwarfed oak trees and rare Horsehair lichen. I don't think any other word other than 'lush' is appropriate. The moisture in the air,



paired with never-ending rugs of moss, lichen and grasses amongst the rocky landscape proves that nature will grow regardless. Although the oaks didn't look in the best state at first glance, they were leafing up and clearly showed signs of fresh growth.

A common feature across several of the southwest gardens were Moss gardens and considering the variety we saw across Dartmoor, it's understandable why. As fascinating as they are, unfortunately they would not be a good fit for Wisley. The dry, sandy environment combined with the summer heatwaves would decimate them. However, seeing how these oaks were growing on the side of a hill in between large rocks shows promise that we don't need to coddle our trees so much. Trees planted in exposed areas, alone, appear to struggle to establish themselves – especially once the temperatures rise.



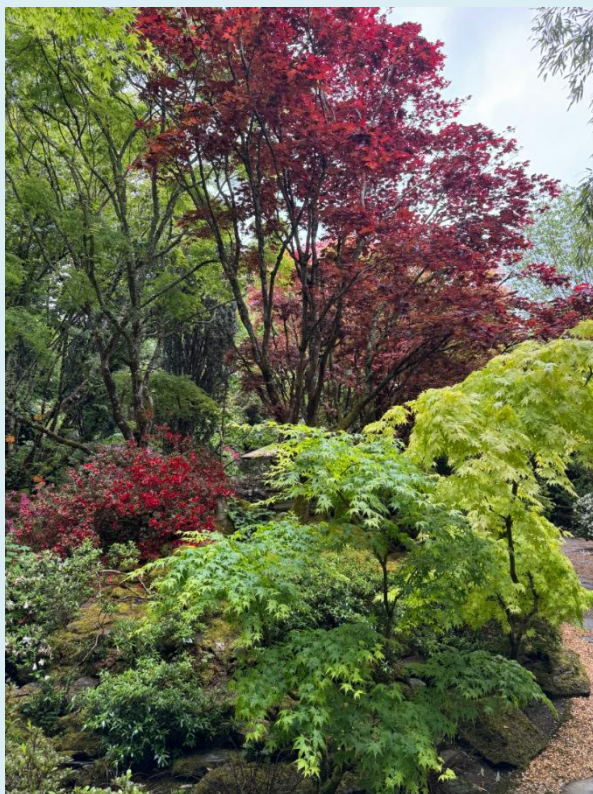
Mosses seen on Dartmoor

The Japanese Garden

The Japanese garden was amazing, concise and provided sanctuary in small, well-designed garden. Immediately after stepping foot into the garden, it felt cool (almost chilly!). The use of shade, water and reflection was wonderful. Although the garden was only 1 acre, it was impressive what they were able to produce in that area; it was expansive with several cleverly hidden corners and rooms to enjoy. Since there wasn't a straightforward path, you were encouraged to take your time exploring what the garden had to offer, and to sit, listen and recentre.

The stunning colours of the *Acer palmatums* paired with the *Rhododendrons* and *Camellias* were a feast for the eyes, whilst the sounds of running water created a soothing environment. I think I could've stayed in there for hours!

The garden is in a valley in St. Mawgan where the River Manalhyl runs through. The mix of a dense tree cover, a low water table and a valley setting mean that the garden is relatively protected from scorching heat. Over the winter months, they receive a significant amount of rain – to the point where it has delayed reopening.



The Eden Project

The Eden Project was simply astounding with how much they are accomplishing as well as their future plans. To see their sustainable, organic crop production in a low intensity growing environment where they can produce 2500kg of tomatoes (2025) was mind blowing (see right image). Due to the geothermal that the nursery and biomes are situated above, they no longer need artificial heating equipment.

For a large organisation, Eden are the leaders of water strategies and efficient water recycling, as a large portion of their water comes directly from roof runoff collection and specialised drainage systems.

Inside their greenhouses, they have carefully considered space management to ensure that the maximum number of crops can be grown. Watering is on a rotation which confirms that each row is receiving the same amount of water for the same amount of time. It has certainly been tweaked to perfection!

Peter Jones spoke about their new projects in Morecombe and Dundee, in hopes to bring more of the natural world to these deprived areas.

Anigozanthos



Within the biomes, traditional agricultural practices had been recreated, from southeast Asia to West Africa. To help combat pests within the jungle biome, Roul-rouls partridges, as well as certain insects, are used. This eliminates the use of chemical pesticides.

The biomes display a great array of plant specimens, but they also highlight the impacts of exploitative cash crops on the environment such as the palm oil and rubber industries.



Replication of a coffee plantation.



The Lost Gardens of Heligan

The Lost Gardens of Heligan had such a unique offering in their Jungle garden (marketed as the UK's only outdoor jungle!) Creative exotic planting around the structure of once-forgotten trees and incredible mature Rhododendrons created such an immersive experience that you truly felt you were in a lush jungle. The varied topography, the microclimate of the valley offering some shelter and extra warmth created the feeling of being completely transported to another place. The tour we got was also fantastic and head gardener Henry Welch's enthusiasm for this area was obvious. I loved that



he wanted to incorporate epiphytes and add plants wherever possible, on multiple levels and planes, to emulate the richness and diversity of a natural jungle. I think there are valuable takeaways for gardeners wanting to incorporate exotic-looking plants into their gardens in the future as temperatures get milder and closer to that of Heligan, such as the fabulous *Sonchus acaulis*!

In a complete contrast to the Jungle, Heligan also has a large productive garden. Utilising the microclimate and construction of the buildings, they can successfully grow a wide selection of fruit and vegetables. To display the Victorian history of the garden, they grow many heritage varieties such as potatoes and apples, keeping to the traditional methods. Much of the produce grown is also used in the onsite food outlets. Aiding in ground clearance, are a team of Tamworth pigs! Free fertiliser and no machinery required!



Productive Garden



Trebah Gardens

Trebah have a wonderful collection of plants that you get to admire from the top of the valley and gradually work your way down. With the Gulf Stream creating a milder climate, Trebah can grow some incredible specimens that would normally be grown under glass, such as *Cyathea medullaris*.

As well as other gardens, Trebah was harshly affected by Storm Goretti in January



2026, where they lost a portion of their tree shelter belt. Months after the incident, the clean-up process was still ongoing and plans to replace what was lost. Luckily, it was not completely a negative experience as the fallen lumber has been turned into wood mulch which could be used around the garden, and it created more conversation about what plants would be able to withstand extreme weather like this again.

Darren gave a lovely tour around the 26-acre garden, explaining the plans for the bamboo collection and potential champion trees. It was hugely surprising to find out that his garden team consist of less than 5 at a given time (depending on the time of the year) which expanded the conversation into how to manage and prioritise tasks.



The Gunnera Forest

Many gardens have *Gunnera* as a WOW factor plant but none come close to Trebah's forest. Winding your way down the valley in amongst the *Gunnera* was fantastic! Truly felt like I was an ant hidden under the leaf litter.

Trebah are quite brilliant with the way they use height and sizing, with their staggering vistas and continuous landscapes.



Echium pininana

This plant quickly became my 'Plant of the Trip', closely followed by *Geranium maderense*. With a fascinating shape and a clear winner with the pollinators, it was hard for it not to be. I believe *Echium pininana* could be a plant we see more often with the warmer summer temperatures. I have gradually seen it more frequently and it appears to handle the weather.

Tresco Abbey Gardens

It was a fascinating experience to visit the Scilly Isles and to compare it to gardens we had previously viewed. They have utilised their climate to bring together a diverse selection of plants that appear to be thriving. Some stand out plants were *Xeonema callistemon*, *Protea cynaroides* and the sheer volume of *Aeoniums*! They use several plants native to the Mediterranean, New Zealand and Chile (warm temperate) so visiting Tresco was a fantastic snippet into what can be grown in milder climates. Some of these plants are being considered for Britain's changing climate so it will be interesting to see how resilient they are in gardens.



In terms of soil, Tresco is the closest to Wisley, with a sandy makeup but the furthest in climate. The Isles of Scilly are considerably mild with lows of about 5 degrees in the winter and highs of 25 in the summer. We won't be able to directly copy from Tresco but we can certainly take inspiration.

A huge selection of Aloes and Aeoniums.



Xeonema callistemon

Protea eximia



Conclusion

This project brought key attention to how gardens need to evolve and work alongside the changing climate. This topic was at the forefront of many decisions relating to new planting, garden design and how a garden should develop. We are at a point where we cannot reverse the rising temperatures, but we must ensure that we are wise with water usage, “right plant right place” and being sustainable where possible.

Many of the gardens we visited had suffered earlier in the year from Storm Goretta where many trees had been uprooted, causing further damage to surrounding shrubs and plants. Some of the affected trees had survived the Storm of 1987 so it was surprising that they had not pulled through this time. We do not often experience intense storms or high-speed winds in the UK; however, they are becoming more frequent so further consideration needs to be taken into what plants can withstand them, and what are the limits of working safely in these conditions.

A real theme we uncovered was being experimental through these challenging times for horticulture and climate. Gardens particularly spoke about looking further afield for new planting choices, especially mediterranean plants, plants from Oceania, and South America. Accepting our changing climate will come with not only new practices, but a new palette of plants means that we can become more sustainable as the most ecological way of gardening is using plants that suit their environs. As water becomes more precious through longer periods of summer drought, plants that require minimal management and intervention will be one of the most effective ways of conserving this resource in the garden.

Additionally, something that most gardeners agreed upon was that general diversity of planting has been and will be essential for the changing climate. There is no one plant or even one climate to draw inspiration from, as for all our climate predictions, we don't know what our future climate will look like. We cannot expect that the UK's future climate will simply be a copy and paste of more southerly and warmer places, and we can therefore adopt their horticultural palette wholesale. Instead, temperatures, weather patterns and rain will be unique to post-climate change Britain, and planting a diverse array of plants now will allow for tolerance of changeable conditions, and therefore resilience of our gardens.