Climate Match / Map Results

About This Report

This report was generated for PlantRight's Plant Risk Evaluator (PRE). This climate match tool is designed for PRE users and plant scientists involved in the development, production, and distribution of horticultural plants. The climate match tool allows evaluators to quickly and consistently answer PRE's climate-related questions.

Horticultural growers or plant scientists interested in PRE and in promoting non-invasive plants for regional markets are invited to join the growing PRE community. Joining PRE is free and supports a collaborative approach to preventing new, regional plant invasions. Contact us below to get more information on how to join.

This toolkit is a collaboration between GreenInfo Network, PlantRight, Cal-IPC, and Agricultural Sustainability Institute at UC Davis. Funding is provided by Sustainable Conservation.

Contact us at PlantRight@suscon.org Learn more at www.PlantRight.org.

Data Layer Methods

The PRE Combined layer shows areas in the world where three variables (Plant Hardiness, Ecozones, and Precipitation) all match the conditions found in selected search geometry.

The PRE Combined layer was generated by merging together three input datasets (Plant Hardiness, Ecozones, and Precipitation) into a single three-band raster layer. To combine these three different datasets, they were each converted to raster format with the Precipitation dataset used as reference for cell size and extent. The three layers were combined into a single three-band raster layer using the Composite tool in Desktop ArcMap. The three-band raster was exported to .tif format for use in the web map. To generate lookup tables for the unique three-value combinations per state and ecoregion, the combined raster data was converted to point format, then joined with the states and ecoregion layers (Spatial Join tool) to generate summary tables.

Data methods guided by CAL-IPC and USDA recommendations. Precipitation Zones and Plant Hardiness Zones data: SAHA, SURANJANA, AND COAUTHORS, 2010: The NCEP Climate Forecast System Reanalysis. Bull. Amer. Meteor. Soc., 91, 1015.1057. doi: 0.1175/2010BAMS3001.1, 2010. Precipitation Zones and Plant Hardiness Zones methods: Magarey, R. D., D. M. Borchert, and J. Schlegel. 2008. Global plant hardiness zones for phytosanitary risk analysis. Scientia Agricola 65(Special Issue):54-59. Global Ecozones: United Nations, 2010, WGS84.

Please Note

There are many climate match tools in use, each with varying criteria and degrees of specificity. We chose this tool for two reasons: 1) it aligns with the criteria used by the USDA's weed risk assessment for matching climate; and 2) it provides sufficient data for PRE users to answer the PRE climate related questions in a consistent, if not confident manner. Is this, or any climate match method perfect? No. Does this meet our needs for answering PRE questions? Yes. As PRE research continues, we shall look for ways to strengthen our PRE resources even further. We always welcome constructive feedback from our constituents.

Climate Match / Map Results

Selected Areas and Map Legends

Selected States

California

Precipitation

- 0-10in / 0-25cm
- 10-20in / 25-51cm
- 20-30in / 51-76cm
- 30-40in / 76-102cm
- 40-50in / 102-127cm
- 50-60in / 127-152cm
- 60-70in / 152-178cm
- 70-80in / 178-203cm
- 80-90in / 203-229cm
- 90-100in / 229-254cm
- 100+ / 254+

Plant Hardiness Zones

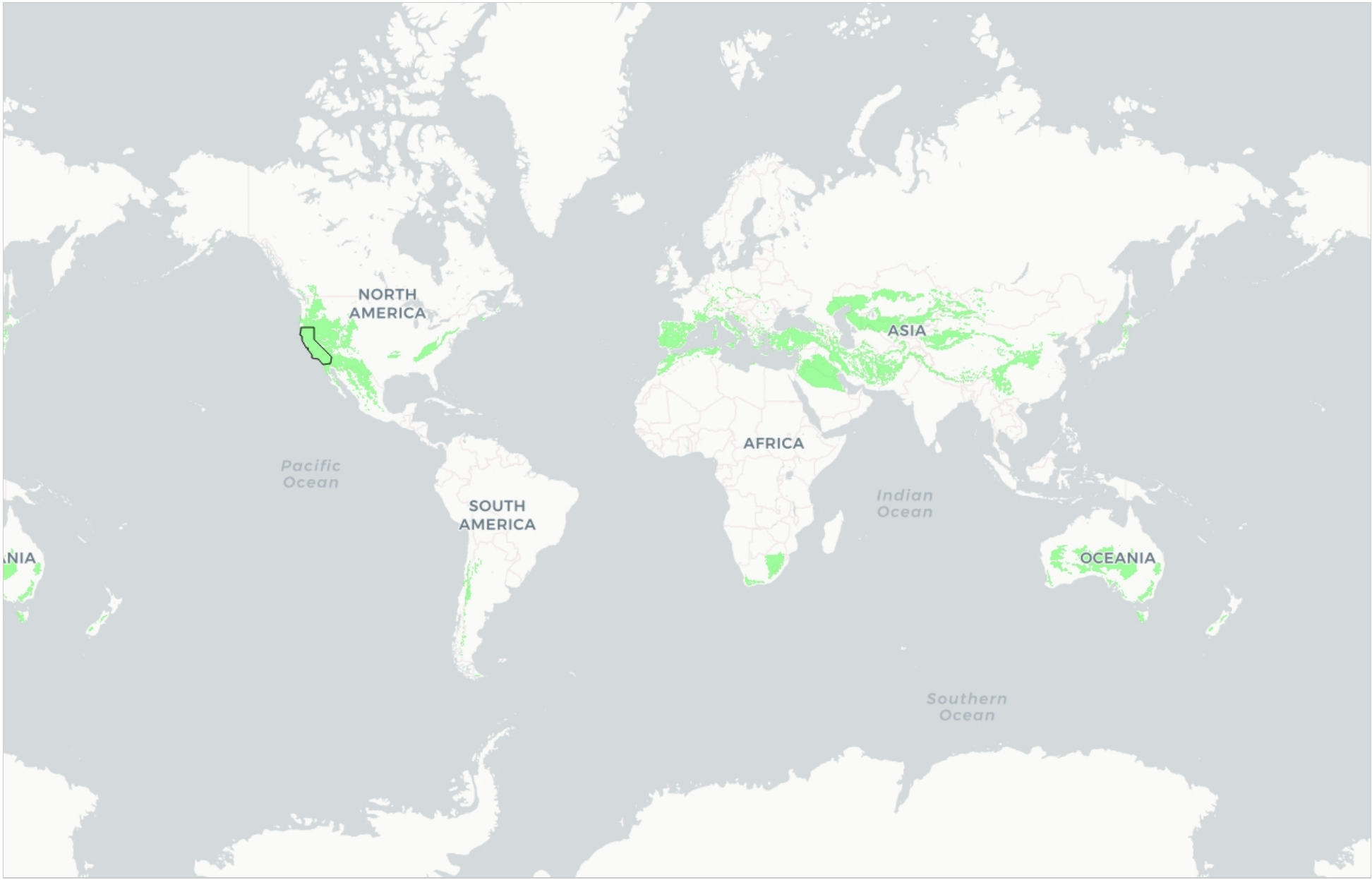
- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6
- Zone 7
- Zone 8
- Zone 9
- Zone 10
- Zone 11
- Zone 12
- Zone 13

UN Global Ecological Zones

- Tropical rainforest
- Tropical moist forest
- Tropical dry forest
- Tropical shrubland
- Tropical desert
- Tropical mountain system
- Tropical humid forest
- Subtropical dry forest
- Subtropical steppe
- Subtropical desert
- Subtropical mountain system
- Temperate oceanic forest
- Temperate continental forest
- Temperate steppe
- Temperate desert
- Temperate mountain system
- Boreal coniferous forest
- Boreal tundra woodland
- Boreal mountain system
- Polar
- Water

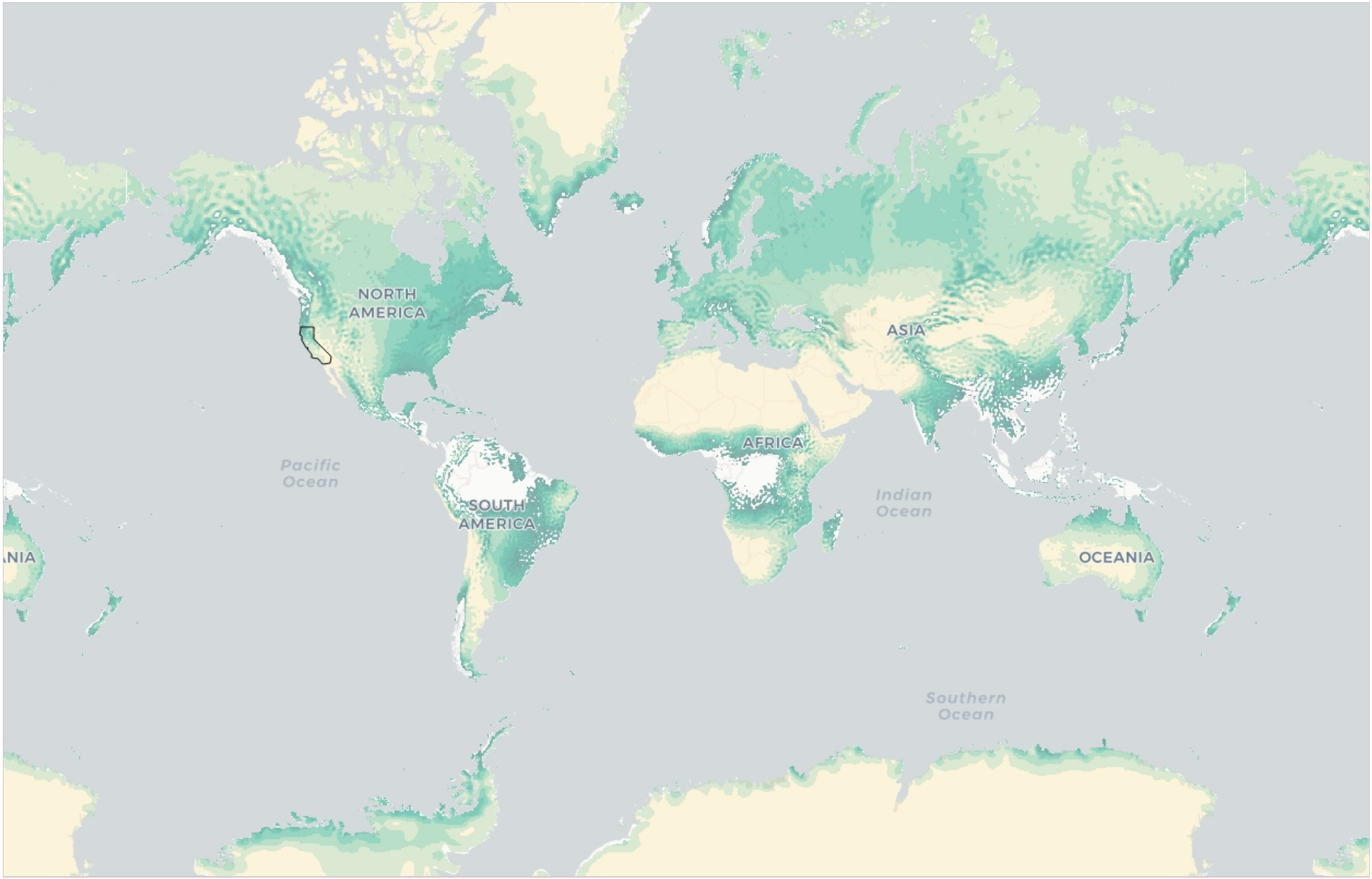
Climate Match / Map Results

PRE Combined



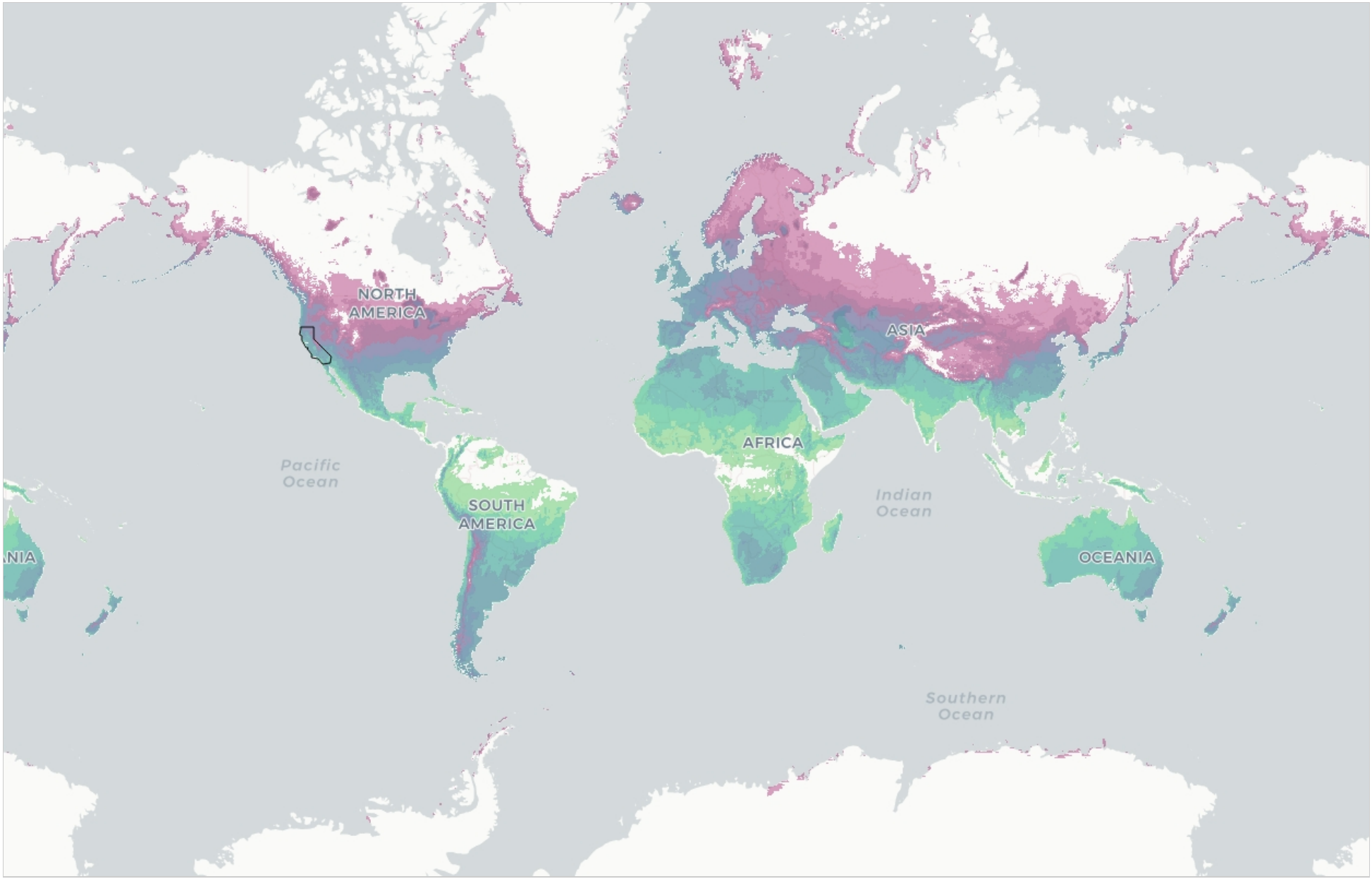
Climate Match / Map Results

Precipitation



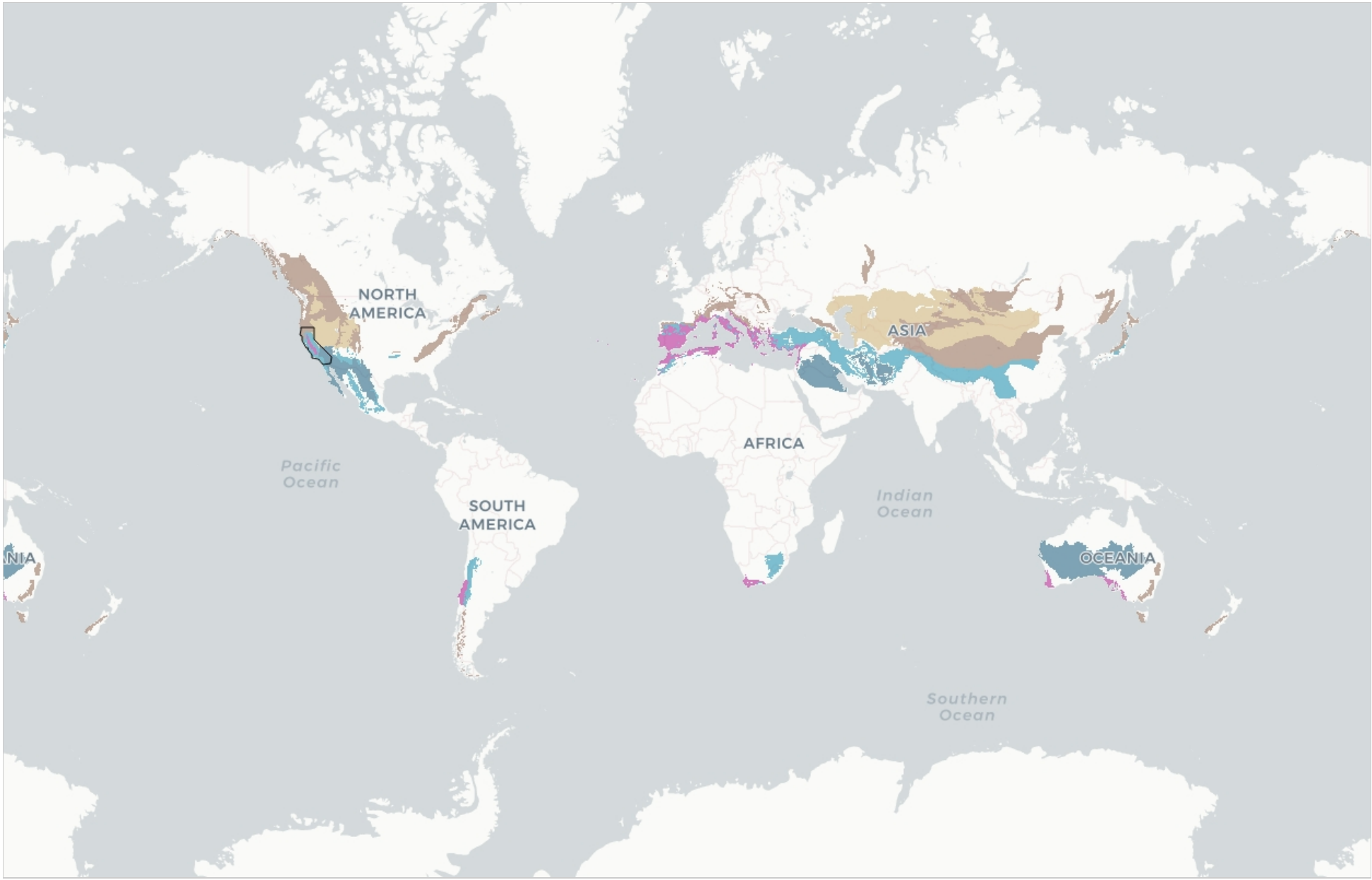
Climate Match / Map Results

USDA Plant Hardiness Zones



Climate Match / Map Results

UN Global Ecological Zones



Climate Match / Map Results

Hardiness	Precipitation	UN Ecozone	Hardiness	Precipitation	UN Ecozone
Zone 4	10-20in / 25-51cm	Temperate desert	Zone 8	10-20in / 25-51cm	Subtropical desert
Zone 4	20-30in / 51-76cm	Temperate desert	Zone 8	10-20in / 25-51cm	Subtropical dry forest
Zone 4	30-40in / 76-102cm	Temperate desert	Zone 8	10-20in / 25-51cm	Subtropical mountain system
Zone 5	10-20in / 25-51cm	Temperate desert	Zone 8	10-20in / 25-51cm	Temperate desert
Zone 5	20-30in / 51-76cm	Subtropical desert	Zone 8	20-30in / 51-76cm	Subtropical desert
Zone 5	20-30in / 51-76cm	Subtropical mountain system	Zone 8	20-30in / 51-76cm	Subtropical mountain system
Zone 5	20-30in / 51-76cm	Temperate desert	Zone 8	20-30in / 51-76cm	Temperate desert
Zone 5	30-40in / 76-102cm	Subtropical mountain system	Zone 8	20-30in / 51-76cm	Temperate mountain system
Zone 5	30-40in / 76-102cm	Temperate desert	Zone 8	30-40in / 76-102cm	Subtropical dry forest
Zone 6	10-20in / 25-51cm	Subtropical desert	Zone 8	30-40in / 76-102cm	Subtropical mountain system
Zone 6	10-20in / 25-51cm	Subtropical mountain system	Zone 8	30-40in / 76-102cm	Temperate mountain system
Zone 6	10-20in / 25-51cm	Temperate desert	Zone 8	40-50in / 102-127cm	Subtropical mountain system
Zone 6	20-30in / 51-76cm	Subtropical desert	Zone 8	40-50in / 102-127cm	Temperate mountain system
Zone 6	20-30in / 51-76cm	Subtropical mountain system	Zone 8	50-60in / 127-152cm	Subtropical mountain system
Zone 6	20-30in / 51-76cm	Temperate desert	Zone 8	50-60in / 127-152cm	Temperate mountain system
Zone 6	20-30in / 51-76cm	Temperate mountain system	Zone 8	60-70in / 152-178cm	Temperate mountain system
Zone 6	30-40in / 76-102cm	Subtropical mountain system	Zone 9	0-10in / 0-25cm	Subtropical desert
Zone 6	30-40in / 76-102cm	Temperate desert	Zone 9	0-10in / 0-25cm	Subtropical dry forest
Zone 6	40-50in / 102-127cm	Subtropical mountain system	Zone 9	0-10in / 0-25cm	Subtropical mountain system
Zone 6	40-50in / 102-127cm	Temperate desert	Zone 9	10-20in / 25-51cm	Subtropical desert
Zone 6	50-60in / 127-152cm	Subtropical mountain system	Zone 9	10-20in / 25-51cm	Subtropical dry forest
Zone 6	60-70in / 152-178cm	Subtropical mountain system	Zone 9	10-20in / 25-51cm	Subtropical mountain system
Zone 7	0-10in / 0-25cm	Subtropical desert	Zone 9	20-30in / 51-76cm	Subtropical dry forest
Zone 7	0-10in / 0-25cm	Temperate desert	Zone 9	20-30in / 51-76cm	Subtropical mountain system
Zone 7	10-20in / 25-51cm	Subtropical desert	Zone 9	20-30in / 51-76cm	Temperate mountain system
Zone 7	10-20in / 25-51cm	Subtropical mountain system	Zone 9	30-40in / 76-102cm	Subtropical dry forest
Zone 7	10-20in / 25-51cm	Temperate desert	Zone 9	30-40in / 76-102cm	Subtropical mountain system
Zone 7	10-20in / 25-51cm	Temperate mountain system	Zone 9	30-40in / 76-102cm	Temperate mountain system
Zone 7	20-30in / 51-76cm	Subtropical desert	Zone 9	40-50in / 102-127cm	Subtropical mountain system
Zone 7	20-30in / 51-76cm	Subtropical mountain system	Zone 9	40-50in / 102-127cm	Temperate mountain system
Zone 7	20-30in / 51-76cm	Temperate desert	Zone 9	50-60in / 127-152cm	Temperate mountain system
Zone 7	20-30in / 51-76cm	Temperate mountain system	Zone 9	60-70in / 152-178cm	Temperate mountain system
Zone 7	30-40in / 76-102cm	Subtropical mountain system	Zone 10	0-10in / 0-25cm	Subtropical desert
Zone 7	30-40in / 76-102cm	Temperate desert	Zone 10	0-10in / 0-25cm	Subtropical dry forest
Zone 7	30-40in / 76-102cm	Temperate mountain system	Zone 10	0-10in / 0-25cm	Subtropical mountain system
Zone 7	40-50in / 102-127cm	Subtropical mountain system	Zone 10	10-20in / 25-51cm	Subtropical dry forest
Zone 7	40-50in / 102-127cm	Temperate desert	Zone 10	10-20in / 25-51cm	Subtropical mountain system
Zone 7	40-50in / 102-127cm	Temperate mountain system	Zone 10	10-20in / 25-51cm	Temperate mountain system
Zone 7	50-60in / 127-152cm	Subtropical mountain system	Zone 10	20-30in / 51-76cm	Subtropical dry forest
Zone 7	50-60in / 127-152cm	Temperate mountain system	Zone 10	20-30in / 51-76cm	Subtropical mountain system
Zone 7	60-70in / 152-178cm	Subtropical mountain system	Zone 10	20-30in / 51-76cm	Temperate mountain system
Zone 7	60-70in / 152-178cm	Temperate mountain system	Zone 10	30-40in / 76-102cm	Subtropical mountain system
Zone 7	70-80in / 178-203cm	Temperate mountain system	Zone 10	30-40in / 76-102cm	Temperate mountain system
Zone 8	0-10in / 0-25cm	Subtropical desert	Zone 10	40-50in / 102-127cm	Temperate mountain system
Zone 8	0-10in / 0-25cm	Subtropical mountain system	Zone 10	50-60in / 127-152cm	Temperate mountain system

Climate Match / Map Results

Hardiness	Precipitation	UN Ecozone
Zone 10	60-70in / 152-178cm	Temperate mountain system
Zone 11	0-10in / 0-25cm	Subtropical mountain system
Zone 11	10-20in / 25-51cm	Subtropical mountain system
Zone 11	10-20in / 25-51cm	Temperate mountain system
Zone 11	20-30in / 51-76cm	Subtropical mountain system
Zone 11	20-30in / 51-76cm	Temperate mountain system
Zone 11	30-40in / 76-102cm	Temperate mountain system
Zone 11	40-50in / 102-127cm	Temperate mountain system
Zone 11	50-60in / 127-152cm	Temperate mountain system
Zone 12	0-10in / 0-25cm	Subtropical mountain system
Zone 12	10-20in / 25-51cm	Subtropical mountain system