Temperate dry summer/ maritime coniferous or mixed forest

WASHINGTON, USA
CREDIT: KRISTINA J. ANDERSON-TEIXEIRA

Vegetation

Temperate dry summer/ maritime coniferous or mixed forests are dominated by needleleaf trees or a mix of needleleaf and broadleaf trees. Needleleaf trees (conifers)—a group that includes pine (*Pinus*), fir (*Abies*), spruce (*Picea*), larch (*Larix*), and others—have needle-shaped leaves and produce seeds in cones.

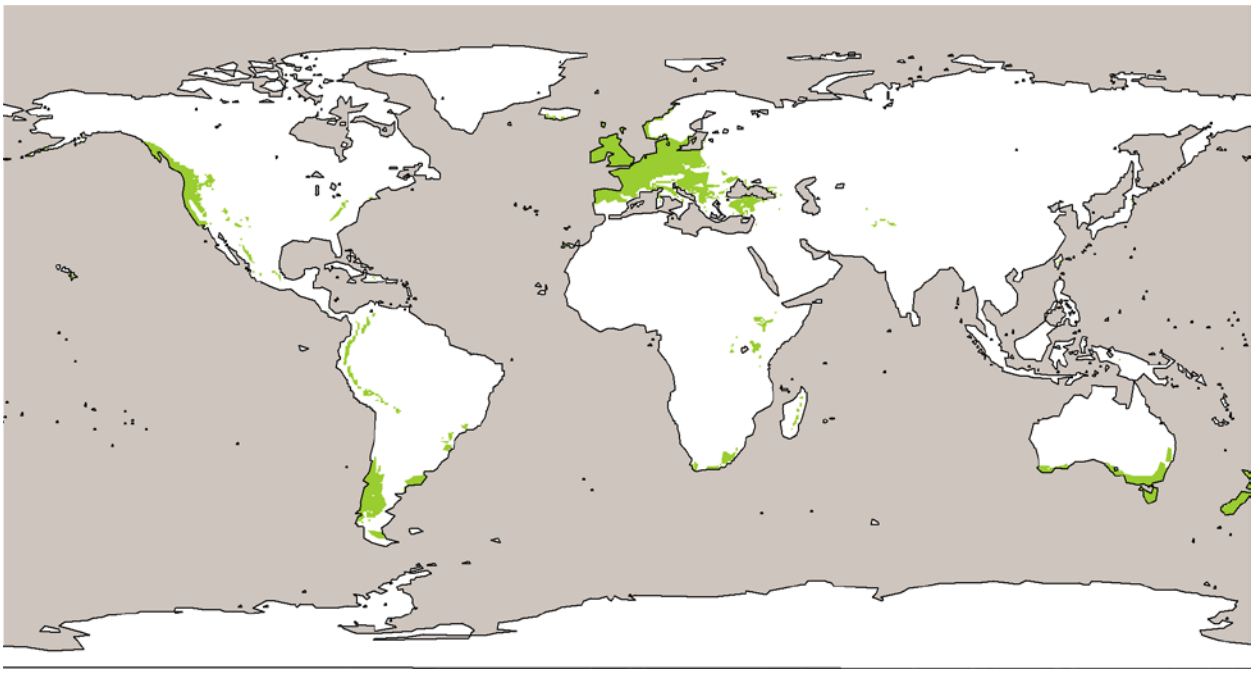
This forest type includes the tallest trees in the world (redwoods; *Sequoia sempervirens*).

Climate

Temperate dry summer/ maritime coniferous or mixed forests are found in temperate or climates with no dry season or a moderately dry summer (Köppen-Geiger climate system zones Csb, Cfb, Cfc).

Potential Distribution

This distribution map illustrates the climate zones in which this ecosystem type occurs, with stippled areas indicating climate zones where it is rare. It is not present in all parts of its climatic range.



Examples

CTFS-ForestGEO Forest Monitoring Sites

The Center for Tropical Forest Science- Forest Global Earth Observatory (CTFS-ForestGEO) is a Smithsonian-led global forest monitoring network, including over 6 million trees and over 10,000 tree species in over 60 forested sites worldwide. Scientific research at these sites includes measurements that help to quantify the climate regulation services of these and similar sites. Examples of Temperate dry summer/ maritime coniferous or mixed forest in this network include the following sites:

- ZOFIN, CZECH REPUBLIC
- SANTA CRUZ, USA
- WIND RIVER, USA
- YOSEMITE, USA

National Parks, Conservation Areas, or UNESCO Natural World Heritage Sites

Redwood National and State Parks, USA

Yosemite National Park, USA

Climate regulation value

The average greenhouse gas value for ecosystems of this type is 1,225 metric tons CO_2-equivalents per hectare over a 50 year time frame (t CO_2-eq ha^{-1} 50 yrs^{-1}). This includes 1,029 t CO_2-eq ha^{-1} 50 yrs^{-1} from storage of organic matter that would result in greenhouse gas release if cleared and 197 t CO_2-eq ha^{-1} 50 yrs^{-1} from ongoing greenhouse gas exchange between the ecosystem and the environment. This is the highest average greenhouse gas value of any ecosystem type (as defined in the calculator).

When biophysical effects are taken into account, the average climate regulation value for ecosystems of this type is 1,105 metric tons CO_2-equivalents per hectare (t CO_2-eq ha^{-1} 50 yrs^{-1}). This is a 10% decrease relative to the value based on greenhouse gas regulation alone.

Considering an average car, emitting 1.1 lb CO_2 per mile driven, clearing 100 square feet (9.3 m^2) of this ecosystem type would, on average, be equivalent to driving 2,279 miles/3,668 km (counting greenhouse gasses only). Counting biophysical effects, clearing the vegetation would be equivalent to driving 2,055 miles/3,308 km.