

The Koeppen Climate Classification System

The Koeppen System has been used for over 100 years

Requirements:

System had to be global, so input data had to be simple, only monthly average temp and precip.

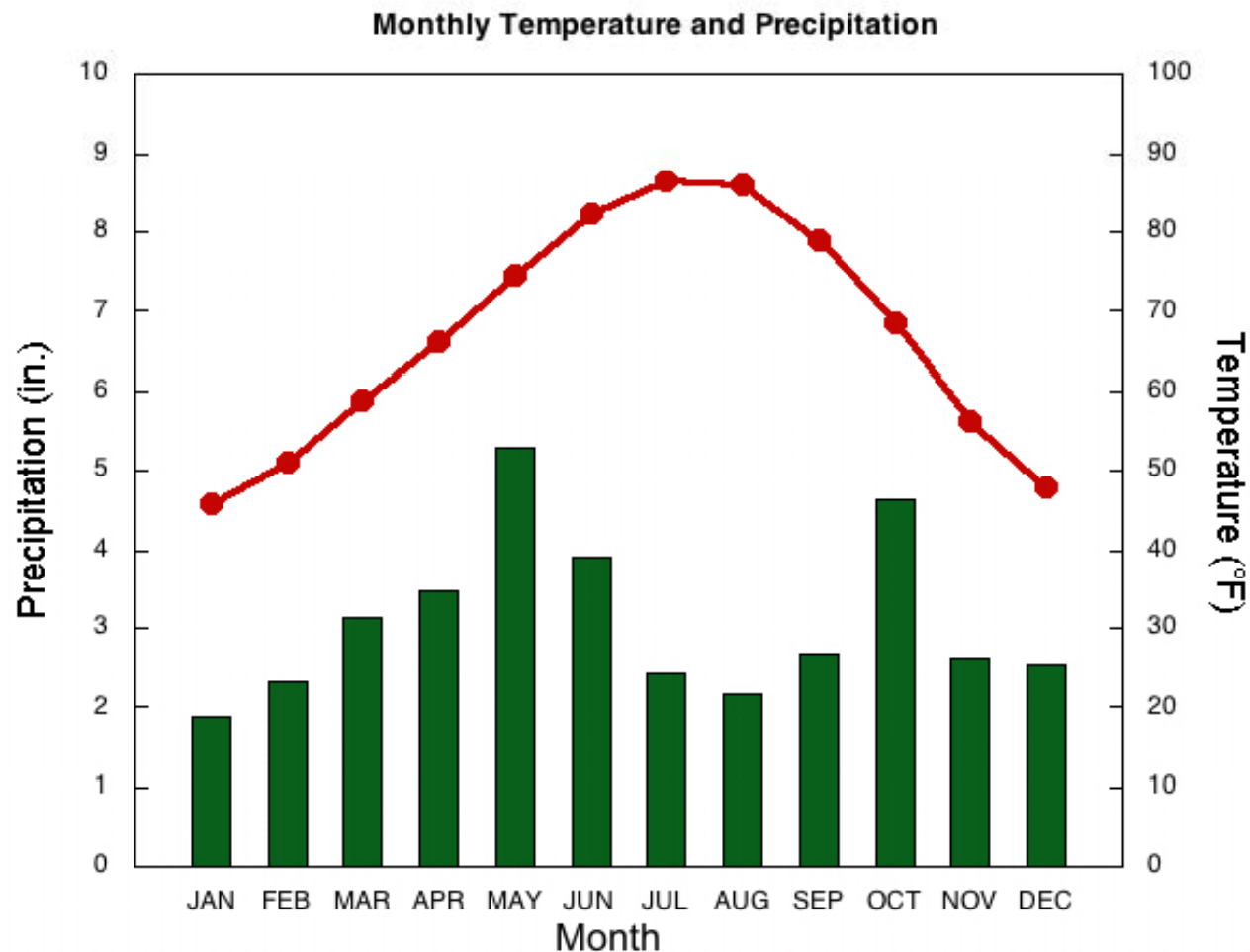
Boundaries of climate regions should coincide with boundaries of vegetation (ecosystem) regions.

A Climograph Shows the Annual Distribution of Temperature and Precipitation in a Standard Format

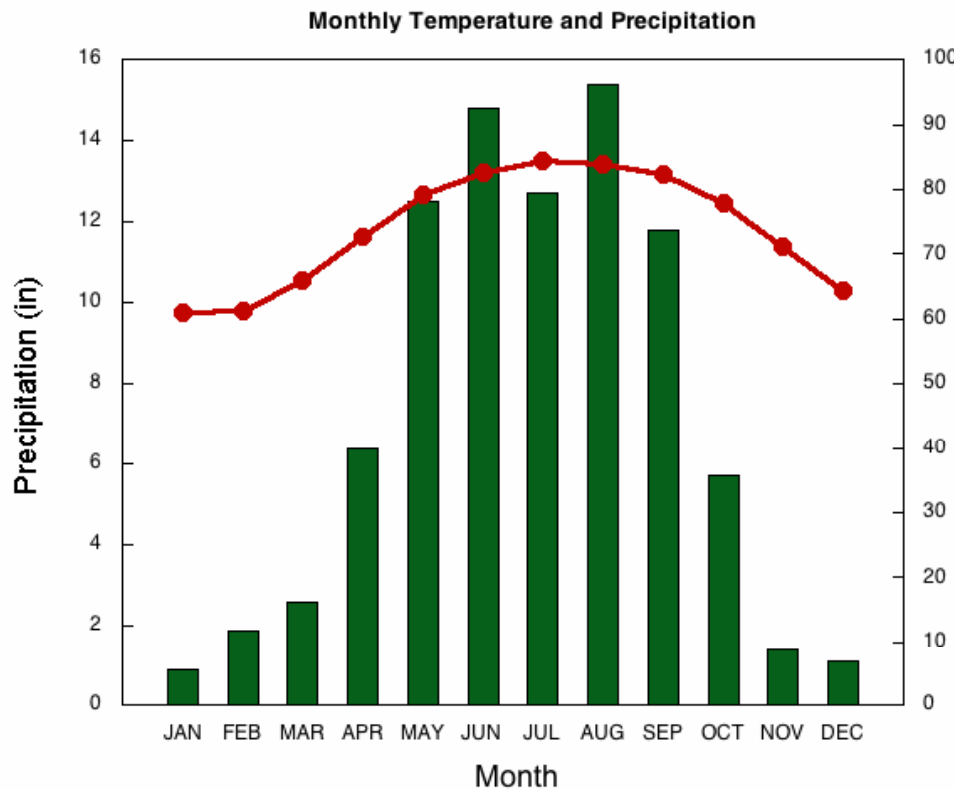
Dallas Shows a Double Precip Max

Green Bars Show Monthly Precip in inches or millimeters.

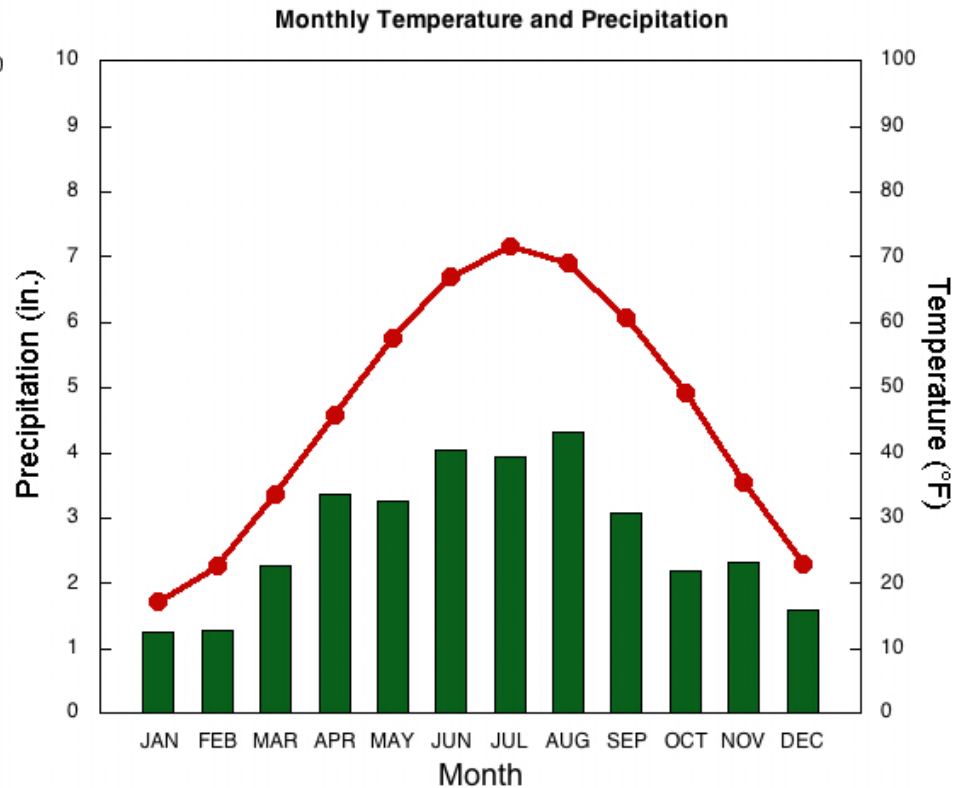
Red Line Shows Monthly Temperature as an Average of the Daily Min and Max for the Whole Month.



Many Climates Have the Maximum Precipitation During the Summer Months Like Hong Kong, China, and Madison, WI.

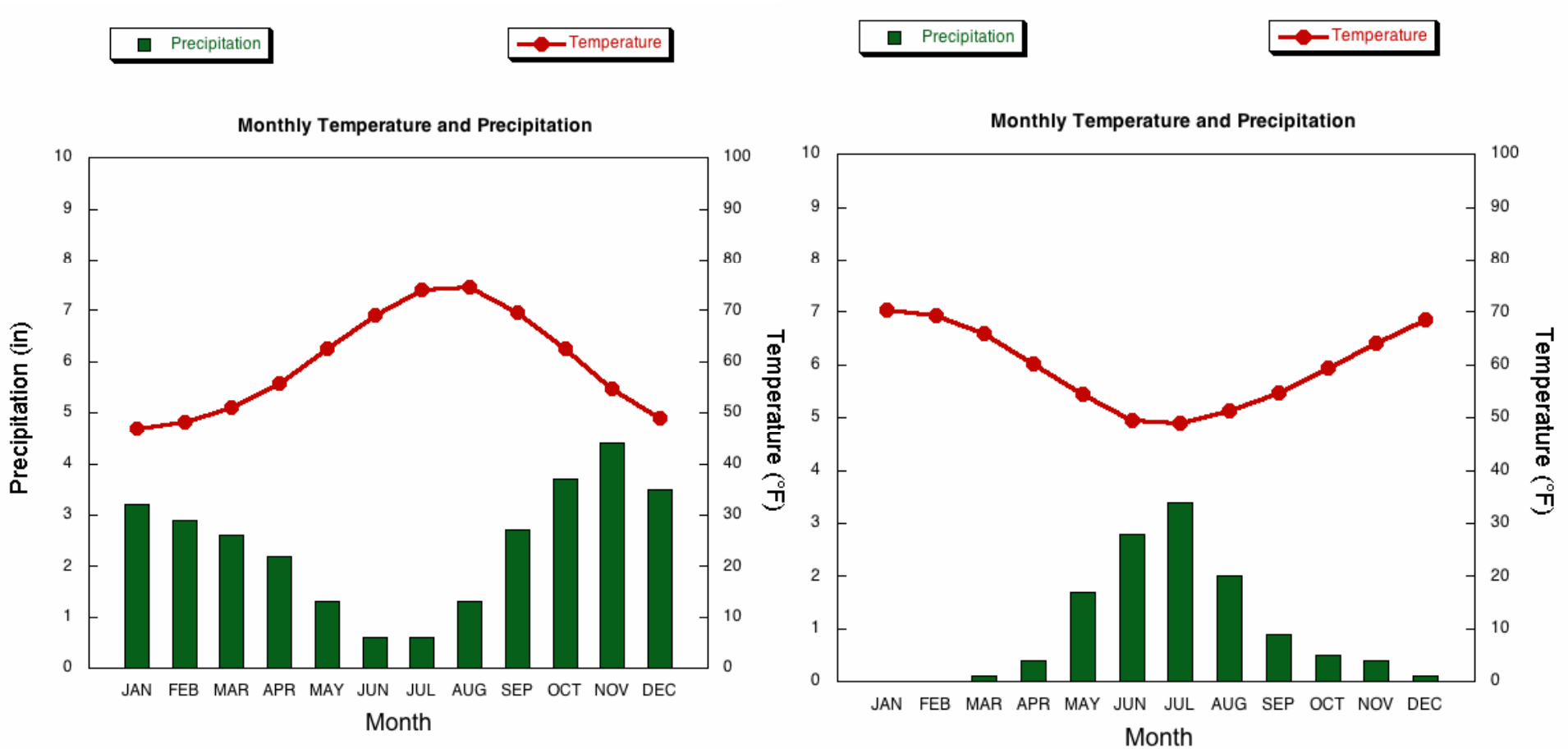


Hong Kong has a subtropical monsoon climate, Cwa in the Köppen system.



Madison has a humid continental climate, Dfb in the Köppen system.

Rome, Italy and Santiago, Chile Have Mediterranean Climates Although Rome Gets More Precip. This Climate Is Unusual Because the Greatest Precipitation Occurs at the Coolest Time of Year



The Koeppen Climatic Classification System Has Five Major Climate Groups Each Is Designated with an Alphabetic Letter

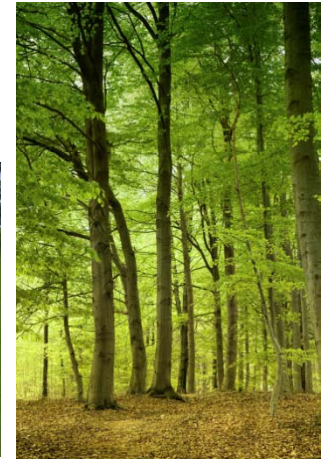
A Tropical Wet Climates



B Dry Climates, both desert and semi-desert



C Mesothermal, mid-latitude or subtropical seasonal



D Microthermal, humid continental

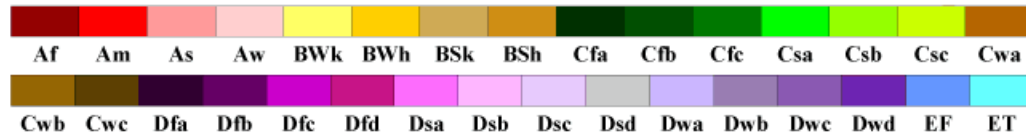


E Polar



World Map of Köppen–Geiger Climate Classification

updated with CRU TS 2.1 temperature and VASclimO v1.1 precipitation data 1951 to 2000



Main climates

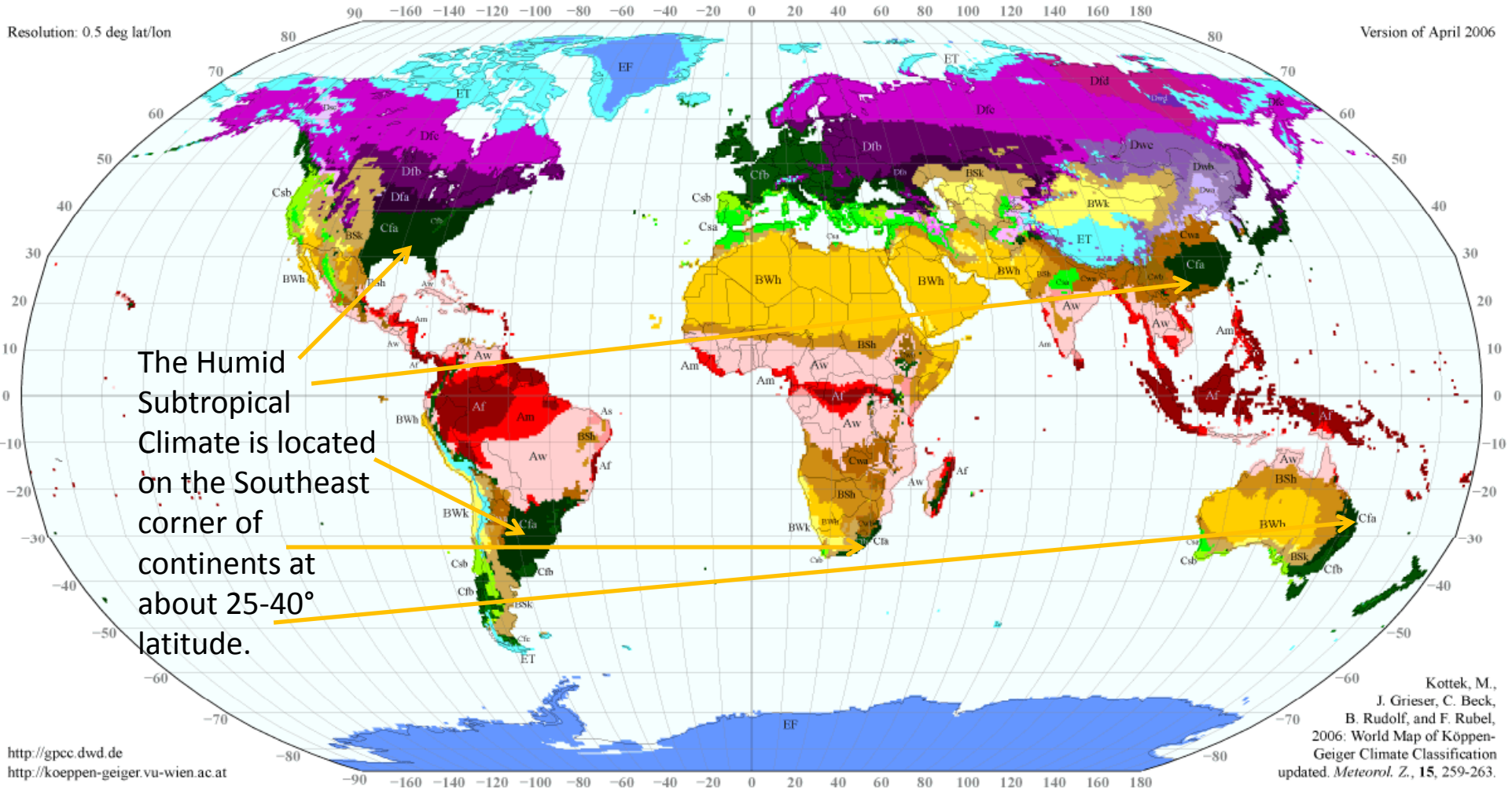
- A: equatorial
- B: arid
- C: warm temperate
- D: snow
- E: polar

Precipitation

- W: desert
- S: steppe
- f: fully humid
- s: summer dry
- w: winter dry
- m: monsoonal

Temperature

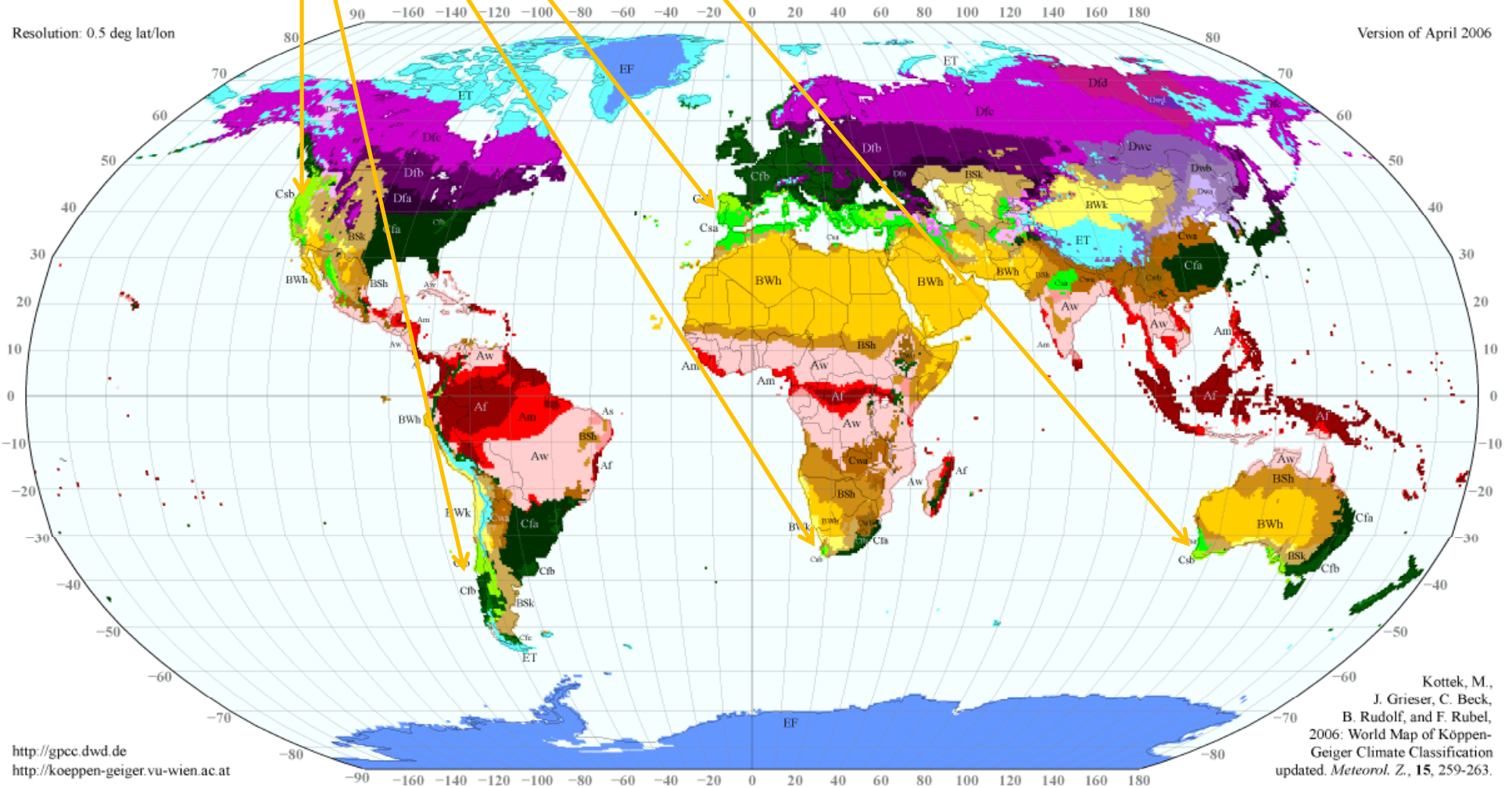
- h: hot arid
- k: cold arid
- a: hot summer
- b: warm summer
- c: cool summer
- d: extremely continental
- F: polar frost
- T: polar tundra



<http://gpcp.dwd.de>
<http://koepen-geiger.vu-wien.ac.at>

Kottek, M.,
 J. Grieser, C. Beck,
 B. Rudolf, and F. Rubel,
 2006: World Map of Köppen-
 Geiger Climate Classification
 updated. *Meteorol. Z.*, 15, 259-263.

The Mediterranean Climate (Csa and Csb) Is Located on the West Coasts of Continents at about 33° - 43° of Latitude. Note that it is about the same latitude as the Humid Subtropical Climate but on the opposite side of the continent.



The Major Wine Producing Regions Are Primarily in Mediterranean Climates



Other Important Food Crops from the Mediterranean Are Olives and Citrus Fruits



Mediterranean Climates Have Desert Conditions during the Summer with Hot temperatures and Little or No Precipitation, So the Vegetation Evolved to Deal with the Summer Drought and Heat.

Winter wheat is planted in the fall and gets established. It then goes dormant through the coldest part of the winter. It starts growing again in the spring as temperatures rise. It dies as the summer drought gets established and is ready for harvest. It is now grown around the world in climates where moisture is limited.

