

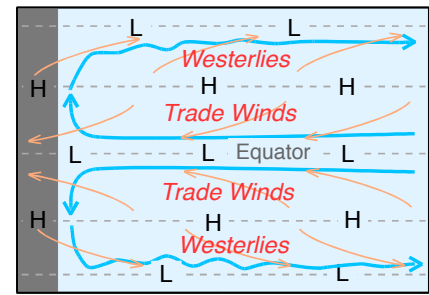
The Trade Winds and Westerlies wind belts

The Trade Winds are the northeasterly to easterly winds predominant from roughly 5° to 25° N, with a symmetrical belt of easterly to southeasterly Trade Winds from 5° to 25° S. The Westerlies are winds from the west and southwest predominant from roughly 30° to 55° N, with a symmetrical belt of westerlies to northwesterlies from 30° to 55° S.

These wind roses thus show very representative wind directions for their respective latitudinal belts. Note also the much more consistent direction of the Trade Winds (almost never from the northwest) and the greater speed common in the Trade Winds (compare the proportions of red and blue). Thus

the Trade Winds are the much more paradigmatic belt, with more consistent and commonly stronger winds than those of the Westerlies.

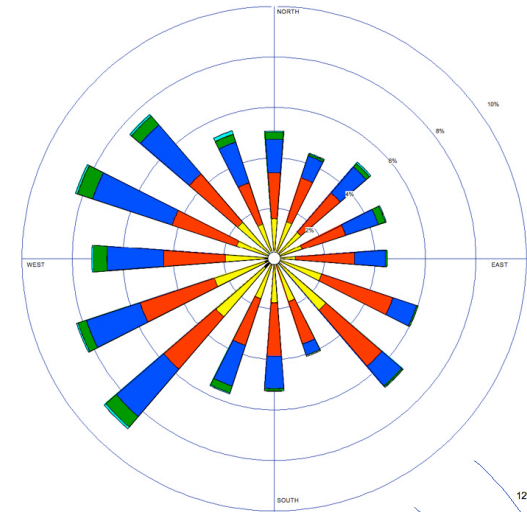
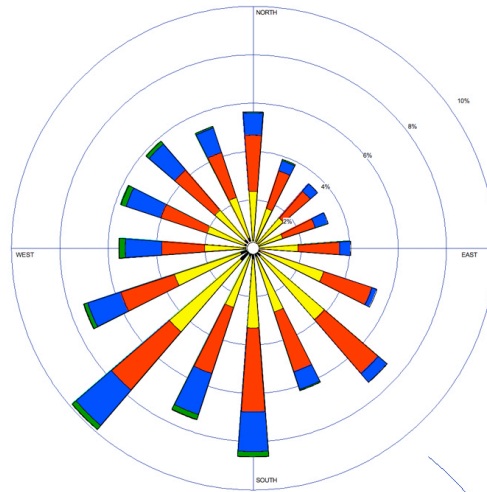
All of this matters to ocean circulation because it (along with latitudinal variation in the Coriolis Effect) helps explain why the the equatorial currents driven by the Trade Winds are so consistent in direction and strength compared to the migrating and meandering Gulf Stream and Kuroshio.



February

October

Westerlies:
Indianapolis,
Indiana
39° 47' N



Easterlies / Trade Winds:
San Juan,
Puerto Rico
18° 27' N

