Currents

There is a startling contrast in seagrass species diversity in the temperate region of the three southern continents; Africa (10), Australia (28) and South America (3). Ocean currents along these shores play a part in limiting the distribution of seagrasses as they influence ocean temperature, affecting seagrass survival. Currents also transport seagrass plants, fruits and seeds.

The most obvious limits to continental seagrass distributions occur on the west coast of South America and Africa, where there are very few species. The Humboldt Current in South America and the Benguela Current in South Africa move cool water northwards along the west coasts. There are also cold-water upwellings in these regions, which bring cold, nutrient-rich water to the surface. Consequently, only temperate species are found on these coasts as it is too cold for tropical species. In contrast to the western coast, the warm-water Agulhas Current flows southward down the east coast of Africa, allowing a high diversity of both tropical and temperate species to occur there.

Australia differs from Africa and South America as warm currents move south down both the east (East Australian Current) and west (Leeuwin Current) coasts, as well as a transient north-moving, cold counter-current on the west coast. This results in temperate species being found further north on the west coast than on the east coast and a large overlap of temperate and tropical species; it is one of the areas of highest seagrass biodiversity in the world.