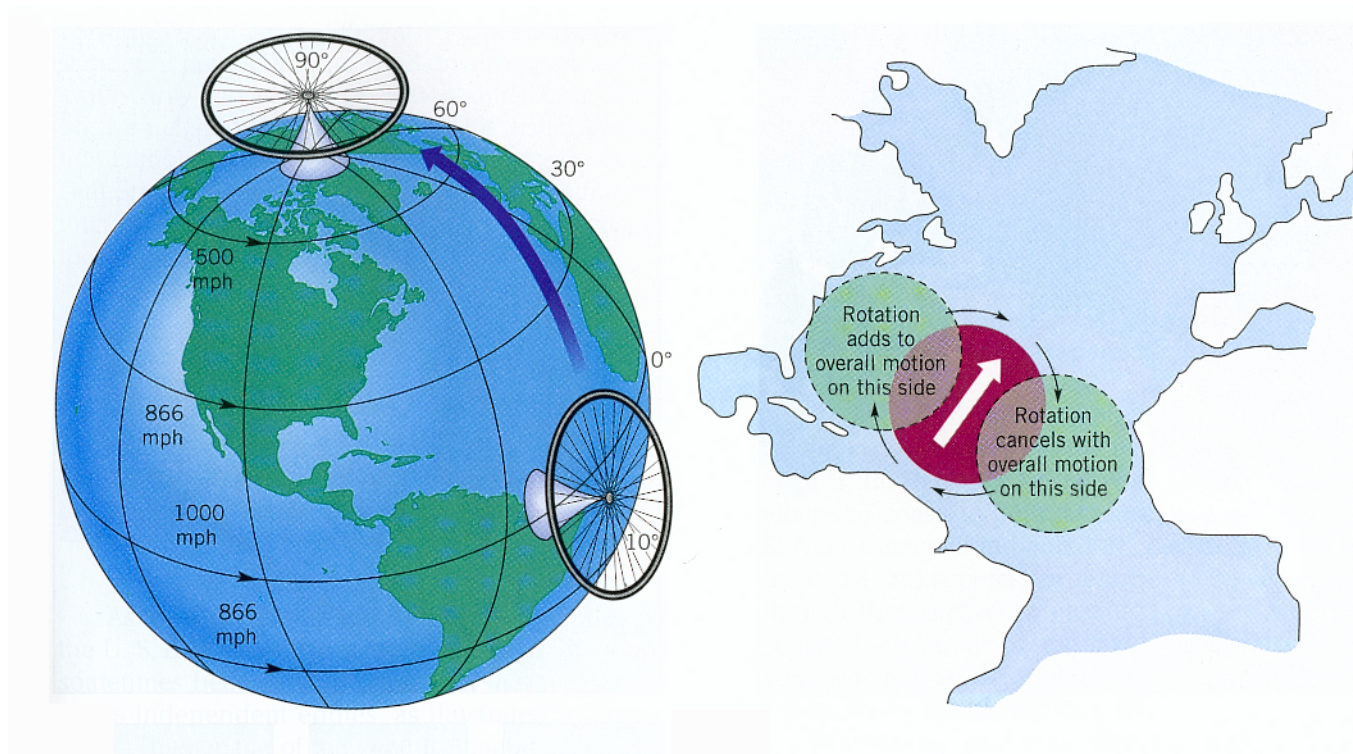


The bicycle wheel, on frictionless bearings, has no rotational component at the equator TO AN OBSERVER STANDING BELOW IT on the surface of the Earth, but when carefully moved to the North Pole, that same observer looks up and sees the wheel rotating in a clockwise direction. Actually, it's the Earth spinning counterclockwise that is responsible for this; relative to the stars the wheel is not rotating. Now, imagine instead that the wheel is replaced by a column of water 1000 km in diameter, and that the observer is standing on the bottom of the ocean. The water column is not seen to be spinning at the equator, but as it moves north it gains an apparent clockwise rotational component, just like the bicycle wheel did. The rotation is stronger at higher latitudes, so the northwest side of the water column wants to rotate faster than the southeast side. In the real ocean, this phenomenon contributes to the "westward intensification" of the flow.



Source: Stowe 1996