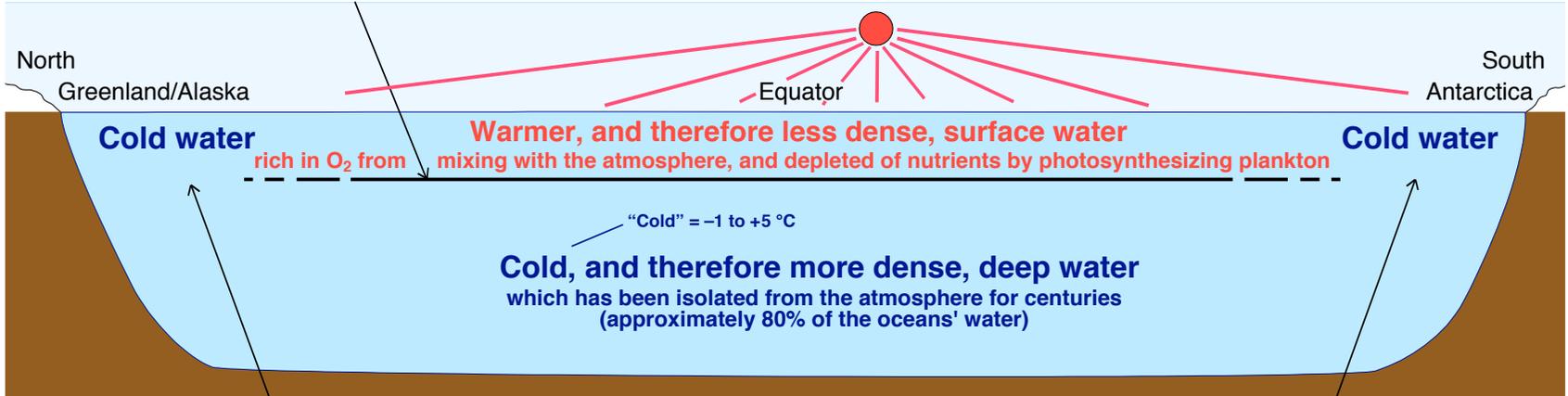
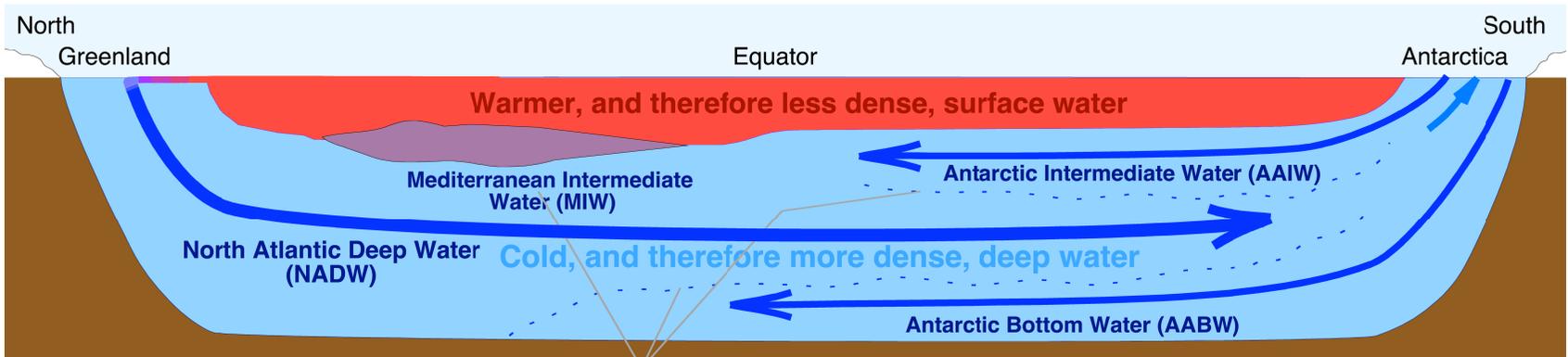


# The thermocline - and deep circulation of the Atlantic

**Thermocline** (a gradient in temperature) that is also a **pycnocline** (a gradient in density)  
so that the thermocline is a barrier to vertical mixing:  
less dense warm water rides over more dense cold water



Absence of a thermocline at high latitude allows vertical mixing, mostly as cold surface water sinks into the deep ocean



Dynamic boundaries across which mixing occurs