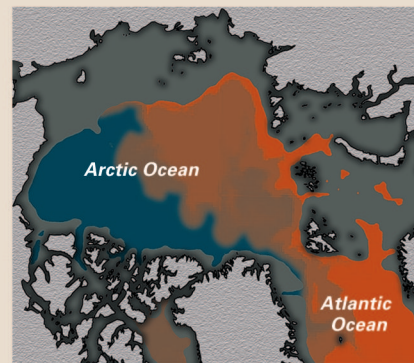
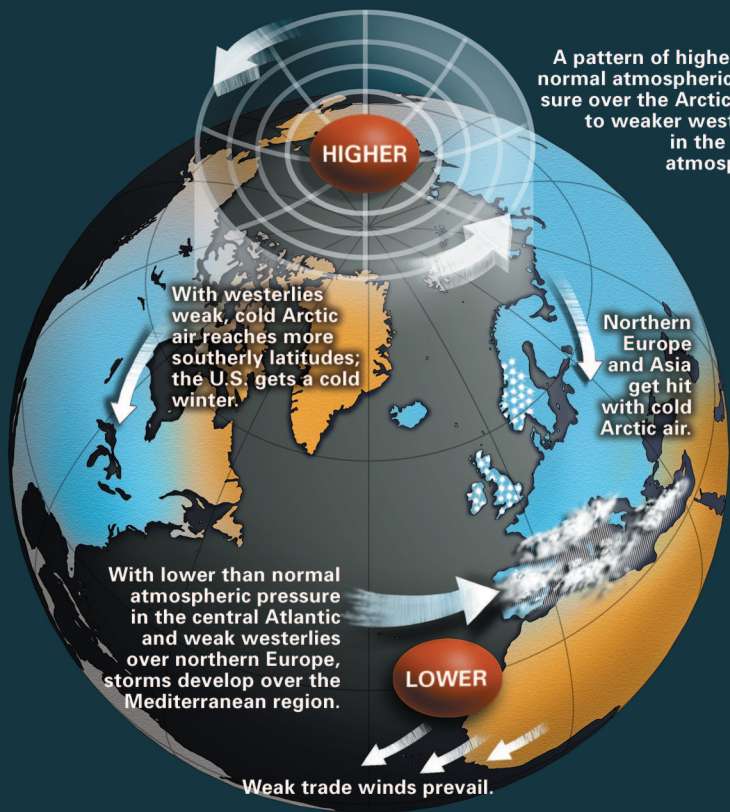


WARM PHASE

The recent warm phase has brought a number of startling changes to the Arctic Ocean. New wind and water currents have drawn relatively warm, salty Atlantic water 20 percent farther into the Arctic than usual (below). Meanwhile, the layer of especially cold water that insulates sea ice from the warmer Atlantic water has thinned across much of the Arctic—and so has the sea ice itself, by an average of four feet.

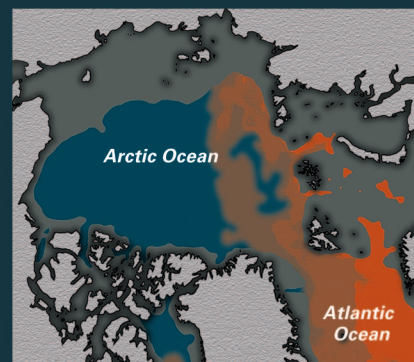


Cooler Arctic water Warmer Atlantic water
MODEL DEPICTS WATER LAYER AT 920-1,180 FEET BELOW SEA LEVEL



COOL PHASE

In cooler periods strong surface winds maintain a powerful clockwise gyre, or circular current, in the western Arctic that keeps Atlantic water at bay. These wind and water currents also distribute the ocean's colder, fresher insulating water layer more evenly, which inhibits the melting of ice. Until the recent warm phase, this was considered the Arctic's "normal" pattern.



Cooler Arctic water Warmer Atlantic water