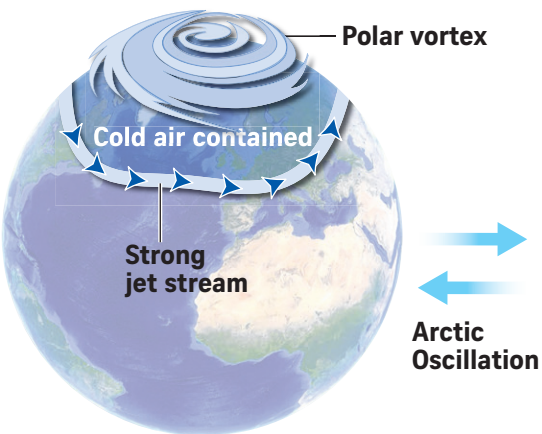


How the jet stream and climate change bring on cold snaps

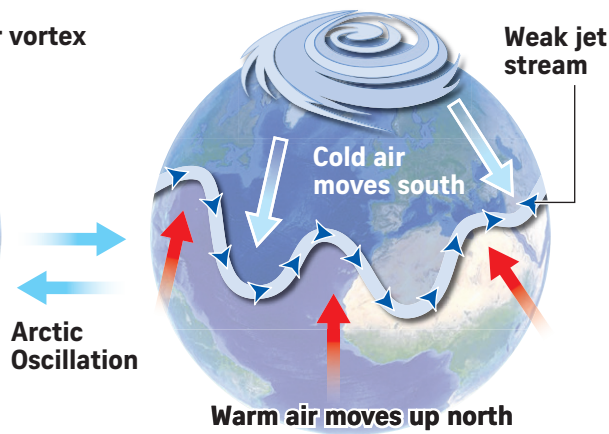
The polar vortex is a large area of low pressure and cold air over the earth's North and South poles. The polar jet stream forms where the temperature and pressure contrasts between air masses are strongest.

STABLE POLAR VORTEX



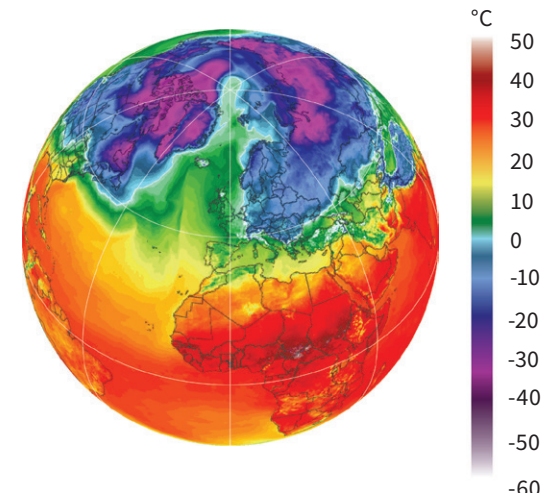
- Fast-moving air near the North Pole is deflected towards the east with the earth's rotation.
- The term "vortex" refers to the counter-clockwise flow of winds.
- The northern polar jet stream (it has a counterpart in the Southern Hemisphere) is driven partly by the temperature contrast between masses of icy air over the North Pole and warmer air near the Equator.
- A large pressure difference keeps a strong jet stream on a straighter path.

WAVY POLAR VORTEX



- Often during winter in the Northern Hemisphere, atmospheric changes cause the polar vortex to become less stable and wobbly.
- Cold, dense Arctic air is sent moving southward with the jet stream.
- This results in typically temperate regions blasted with cold temperatures.
- Air pressure and winds around the Arctic switch between these two phases (stable and wavy polar vortices). This is known as **Arctic oscillation**.

AVERAGE TEMPERATURES ON FEB 25



AVERAGE DAILY TEMPERATURES IN THE ARCTIC

