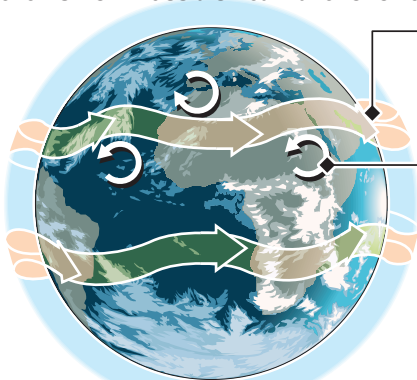


Jetstream blockage links fires and floods

A “blocking event” in the movement of the jetstream over the northern hemisphere is believed to be behind the sequence of extreme weather events from Russia’s heatwave to torrential rains in Pakistan and China



Typically, jetstream runs at 7-12km above ground from west to east

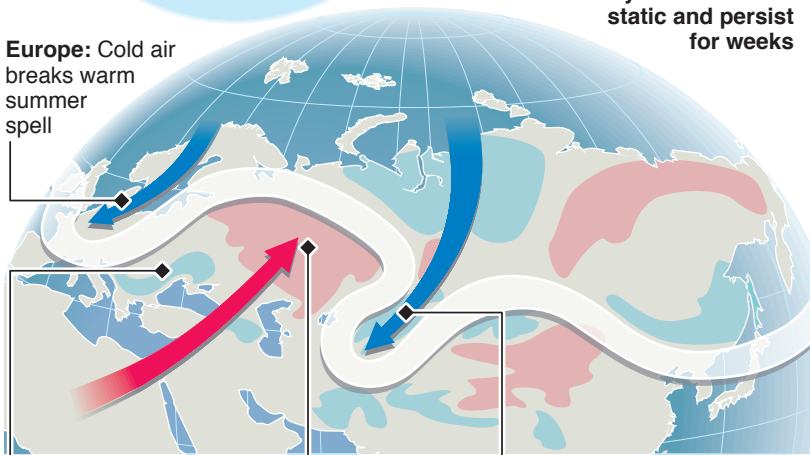
Powerful, spinning currents known as **Rossby waves** deflect jetstream north or south

Jetstream usually overpowers Rossby waves, shifting them east and dragging weather systems along

Late July: Powerful Rossby currents – strong enough to match jetstream – block eastward shift.

Weather systems become static and persist for weeks

Europe: Cold air breaks warm summer spell



Eastern Europe
Hot, humid air from Africa brings rain

Russia
Hot air, now dry, creates heatwave

Pakistan: Cold, low pressure air causes exceptionally heavy rain in mountains to north

Land surface temperature anomaly $\pm 10^{\circ}\text{C}$ compared to years 2000-08