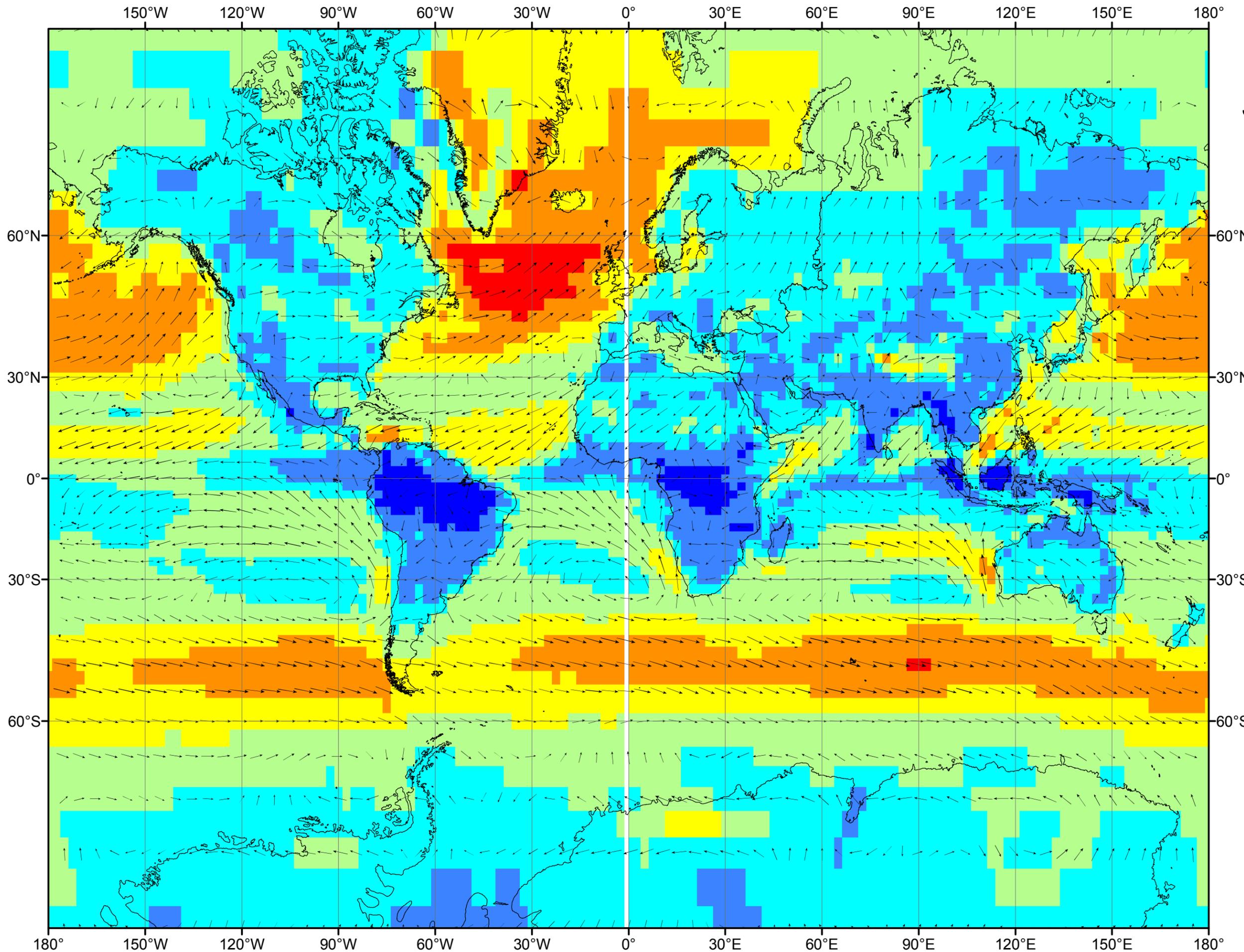


Earth's Atmospheric Circulation January Climatology

The NCEP-NCAR reanalysis uses a consistent forecasting model (state of the art in 1995) to integrate observations from surface, aerial, and satellite systems into a consistent model of the atmosphere for research and monitoring purposes.

Surface winds are calculated at or near the elevation of the earth's surface. Monthly long-term averages are calculated for the period from 1981-2010.



Horizontal wind at earth's surface

velocity (m/s)	speed (m/s)
↑ 10+	12-14
↑ 8-10	10-12
↑ 6-8	8-10
↑ 4-6	6-8
↑ 2-4	4-6
↑ 0-2	0-2

Data downloaded from NCEP Reanalysis provided by the NOAA/OAR/ESRL PSD, Boulder, Colorado, USA, from their Web site at <http://www.esrl.noaa.gov/psd/>. Grid size is 2.5° by 2.5°. Mercator projection. WGS84 datum.

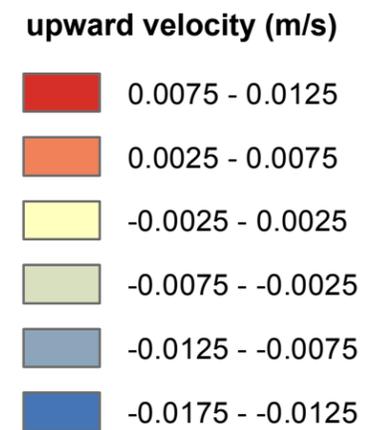
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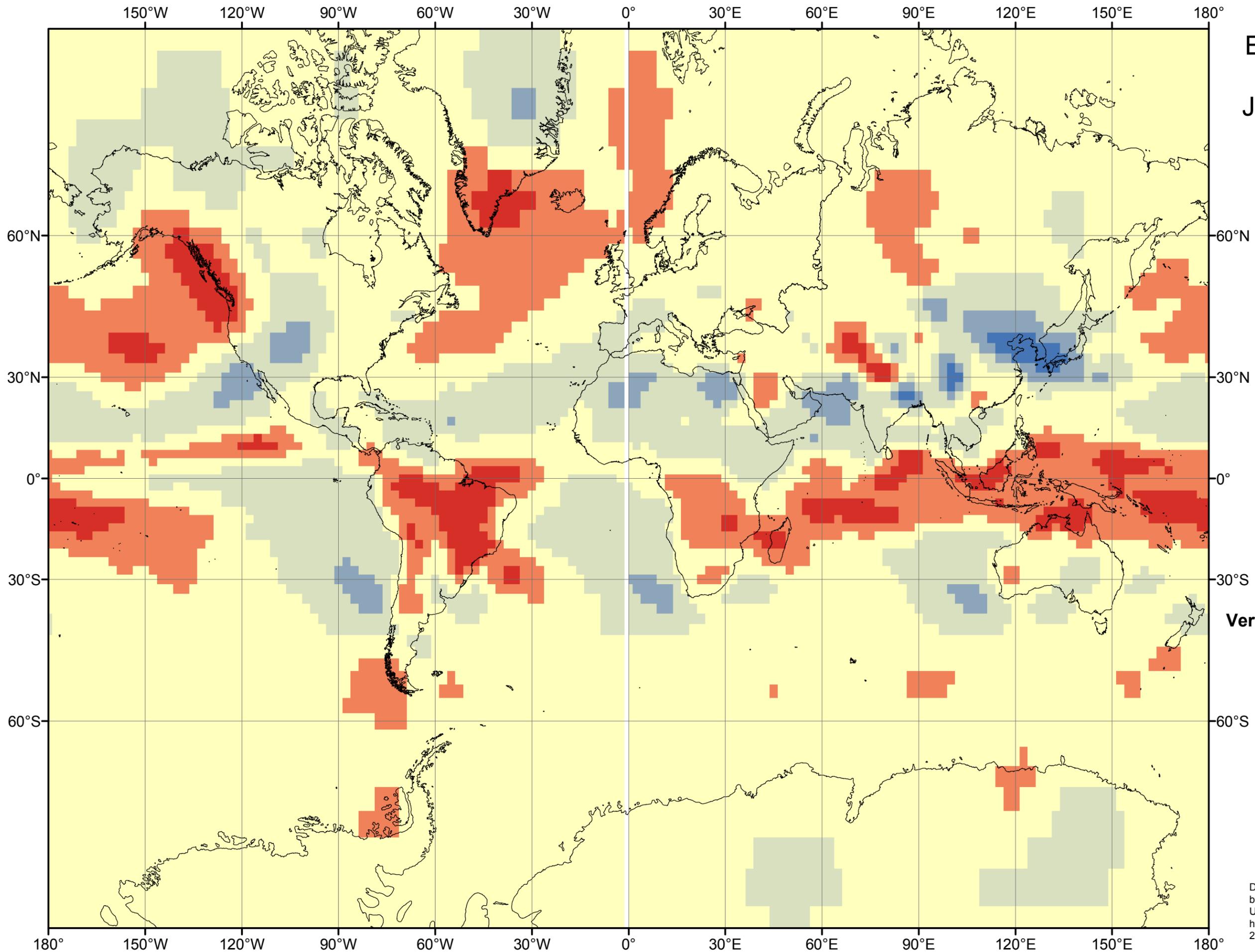
Wind data are available at 17 pressure levels within the atmosphere. Monthly long-term averages are calculated for the period from 1981-2010.

The altitude of a given pressure level varies with temperature, and is approximated here for a typical atmospheric profile. Vertical wind data have been converted from units of Pa/s to m/s.

Vertical wind at ~5500 m altitude (500 mb isobaric surface)



Data downloaded from NCEP Reanalysis provided by the NOAA/OAR/ESRL PSD, Boulder, Colorado, USA, from their Web site at <http://www.esrl.noaa.gov/psd/>. Grid size is 2.5° by 2.5°. Mercator projection. WGS84 datum.



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The altitude of a given pressure level varies with temperature, and is approximated here for a typical atmospheric profile.

**horizontal wind at ~12 km altitude
(200 mb isobaric surface)**

velocity (m/s)	speed (m/s)
↑ 60 - 75	70-80
↑ 45 - 60	60-70
↑ 30 - 45	50-60
↑ 15 - 30	40-50
↑ 0 - 15	30-40
	20-30
	10-20
	5-10

Data downloaded from NCEP Reanalysis provided by the NOAA/OAR/ESRL PSD, Boulder, Colorado, USA, from their Web site at <http://www.esrl.noaa.gov/psd/>. Grid size is 2.5° by 2.5°. Mercator projection. WGS84 datum.

