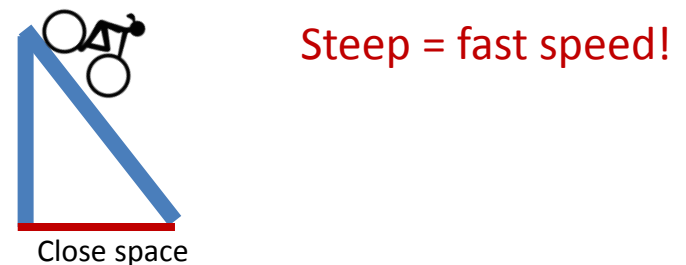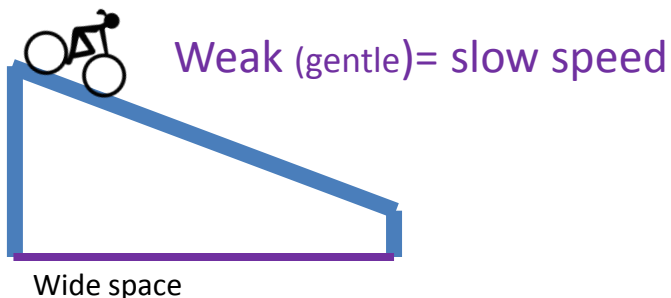# Pressure differences control wind speed

- **Reminder:** wind is created from differences in air pressure.

- Large difference in air pressure = high wind speed (ex: 1013mb. to 1025mb)

- Small difference in air pressure = low wind speed (ex: 1013.2mb to 1014.2mb)

Mapping air pressure and wind

- On a weather map, scientists use barometric readings to predict wind speed. **How do you think this works?**

- Isobars- are lines on a map that connect places of equal air pressure (iso=equal, bar=pressure)

- **The spacing of the isobars will indicate wind speed** this is called the pressure gradient

Pressure gradient determines wind

- **Pressure gradient=** a term used to describe changes in air pressure on a weather map (based on isobar spacing)
  - **Closely** spaced isobars indicate a **steep** pressure gradient and **high** winds.
  - **Widely** spaced isobars indicate a **weak** pressure gradient and **light** winds

Weak (gentle)= slow speed

Steep = fast speed!

Wide space

Close space

Sea-Level Pressure (mb) — Avn analysis for 1200Z 27 OCT 10
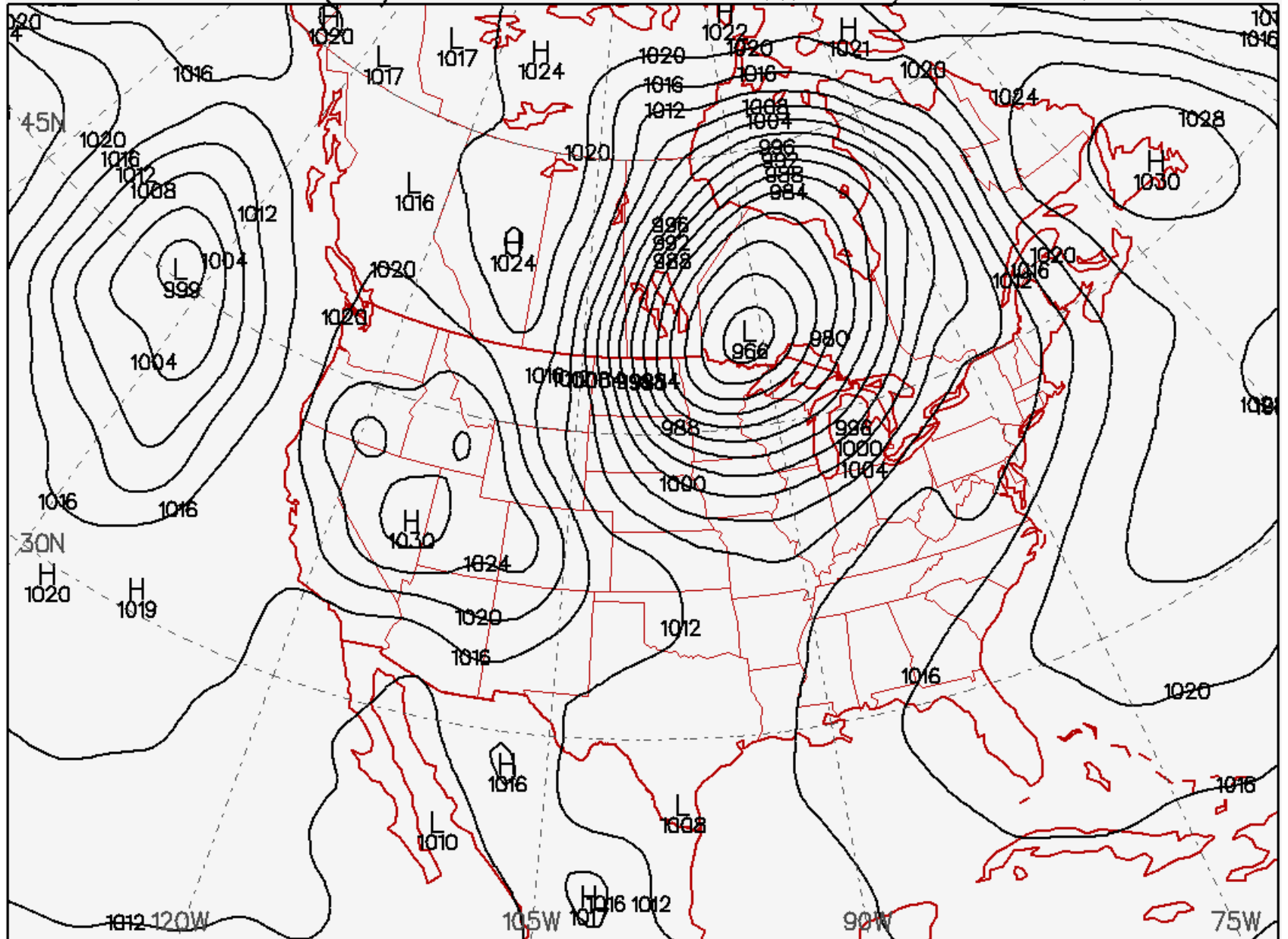
Contour Interval: 4 mb   Figure 1   LO: 951.9   HI: 1036.6

- Use this to remember:
- Closely spaced = large difference = high wind speed (example= riding a bike on a steep hill)
- Widely spaced = small difference = low wind speed (example: riding a bike on a gentle hill)