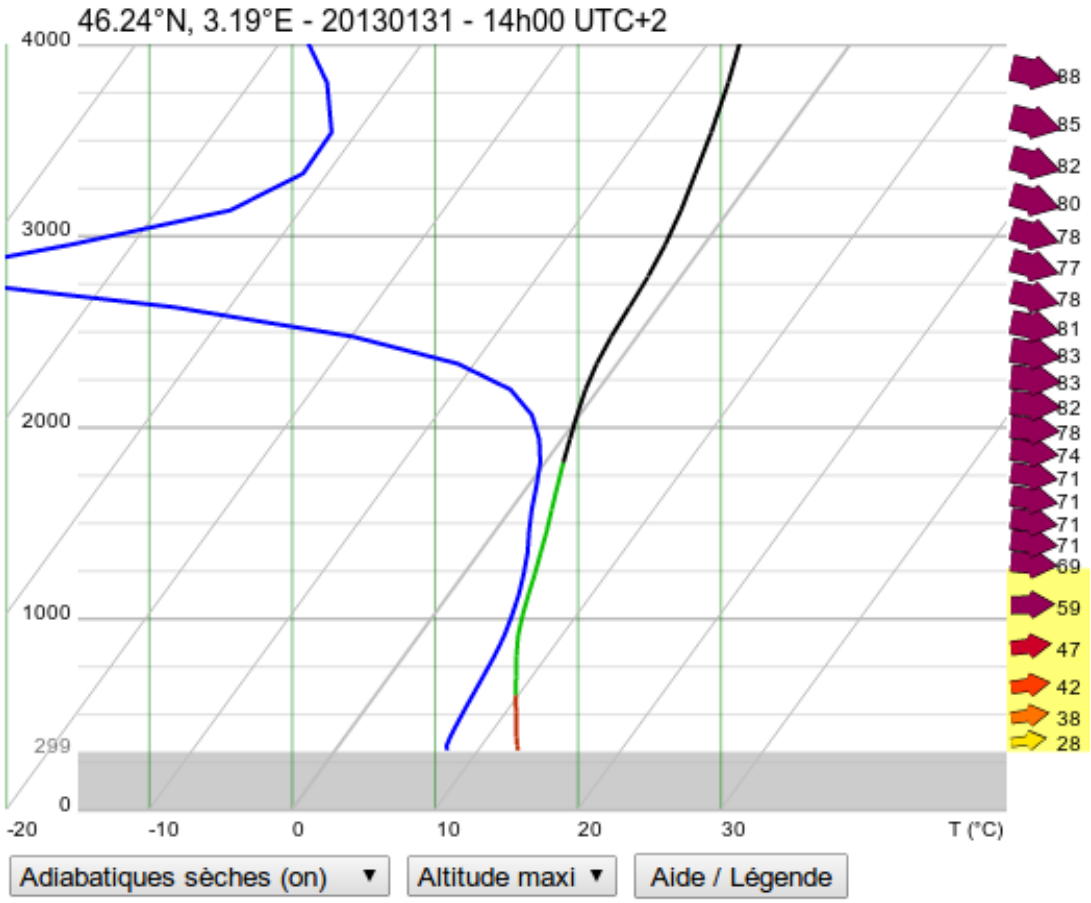
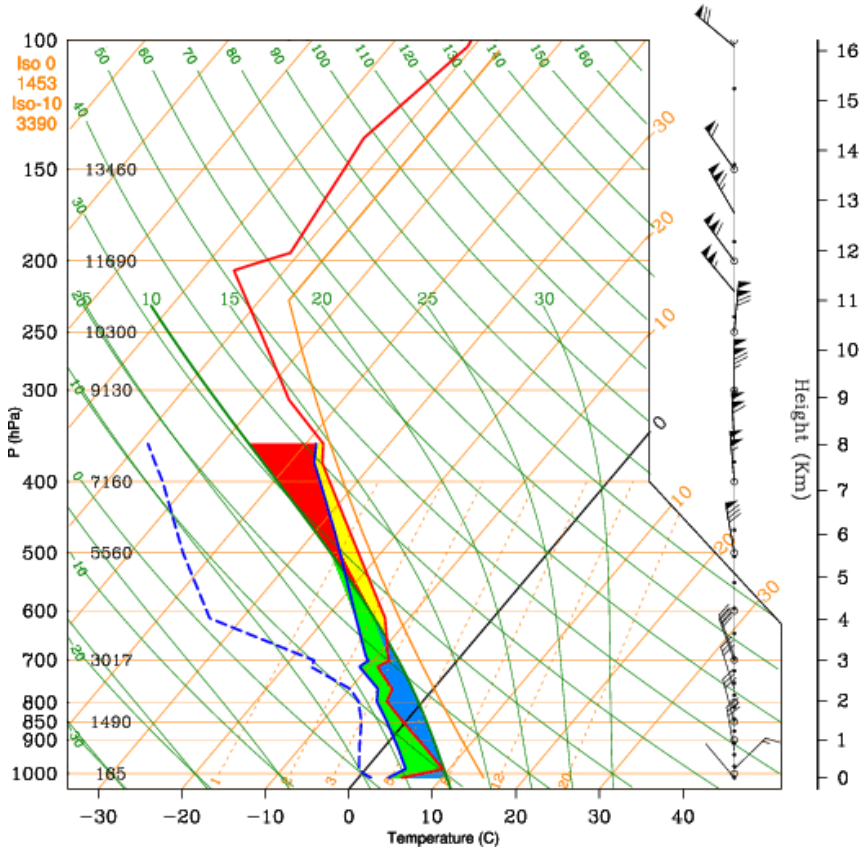
Meteo-Parapente.com
Emagram plot



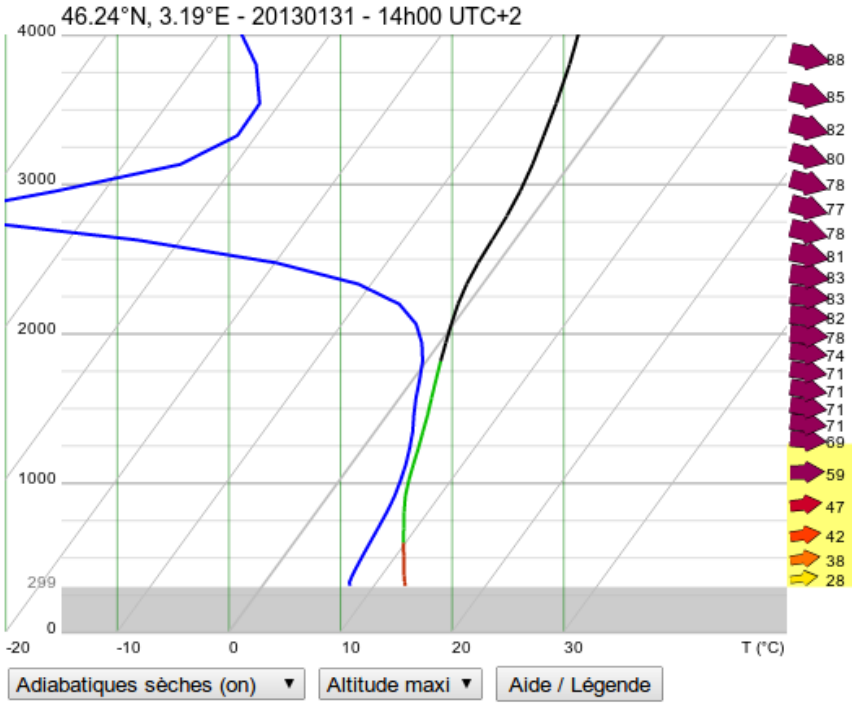
Nicolas BALDECK
Février 2013

A new approach:

Legacy Skew-t plot



Meteo-Parapente.com emagram plot

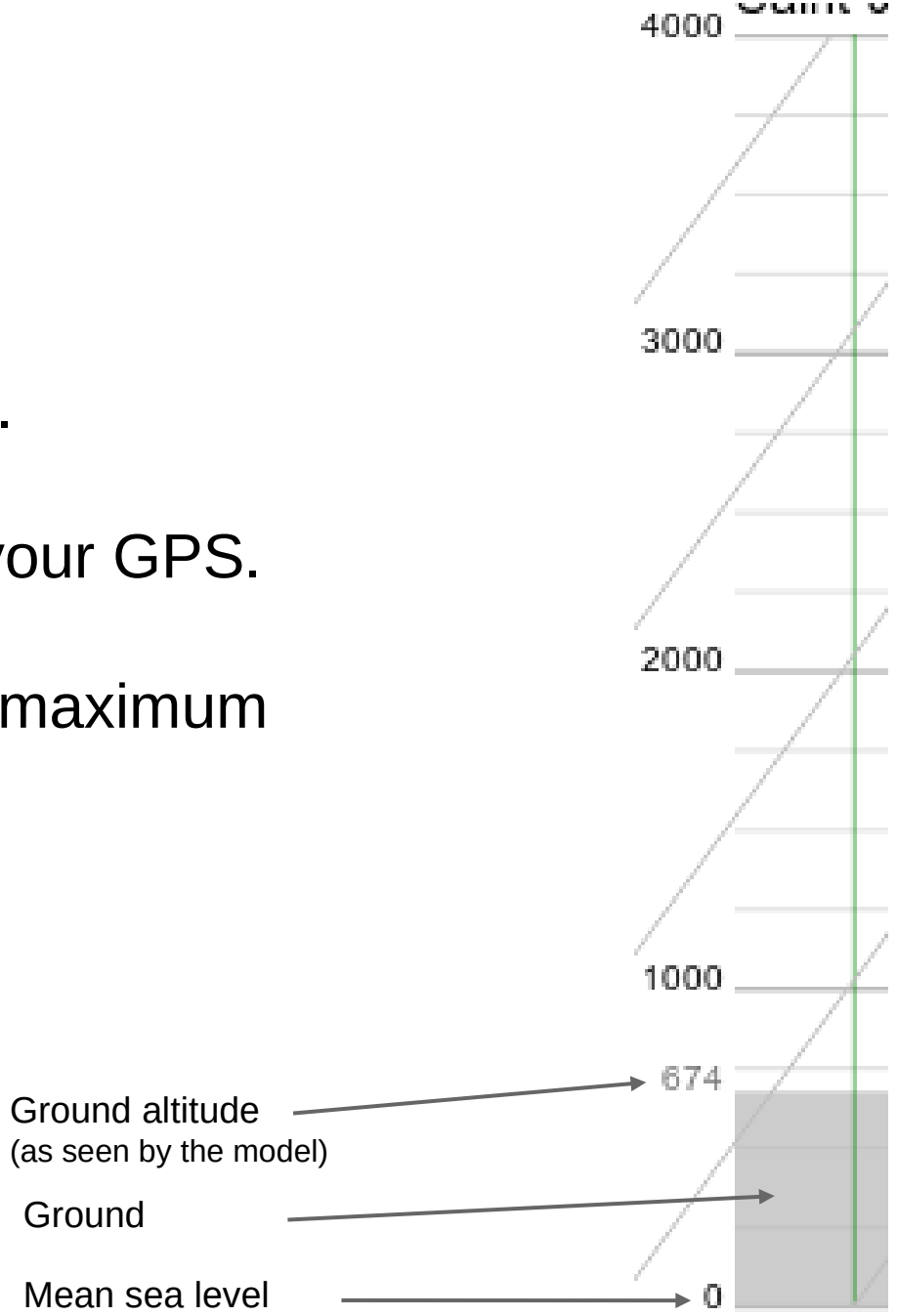


The amateur pilot is not an expert in thermodynamics!

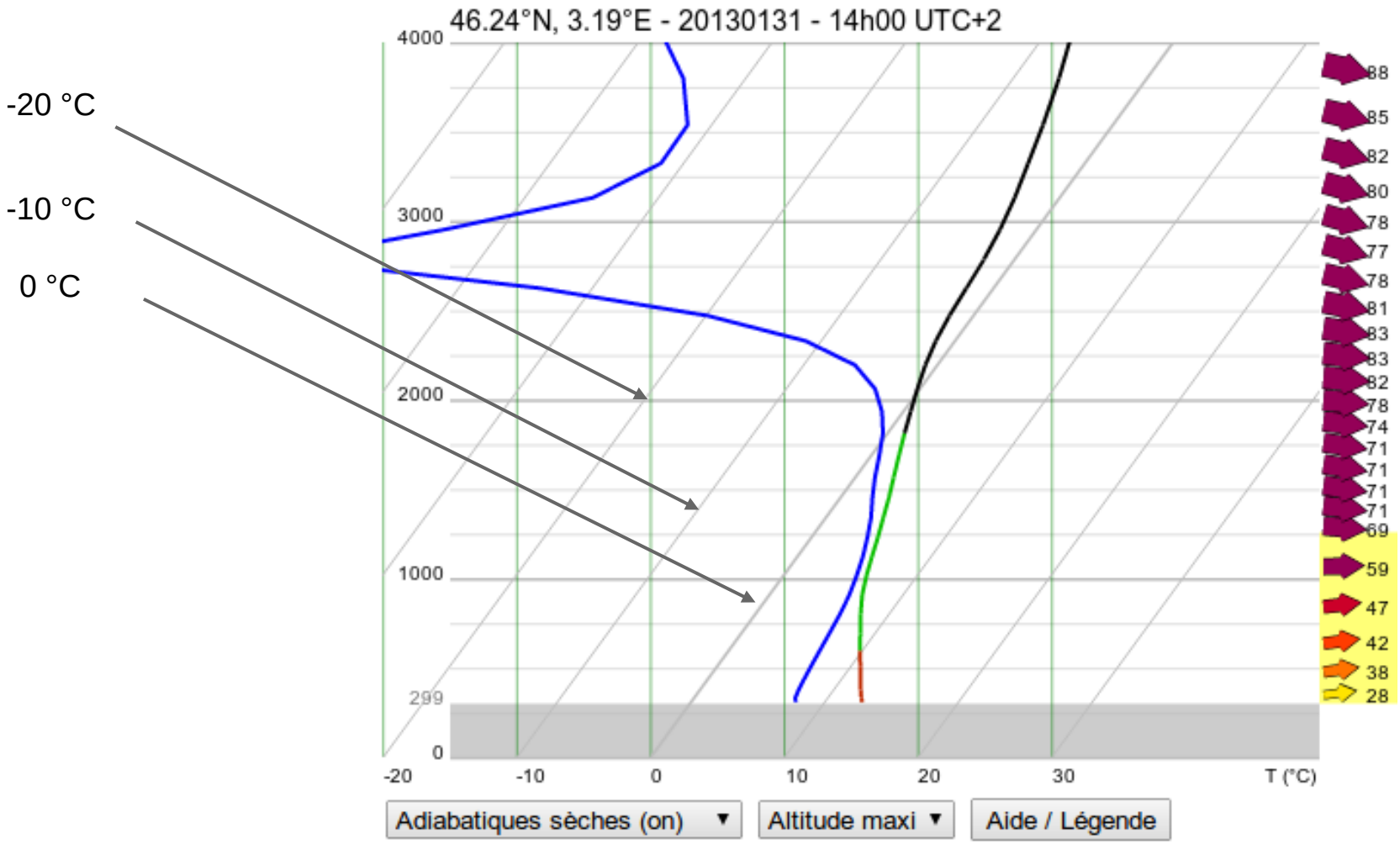
- Do you measure altitude in hPa? The GPS and the altimeter display meters.
- We are not used to logarithmic scales.
- Spaghetti of twisted curves, it hurt the eyes

Altitude

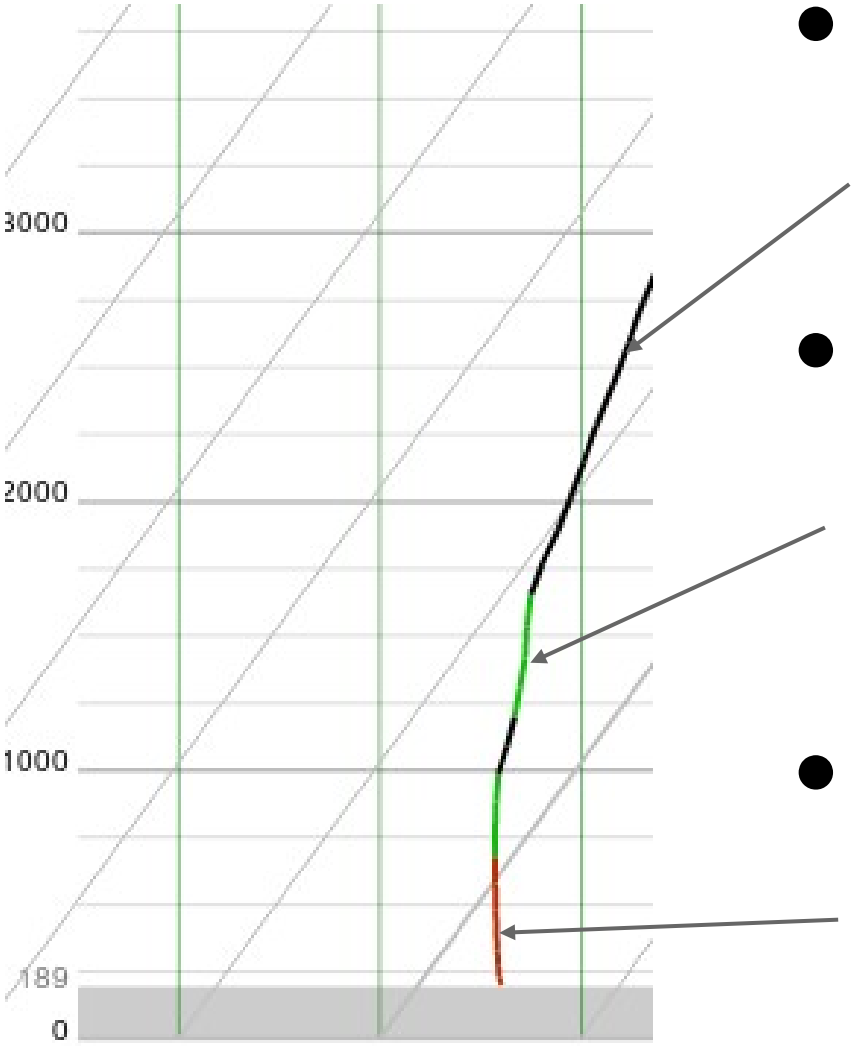
- Linear scale. Meters.
- It's the same as on your GPS.
- You can choose the maximum altitude of the plot.



Isotherms (temperatures)



Air temperature



- Stable

  The air cools more slowly than dry and saturated adiabatic.
  The thermals are slowed down.

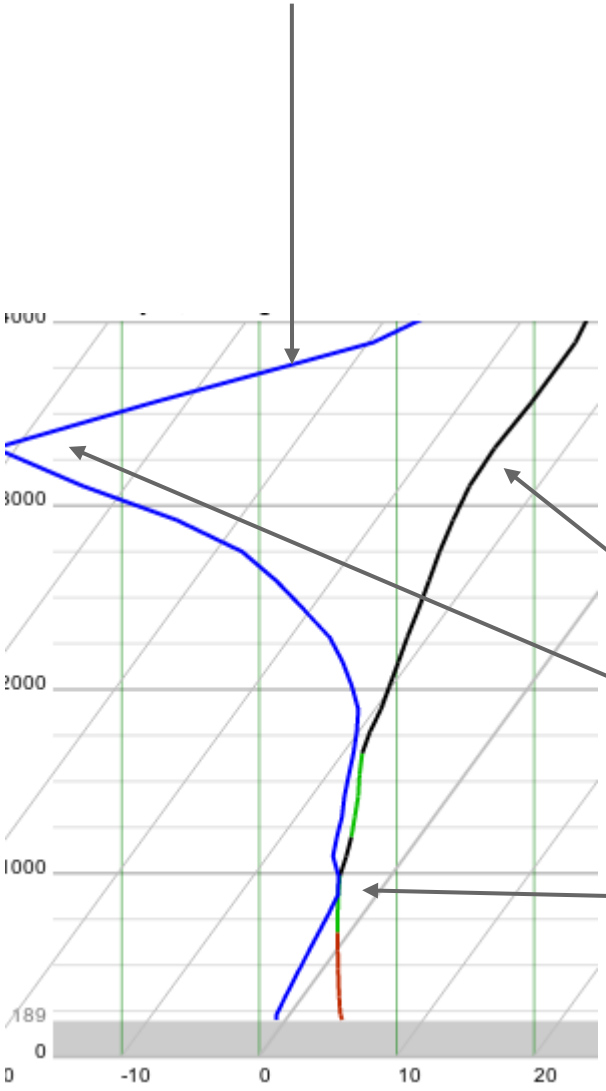
- Conditional instability

  Air cools faster than saturated adiabatic, but slower than dry adiabatic.
  Thermals can accelerate under certain conditions.

- Absolute instability

  Air cools faster than dry and saturated adiabatic.
  The thermals accelerate.

Dew point temperature



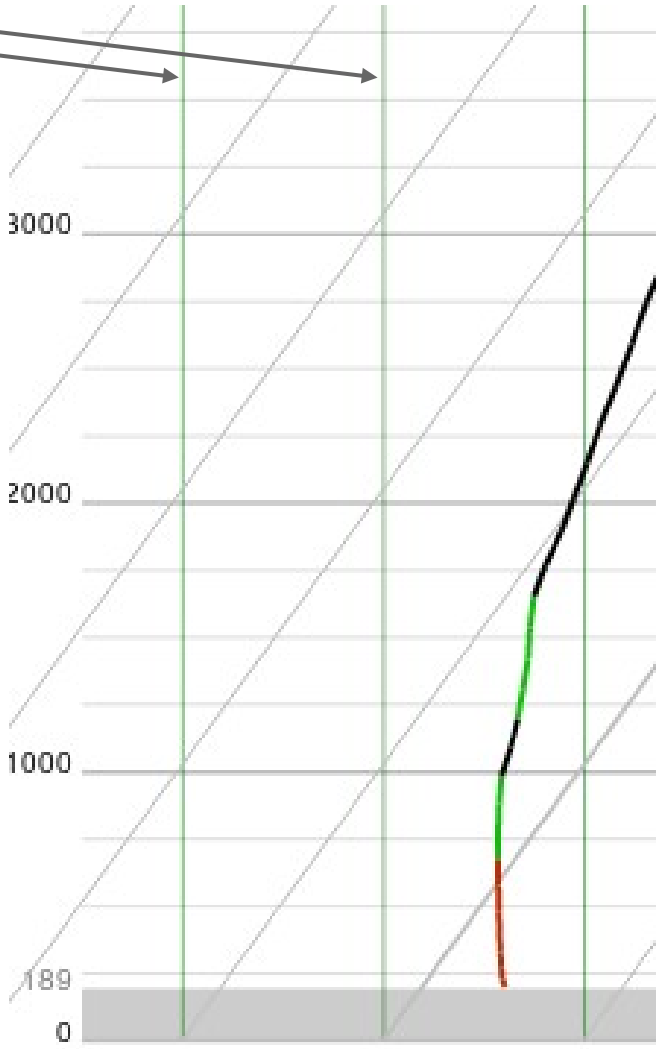
- Reflects air humidity
- The more distant the curves, the drier the air
- When the two curves get very close, there is condensation (clouds)

Very dry air

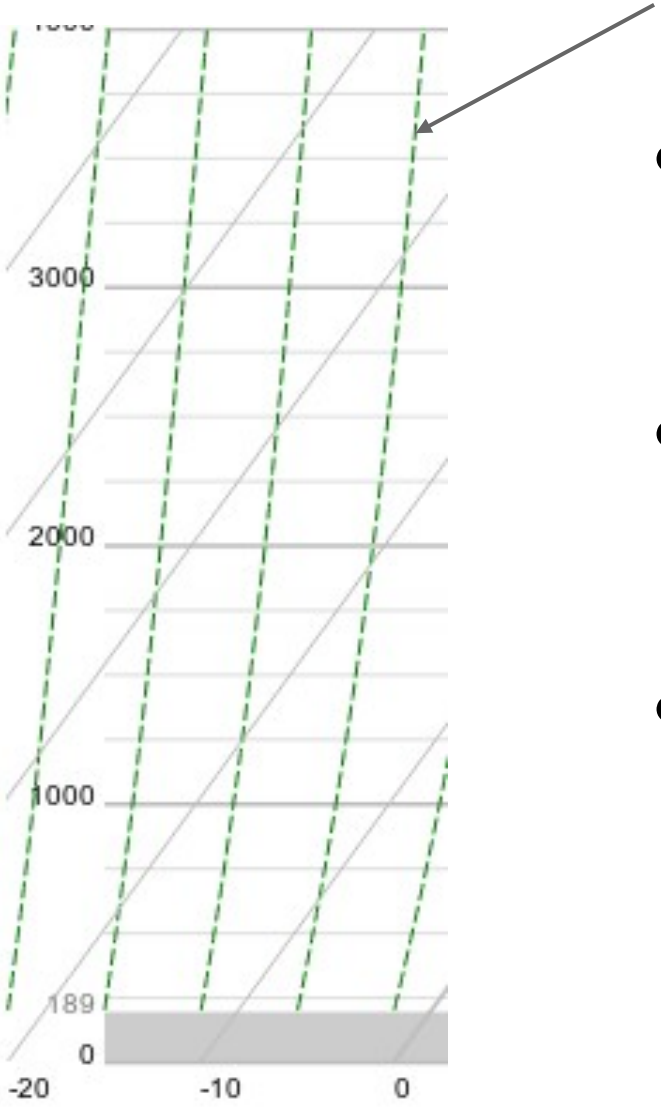
Cloud

Dry adiabatics

- Theorical cooling of **dry** air while rising.
- ~ 10°C / km
- They are straight and vertical.
  (Meteo-Parapente.com innovation)



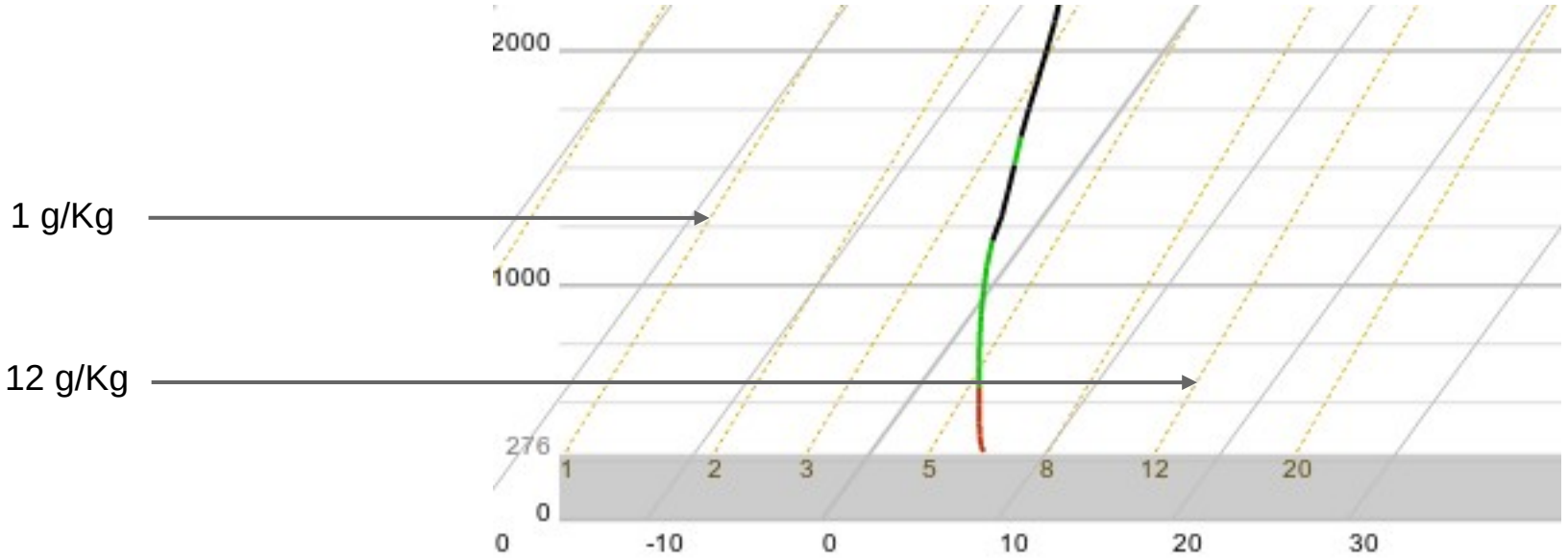
Wet / saturated adiabatic



- Theorical cooling of air while rising, when humidity is 100%
  For instance in a cloud.
- Less humidity means faster cooling
  Closer to the dry adiabatic
- Varies depending on temperature and pressure.

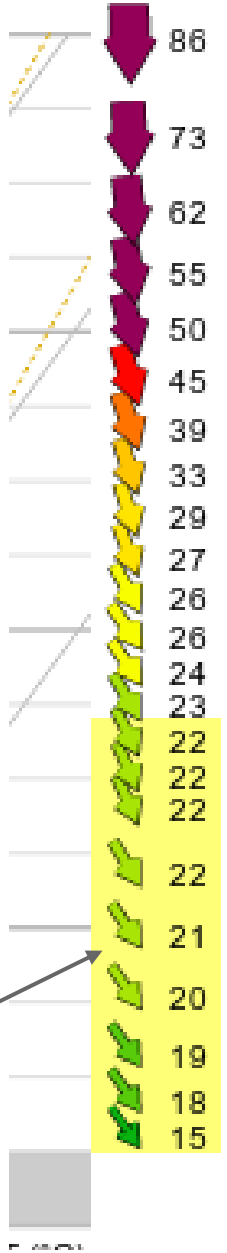
Mixing ratios

- Concentration of water vapor in the air



Wind by altitude

- km/h
- Arrows give direction
  Illustrated : Wind blowind from North / North West towards South / South East.
  No classic wind barbs. Their scale is not suitable for paragliding.
- Size and color depend on the wind strength
  (Same color scale as the wind map)
- In yellow the atmospheric boundary layer (~convection layer)



You got the basics!

To find out more and learn how to use the emagram :

- https://soaringmeteo.org/raspsounding.pdf

Have nice flights!

For feedbacks and suggestions:
support@meteo-parapente.com