

Laboratory of Synoptic Meteorology

Surface and level map analysis pressure in the upper atmosphere

(Second Semester)

ASD / 2nd Stage

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Pressure level map analysis 700hpa
drawing of isotherms

The purpose of the experiment: Analysis of the 700 hpa pressure level map by drawing isoheight and isotherm lines to determine the warm and cold air masses.

The theoretical part : The importance of the pressure level 700hpa lies in that it represents the last pressure level of the lower troposphere, as the rest of the levels (200,300,500)hPa represent the upper troposphere. In this layer, the pressure centers begin to fade and transform into a waveform, where bulges appear in the lines of voltage rises, which are known as troughs if they are towards the equator or ridges if they are towards the pole. At this level, the locations of short waves are determined, which play an important role in the emergence of atmospheric disturbances on the surface, where the area under the short wave, whether dent or groove, is an intense or severe vertical velocity region, so the best strategy adopted by the weather forecaster is to look at the 700hPa map and determine the locations of the waves The short time and then look to determine the forces in the atmosphere causing the vertical velocity up and down.

The practical part: When drawing a pressure level map of 700hPa, we follow the same rules in drawing contour lines at a pressure level of 850 mb, with the following rules:

- 1- The pressure level is 700 hPa within the potential height (3180-2800)m, and the average height is 3000m.

- 2- The intervals between each line of my effort height and the last 60 m, are drawn in the form of continuous lines in black. The values may start with the number 9 or 8, for example, 900 clean 2 to the left of the number to become 2900, but if the values start with 0, such as 045, we add 3 to the left and it becomes 3045, then we apply the period Any increase or subtraction 60m.
- 3- Isothermal lines are drawn at this level for their importance in defining the areas of thermal agreement, and the period between a contour line and another is 5c°.

Discussion:

- 1- Locate the centers of high and low altitudes (in terms of latitude and longitude?)**
- 2- Determine the values of high and low altitudes?**
- 3- Compare the location of the altitude centers in this experiment with the previous levels studied?**