

LOW LEVEL JETS OVER UKRAINE

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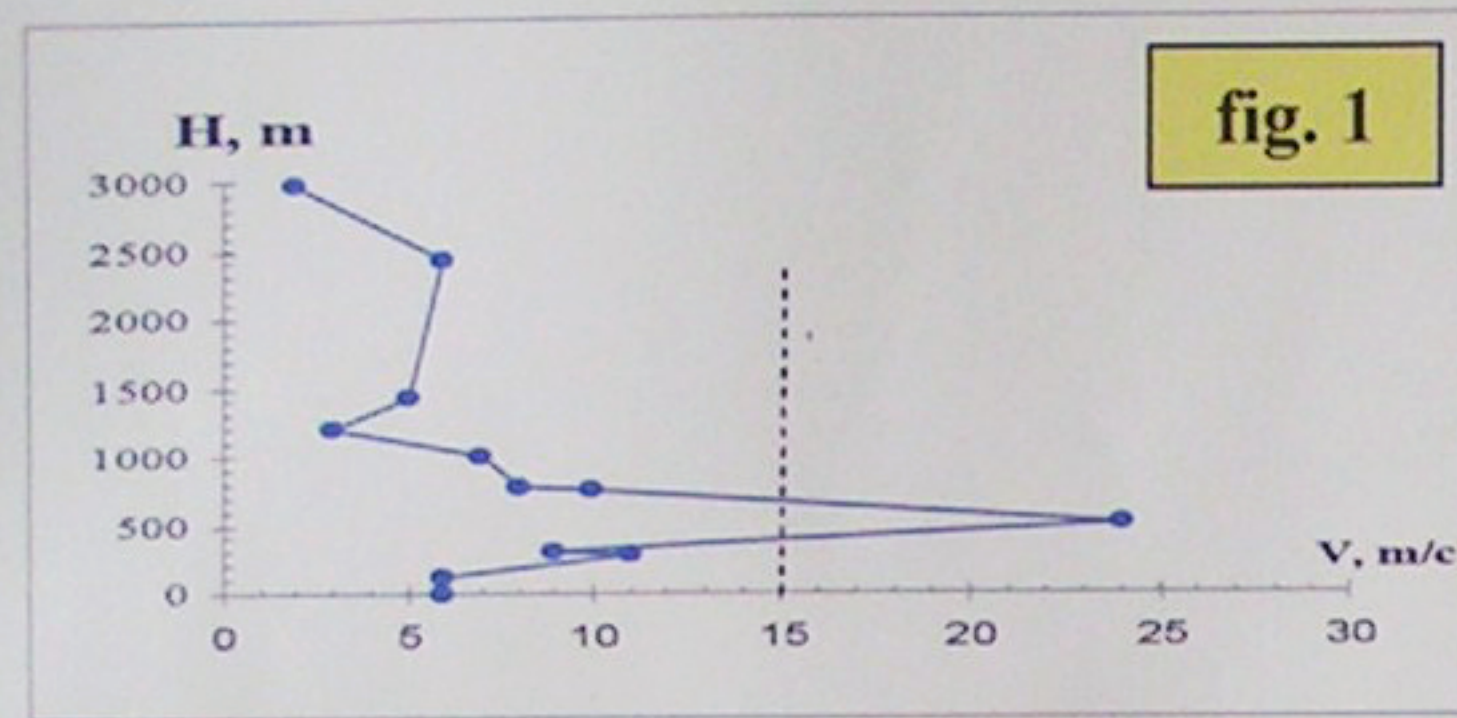


fig. 1



fig. 2

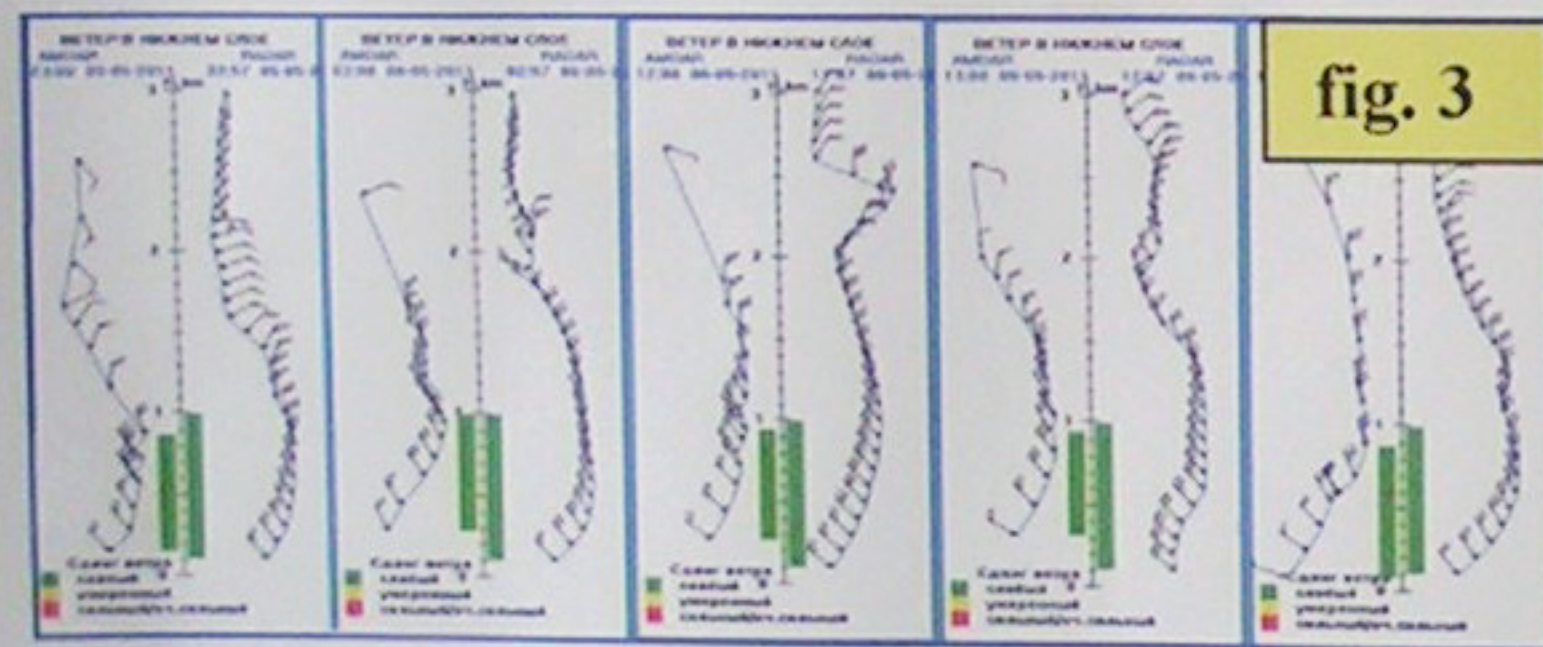


fig. 3

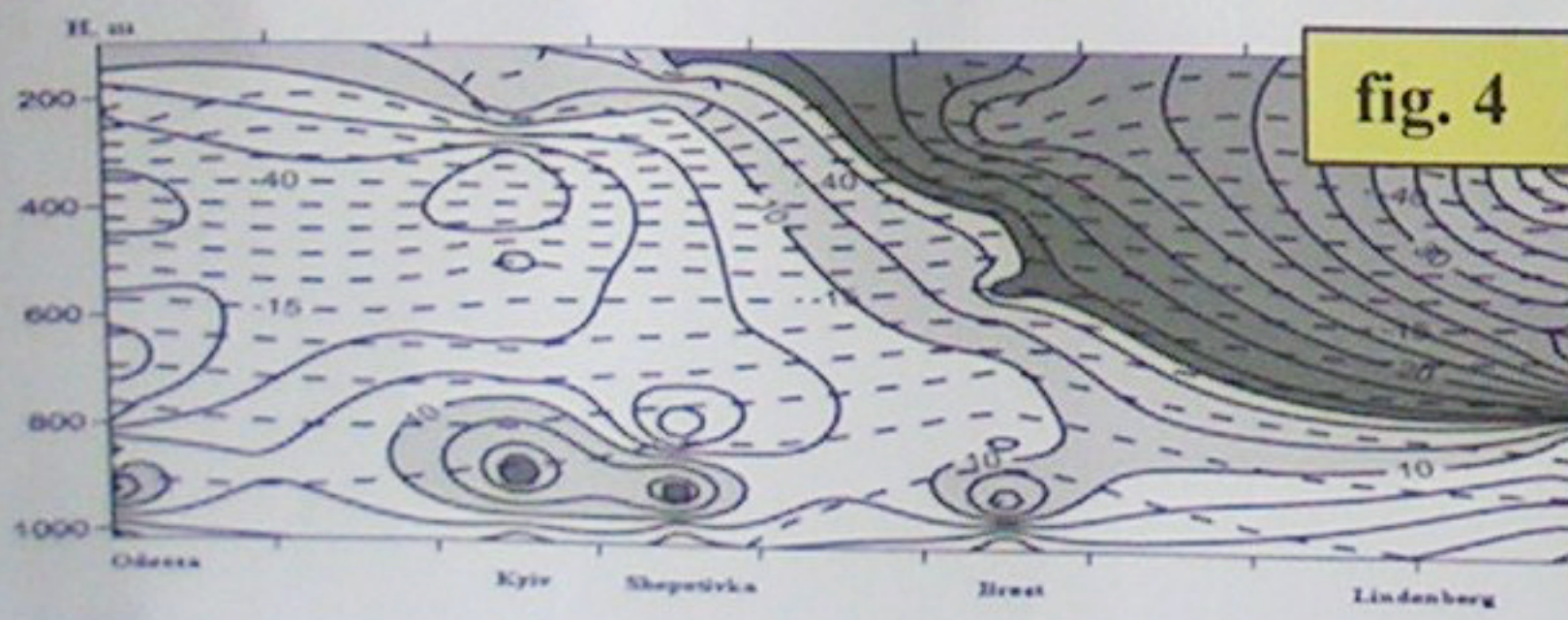


fig. 4

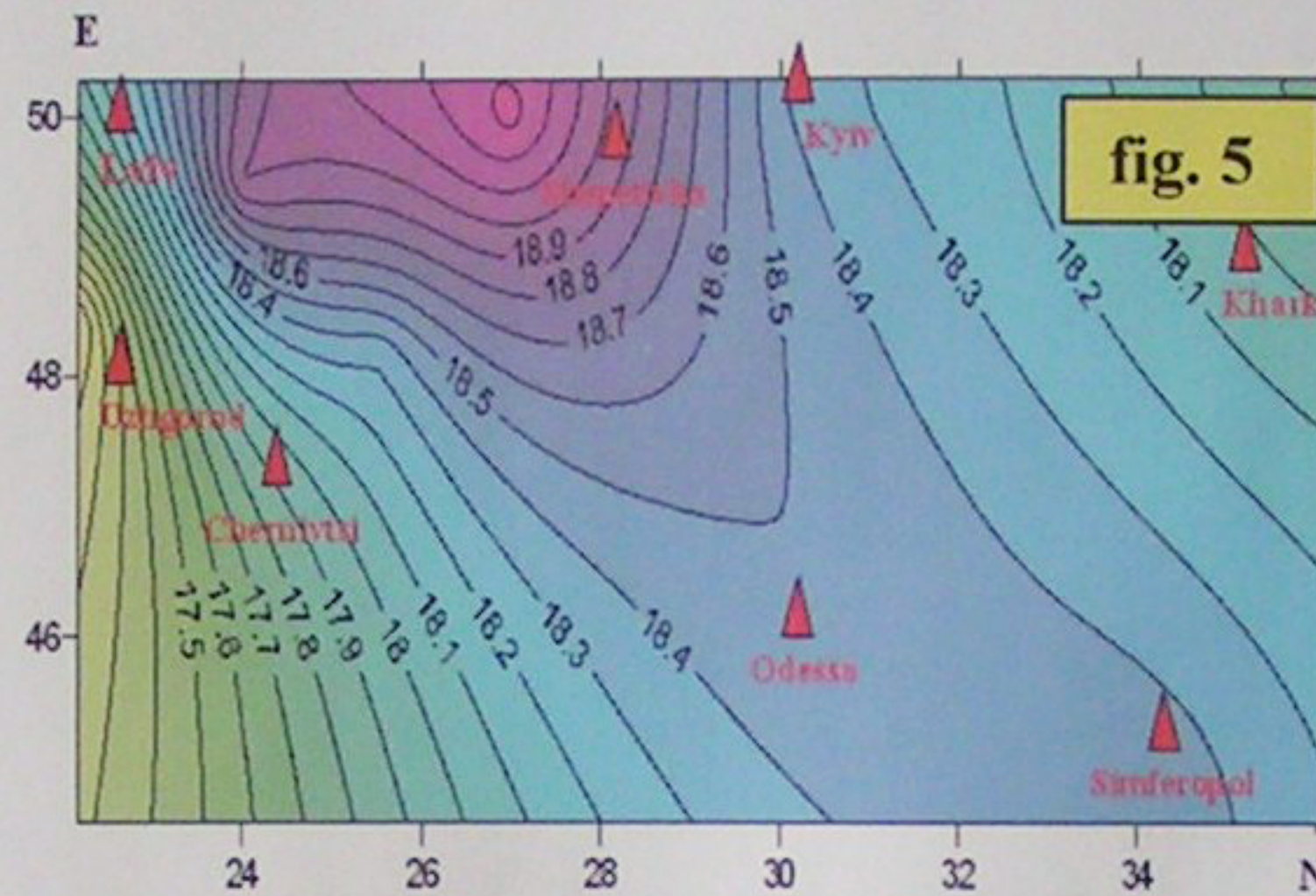


fig. 5

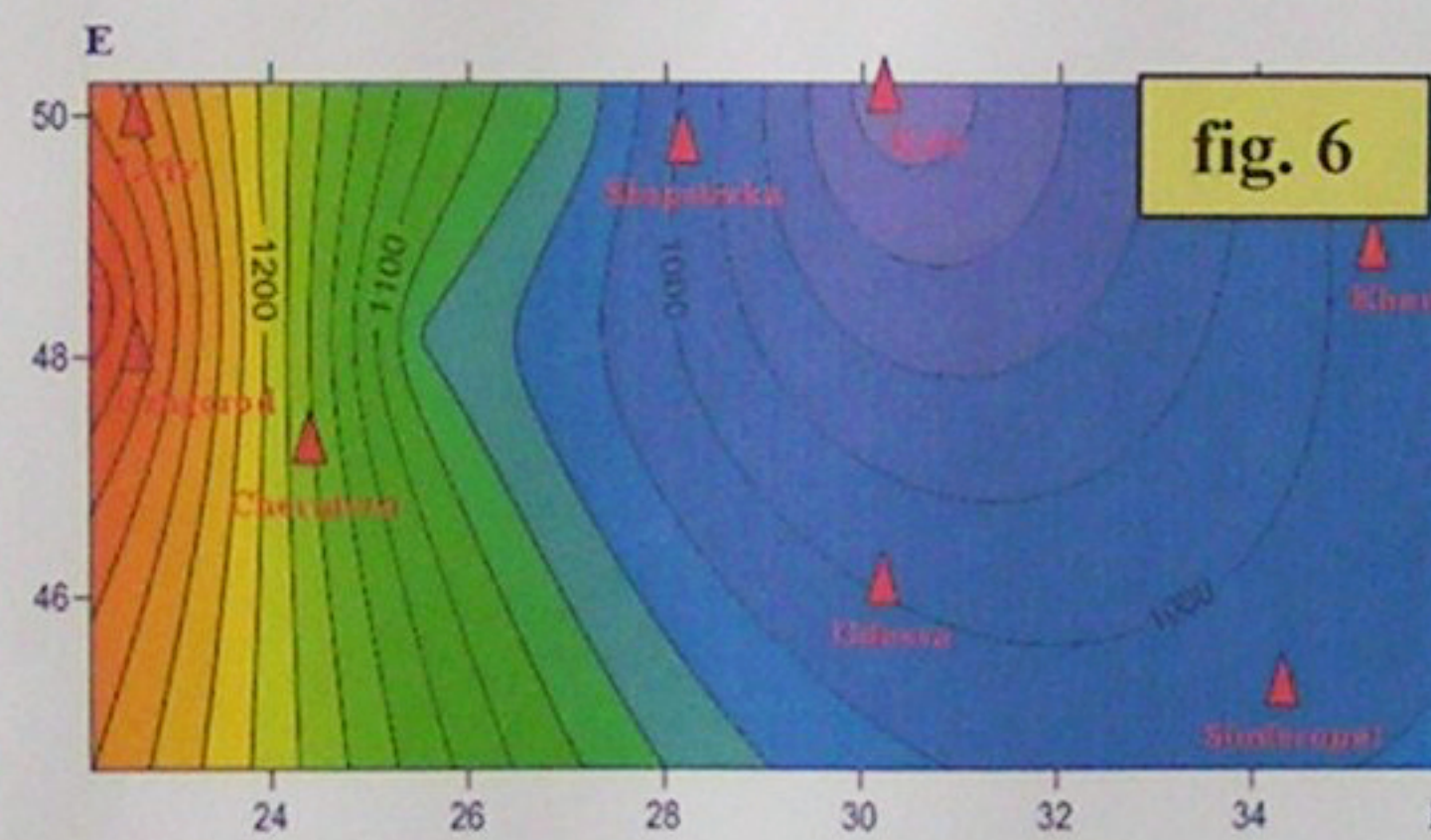


fig. 6

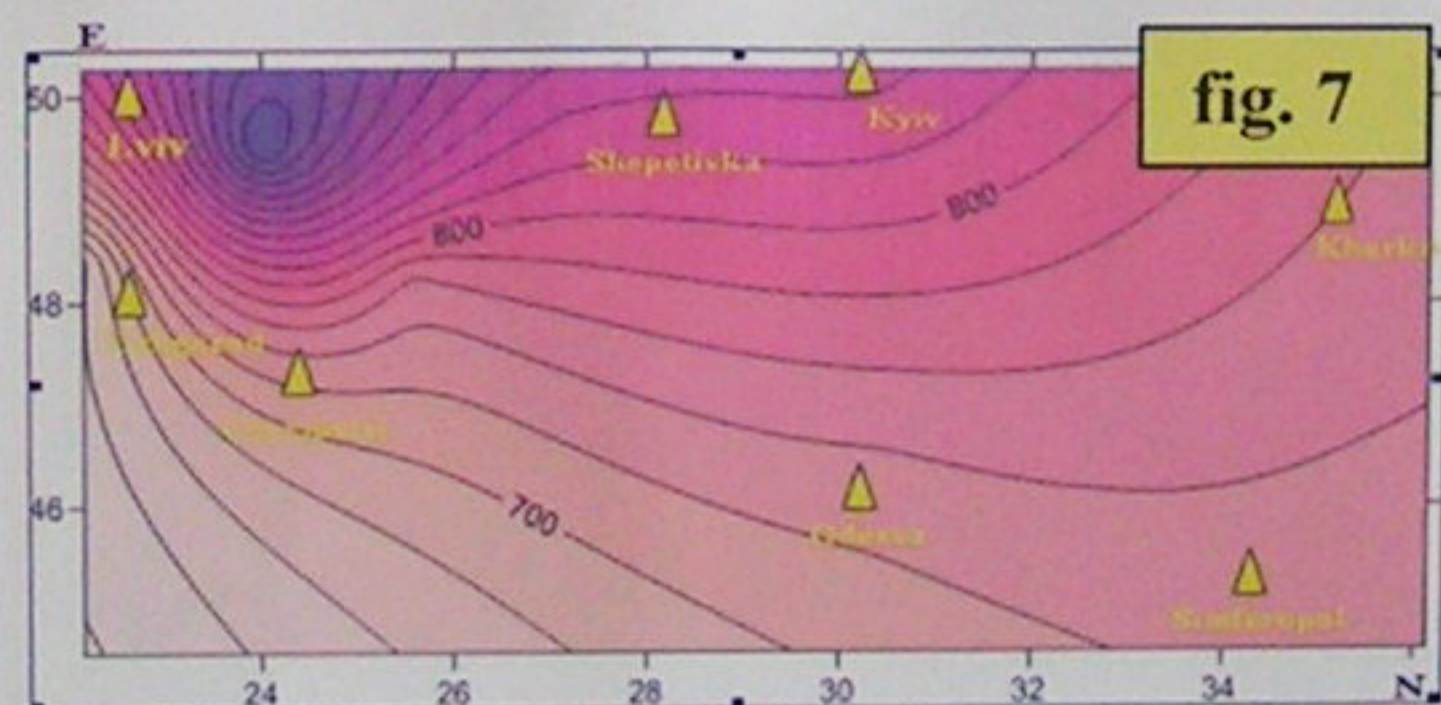


fig. 7

Low level jet (LLJ) is a region of relatively strong winds (more than 15 m/s) in the lower part (2-3 km) of the atmosphere (fig.1). This phenomenon observed everywhere at 2 to 15 % of radio-sounding in year. Currently in Ukraine by radiosounding over 8 points (fig. 2). Since 2009 on major airports in Ukraine LLJ can be identified by AMDAR-information (fig. 3).

For example, the analysis of vertical temperature and wind field (April 8, 2005) revealed two low jets of different genesis. The LLJ over Odessa occurred under the influence of anticyclones over surface inversion, and the narrow stream of warm air over Kyiv and Shepetivka formed in the transition zone between the anticyclone and cyclone near the front occlusion (fig. 4).

Seasonal distribution of activity formation LLJ over Ukraine has not changed during last 30 years – most of all them formed at cold season, especially in January.

Fig. 5 shows a field intensity of the low jet over Ukraine in the warm half of the year, obtained using spline interpolation. Thus, wind speed at the jet axis ranged from 17 to 19 m/s, with a minimum of Uzhgorod.

The lowest LLJ were observed over Kyiv and Odessa, and the highest - over Uzhgorod and Lviv (fig.6), thus the height of jet is located, depending on the station's altitude above sea level. The width of low jets over Ukraine ranged from 600 to 900 m at warm seasons (fig.7).

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