In several regions the GNSS derived products are already used on a routine basis for numerical weather prediction. Hungary is also willing to join these activities exploiting the dense GNSS network operated by FÖMI for serving positioning applications.

This paper introduces the near-real time processing system of GNSS observations for meteorological purposes in Hungary. The hourly observations of 35 Hungarian permanent GNSS reference stations (www.gnssnet.hu) are processed. This network is extended over the country with some 50 stations covering Eastern and Central Europe. The data analysis is being done using the v5.0 of the Bernese GPS software. The GNSSnet.hu network has an average resolution of ca. 60 km, thus the integrated water vapour (IWV) can be estimated with high spatial resolution.

The estimation of the IWV from the zenith wet tropospheric delay (ZWD) is carried out in near-real time. Firstly the zenith hydrostatic delays are subtracted from the total delays. Afterwards the wet delays are scaled to integrated water vapour content. Among the well known global models, some local models are also introduced to compute the scaling factor between the zenith wet delay and the integrated water vapour.

The GPS derived IWV values are validated by radiosonde observations over Central Europe, and they are also compared with some numerical weather model estimations (NCEP, ECMWF) as well. Following the validation phase our analysis will be connected to the continental E-GVAP project.