The basic characteristics of the high flow along the Maritza River during the first decade of January 2006 are as follows:

• Based on data from the National Institute of Meteorology and Hydrology (NIMH), the water level rise is due to the precipitations, mainly in the south-east part of the Maritza River basin – Fig. 1 and Fig. 4;



- Fig. 1: Spatial distribution of the daily totals of the precipitation for the Maritza, Tundja and Arda river basins from left to right and from up to down: a) measured on the 4.01 at 8 AM; b) measured on the 5.01 at 8 AM; c) measured on the 6.01 at 8 AM; d) measured on the 7.01 at 8 AM;
- Based on data from NIMH the runoff in the lower part of the basin, below the line of Harmanli town and to the south in the Turkish and Greek territory, is considerable. It must be noted that the maximum discharge of Maritza River at Plovdiv City (the flow includes the contribution of the main cascades Vucha, Belmeken and Topolnitza) is around 350 m³/s Fig. 2a, at Svilengrad Town (the Bulgarian boundary) the maximal discharge is around 700 m³/s Fig. 2b, and at Edrine Town the discharge reaches 1040 m³/s.



• Fig. 2: Registered discharges at **a**/ Plovdiv (daily data) and b/ Svilengrad (hourly data).

• According to the National Electricity Company (NEC) there wasn't any active release of water through the Arda cascade, Ivailovgrad Dam wasn't overflowing, the maximum discharge didn't exceeded 270 m³/s – Fig 3 a/.



- Fig. 3: Mean daily discharges for a/ Arda River after Ivailovgrad Dam and b/ Tundza River at Elhovo – hourly data.
- According to the Irrigation System Directorate at the Ministry of Agriculture there wasn't any additional release of waters along the Tundza river, Zhrebchevo Dam was generating discharge of 22 m³/s, and the maximum discharge at the NIMH station at Elhovo (below the Zhrebchevo Dam) does not exceed 70 m³/s. This discharge is formed also by the precipitation registered west of Elhovo town on 6th and 7th of January at 8 AM Fig.





Considerable contribution to the maximum discharges of the Maritza River outside the Bulgarian territory has also the Byala (Erithropotamus) river, which is flowing into the Maritza River after Edrine town. The maximum discharge of the Byala (Erithropotamus) river at D. Lukovo Village is recorded on the 6th of January, and by correlating the area of its basin (till D. Lukovo - 448 km², till the mouth 1520 km²) and the discharge it could be judged that the maximum discharge at the river mouth of Byala (Erithropotamus) river at Maritza River is around 300 m³/s – Fig. 5.

Fig. 5 Mean daily discharges registered at D. Lukovo, river Byala (Eritropotamos)

Water Discharge Бяла река - Erithropotamus



The cited information was prepared from operational data and the validation of the discharges will be done in the end of March this year when the revisions of the rating curves on the whole territory of Republic of Bulgaria will be completed.

Having in mind the above it could be concluded that basically the high wave is formed in the lower part of the Maritza river basin outside the Bulgarian territory, where Bulgaria could not actively manage waters through structures. It must be also emphasized that Bulgaria has good operative coordination with the Turkish State Hydraulic Works (NIMH – DSI), NIMH is operatively sending to Edrine warnings for high waves and intensive precipitations. There is no such cooperation with the Republic of Greece; if similar hydrological organization for the region is nominated by the Greek side, it could be involved in the regional exchange of hydrological information as well.