Kyselý J., Kalvová J., 1998: Comparison of heat wave occurrence in South Moravia with outputs of the ECHAM climate model. *Meteorol. Zpr.,* **51**, 136-141. [in Czech, with summary in English]

The presented paper enhances the study which examines the occurrence of heat waves in the South Moravian region in the period of 1961-90. Heat waves have been analyzed in the 30-year series of maximum daily air temperatures simulated by the climate model ECHAM3/ T42 at the grid point in the region of south Moravia (48° 50' N, 16° 52' E), both for the control ($1xCO_2$) and $2xCO_2$ climates. The threshold temperatures used in the definition of the heat wave were adjusted according to the statistical distribution of maximum daily temperatures in the $1xCO_2$ climate. The heat wave characteristics for the control climate are very close to the present state as for the annual number of heat wave days and the relative representation of tropical days within heat wave days, but, in other aspects, they are different (average duration of heat waves, their location in the year, percentage of tropical days included in heat waves). Very long heat waves have been found in the $2xCO_2$ climate, their average duration being 3 times higher than in the $1xCO_2$ climate and the average annual duration even 7 times higher. This is due to both high persistence of a model climate and the temperature increase caused by rising effective CO_2 concentrations. The daily maximum air temperatures of the $2xCO_2$ climate of the model ECHAM are probably overestimated, but the differences of heat wave characteristics between the $2xCO_2$ and $1xCO_2$ climates are so marked that they cannot be explained only as model bias.