



Water, salt and energy balances of the Dead Sea

N.G. Lensky (1), Y. Dvorkin (1), V. Lyakhovsky (1), I. Gertman (2), I. Gavrieli (1)

(1) Geological Survey of Israel, Israel, (2) Israel Oceanographic & Limnological Research, Israel (nadavl@gsi.gov.il / Phone: +972-2-5314-259)

The Dead Sea is a hypersaline terminal lake experiencing a water level drop of about 1 m/yr over the last decade. The existing estimations for the water balance of the lake are widely variable, reflecting the unknown subsurface water inflow, the rate of evaporation and the rate of salt accumulation at the lake bottom. To estimate these, we calculate the energy and mass balances for the Dead Sea utilizing measured meteorological and hydrographical data from 1996-2001, taking into account the impact of lowered surface water activity on the evaporation rate. Salt precipitation during this period was about 0.1 m/yr (per m²). The average annual inflow is 265-325 MCM/yr, corresponding to an evaporation rate of 1.1-1.2 m/yr. Higher inflows, suggested in previous studies, calls for increased evaporation rate and are therefore not in line with the energy balance.