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With its location at the northern edge of the Nile Delta, Lake Burullus is the central one of the Egyptian Mediterranean system of coastal lagoons. It is a rather narrow (5-17 km) body of brackish water that occupies an area of about 350 km² between Rosetta and Damietta branches of the Nile. The lake is very shallow (50-150 cm) and generally increases in depth towards the west and north. It is connected to the Mediterranean through, 200 m wide and 380 cm maximum depth, outlet known as El-Boghaz. Lake Burullus receives brackish drainage water via 6 drains (Fig. 1). The water and heat budget of the lake were studied by MAIYZA (1989) and MAIYZA *et al.* (1988 & 1991).

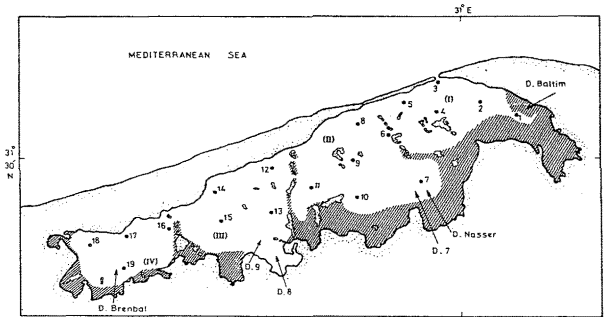


Fig. 1 : Present situation of Lake Burullus
D : Drain • : Hydrographic station

Salt budget is among the fundamental items of the hydrographic regime of a coastal lake. The present study aimed to disclose the state of salt budget and its controlling factors.

Within the period April 1987-March 1988, the monthly water temperature and salinity of different drains were determined. Meanwhile the monthly discharge of drain water was afforded by the record of the General Works and water Resources Directorate, Kafr El-Shikh Government. At Al-Boughaz, a RCM was moored monthly for about 4 days. From the records of the instrument (current, speed and direction, and water, temperature and salinity) and the cross-section of the outlet, the salt exchange were estimated. The monthly salt content in the Lake were estimated also by summation of 19 zones represented by 19 monthly hydrographic stations. The salt content of a given water body was calculated as:

$$\text{salt content} = \text{water volume} * \text{density} * \text{salinity}.$$

Table 1 shows the monthly salt balance components and the net salt balance besides the monthly salt content of Lake Burullus. The net salt gain by Lake Burullus during the period of study was 30×10^3 ton, which may be consumed by seepage, through the bottom, and/or vegetation. The main controlling factors were the wind and amount of drainage water discharged to the Lake.

Table 1. Monthly salt balance components, the net salt balance and the salt content of Lake Burullus for the period April 1987-March 1988 (in 10^3 ton)

| Month | Drains | Exchange | Net | Salt content |
|--------------|--------|----------|---------|--------------|
| April 1987 | 343.8 | -264.4 | 79.4 | 1163.9 |
| May | 366.6 | 257.2 | 623.8 | 1814.7 |
| June | 374.4 | -1799.8 | -1425.4 | 2094.7 |
| July | 575.9 | 1560.8 | 2136.7 | 807.0 |
| August | 635.2 | -688.0 | -52.8 | 1124.2 |
| September | 664.1 | 1727.8 | 2391.9 | 1088.2 |
| October | 608.0 | 424.2 | 1032.2 | 1092.4 |
| November | 403.0 | 73.9 | 476.9 | 1076.3 |
| December | 512.3 | -3286.2 | -2773.9 | 2133.2 |
| January 1988 | 433.0 | -1198.1 | -765.1 | 1224.4 |
| February | 346.8 | -1647.2 | -1300.4 | 1729.1 |
| March | 325.8 | -719.1 | -393.3 | 1920.7 |
| Sum | 5588.9 | -5558.9 | 30.0 | |
| Mean | 465.7 | -463.2 | 2.5 | 1439.1 |

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 MAIYZA I.A., BELTAGY A.I. and MAMONEY M.H., 1991.- Heat balance of Lake Burullus. Accepted for publication in *Bull. Inst. Oceanogr. & Fish. A.R.E.*