



Internal seiche dynamics in Lake Geneva

Lemmin, U., C. H. Mortimer, E. Bäuerle

Limnol. Oceanogr., 50(1), 2005, 207-216 | DOI: 10.4319/lo.2005.50.1.0207

ABSTRACT: We analyzed season-long water level records at 12 stations around the Lake of Geneva (local name Léman) for evidence of internal seiches modified by Coriolis force and compared the results with predictions from a two-layer numerical model with real bottom topography for typical wind situations. Results are also compared with those obtained from current and temperature measurements in the lake. Agreement was satisfactory in all cases. Model predictions and measurements both indicated that only three internal seiche modes are excited: the 1st mode and the 3rd mode, which are Kelvin-seiche oscillations, and the 12th mode, which is a Poincaré seiche. The model, driven by winds from different directions, demonstrates that the wind field, constrained by the local topography, determines which of the modes is generated.

Article Links

[Download Full-text PDF](#)

[Return to Table of Contents](#)

Please Note

Articles in L&O appear in PDF format. Open access articles may be freely downloaded by anyone. Other articles are available for download to subscribers only, or may be purchased for \$10 per article. All L&O articles are moved into Open Access after three years.