



Abstract View

[Volume 27, Issue 5 \(May 1997\)](#)

Journal of Physical Oceanography

Article: pp. 615–632 | [Full Text](#) | [PDF \(362K\)](#)

A Numerical Investigation of the Annual Variability in the Gulf of California

E. Beier

Centro de Investigación Científica y de Educación Superior de Ensenada, Ensenada, México

(Manuscript received September 11, 1995, in final form July 31, 1996)

DOI: 10.1175/1520-0485(1997)027<0615:ANIOTA>2.0.CO;2

ABSTRACT

The observations of sea level at the annual frequency in the Gulf of California are reproduced both in amplitude and phase with a horizontal two-dimensional linear two-layer model. The main forcing agents through which variability is explained are wind stress and the action of the Pacific Ocean, which excites an internal wave in the mouth of the gulf. The surface heating is shown to play a secondary role. The response of the basin is qualitatively similar to that observed, that is, an energetic circulation in the upper layer (cyclonic in summer and anticyclonic in winter) compared to a weaker and opposite circulation in the bottom layer, as well as a transversely averaged horizontal heat flux equal both in amplitude and phase to that calculated with historical hydrographic data. The results of the simulation show that variability across the gulf is as important as the longitudinal variability.

Options:

- [Create Reference](#)
- [Email this Article](#)
- [Add to MyArchive](#)
- [Search AMS Glossary](#)

Search CrossRef for:

- [Articles Citing This Article](#)

Search Google Scholar for:

- [E. Beier](#)

top ▲



