



## Abstract View

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# Distribution and Movement of Gulf Stream Rings

**David Y. Lai**

*Graduate School of Oceanography, University of Rhode Island, Kingston 02881*

**Philip L. Richardson**

*Woods Hole Oceanographic Institution, Woods Hole, Mass. 02543*

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### ABSTRACT

The distribution, number and movement of cyclonic Gulf Stream rings were estimated from an analysis of 50 000 temperature records obtained from the National Oceanographic Data Center and Fleet Numerical Weather Central. The data were taken from 1970 through September 1976 in the region bounded by 20–40°N and 50–80°W. Additional ring observations from other sources were also used. Twenty-five ring time series, together with 26 single ring observations were obtained; approximately 11 rings were found to exist at one time. Rings typically moved westward, turned southwest when close to the Gulf Stream and appeared to coalesce with the Stream near Florida. On the average, two rings per year moved down this path with a mean speed of 3 km day<sup>-1</sup> and an estimated life span of 2–3 years. Although ring observations were concentrated in the northwestern Sargasso Sea, several were documented east of 60°W. In addition to cold core rings several warm eddies were found south of the Stream; they consisted of at least a 150 m deepening of the main thermocline. The movement of anticyclonic rings north of the Stream was also determined; approximately three exist at a single time and they move westward with a mean speed of 5 km day<sup>-1</sup>.

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Headquarters: 45 Beacon Street Boston, MA 02108-3693  
DC Office: 1120 G Street, NW, Suite 800 Washington DC, 20005-3826  
[amsinfo@ametsoc.org](mailto:amsinfo@ametsoc.org) Phone: 617-227-2425 Fax: 617-742-8718  
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