



Sarah Gille

Professor

[Mechanical and Aerospace Engineering](#) and Scripps Institution of Oceanography, UCSD

Email: sgille@ucsd.edu **Office Phone:** 858-822-4425

Ocean dynamics and global climate.

Professor Gille's research focuses on the Southern Ocean, an area where the Pacific, Atlantic and Indian Oceans converge. She makes use of data collected by satellites and by autonomous floats. The results of Gille's work provide a greater understanding of ocean mixing and heat transfer and shed light on global warming. Professor Gille's research interests include: Southern Ocean climate and dynamics; wind-forcing of the ocean and heat transport via the Antarctic Circumpolar Current; subgrid-scale parameterization for climate models; satellite oceanography from altimeter and scatterometer data; and interpretation of ocean general circulation model output. She works with environmental engineers in the Jacobs School's Mechanical and Aerospace Engineering Department and with researchers at UCSD's Scripps Institution of Oceanography to study ocean fluid motions.

Capsule Bio:

Sarah Gille earned a BS in physics at Yale and a PhD in physical oceanography from the Massachusetts Institute of Technology/Woods Hole Oceanographic Institution Joint Program. She did postdoctoral research at Scripps Institution of Oceanography and at the University of East Anglia, and was a faculty member at the University of California, Irvine. She joined the UCSD faculty in July 2000 and holds a joint appointment at Scripps Institution of Oceanography and in the Department of Mechanical and Aerospace Engineering.

Research Interests:

- Southern Ocean climate and dynamics. Wind-forcing of the Southern Ocean and heat transport via the Antarctic Circumpolar Current.
- Satellite oceanography from altimeter, scatterometer, microwave SST, etc.
- Evaluating sub-surface mixing and stirring processes in the Southern Ocean. [Diapycnal and Isopycnal Mixing Experiment in the Southern Ocean \(DIMES\)](#)
- Bio-physical interactions in the Antarctic Peninsula region. (["Blue Water Zone" web page](#))
- Air-sea fluxes at high latitudes and especially in the Southern Ocean ([US CLIVAR High Latitude Flux Working Group](#))
- Diurnal variability in upper ocean temperature and surface winds.