Stratified Mixing and Hydraulics in the Samoan Passage

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The 5000-km deep Samoan Passage is the major choke point in the abyssal circulation of the Pacific Ocean. Most of the dense water that is produced in the Antarctic flows northward through the passage, and there it experiences strong mixing as it overflows a number of sills. The site was recently the subject of an observational campaign (Alford, et al. 2013) in which a variety of measurements (moored current meters, a towed CTD/ADCP package, microstructure profiles) were made. A variety of summer projects are possible depending on the interest of the student. They would take advantage of the data along with site-specific or idealized numerical models. The project would be supervised by Larry Pratt, Ali Mashayekhi and Matthew Alford (who will be here for one week in July), and possibly other members of the Samoan Passage group.

