



Joseph L. Reid.

## A tribute to Joseph L. Reid in recognition of 40 years of contributions to oceanography

*Including a series of papers describing some of the many tributaries of the California  
Current system*

In 1949, as a 26-year old graduate student at Scripps, Joe Reid sailed on the very first of the cruises that would become known as the CalCOFI time series.\* The project was extremely ambitious, aimed at understanding the ecology, biology and physical environment of a complete system—the eastern North Pacific. It was managed by Roger Revelle, with many of Scripps' most eminent scientists participating. A rapid expansion of Scripps' seagoing capability was undertaken in late 1948, in order to man three ships during cruises beginning in March of 1949. Still, there was a great shortage of experienced technicians and many graduate students were entrained and given broad responsibilities.

During the early years of the CalCOFI work it became clear that improved vertical and horizontal resolution would be required because of the unanticipated high degree of variability in the system and furthermore, that the geographical scope of the system went far beyond the boundaries of the survey. To this day, Joe Reid is fond of characterizing his field of interest as “the California Current and all of its tributaries”. “But Joe”, you say, “you’re studying the North Atlantic”. “Yes” he replies “I repeat—and *all* of its tributaries”. This is much more than an amusing comeback. It is the literal truth, which is written clearly in the history of Joe’s expeditionary career.

Joe’s first foray as an expeditionary leader came in 1955 as coordinator of the NORPAC expedition. NORPAC involved ships and scientists from California, Washington, Hawaii, Canada and Japan in a study of the upper kilometer of the entire North Pacific Ocean north of 20°. The most casual perusal of the NORPAC station map reveals the genesis of this experiment. This was a CalCOFI survey on a truly grand scale! One of the things made clear by the NORPAC survey, as well as other work in the 50s, was that the low salinity “paint” which marks the intermediate waters of the North Pacific, particularly in the east, could be followed back to origins in the far northwestern Pacific. Always one to follow up on a solid clue (even with a promise of dreadful conditions at sea) Joe took the BOREAS expedition to the formation zone in the dead of winter in 1966, resulting in an unparalleled set of measurements.

But the deeper waters of the Pacific are not of Pacific origin at all. They have followed long pathways to the North Pacific from the ocean surface in the Southern Ocean and the North Atlantic. Thus it was once again necessary to sail upstream, away from the deep waters of the Eastern Pacific. Joe first voyaged to the South Pacific in the highly successful SCORPIO expedition of 1967. Then, in the STYX expedition (1968), the Samoan Passage

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\*See REID (1988, Physical Oceanography, 1947–1987. *CalCOFI Report*, 29, pp. 42–64)

was shown to be the principal pathway for abyssal flows from the South to the North Pacific. Continuing upstream, Joe found his way to the Southern Ocean (PIQUERO expedition, Drake Passage, 1969; Aries expedition, Ross Sea, 1971) and then around Cape Horn to the South Atlantic (CATO expedition, 1972; GEOSSECS expedition, Leg VIII, 1973; INDOMED expedition, 1978; AJAX expedition, 1983). Finally in 1982 Joe reached the most remote source of any of the California Current's tributaries, voyaging to the Norwegian–Greenland Sea, once again in mid-winter.

In recent years, Joe has concentrated on syntheses of the global hydrographic database—for which he continues to be both a major contributor and an archivist. The hallmark of Joe's analyses is his careful hands-on approach and a requirement that the story he tells is in every way loyal to the data. Formal recognition of this apparent aberration came in 1988, with the Albatross Award from the American Miscellaneous Society, for "his outrageous insistence that ocean circulation models should bear some resemblance to reality."

The present volume is a tribute by many of Joe's friends and colleagues in honor of over 40 years of contributions and leadership in oceanography. The work contained herein describes many of the tributaries of the California Current system, including physics, chemistry and biology. Some of these expeditions are direct descendants of Joe's own work. The transpacific sections along 24° and 47°N in 1985 form the basis of several of the papers in this volume and were designed as North Pacific analogs of the SCORPIO transects. The work in the Samoan Passage (Taft *et al.*) is the first in this critical region since the STYX expedition. Nearly all of the papers have some real and direct link to work that Joe has done. On behalf of all of the authors in this volume and many others who would have wished to contribute, we offer our sincere congratulations to Joe Reid.

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## Joseph L. Reid

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