

The Use of Near Real Time AVHRR Satellite Imagery to Direct Fisheries Research Vessel Sampling Operations

Kenneth Baltz, NOAA, National Marine Fisheries Service, Pacific Fisheries Environmental Group, 1352 Lighthouse Avenue, Pacific Grove, CA 93950-2097

Near real time AVHRR sea surface temperature satellite images were utilized to direct the NOAA Ship David Starr Jordan while sampling for larval Dungeness crab (*Cancer magister*) and juvenile rockfish (*Sebastes* spp.) off the central California coast near Point Reyes during June, 1994, 1995, and 1996. AVHRR images with one kilometer resolution were processed, reviewed and transmitted to the ship by the NOAA CoastWatch Group in La Jolla, CA. The images were downloaded directly on to a Personal Computer through a cellular telephone modem interface. Displaying and manipulating the images was accomplished through the use of the NOAA/NASA CCOAST software for PC's as well as the Windows Image Manager (WIM) developed by Scripps Institution of Oceanography. Newly upwelled ocean water and areas of spatially correlated sea surface temperatures were easily

discernable. The satellite images used, along with the sampling stations during the 1994 cruise are presented. Mesoscale sampling in specific oceanic temperature regimes and across upwelling fronts based on AVHRR satellite imagery proved successful. Ground truthing of sea surface temperatures via measurements by the ship's thermosalinometer verified the accuracy of the satellite images. Effective downloading of satellite images over the cellular network was easily accomplished and proved to be quicker and much less expensive than other avenues of digital communications while underway, although being within range of a cellular network antennae was necessary. This system of AVHRR data acquisition and display while conducting operations at sea has been subsequently implemented on the NOAA Ship MCARTHUR (April/May 1996).



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CHANGING OCEANS AND CHANGING FISHERIES: ENVIRONMENTAL DATA FOR FISHERIES RESEARCH AND MANAGEMENT A WORKSHOP

George W. Boehlert¹
James D. Schumacher²

¹Pacific Fisheries Environmental Group (PFE)
Southwest Fisheries Science Center
1352 Lighthouse Avenue
Pacific Grove, California 93950-2097

²NOAA/OAR
Pacific Marine Environmental Laboratory
7600 Sand Point Way NE
Seattle, WA 98115-0070

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