## Climatic Variations and the Political Economy of the Pacific Salmon Fishery

Kathleen Miller
Environmental and Societal Impacts Group
National Center for Atmospheric Research
Boulder, CO

The once-thriving commercial and sport salmon fisheries off the coasts of Oregon and Washington have been completely shut down this year. The Pacific Fisheries Management Council, which regulates fishing activity from 3 to 200 miles offshore and the state fishery agencies, which have jurisdiction inside of the 3 mile line agreed that no ocean harvest of Coho or Chinook salmon should be allowed because the Coho runs were expected to be too small to withstand any fishing pressure. While the Chinook runs were not expected to be as weak as the Coho, the two species are intermingled off the Oregon and Washington coasts and troll harvesting of Chinook inevitably increases Coho mortality. Recurring El Niño conditions have been cited as the proximate cause of the decimated Coho runs. Even the competing groups of commercial, sport and Native American harvesters who normally squabble vociferously over the division of the catch have, for the most part, agreed that complete closure of the ocean fishery is the only reasonable response to the effects of El Niño on the Coho runs.

President Clinton declared the situation a federal disaster and made \$15.7 million available to assist fishermen and fishing communities in Washington and Oregon. The program includes cash grants to fishermen, a permit buy-out program and short-term employment, making it far more comprehensive and generous than the disaster loan program implemented a decade earlier in response to the effects of the 1982-83 El Niño.

Meanwhile, Canadians fishing off the west coast of Vancouver Island have continued to harvest a substantial proportion of the salmon migrating southward to spawn in rivers in Washington and Oregon. The lack of restraint shown by the Canadians in harvesting those troubled runs is linked to deadlocked negotiations over renewal of the expired Pacific Salmon Treaty. Farther north, Alaska has posted another in a string of record-breaking salmon harvests with more than 193 million salmon harvested in 1994 by the commercial fleet. In California, healthy Chinook runs have allowed an approximately normal sport and commercial salmon fishing season despite some closures and regulation changes designed to minimize the impact of the fishery on Coho populations.

The evidence suggests that ENSO-related variations in both ocean conditions and streamflows have affected the performance of some salmon stocks, but ENSO is only one thread in an intricate and rather obscure web of factors influencing the fortunes of hundreds of distinct salmon populations spawning from Alaska to California. Wild salmon stocks also