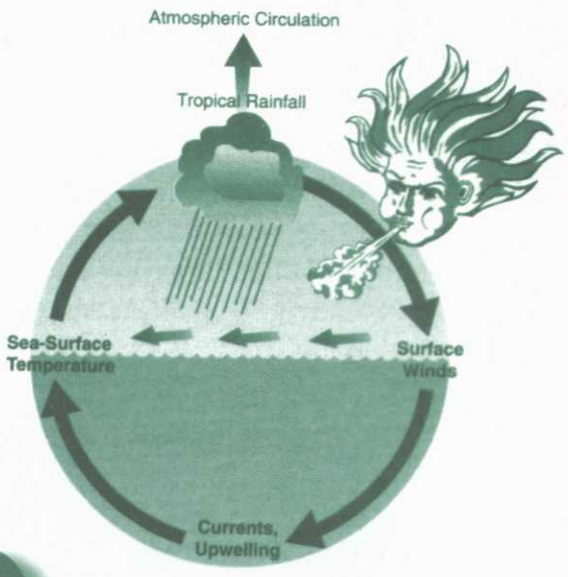
El Niño IS BACK



Source: NOAA

When Peruvian fishermen began to notice shrimp and lobsters in their waters, they knew they were in trouble. The ocean's temperature was beginning to rise, and the groupers and hakes they would normally catch were fleeing South in search of colder waters. All were tell-tale signs of the return of "El Niño".

From February onwards, along the coastlines of Chile, Peru and Ecuador, the sea's surface temperature has indeed experienced a greater warming than would normally be expected: this heralds the return of "El Nino", the common name for sea surface temperature anomalies along the Western coast of South America which bring about climate changes around the world, directly affecting people's health, the economy and the environment.

Early on in this century, it was discovered that when the

atmospheric pressure of the Pacific Ocean increases, it tends to decrease in the Indian Ocean (from Africa to Australia), and vice versa. This phenomenon was given the name of "Southern oscillation". By 1969, it was established that this oscillation was connected with a warming of the surface of the ocean.

Such phenomena are due to multiple and complex interrelationships between the ocean and the atmosphere, and they have been dubbed "El Nino-Southern Oscillation" or ENSO. The coincidence of such phenomena takes place once every two to seven years, and lasts an average of 18 months.

Briefly, an anomalous warming of surface waters all along the Tropical Pacific Ocean takes place generally starting around Christmas, which gave the phenomenon its name. ("El Niño" _ "the little boy" _ refers to Baby Jesus.)

Sometimes the opposite may happen: ocean waters may suffer anomalous cold temperatures. This has been given the name of "La Niña" _ "the little girl" _ or the cold phase of ENSO.

Initial Effects of the Phenomenon

By the first few months of this year, a number of negative consequences of the ENSO phenomenon had already made themselves felt. They give us an idea of the dimensions the problem may acquire unless preventive measures are taken.

In Peru, for instance, fishing for anchovies _ the basis of the crucial fishmeal industry _ has taken a nose-dive, and many factories have had to close down. Textile manufacturers, meanwhile, are suffering because the winter has been so mild that people are not buying the warm clothes they would normally require around this time.

The president of Peru, Alberto Fujimori, has announced that he will budget US$19 million in emergency funds to offset the effects of El Nino; if the money is spent quickly to clear and repair drainage systems and to strengthen transportation and communications systems, El Nino might even turn out to be a great help to normally arid regions of the country.

In Chile, torrential downpours have forced the closing of harbors and mountain passes; they have caused the death of 18 people and millions of dollars in economic losses.

In Central America, the arrival of the ENSO phenomenon has brought with it great uncertainty and anxiety, as it causes rainstorms in some areas, droughts in others and a warming of the Pacific Ocean's waters.

The excess heat, experts believe, will weaken oceanographic phenomena in the Gulfs of Panama and Papagayo as well as in the area covered by Costa Rica's thermal dome. In normal times, those areas offer abundant fishing, but that is not the case when El Niño strikes. It is also feared that the change in climate will affect coral reefs rich in biodiversity.

In Costa Rica, the impact of the unusual rainfall patterns will be aggravated by the unresolved problems left over from previous hydrometeorological and seismic events. Civil protection works, dikes, roads and bridges, already damaged and suffering from low maintenance budgets, are all threatened.

The rainstorms can also be expected to have negative consequences for agriculture and health in the region. Unfortunately, solutions are not being sought to the long-term problems posed by the recurrence of the "El Nino" phenomenon, but only to the immediate danger of flooding.

On the other hand, lack of water in some areas causes dramatically different but equally serious effects. Alterations in the distribution, abundance and biological cycle of key marine species can sharply curtail the fishing potential of the countries in the region. The generation of electricity can also suffer setbacks due to

low water levels in dams. Lack of pasture can lead to the death of infant cattle. Grazing and protected areas are threatened by brushfires. Wild animals and other species may also die in greater numbers. There can be a downturn in tourism and commerce; and hundreds if not thousands of people may be forced to migrate in search for work.

The sugar crops in El Salvador are severely effected of the drought —"losses of more than 12%" pronostisize the export society of El Salvador. The Central Bank of Nicaragua has informed that the irregularity in rainfalls and the drought has reduced the the crops by 40%.

Costa Rica's National Meteorological Institute (IMN) has been able to identify the main effects of the phenomenon. There is an irregular distribution of rainfall, both spatially and in time. Rainstorms tend to be short and violent. The hurricane season is less active, but even so there are on average two tropical storms or hurricanes in the Caribbean during the El Nino season, which could lead to rainstorms on the Pacific coast.

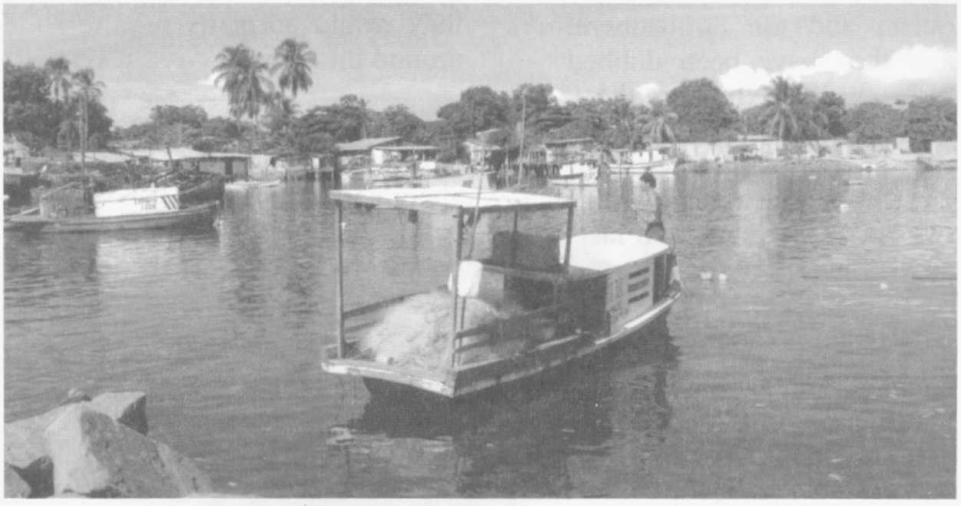
Regionally, moderately intense trade winds cause rain along the Caribbean coast of Central America.

Actions Underway in the Region

According to most forecasts, the El Niño phenomenon will continue gaining strength, will reach its greatest intensity towards the end of 1997, and will start its downward phase in the first months of 1998.

Countries as Peru, Ecuador and Chile has taken important steps toward improvement to cope with the excpected droughts and floodings due to El Niño-ENSO. Considerable national budgets for public works, drills, training etc. have been allocated. Both Ecuador and Peru have appointed high-level committees, including several cabinet members, to coordinate the implementation of the mitigation and preparedness activities required.

Most international and regional organizations in the area are also supporting these efforts. Examples: The Government of Peru— mainly the Civil Defense Institute and the Ministry of Health— is organizing an Andean Seminar-Workshop in Sept. on Mitigation and Preparedness to reduce the impact of El Niño, supported by PAHO. Participants from the civil defense, health- and agriculture sectors among others will partcipate from Peru, Chile, Ecuador, Bolivia, Colombia and Venezuela. Red Cross and NGOs are working with community training and seminars specifically to confront floods and drought.



Fishery is an economic activity that is affected by "El Niño", since many species are sensitive to the water temperature.

Joint actions and the exchange of technical and scientific information on the impact of ENSO in border areas is expected within the framework of the Ecuador-Peru Good Neighbors' Commission, recently

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reactivated by Presidents Alarcon and Fujimori when they met in Bolivia recently for the inauguration of President Banzer.

The United Nations Development Program (UNDP) has committed US$500,000 to mitigation and preparedness projects to cope with the return of ENSO this year to Ecuador and Peru, drafted with the technical assistance of the Regional Disaster Mitigation Advisor of the United Nations' Department for Humanitarian Affairs (UNDHA), based in

"El Niño" phenomena may cause torrential rainfalls that causes floods.

Quito, Ecuador.

The main activities associated with these initiatives are the following:

•The preparation of maps showing the threats posed by ***El Niño in different areas.***

•The drafting of recommendations on mitigation measures required in high-risk areas.

•The implementation of public education and awareness campaigns.

•Strengthening the capacity of National Civil Defense Systems to mitigate the impact of disasters and prepare for emergencies.

•Improving hydrometeorological monitoring networks and implementing early warning systems in order to deal with the threat of flooding.

•Preparing recommendations and deploying decision-making systems to take advantage of the positive effects ENSO may have on certain sectors of the fishing and farming industries.

Finally, In Costa Rica, the national Fisheries Institute (INCOPESCA) has set up a Technical Advisory Committee with representatives of the Oceanography Laboratory of the National University and the University of Costa Rica. Its mission is to work with the fishing sector in assessing and preparing for the possible consequences of the El Nino phenomenon.

ENSO has already begun to make its effects felt in the Northern region of the country. The authorities have therefore been providing preventive recommendations to farmers in the area in the event of a drought. The Ministry of Agriculture will identify high risk areas and launch an inventory of vulnerable crops and cattle. Other measures are being considered, such as water conservation and getting rid of unsatisfactory heads of cattle that would otherwise compete for pasture with the rest. Another possibility under study is to plant forage crops to feed the cattle during the worst months of the drought. ■