

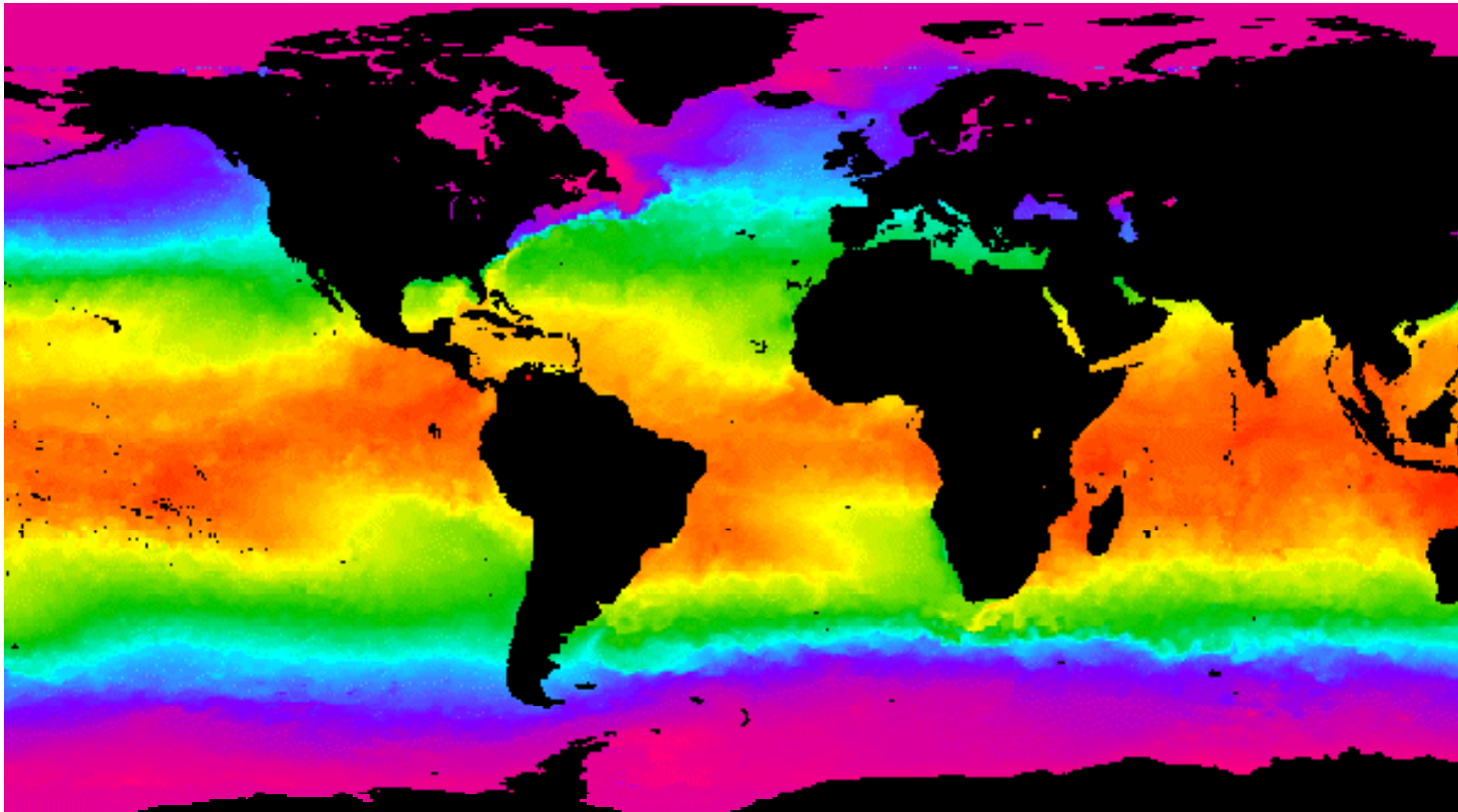
El Nino Southern Oscillation



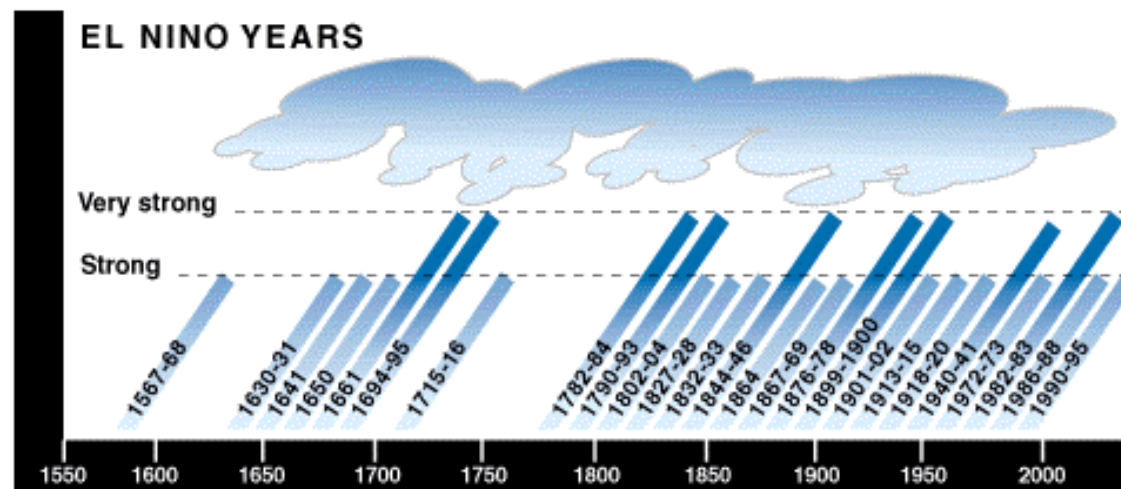
Cambial Carillo, 1892

**Corriente del Nino
Current of the Christ Child**

kill fish and bird life, replaced by tropical fish

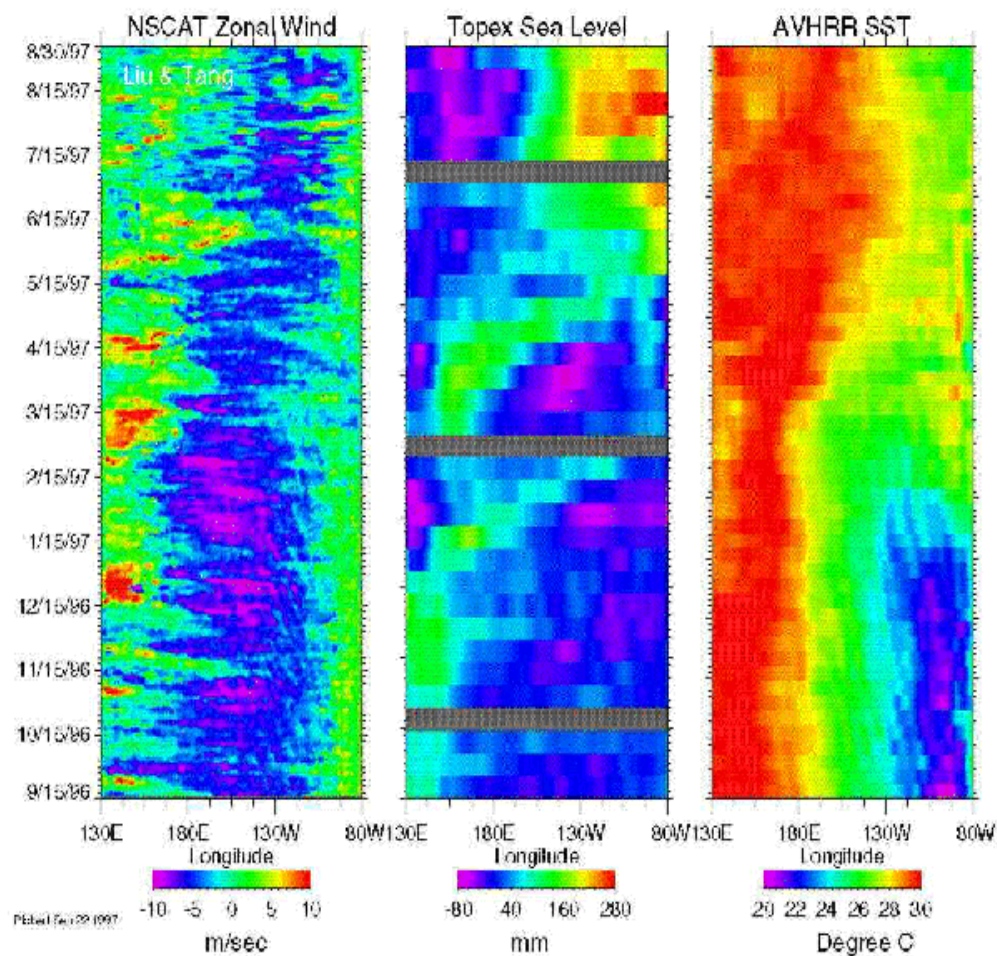


***connection between droughts in
Australia, Indonesia, Peru and Hawaii
storms and flooding in California, S. Pacific, Gulf
States, Cuba, Ecuador***

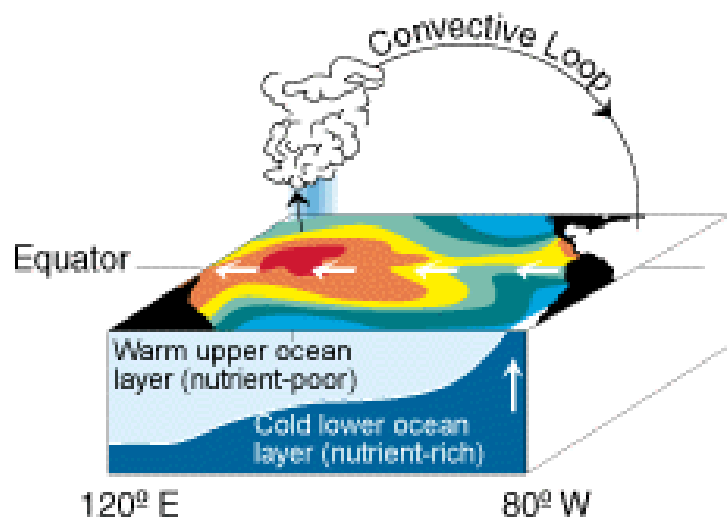


***destruction of coral reefs and changes in fish
population, tide pools, massive kills of sea lions,
clams, small invertebrates, birds***

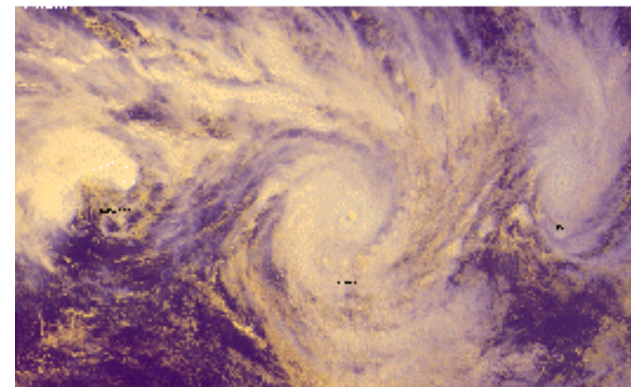
Temperature, wind, sea height



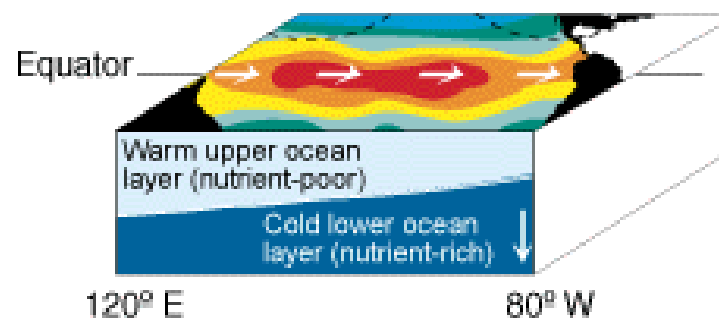
Interaction of oceans and atmosphere



NORMAL CONDITIONS



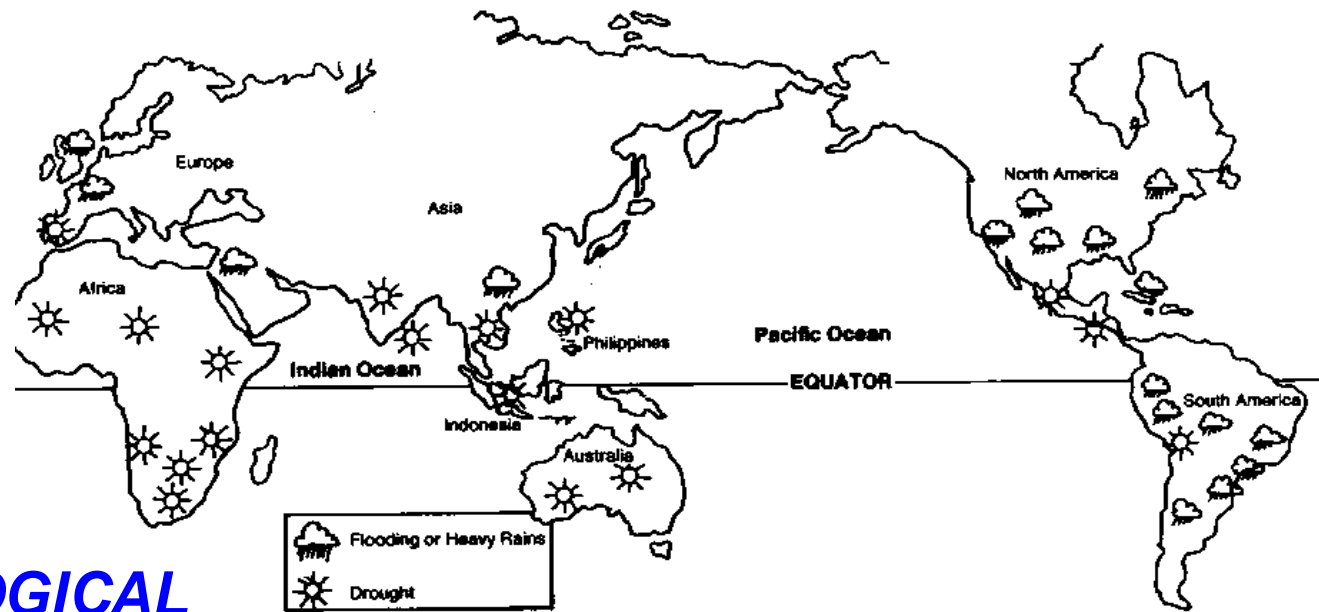
Three tropical cyclones in the South Pacific, Jan 6, 1998



EL NIÑO CONDITIONS

CONSEQUENCES

IT IS NOT ALL BAD



BIOLOGICAL

- * *food chain*

CHEMICAL

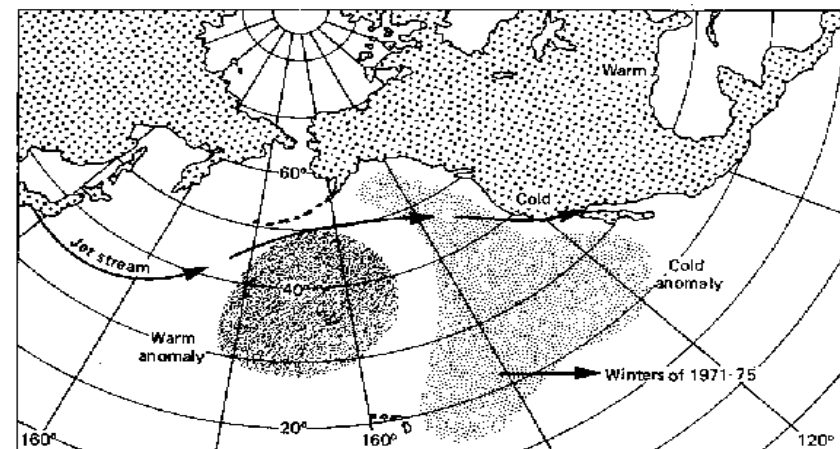
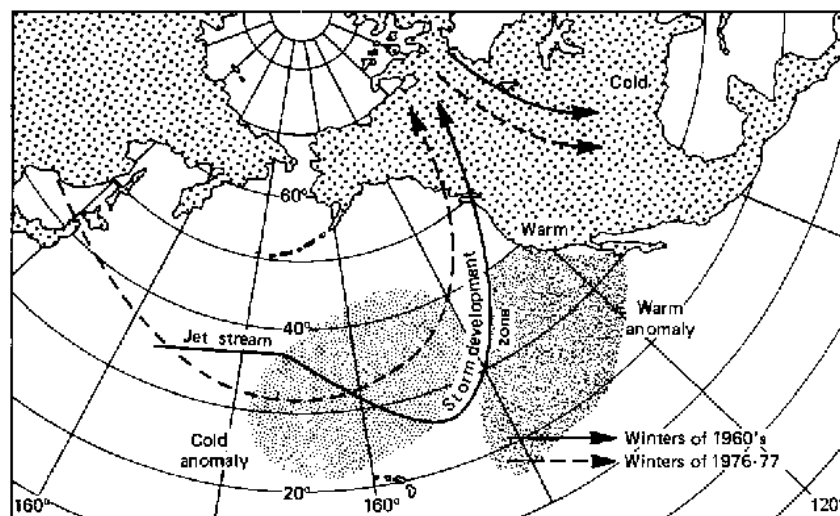
- * *temperature*
- * *nutrients*

PHYSICAL

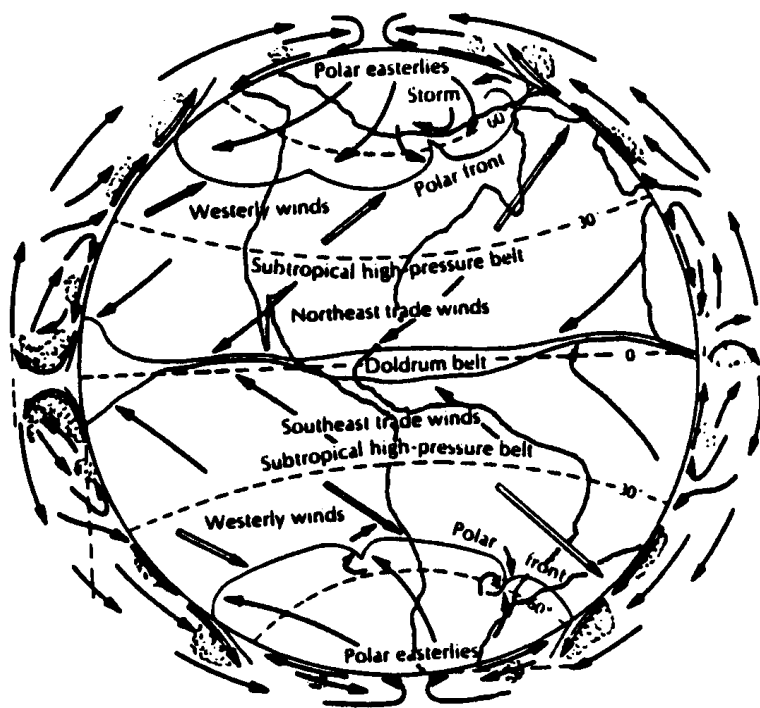
- * *upwelling patterns*
- * *height of sea*
- * *wind speed and direction*

Chicken or the Egg

oceans



atmosphere



Effective Use of WWW

<http://airsea-www.jpl.nasa.gov/ENSO/welcome.html>

El Nino watch from outer space.

<http://darwin.bio.uci.edu/~sustain/ENSO.html>

Pictures and descriptions of the El Nino Southern Oscillation.

<http://darwin.bio.uci.edu/~sustain/ENSO.html>

Explores El Nino events.

<http://www.pmel.noaa.gov/toga-tao/el-nino/topex.html>

Looks at satellite photos that are used in interpretation of oceanographic and weather events.

<http://heron.met.nps.navy.mil/~braccio/hdf.html>

Provides pictures and movies of the Global Modeling Program of the World Ocean Circulation Experiment.