SOUTH PACIFIC COMMISSION

SIXTEENTH REGIONAL TECHNICAL MEETING ON FISHERIES
(Noumea, New Caledonia, 13-17 August 1984)

T.E.M.P.O. PROJECT

(Teledetection, Environment, Meteorology, Fishing, Oceanology)

(Document presented by French Delegation)

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ORIGINAL : French

SOUTH PACIFIC COMMISSION

COMMITTEE OF REPRESENTATIVES OF GOVERNMENTS AND ADMINISTRATIONS

(Noumea, New Caledonia, 21-25 May 1984)

T.E.M.P.O PROJECT
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The XIVth Regional technical meeting on Fisheries in August 1982, had adopted the following recommendation:
Quote:
Recommendation n° 7:
Recognising its potential value to both the Tuna and Billfishing Assessment Programme and countries of the region, and appreciating the progress already made in introducing new techniques, the meeting recommended that the South Pacific Commission request the French Government to increase its efforts to develop satellite imagery techniques for use with oceanographic data and make such information available to the South Pacific Commission and to countries of the region in accordance with approved priority item 8 of the Tuna and Billfish Assessment Programme.

Unquote.

According to this recommendation, the French Authorities had carried on their efforts in the field of teledetection and, in May 1983, during the meeting of the Planning and Evaluation Committee, the French Delegation had announced the decision of setting up in Noumea a sattelite data reception and processing station.

The attachment herewith gives precise details about the various practical applications of this station, the utility of which goes far beyond the mere framework of fishery.

The project is now technically ready to be implemented, but must shortly be examined as far as financial priority, and therefore the implementation, to be given to it.

In this respect, the French Delegation would like to collect, if possible, the opinions of the other CRGA delegations on the importance their countries attach to the use of teledetection techniques in the South Pacific. Indications collected in regard to this will then be communicated to the French Authorities, as elements of appreciation in the decision-making process regarding the financial priority to be given to the project.

ATTACHMENT   I

WHY A TELEDETECTION SCHEME IN THE PACIFIC

- BECAUSE OF THE VASTNESS OF THE AREA

- BECAUSE HYDROCLIMATOLOGICAL PHENOMENA (EL NINO, CYCLONES, DROUGHT)
  HAVE ECONOMIC CONSEQUENCES ON PACIFIC COUNTRIES AND OUTSIDE THE
  PACIFIC.

- BECAUSE FISHING RESOURCES ARE IMPORTANT AND BECAUSE IT IS INTERESTING
  ON ECONOMIC GROUNDS TO STUDY THE VARIOUS SEA STRUCTURES PROPITIOUS TO
  THE CONCENTRATION OF FISH, IN ORDER TO DEVELOP THE FISHING INDUSTRY.

- BECAUSE THE MAPPING AND SURVEYING OF INSHORE RESOURCES STILL ARE TO
  BE DONE.

- BECAUSE THERE IS A REQUEST FROM THE SOUTH PACIFIC COMMISSION TO
  FRANCE FOR HER TO USE HER APPLIED SPACE TECHNOLOGY IN THE DEVELOPMENT
  OF THE AREA RESOURCES. (CHART. 5)

ATTACHMENT II

OBJECTIVES OF THE SCHEME

- TO DEVELOP IN A (A PRIORI) FAVOURABLE ENVIRONMENT THE APPLICATIONS
  OF TELEDETECTION, CONCERNING:

1- AID TO THE FISHING INDUSTRY.

2- THE OCEANOLOGICAL AND HYDROCLIMATOLOGICAL UNDERSTANDING OF THE
   OCEAN.

3- THE UNDERSTANDING AND DEVELOPMENT OF INSHORE RESOURCES.

4- WEATHER FORECASTING.

5- LAND RESOURCES.

ATTACHMENT III

PARAMETRES PROVIDED BY TELEDETECTION
AND/OR COLLECTION AND LOCALIZATION OF
THE DATA NECESSARY TO THE OBJECTIVES
OF THE SCHEME

1- AID TO THE FISHERING INDUSTRY:
- Correlation between fish presence and thermel fronts
  (below 20° S)
- Fish related to salinity fronts and blue waters, green waters:
  + colour of the water (10 N - 10 S)
- Fish related to logs, dolphins, whales:
  + Argos tracking of animals
- Fish related to up-welling around islands and sea-mounts:
  + Mapping of sea-mounts (indirect interest of SPOT for aid to
    the fishing industry)
- Connection with fishing-fleet (ARGOS) and fishery statistics.

2- OCEANOLOGY - HYDROCLIMATOLOGY:
- Comprehensive view of the ocean (Synopticity)
- Surface temperature
- Thermocline depth (XBT BY ARGOS) on merchant and fishing boats
- Salinity (ARGOS)
- Surface winds - currentology - surface cline
 + Active captors

3- WEATHER FORECAST:
- Automatic weather stations
- Cloud cover and associated pluviometry
- Cloud cover dynamics
- Atmospheric temperature
- Parameters measured under objective n° 2

4- INSHORE ENVIRONMENT:

- Mapping (islands and reefs position)
- Surface inventory (mangrove swamp, aquaculture)
- Bathymetry (navigation)
- Ocean bottom types (fishable stocks)
- Surveillance of 200 nautical miles zone

5- OBJECTIVES GOING BEYOND THE "OCEAN" FRAMEWORK:

- Agriculture - forestry
- Geology
- Hydrology
- Town-planning
- Seismology
- Rescue (SARGOS)
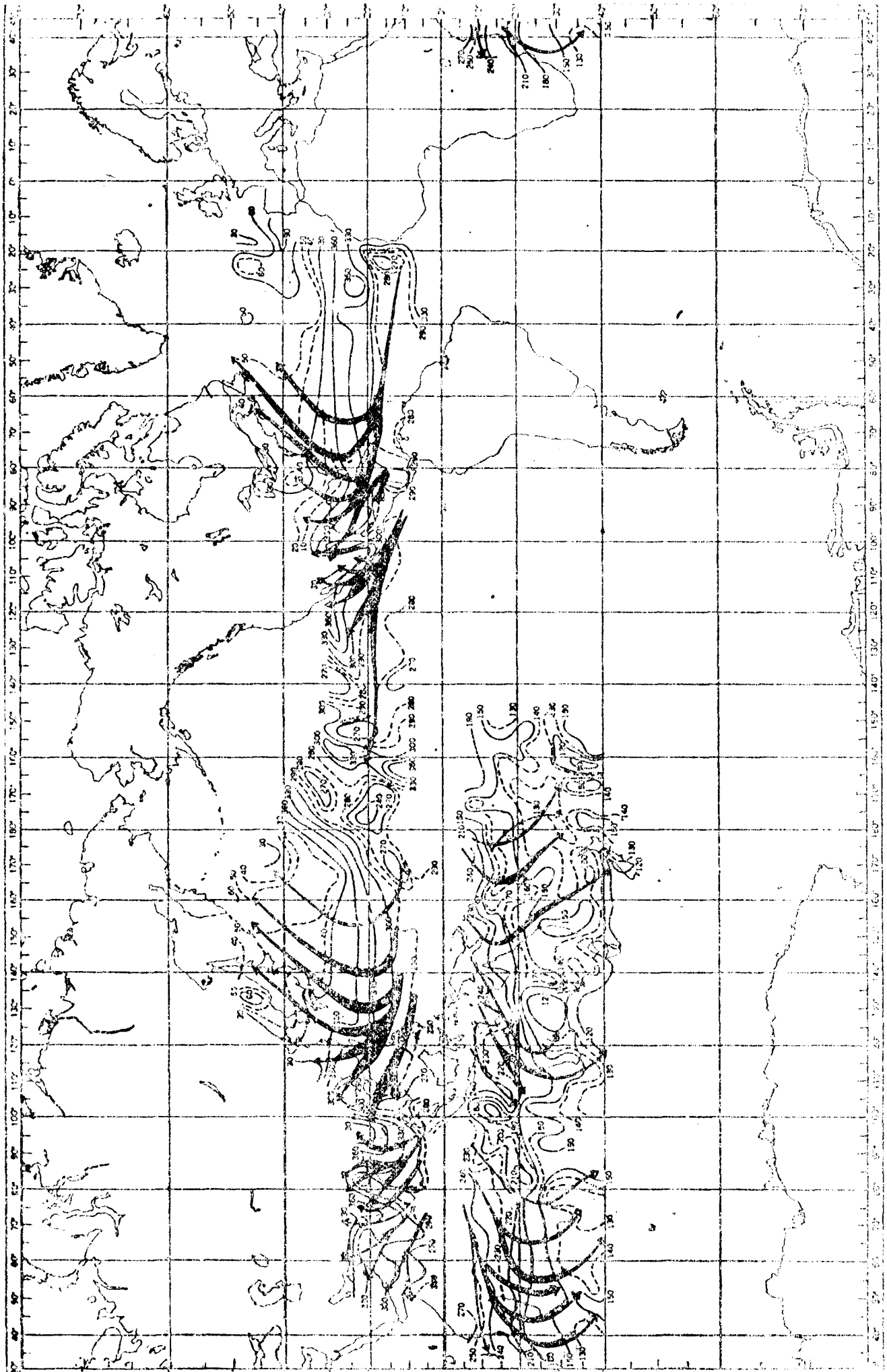
Fig. 1 Atlantic storm tracks for tropical storms are represented by black arrows. The width of the arrow indicates the approximate frequency of storms; the wider the arrow the higher the frequency. Brown isolines on the base map show the resultant direction toward which storms moved (Isogons). Data for the entire year have been combined for this figure.
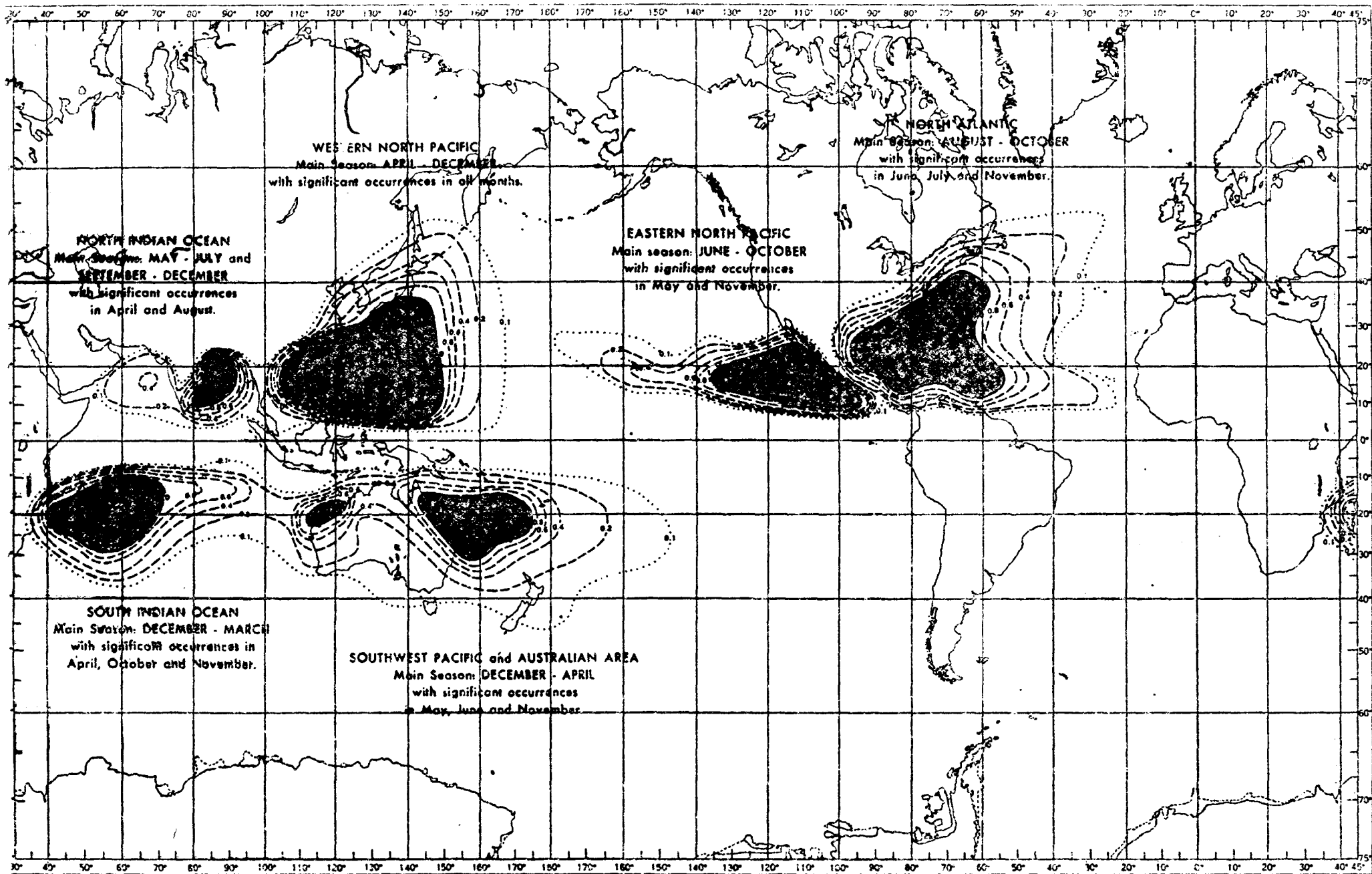
Fig. 2 The average number of tropical cyclones per 5° square per year has been analyzed for this figure. The main season for intense tropical storm activity is also shown for each major basin.
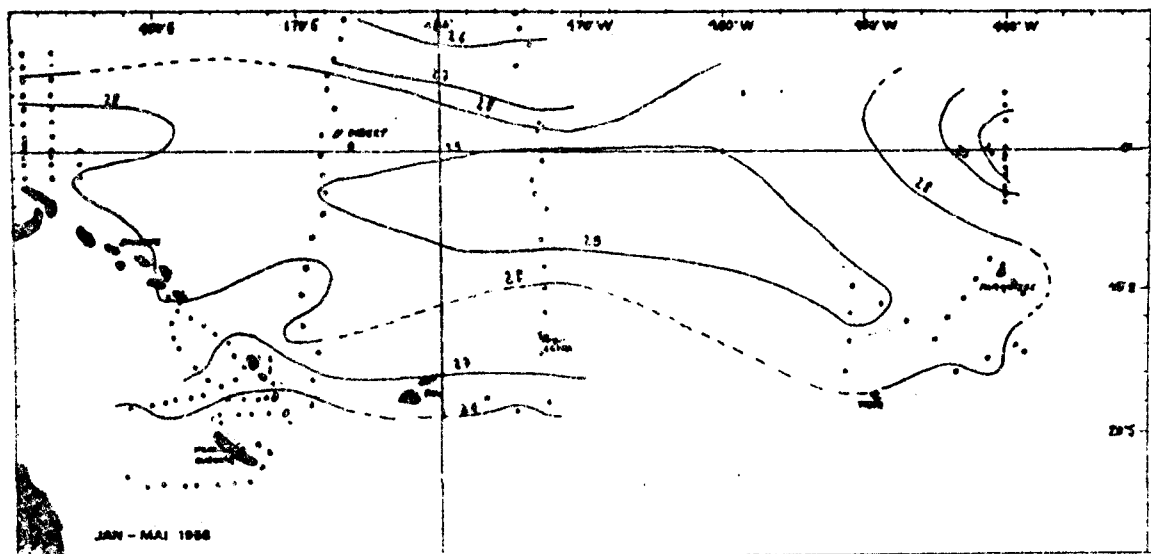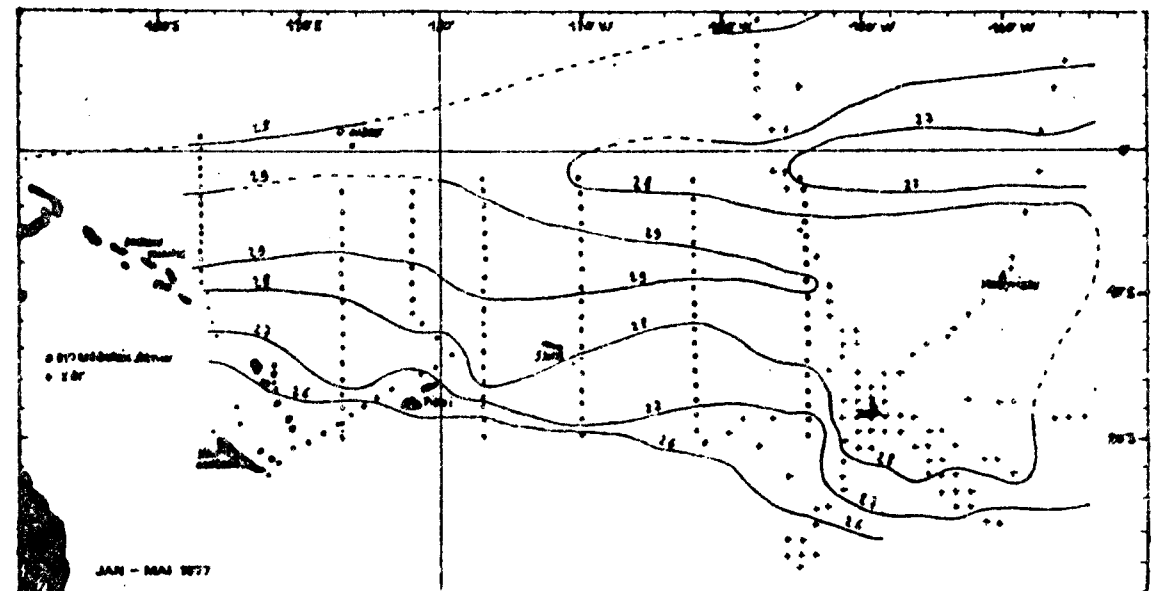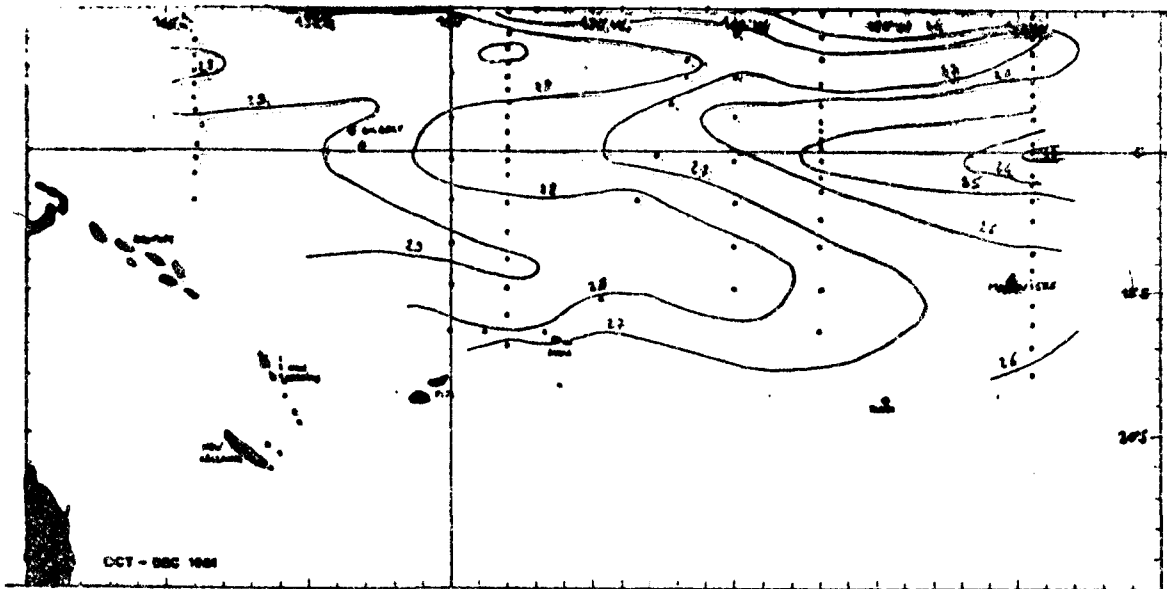
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Figure 3 Distribution de la quantité de chaleur de la surface à 100 mètres
de profondeur en 1961 (année normale), 1977 et 1958 (années anor-
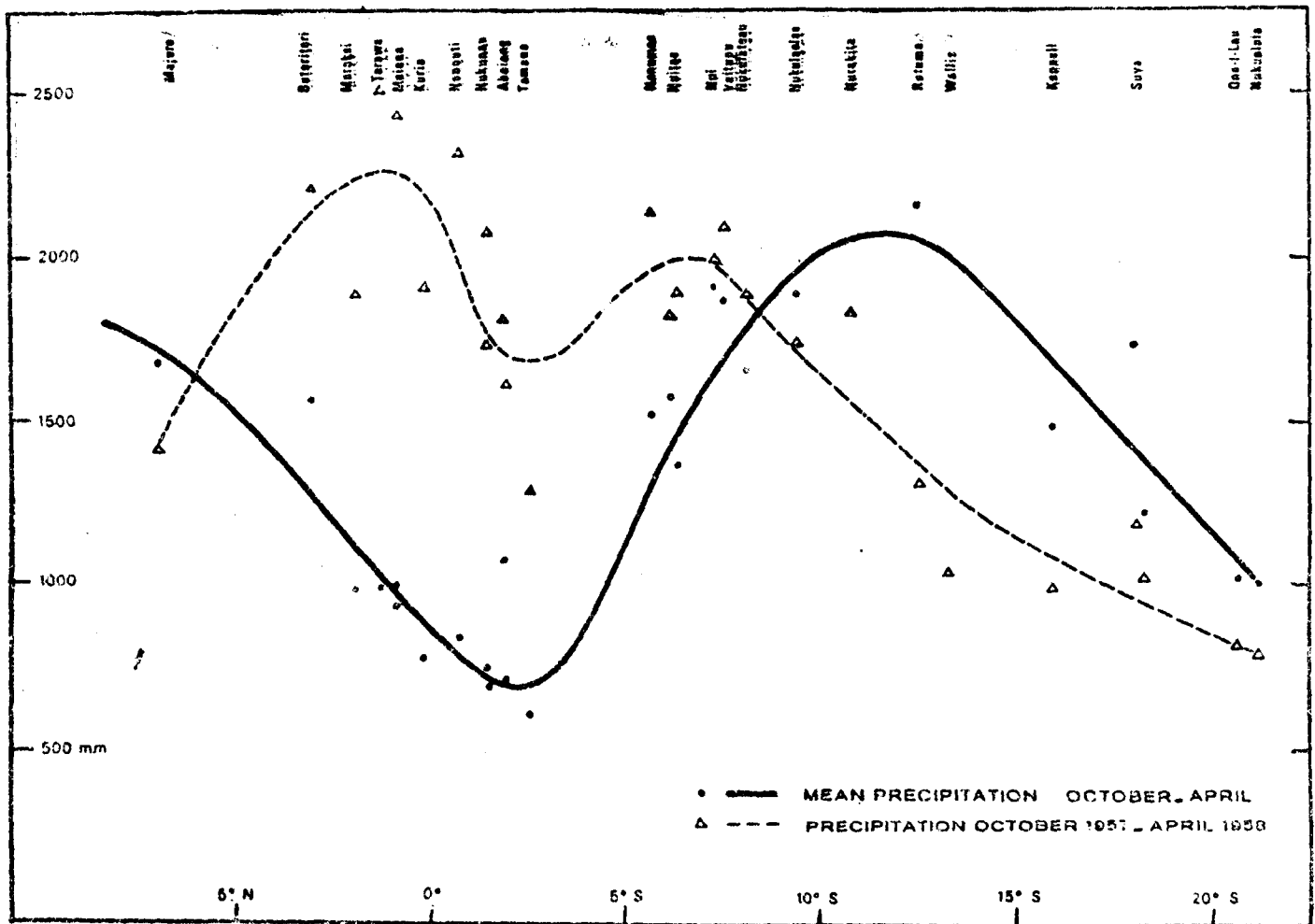males).

Figure 4   Précipitations en millimètres approximativement le long du méridien
180°. La courbe en trait plein montre les précipitations moyennes
d'octobre à avril; la courbe discontinue montre les précipitations
d'octobre 1957 à avril 1958.

Fig. 5 · Les zones économiques exclusives dans le Pacifique central et ouest. (Limites officieuses).