

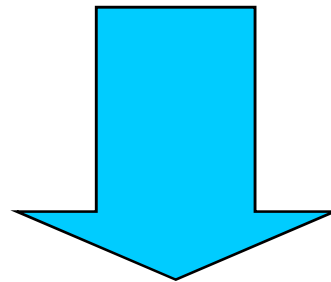
Meta 0061

**PROGRAM**  
**“BIOCEANOGRAPHICAL RESEARCH  
OF RESOURCES JACK MACKEREL  
AND PACIFIC MACKEREL IN PERU”**

Financial support: PRODUCE

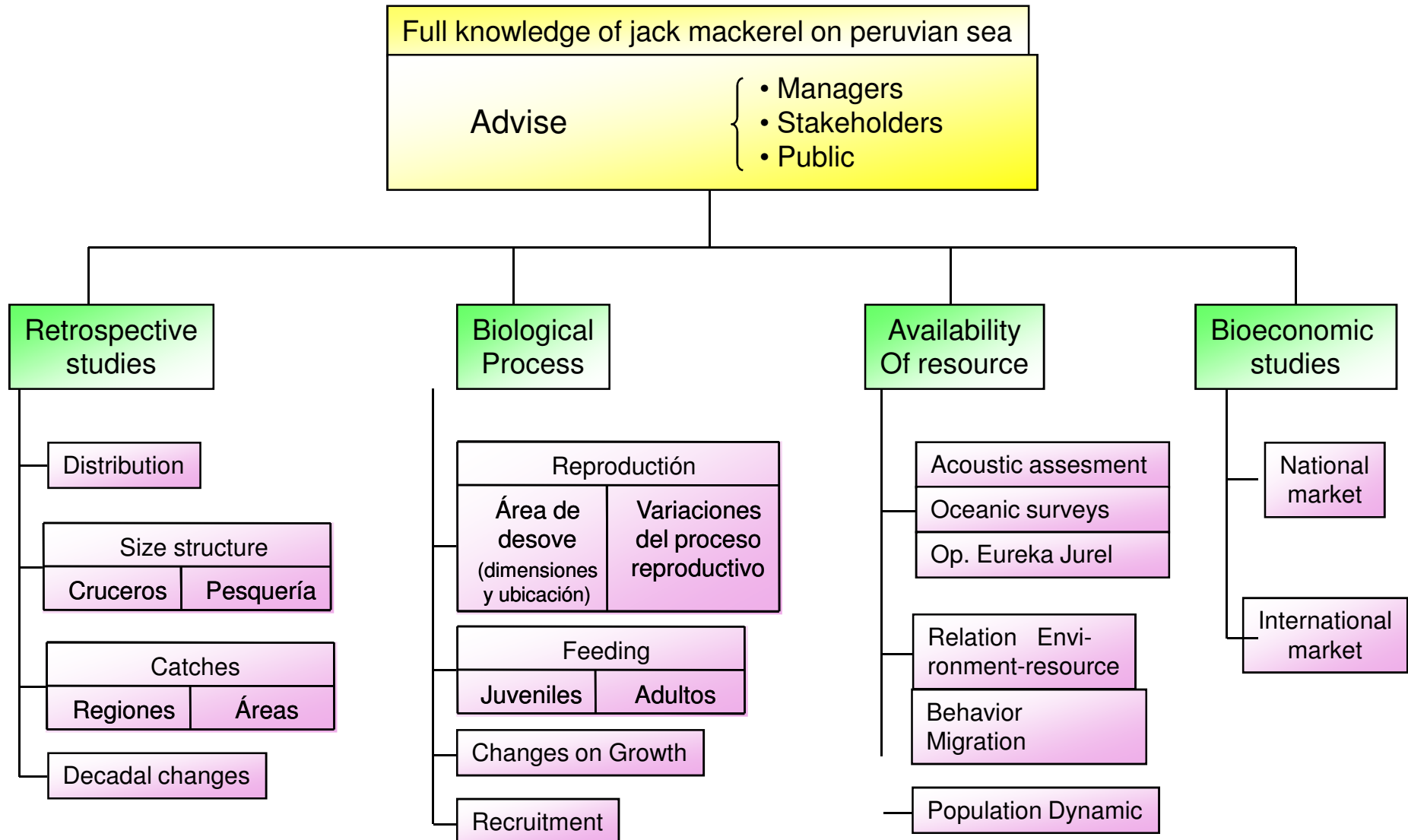
## **GOAL**

Full knowledge of mainly biological and fisheries features of jack mackerel and pacific mackerel on Peruvian coast



These Program includes short and medium term researches for advise to managers and stakeholders

# PROGRAM JUREL Y CABALLA (PERU)



## **RETROSPECTIVE ANALYSIS**

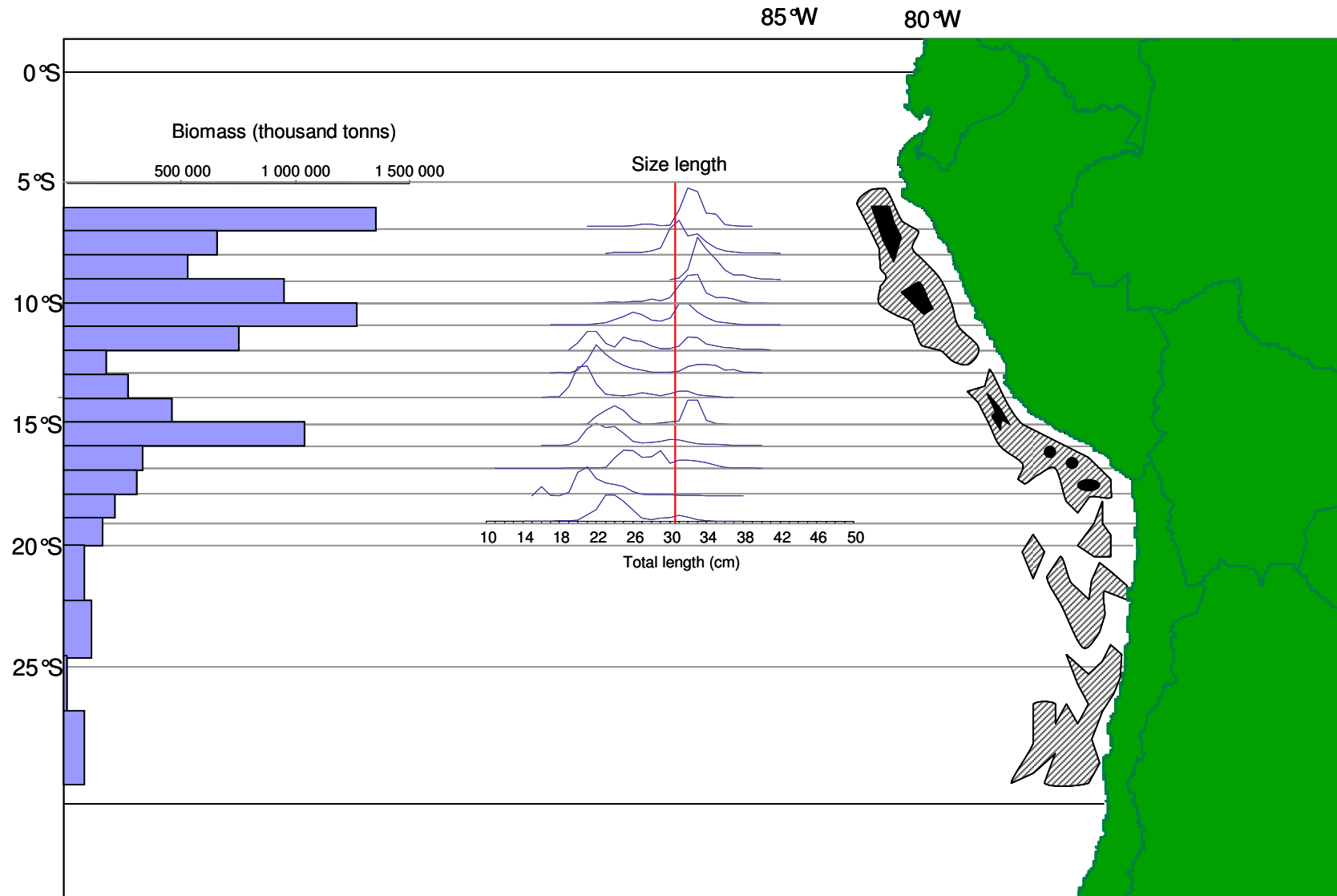
Includes recovery and review of historical data, mainly of foreign fleets (Soviet and Cuban trawling Fleet).

### **Questions:**

1. ¿What about spatial and temporal variability of jack mackerel distribución on peruvian sea?  
(mainly juveniles and adults)
2. ¿ What about decadal changes affect jack mackerel population?

# Resultados:

# Survey March 1983



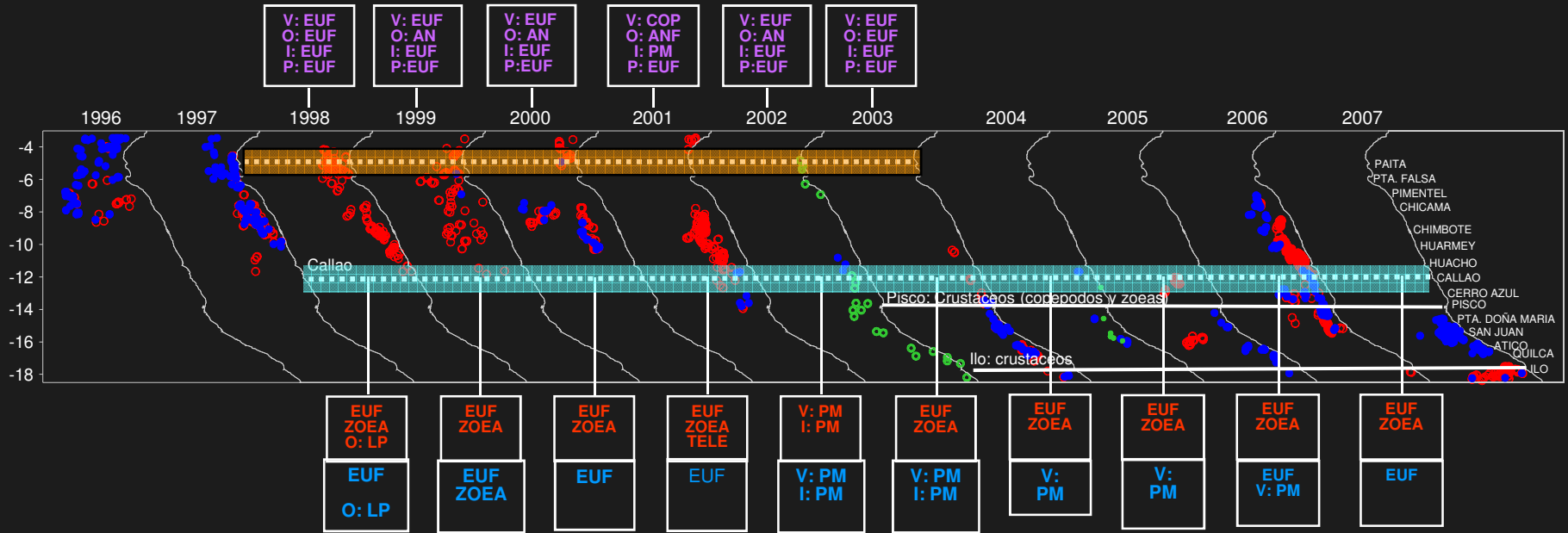
## **BIOLOGICAL PROCESS**

Includes researches of biological process who are important for changes on abundance.

### **Questions:**

1. ¿What are the spawning areas on peruvian sea?
2. ¿What are the main factors who affect success recruitment?
3. ¿ What are its feeding preferences?
- 4.- ¿There is changes on growth parameters?

# Alimentación



Ingreso  
MUNIDA

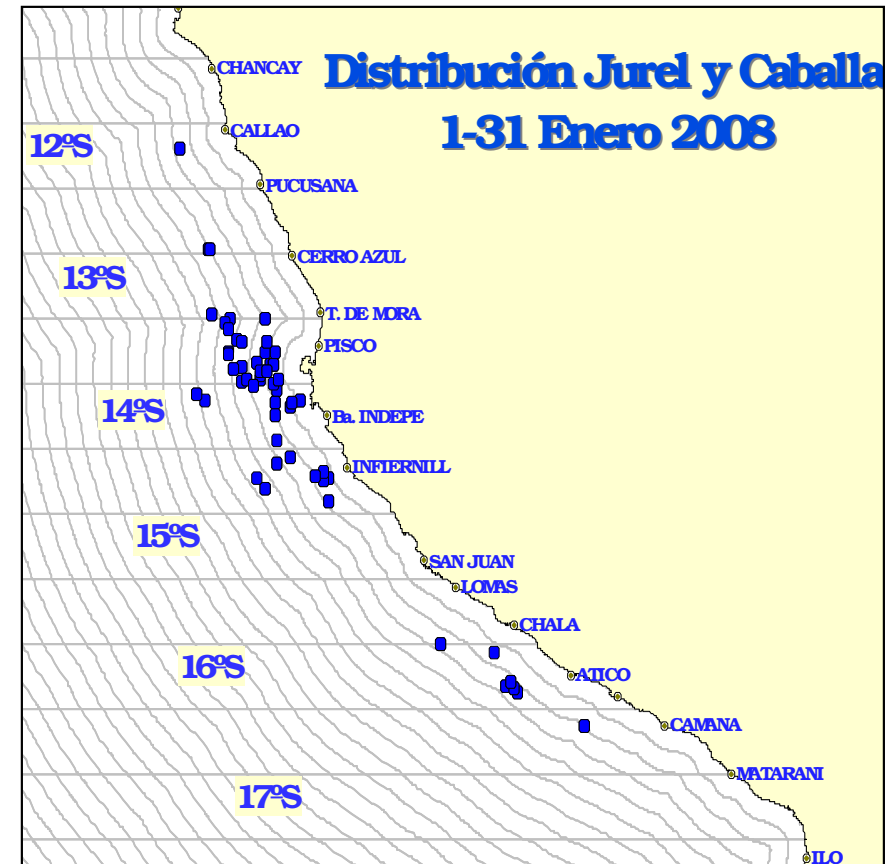
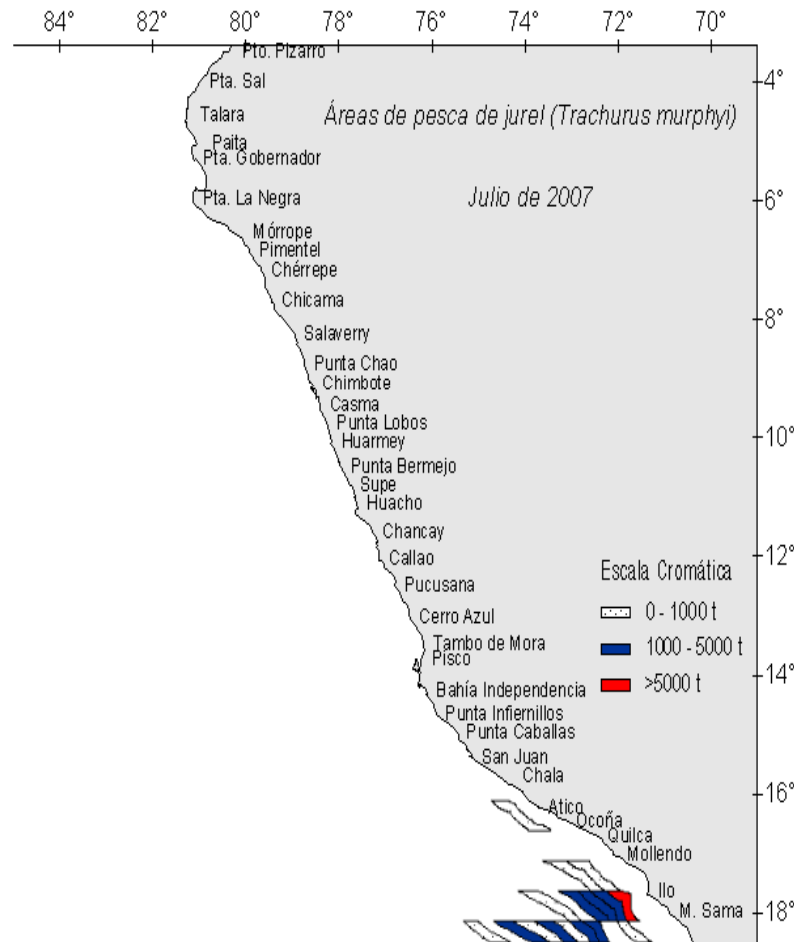
## **RESEARCH ABOUT AVAILABILITY OF RESOURCES**

To know abundance of jack mackerel using direct and indirect assessments.

### **Questions:**

- 1.- ¿What about biomass of jack mackerel inshore and offshore 200 miles in front of peruvian coast?
- 2.- ¿Is possible to get a relative abundance index for jack mackerel ?
- 3.- ¿Is possible to identify unit stocks of jack mackerel on peruvian sea, using isotopic analyses?
- 4.- ¿What is the spatial dynamics of fishing areas?

# Spatial dynamics of fishing areas of jack mackerel



## **BIOECONOMIC RESEARCH**

Try to correlate economic, biological and social aspects on jack mackerel fisheries.

### **Questions:**

1.- ¿What is the optimal economic yield?

2.- ¿Which is better: to use jack mackerel on national market or international market?

## **BUDGET May – December 2008**





**TOTAL Budget: US \$ 1.8 millions**

**Scientific Equipment US \$ 0.5 millions**

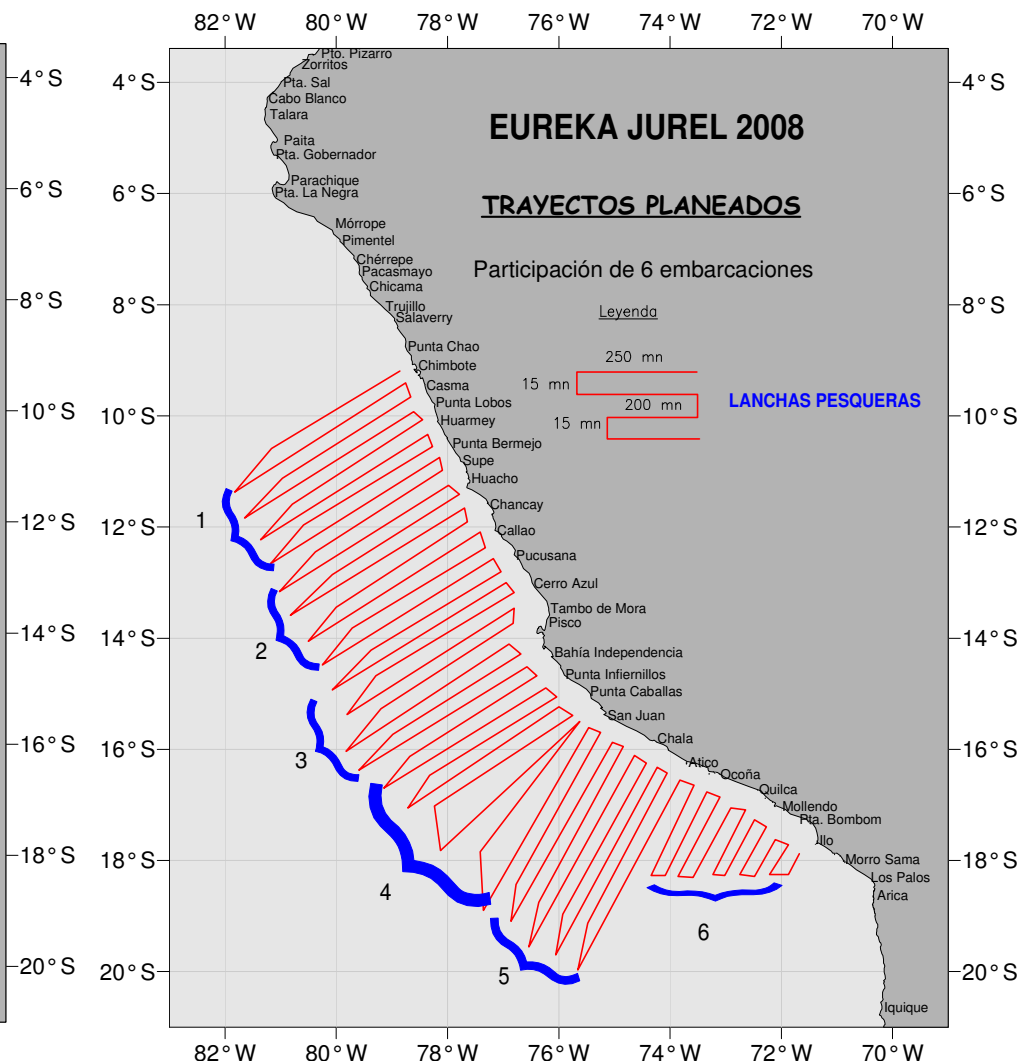
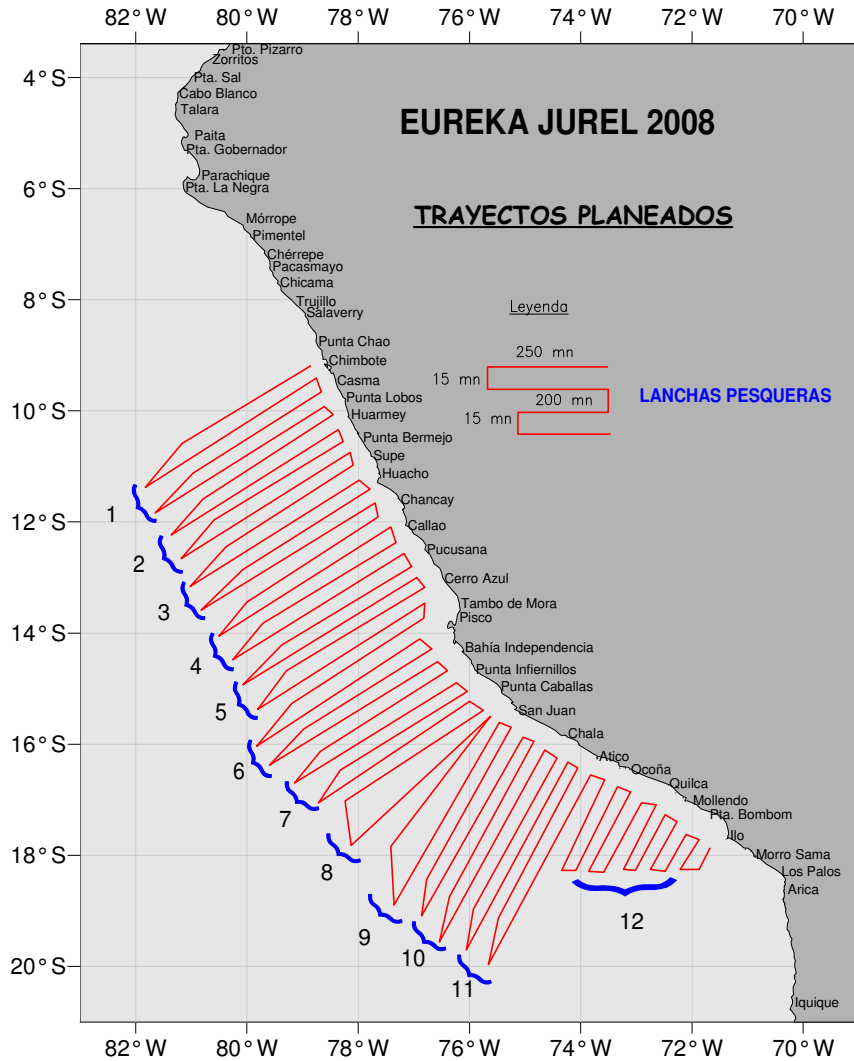
**Services US \$ 1.3 millions**

## Technical group of jack mackerel research

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-  Identify optimal fleet to support researches of jack mackerel
-  Potential use of acoustic equipment of Industrial Fleet for direct assesment (standardización)
-  Establish oceanographical network using data from Industrial Fleet (thermosalinograph)
-  Joint work for developing Eureka Operation and Surveys

# Proposal of seasonal Eureka Jurel



# PROPOSAL OF SURVEY FOR JUREL Y CABALLA

