

# Mesoscale features in the Canary Current Upwelling System

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Instituto de Oceanografía y Cambio Global  
Universidad de Las Palmas de Gran Canaria



UNIVERSIDAD DE LAS PALMAS  
DE GRAN CANARIA

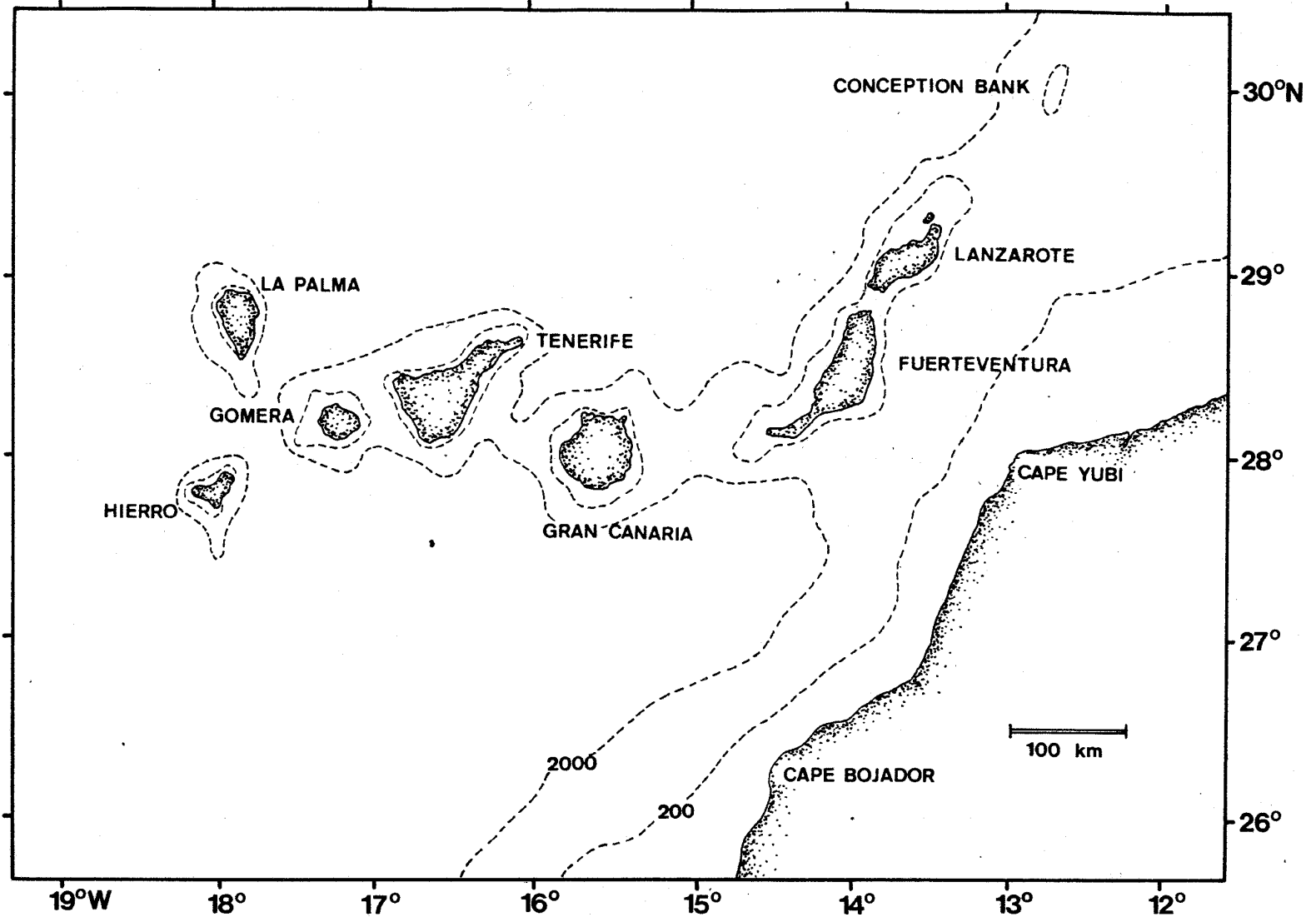


Instituto de  
Oceanografía  
y Cambio Global

# Mesoscale structures around the Canary Islands

- ① Oceanographic introduction
- ② Mesoscale oceanographic patterns

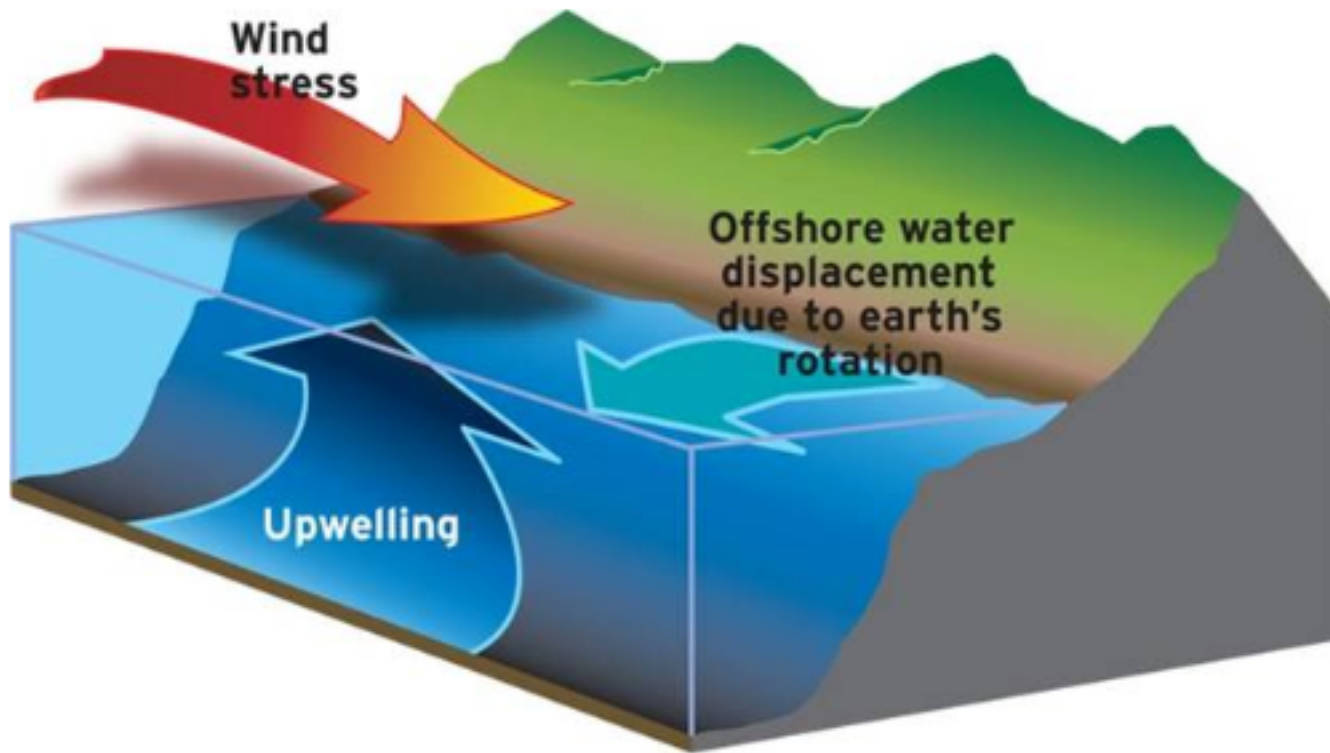
# Oceanographic introduction



# Oceanographic Introduction

- ① Upwelling off Northwest Africa
- ② Canary Current

# 1. Upwelling



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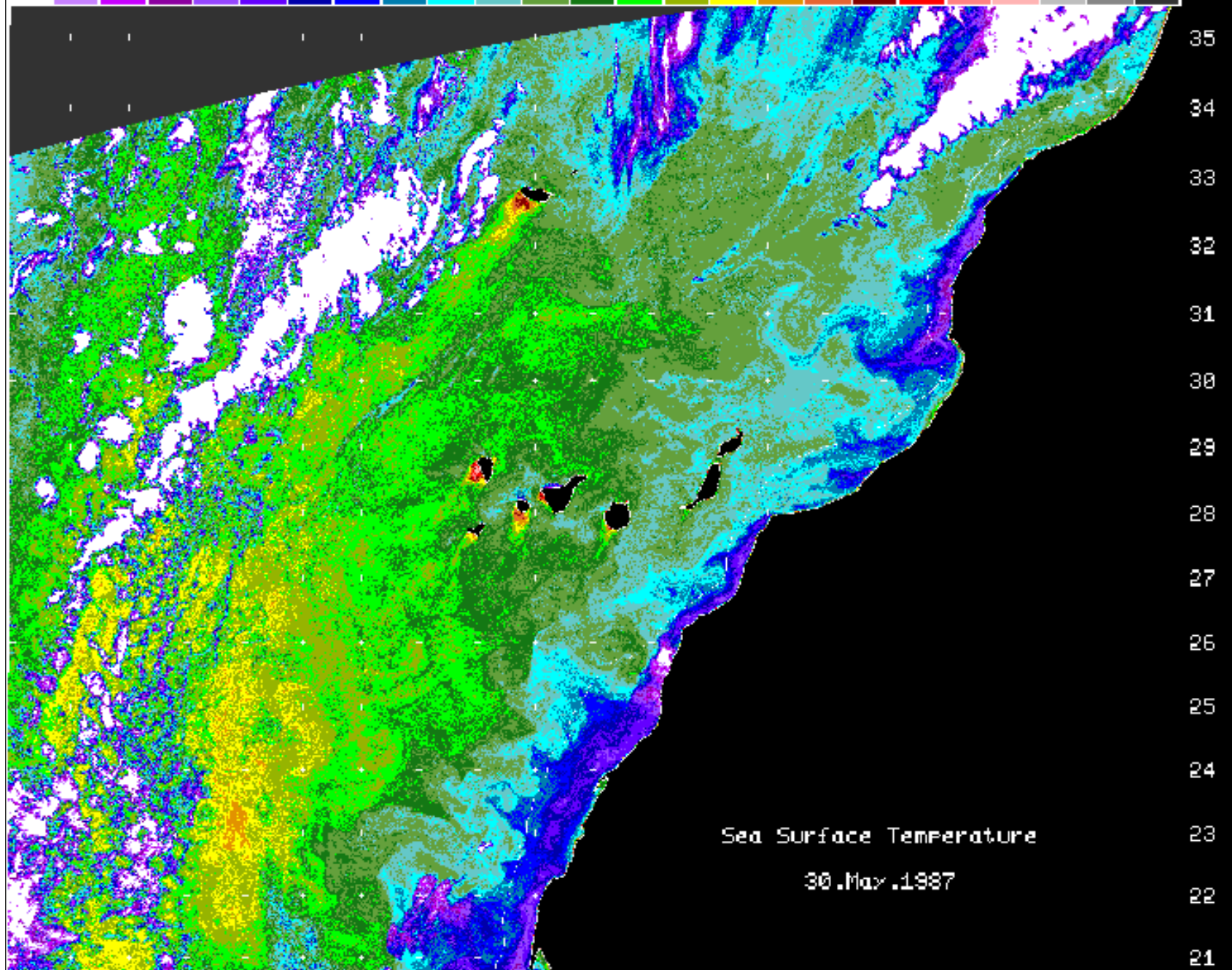
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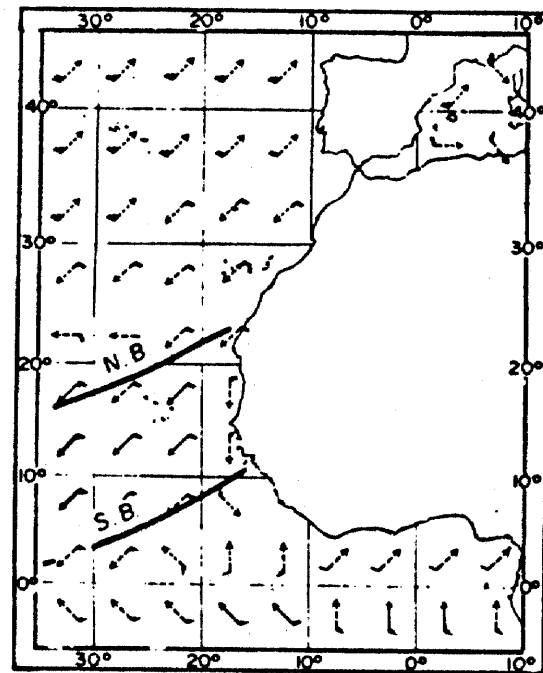
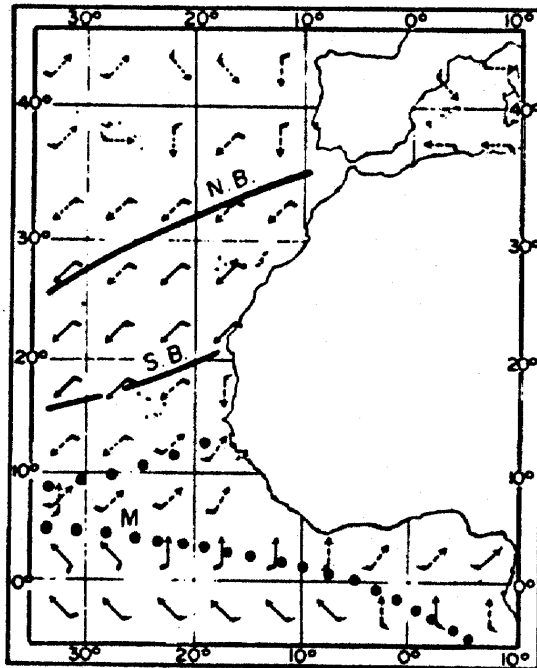
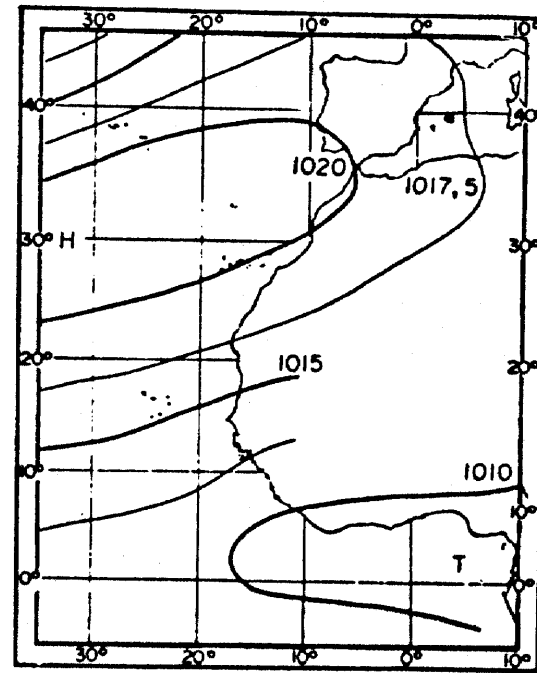
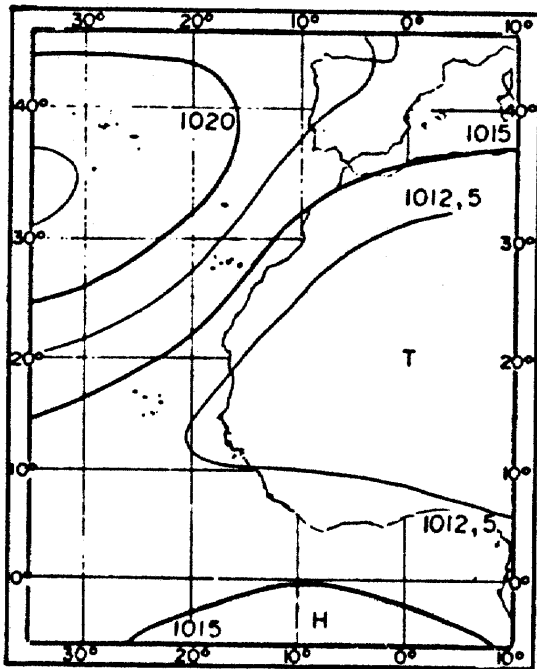
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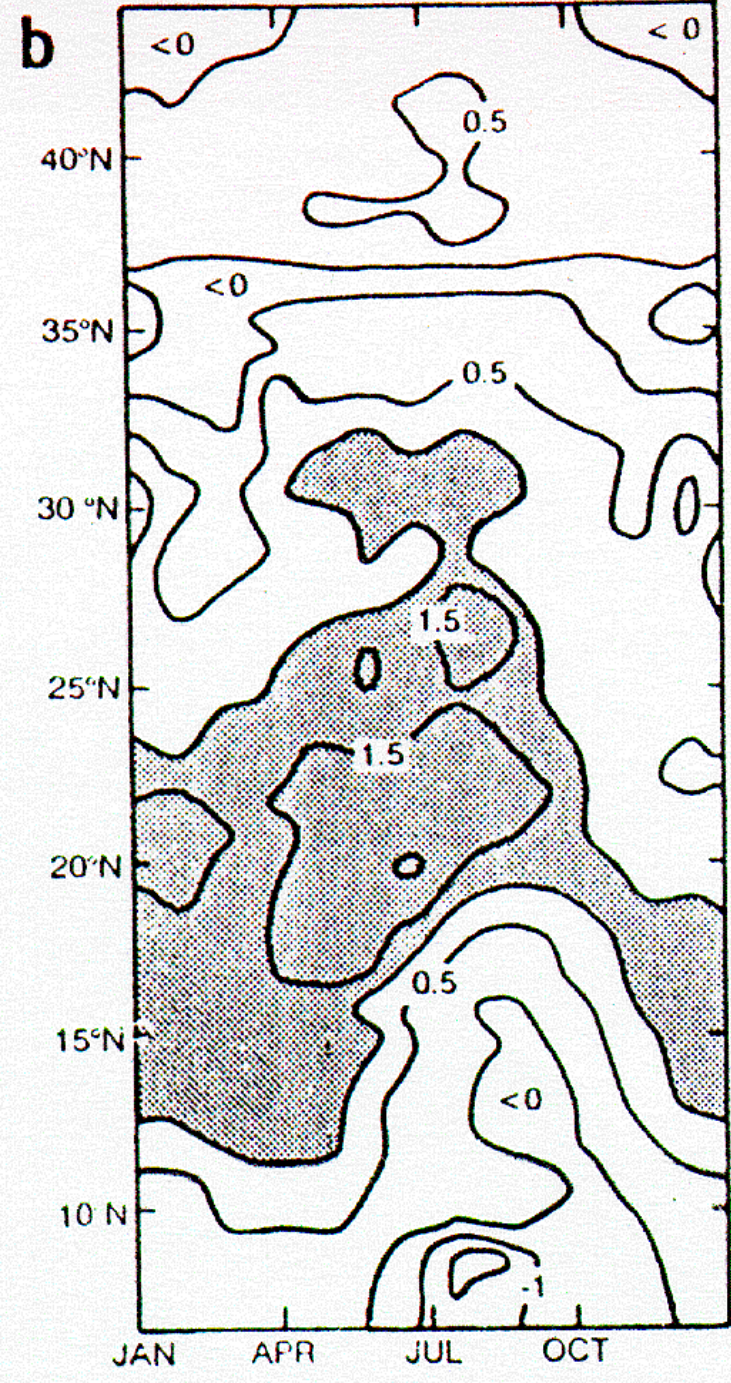
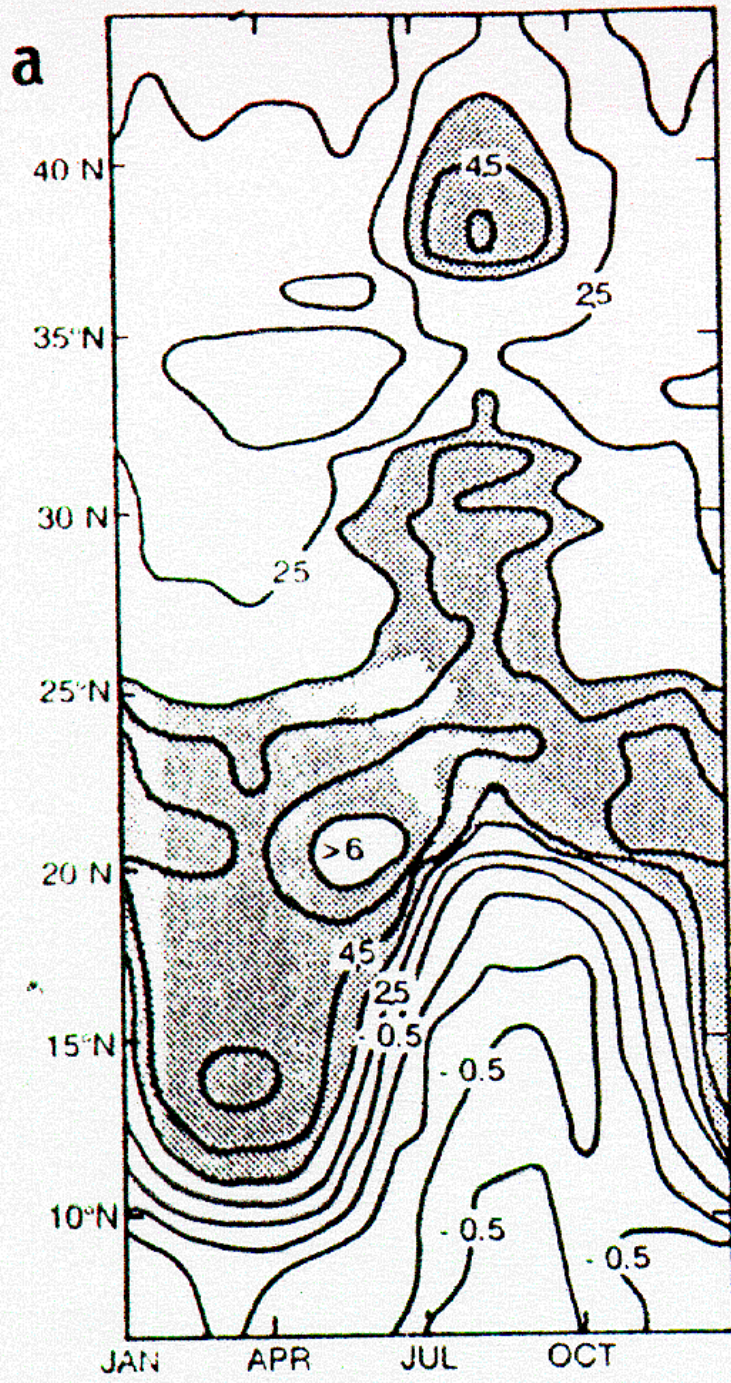
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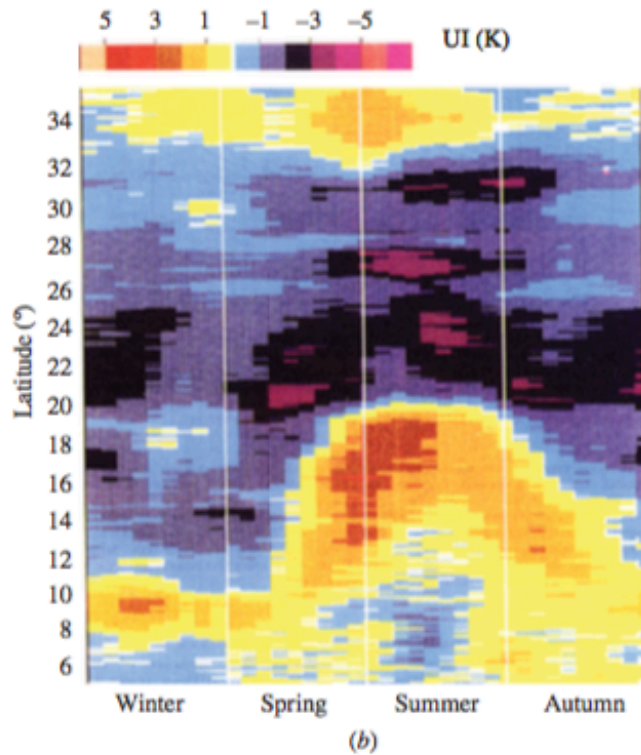
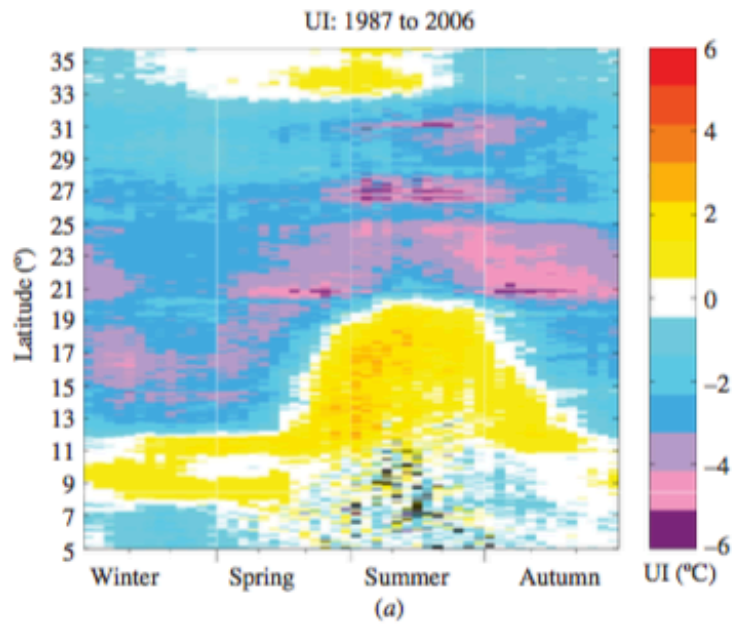
Sea Surface Temperature

30.May.1987



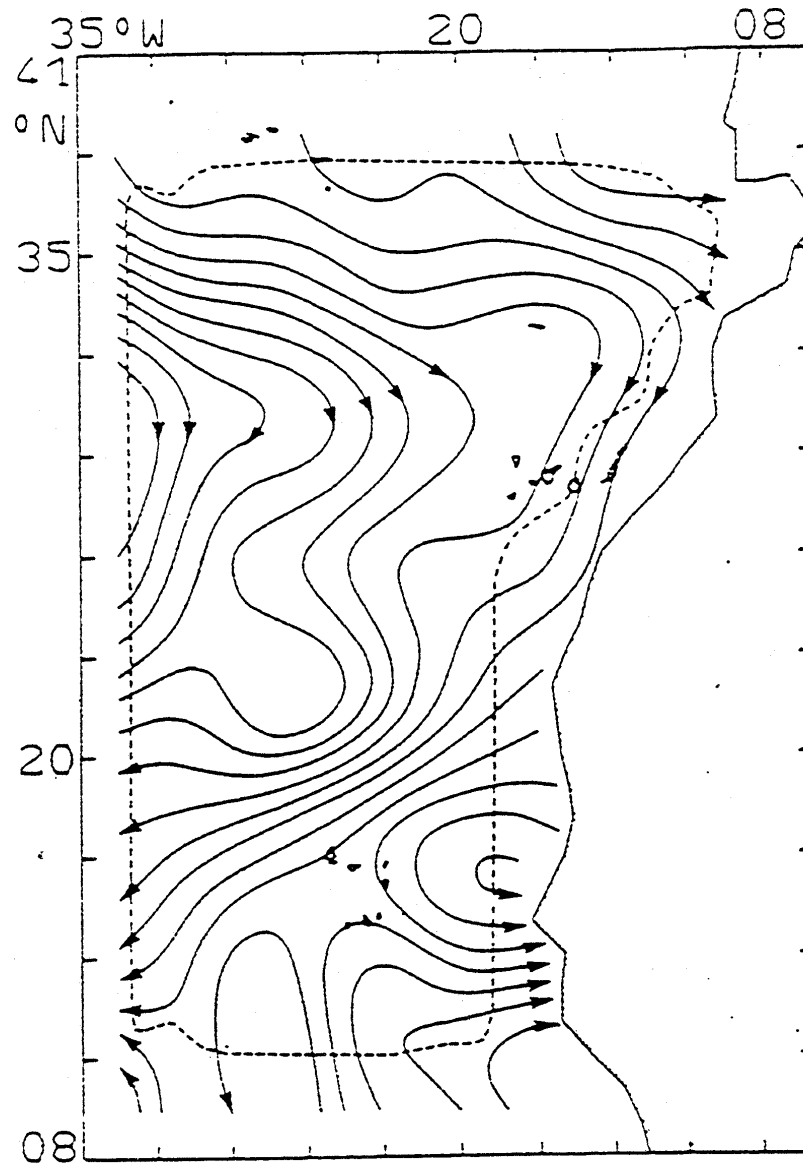


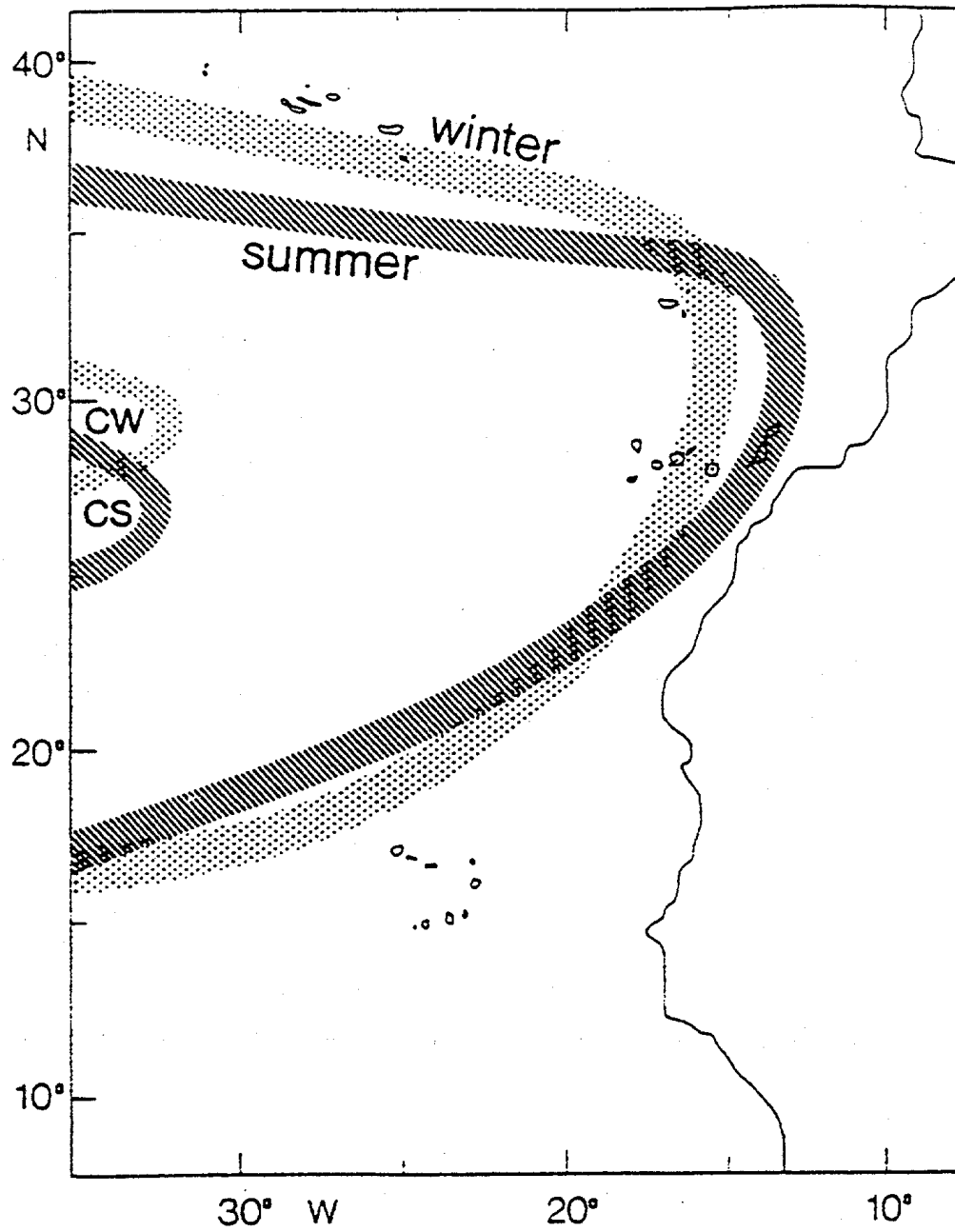




Marcelo et al. (2011)

# 2. Canary Current





# Advantages and Disadvantages of remote sensing images and in situ data

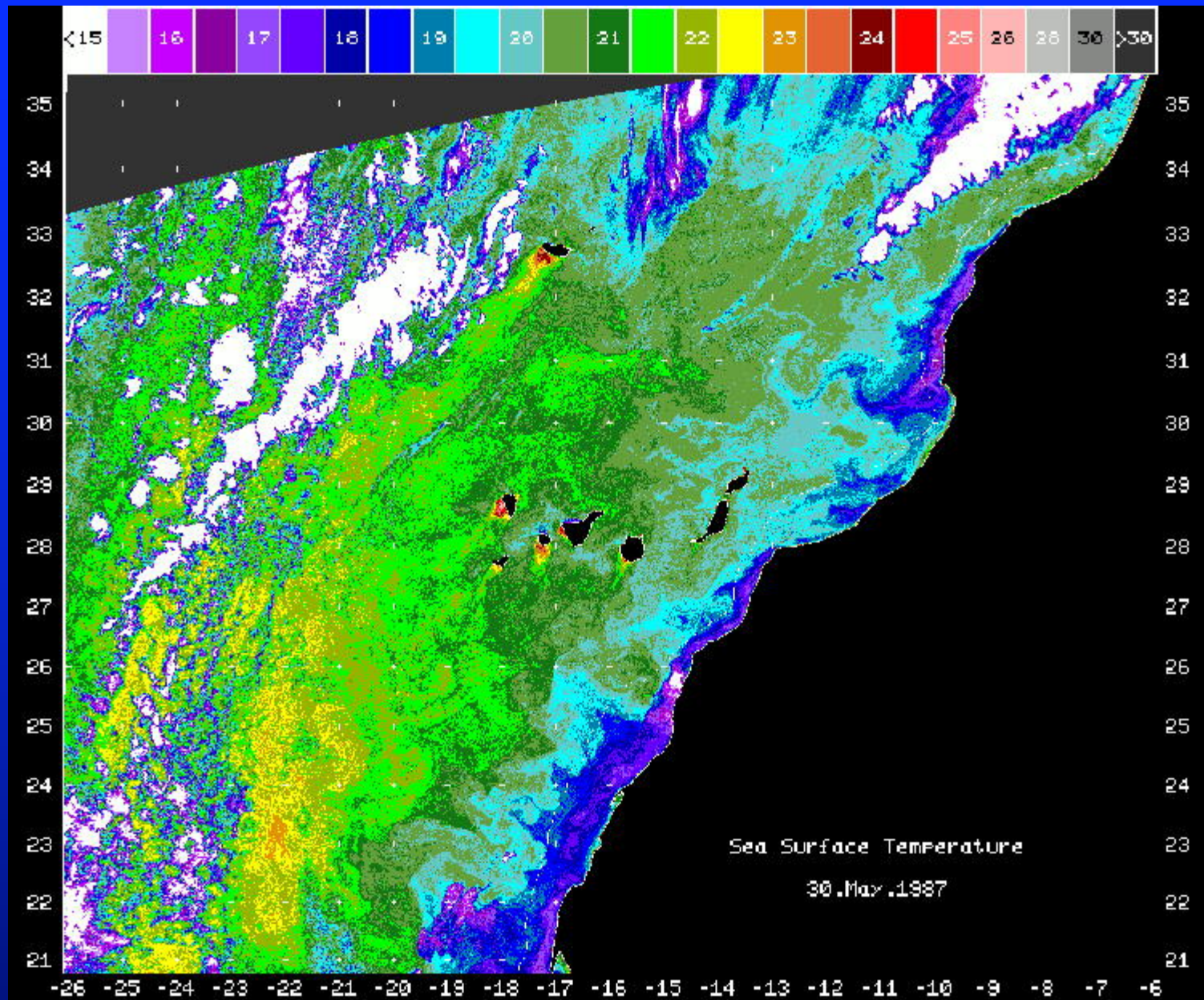
## Advantages

- Synoptic observation
- Repetitive observation

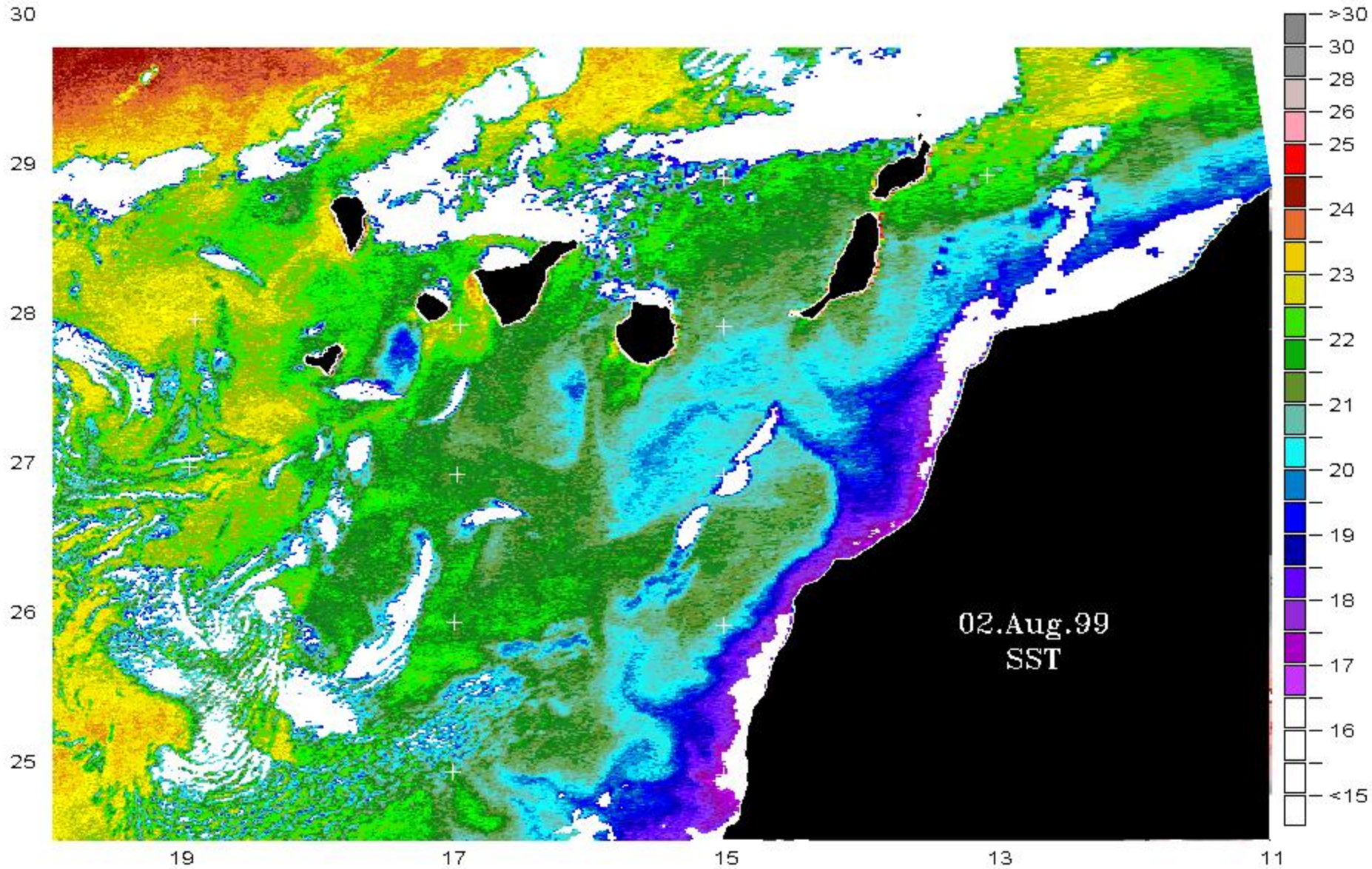
## Disadvantages

- Atmosphere
- Skin layer

# Synoptic observation



# Repetitive observation



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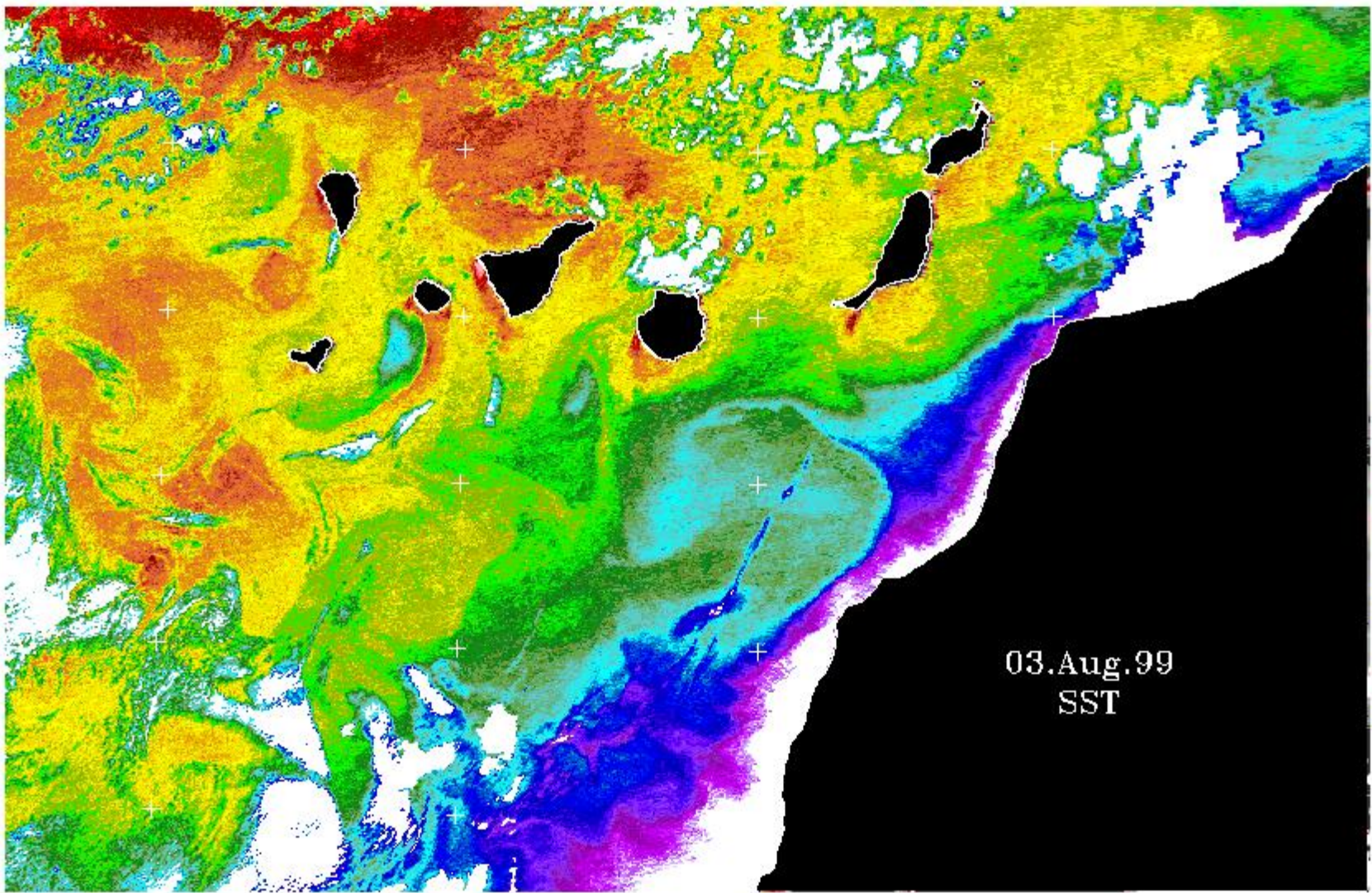
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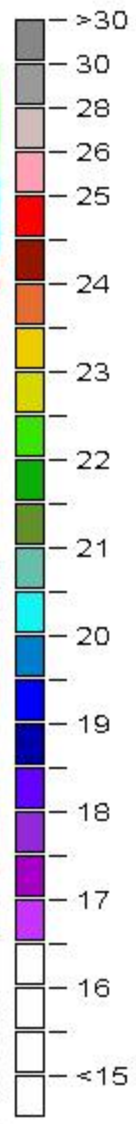
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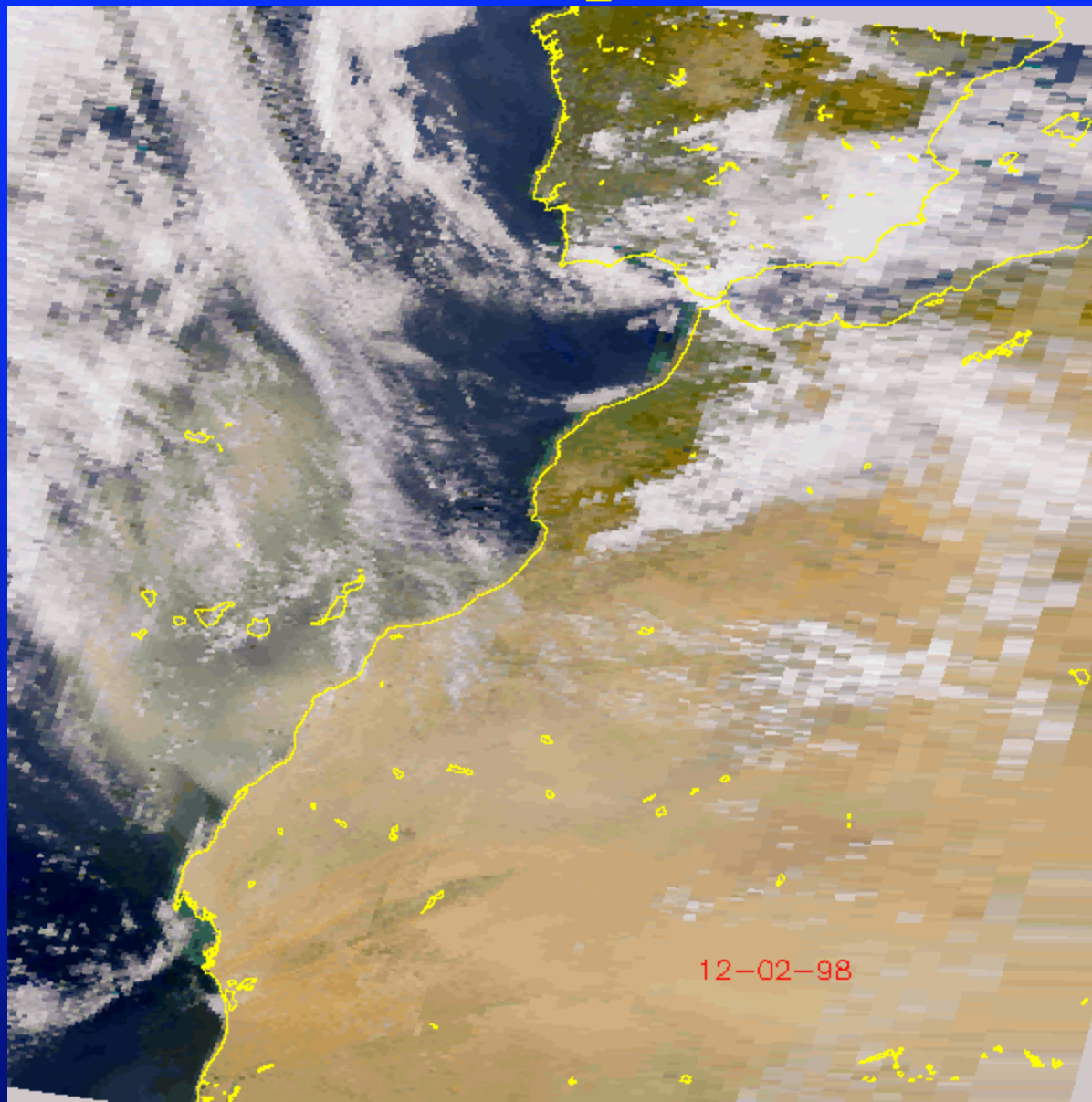
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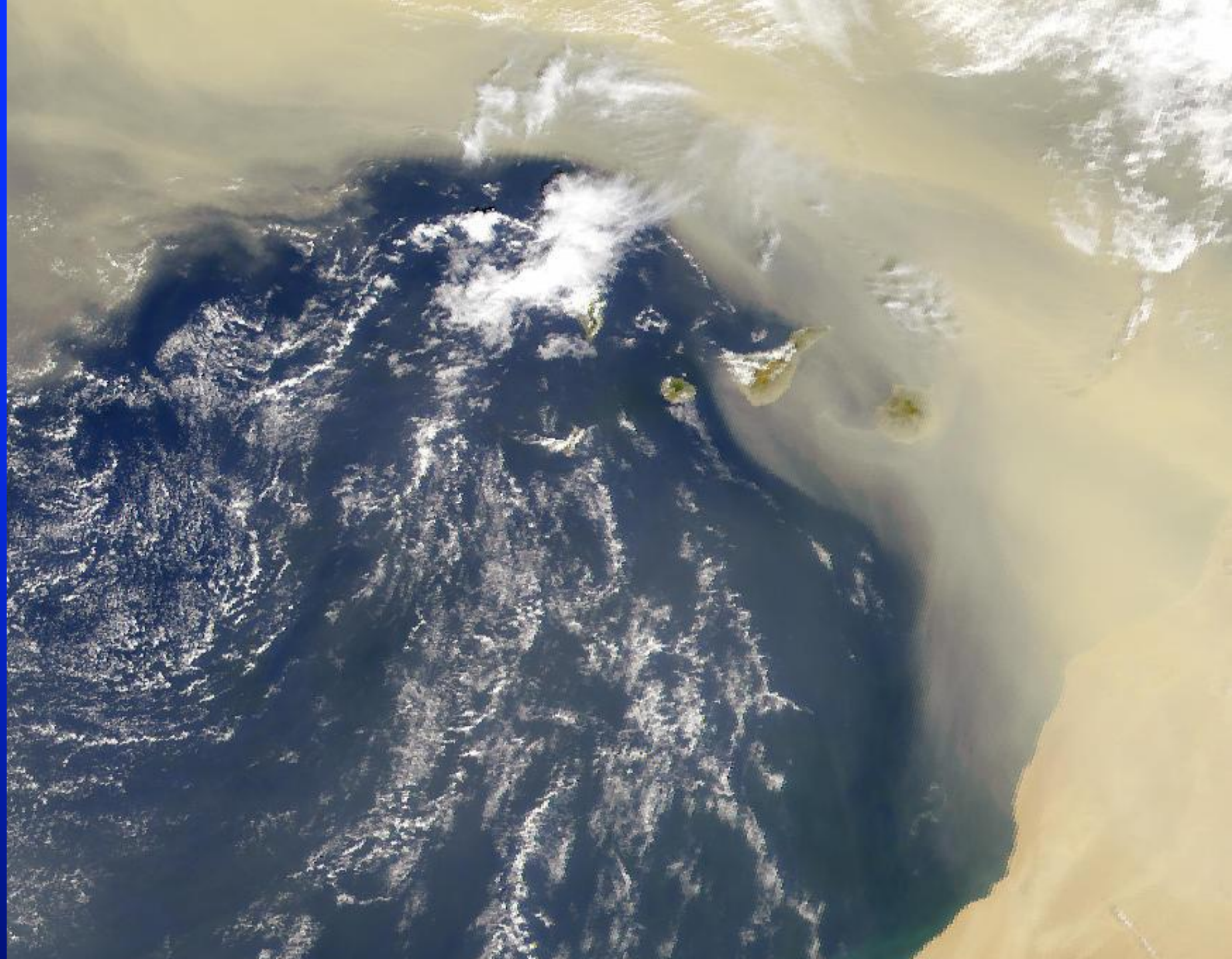
03.Aug.99  
SST



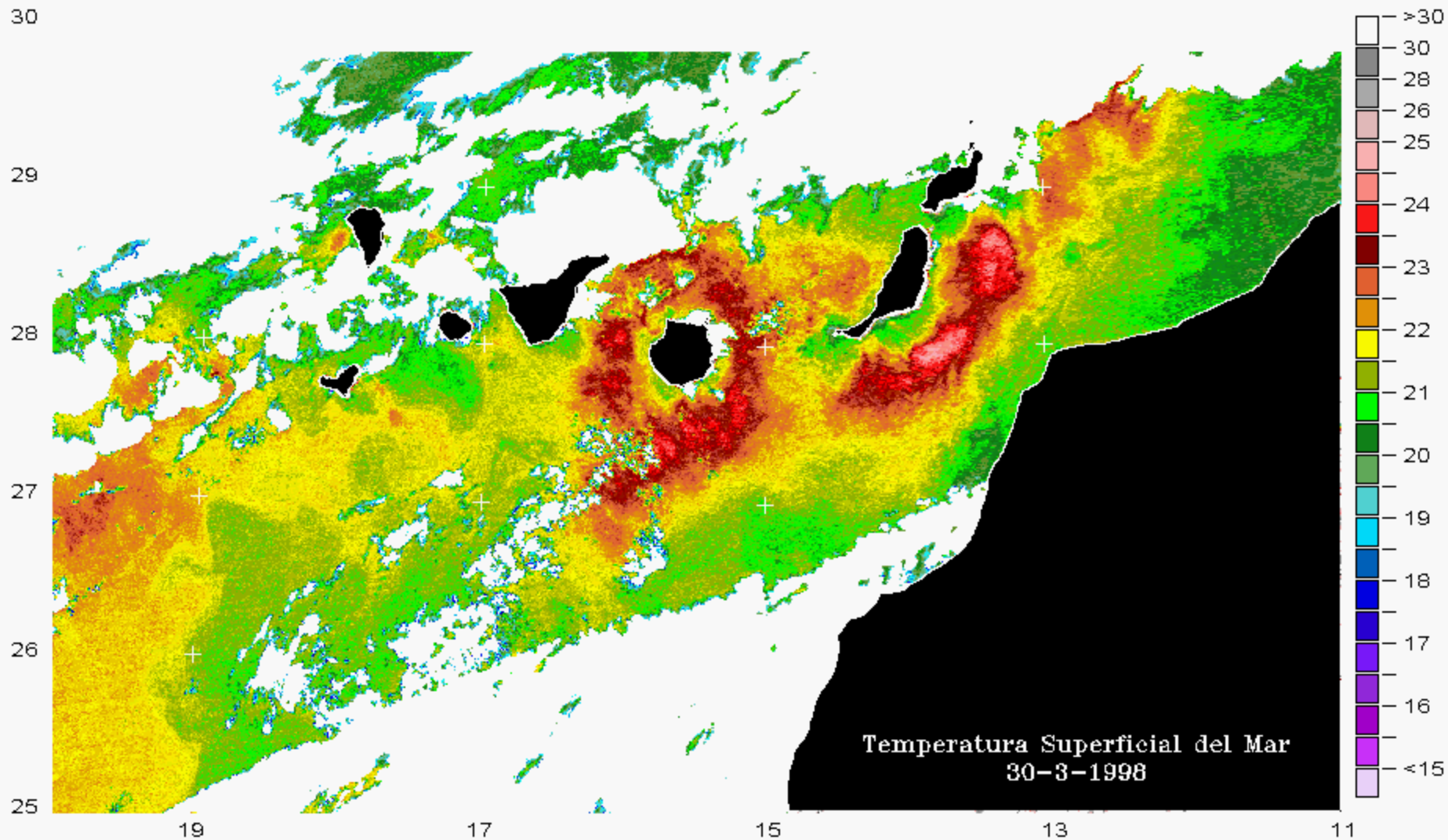
# Atmosphere







# Skin layer



# Property of the sea surface detected by the sensors installed in satellites

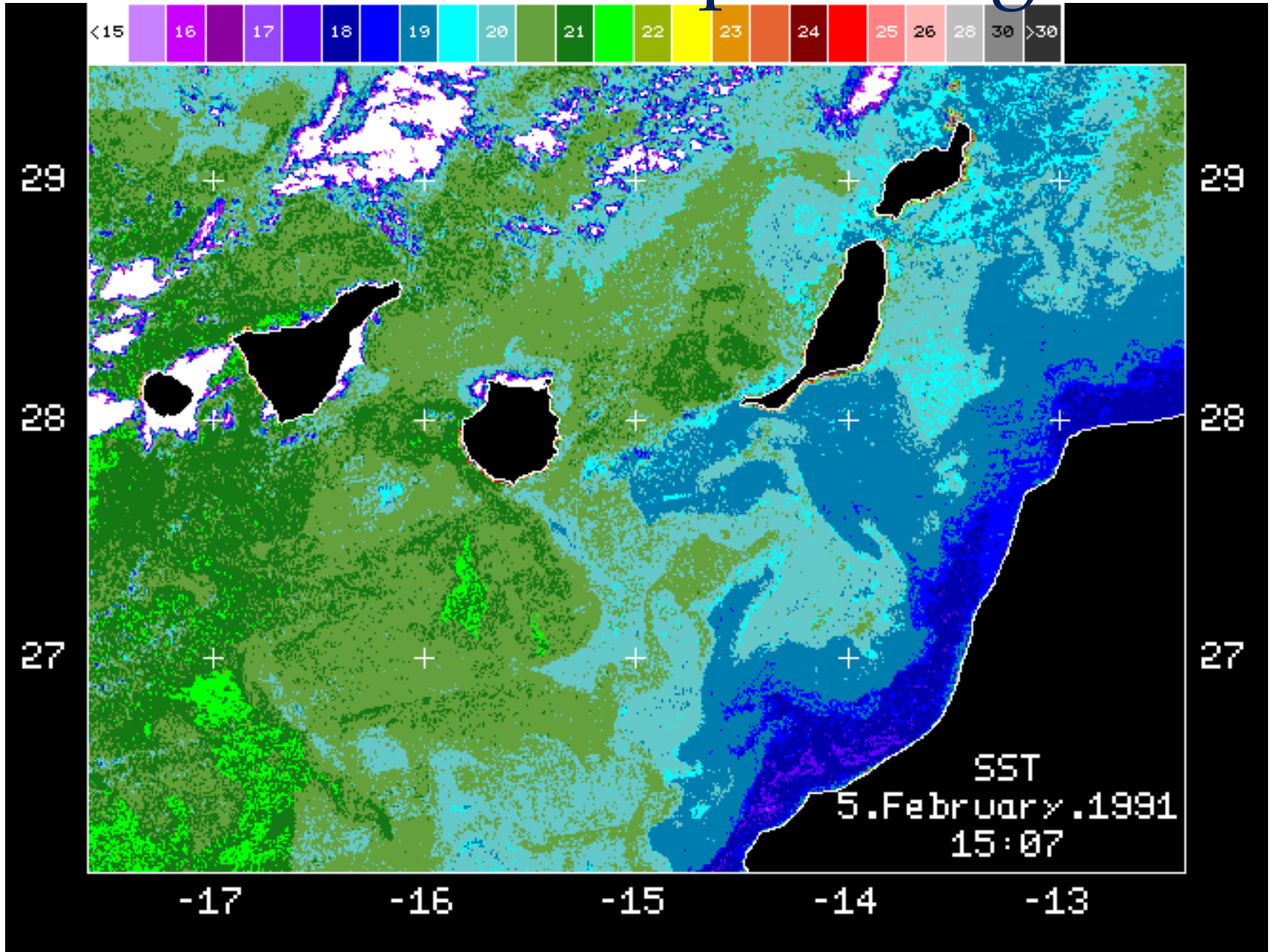
- Temperature
- Color
- Slope of the sea surface
- Rugosity of the sea surface

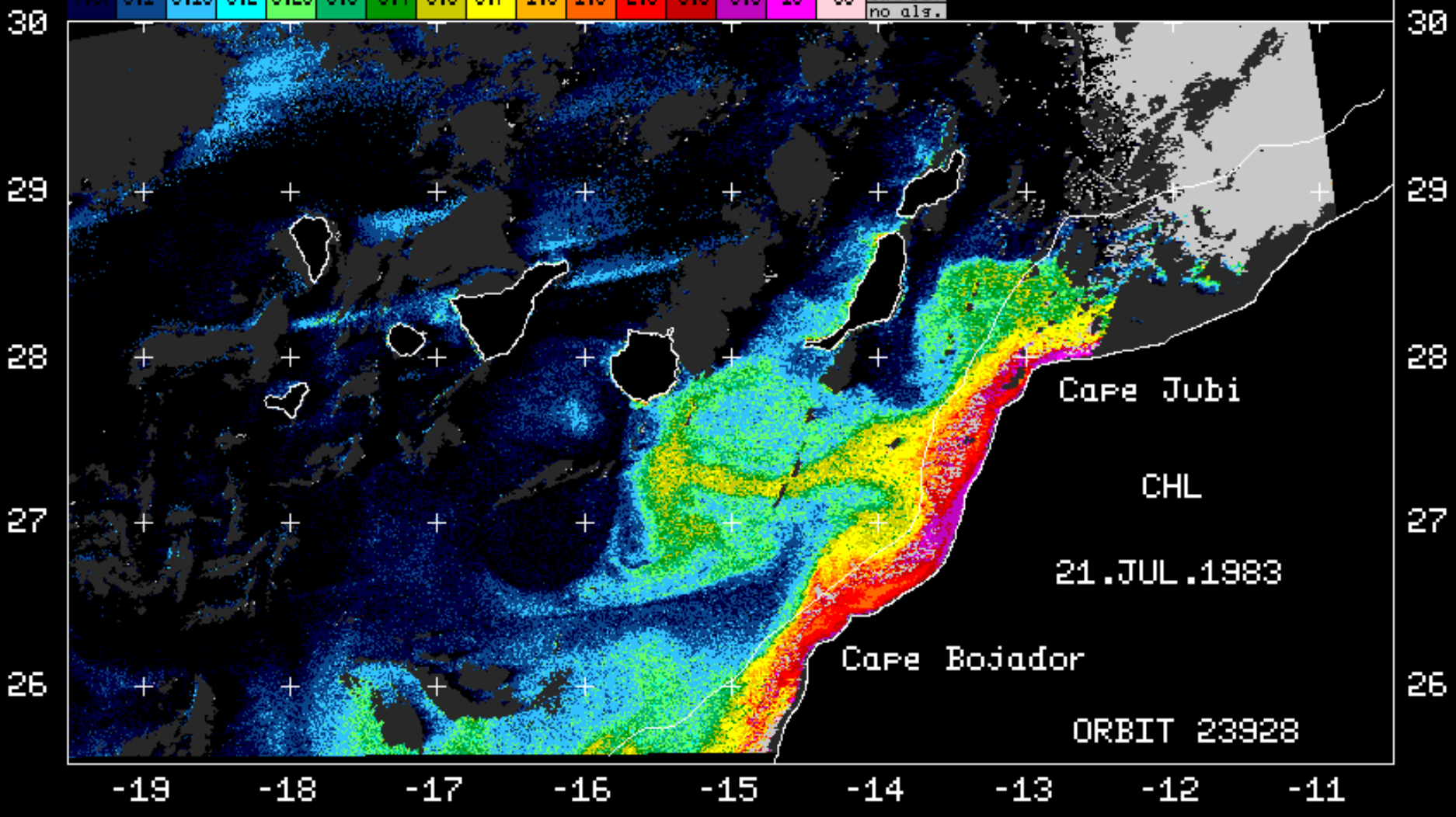
	Spatial scale (km)	Time scale	Property of the sea surface
Equatorial Current	500	Months and years	Slope
Western Boundary Currents	100	Days and years	Color, Temp. Slope Rugosity
Eastern Boundary Currents	100	Days and years	Color, Temp. Slope
Mesoscale Eddies	100	100 days	Color Temperature Slope
Oceanic Front	10	10 days	Color Temperature Rugosity
Internal Waves	0,1-100	Seconds Hours	Rugosity

# Oceanographic features

- ① Linked to the upwelling
- ② Linked to the islands

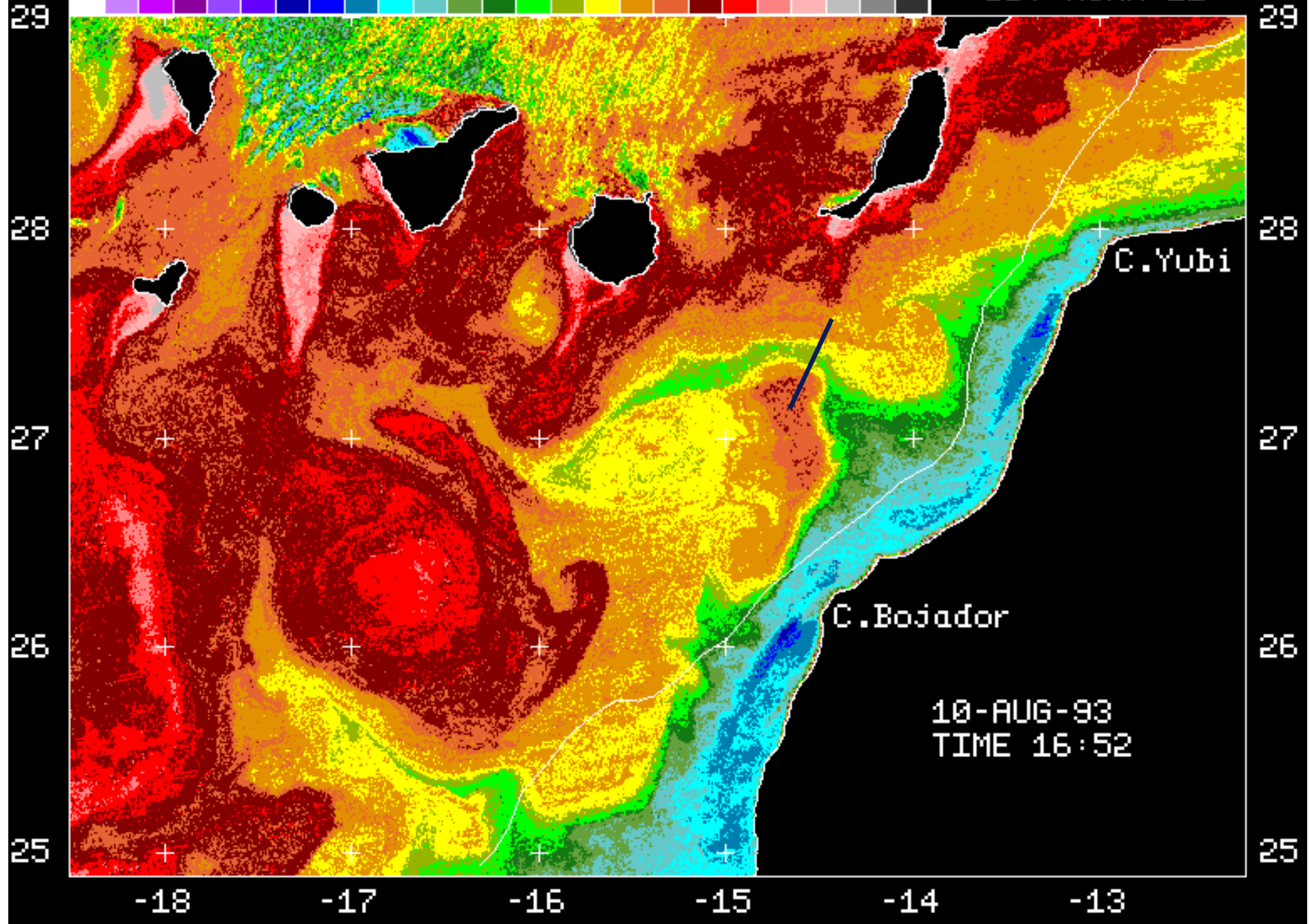
# Linked to the upwelling







SST NOAA-11

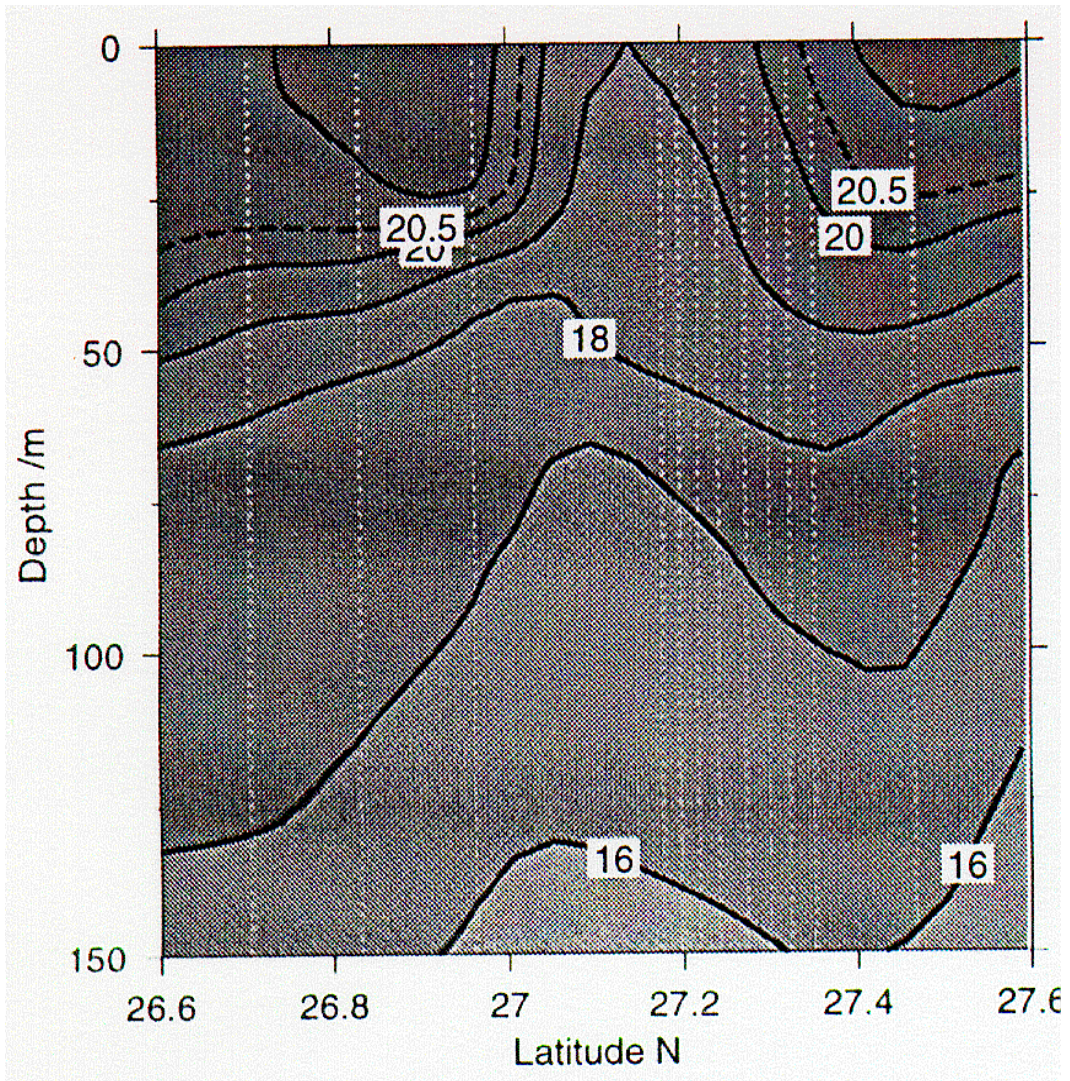
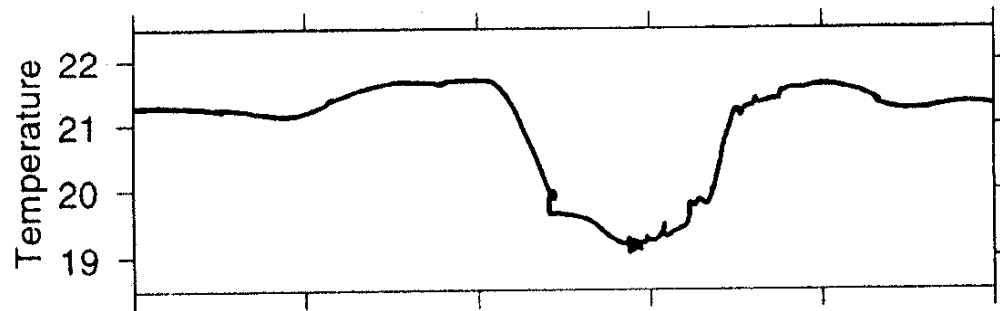


C.Yubi

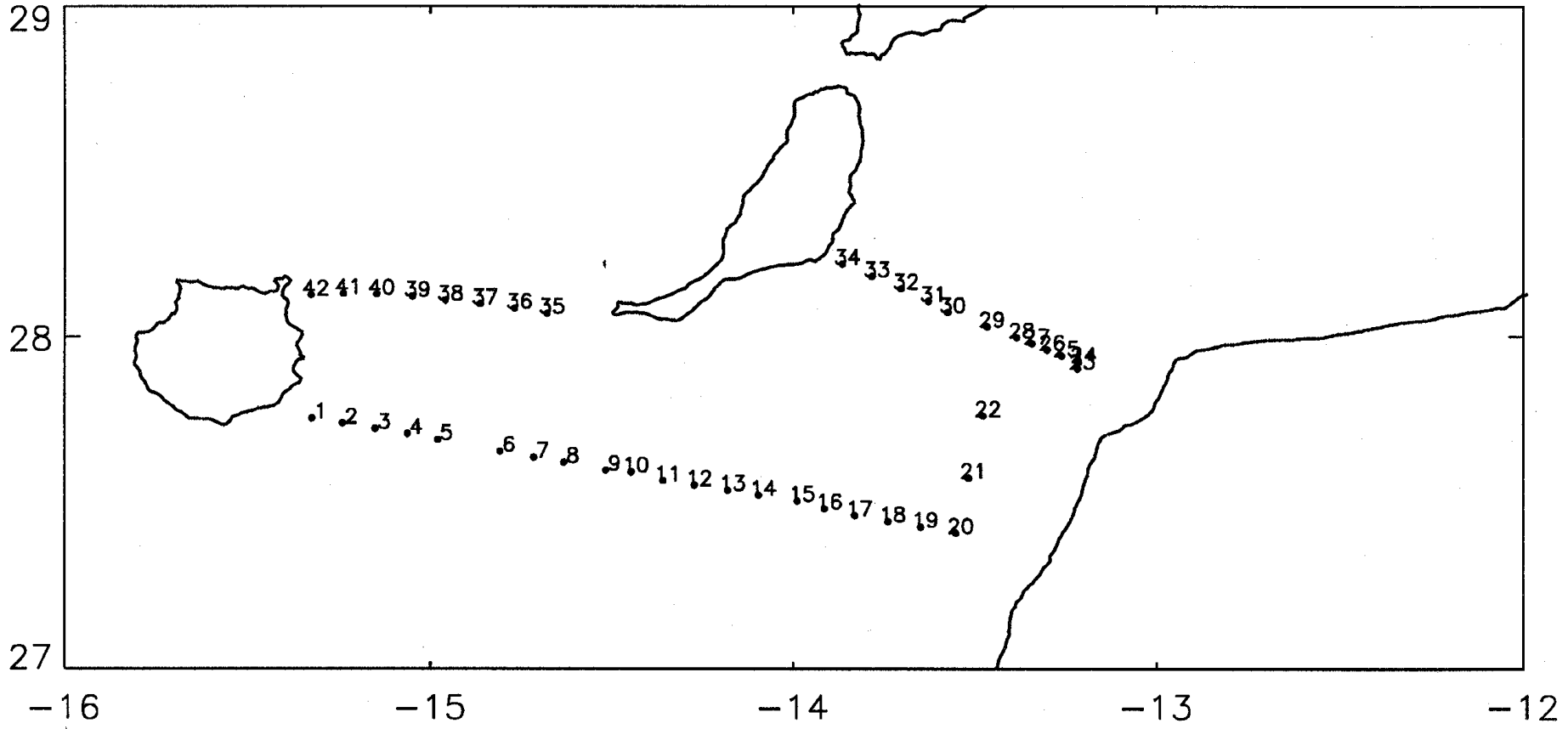
C.Bojador

10-AUG-93  
TIME 16:52





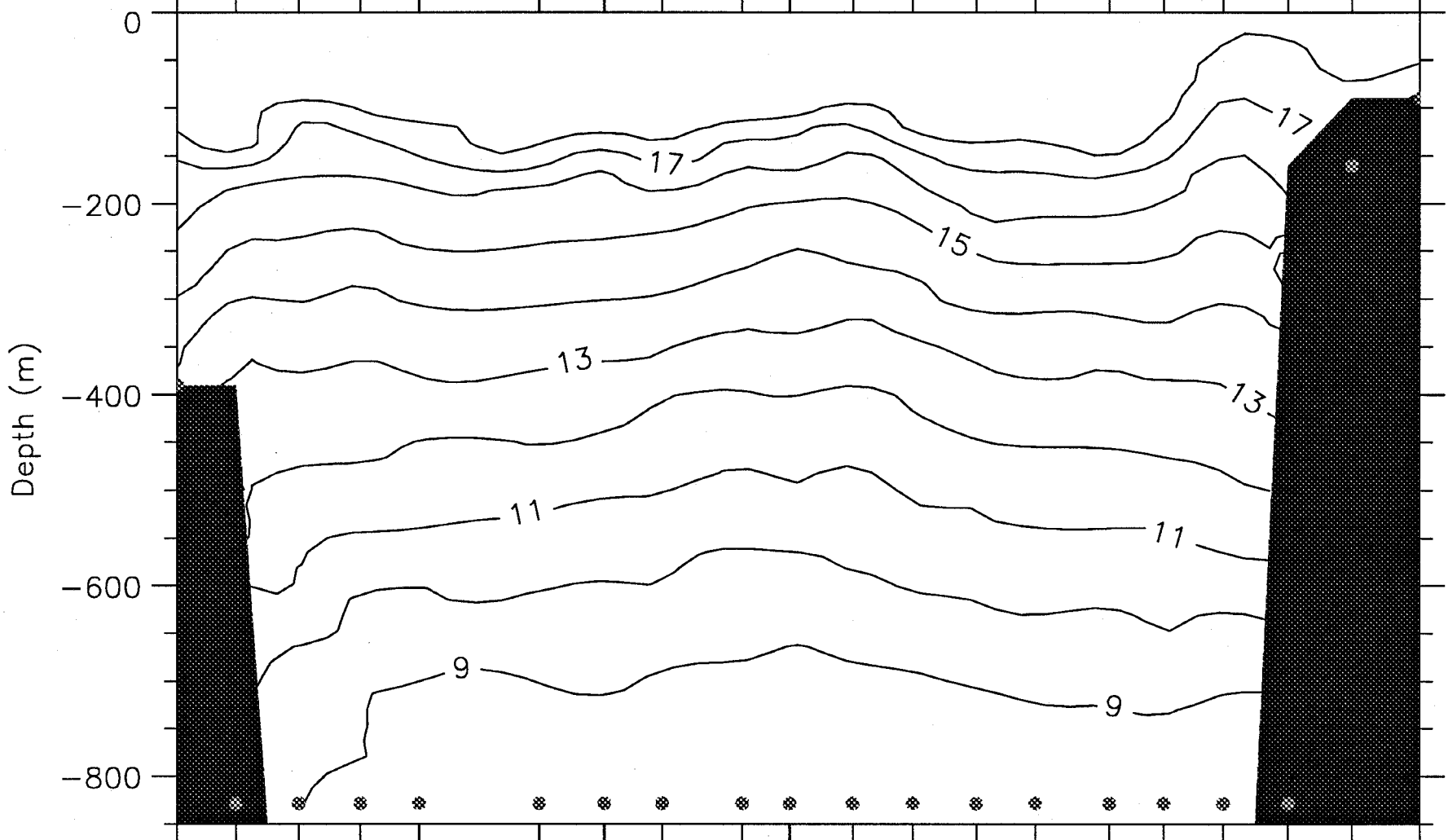
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18-03-96

Stn. number

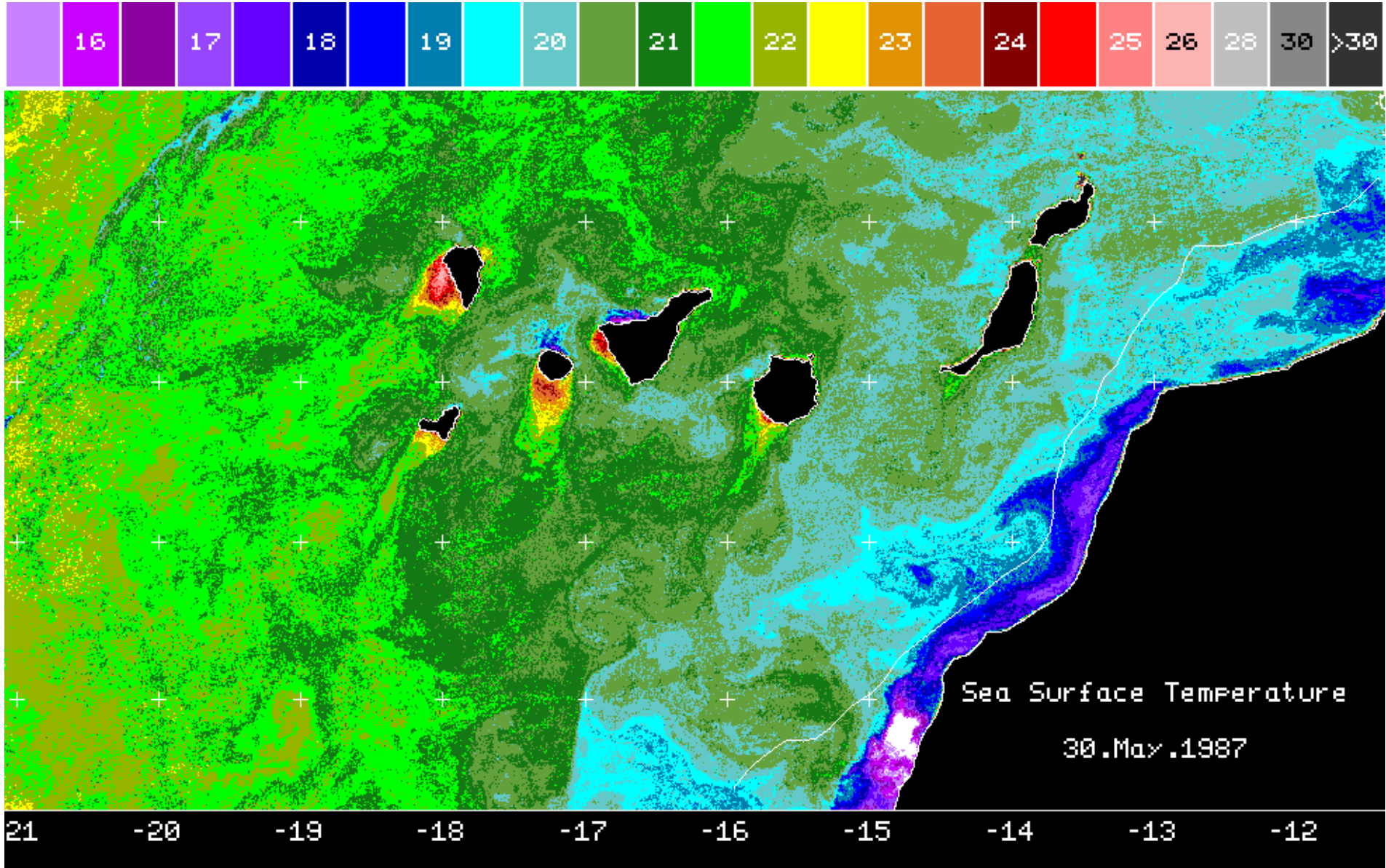
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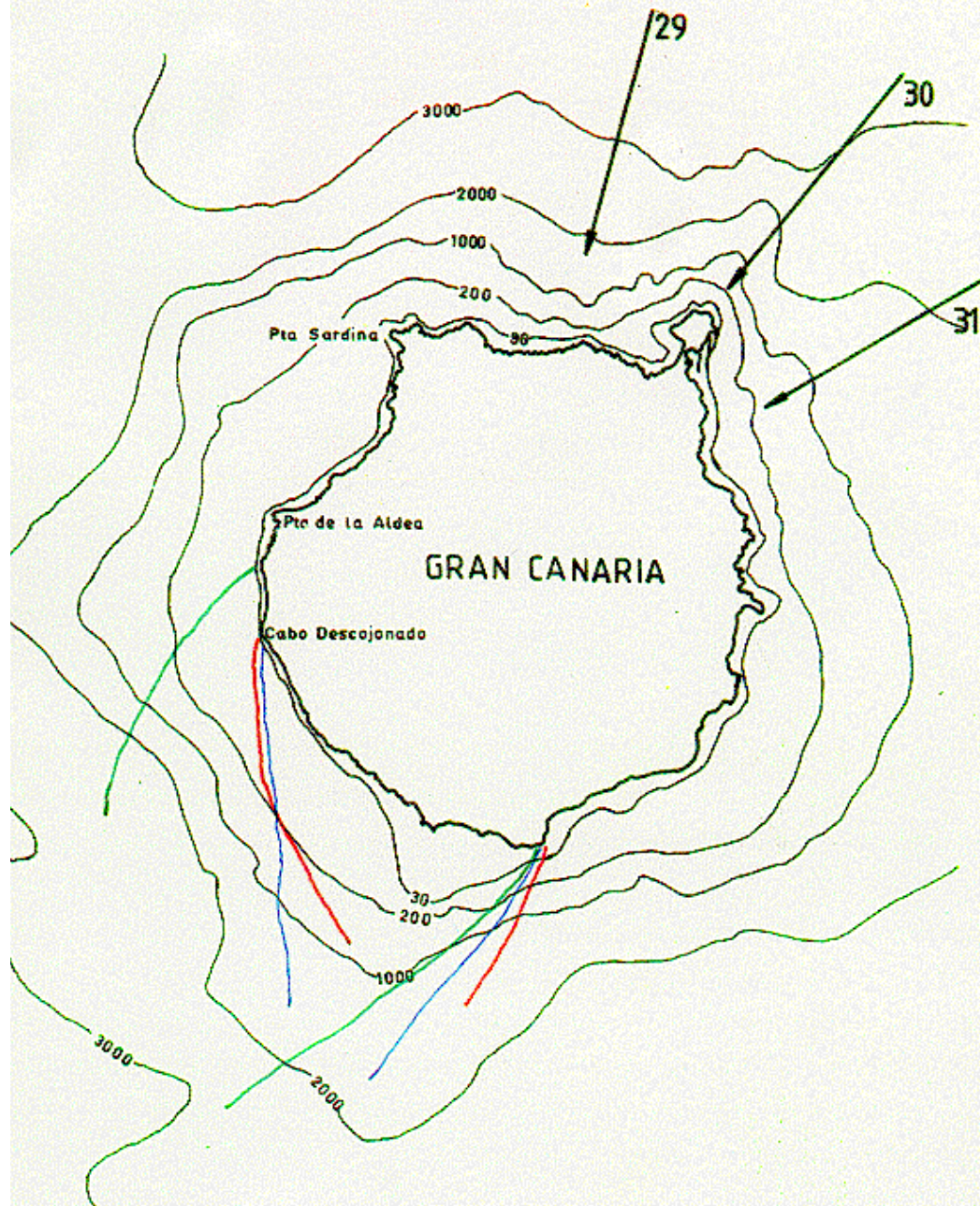
0 5 10km



# Linked to the islands



2 m/s



29°00' N

T °C  
5 m  
6-12 June 1990

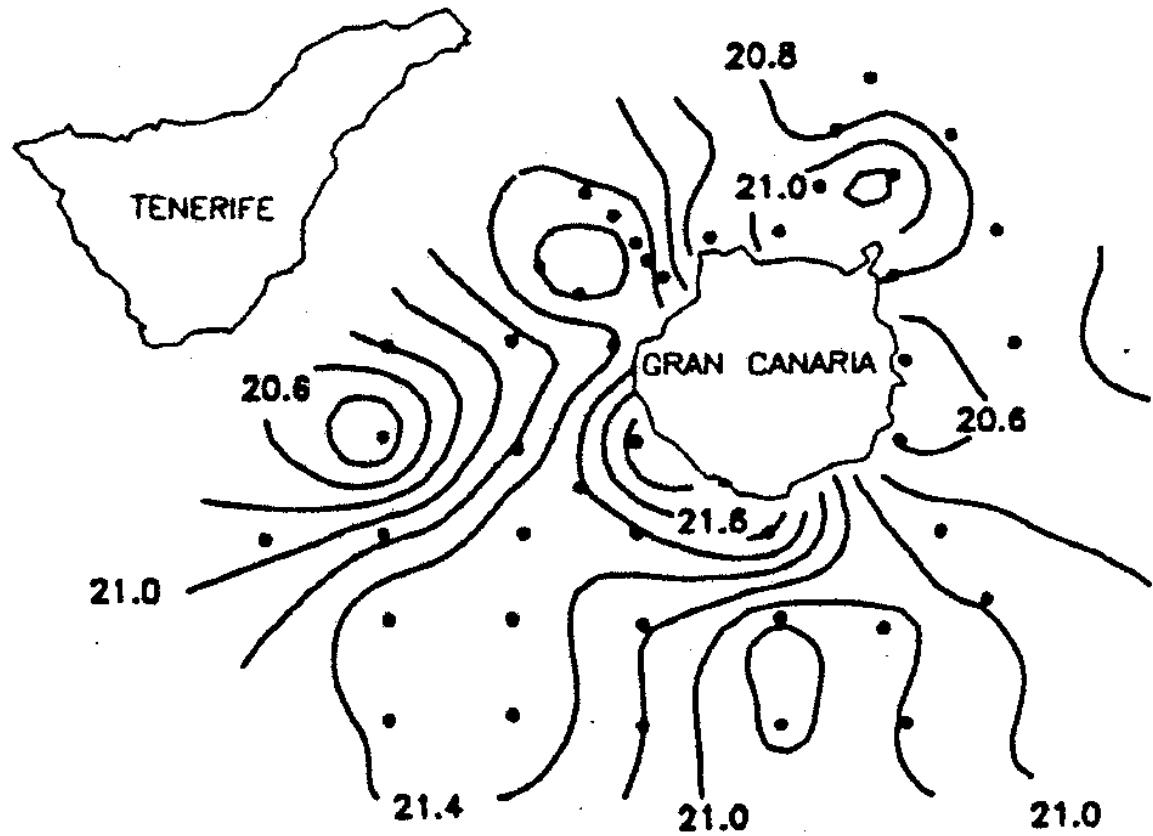
B

28°30' N

28°00' N

27°30' N

27°00' N



17°00' W

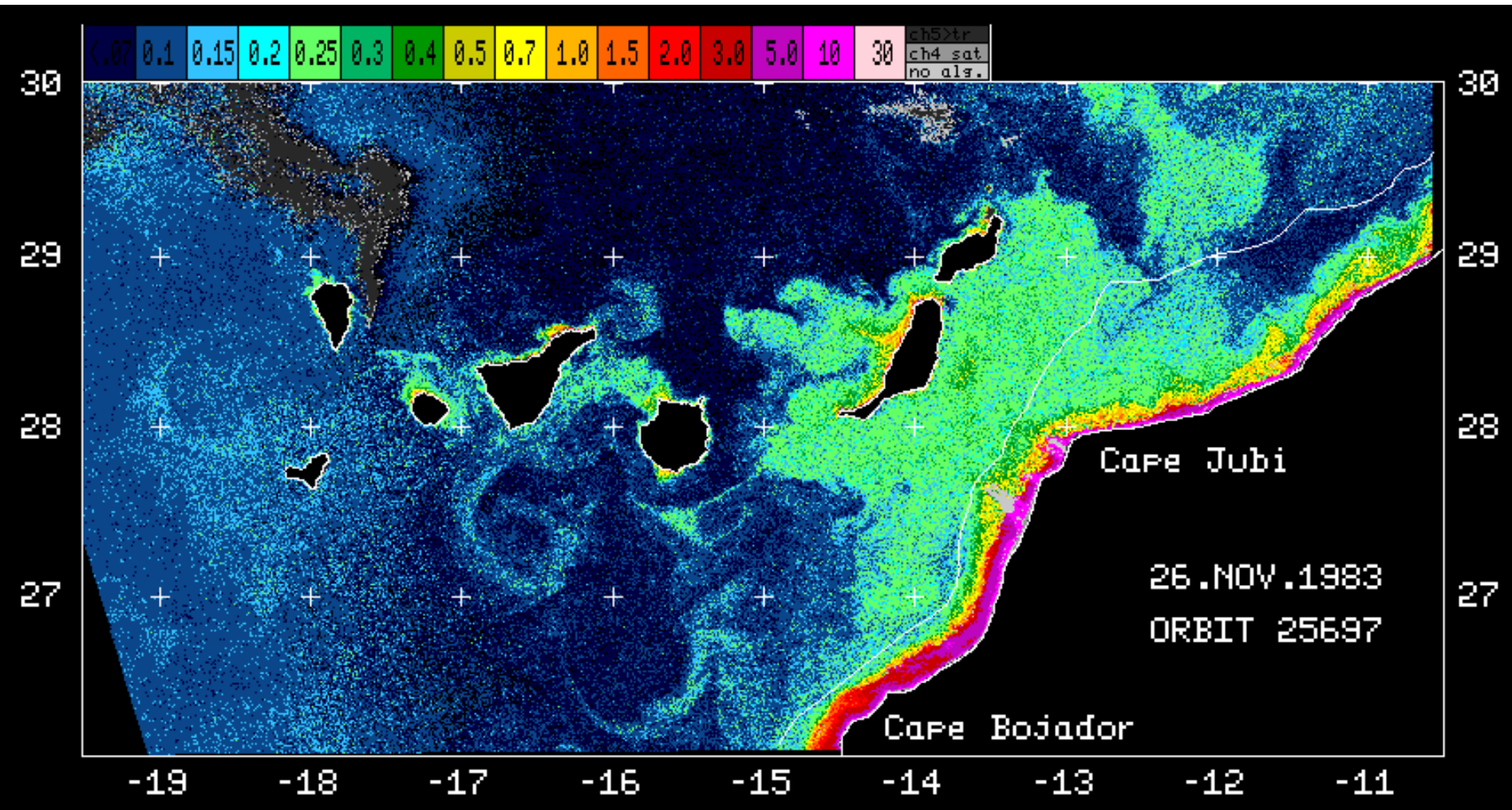
16°30' W

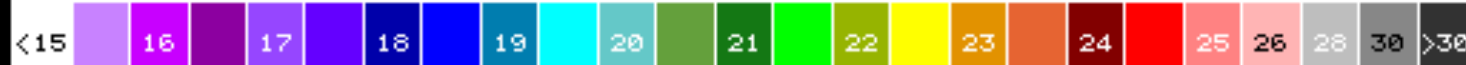
16°00' W

15°30' W

15°00' W

# Eddies





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SST  
23.March.1991  
14:53

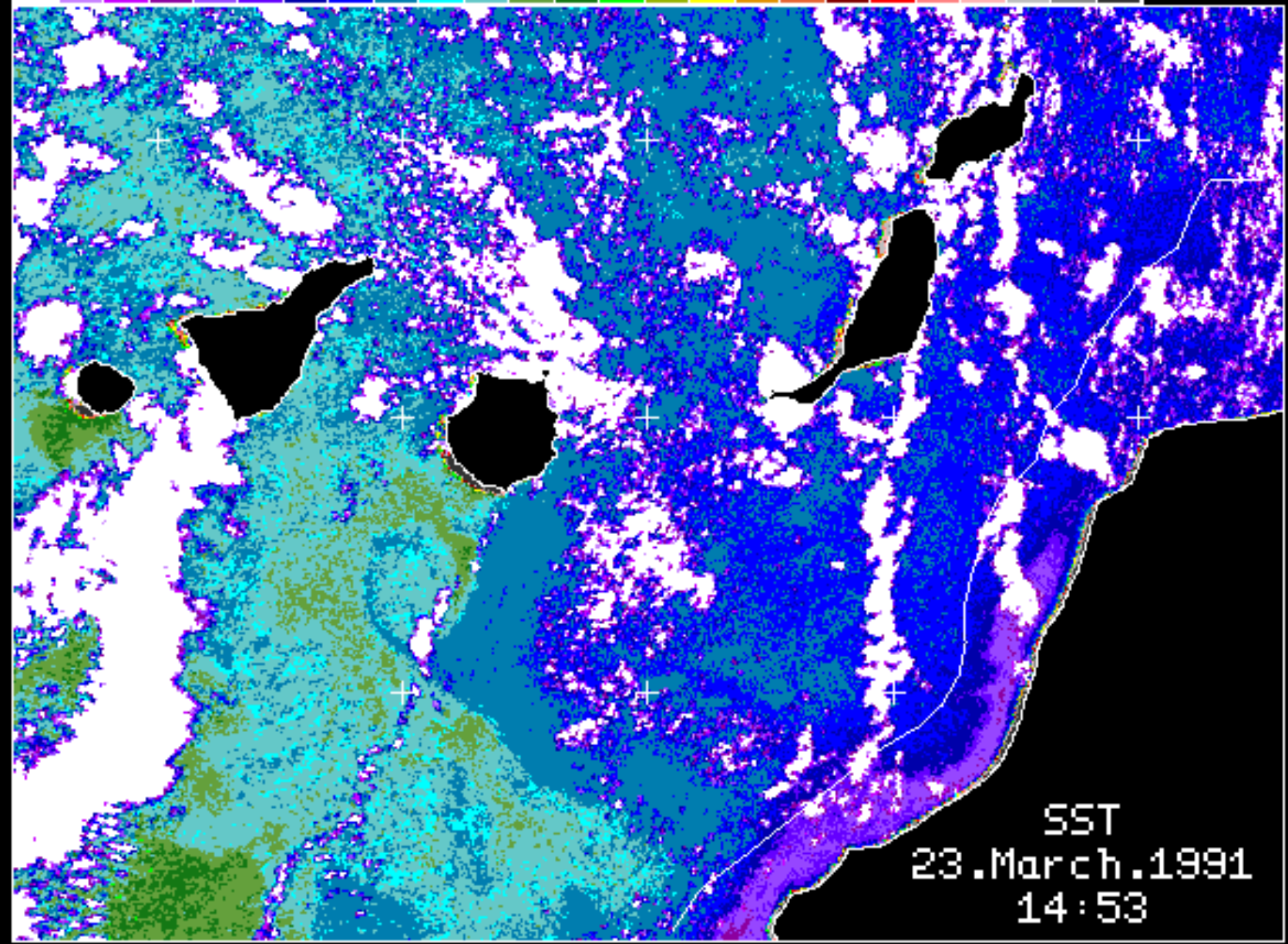
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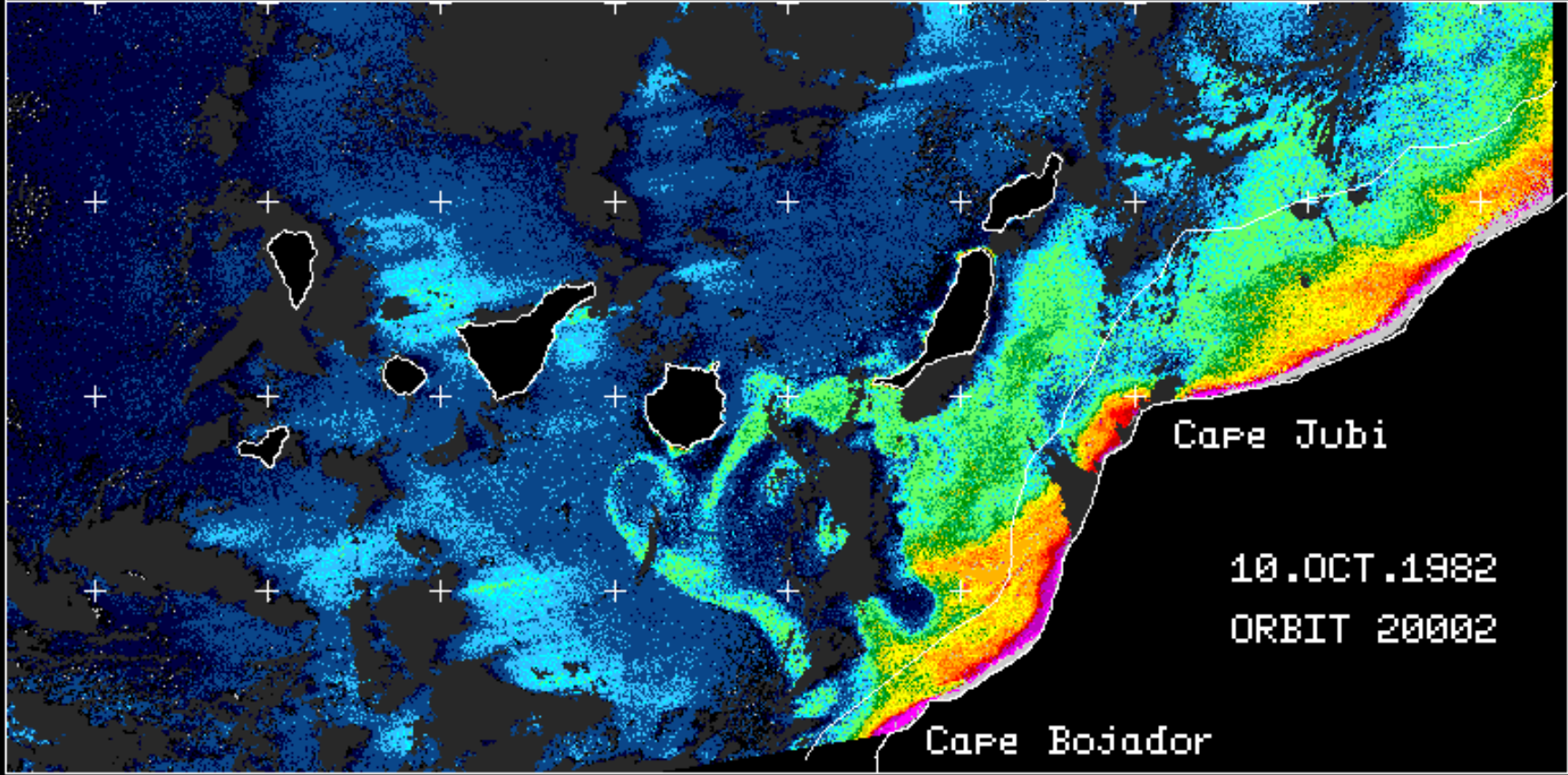
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Cape Jubi

10.OCT.1982  
ORBIT 20002

Cape Bojador

-19 -18 -17 -16 -15 -14 -13 -12 -11

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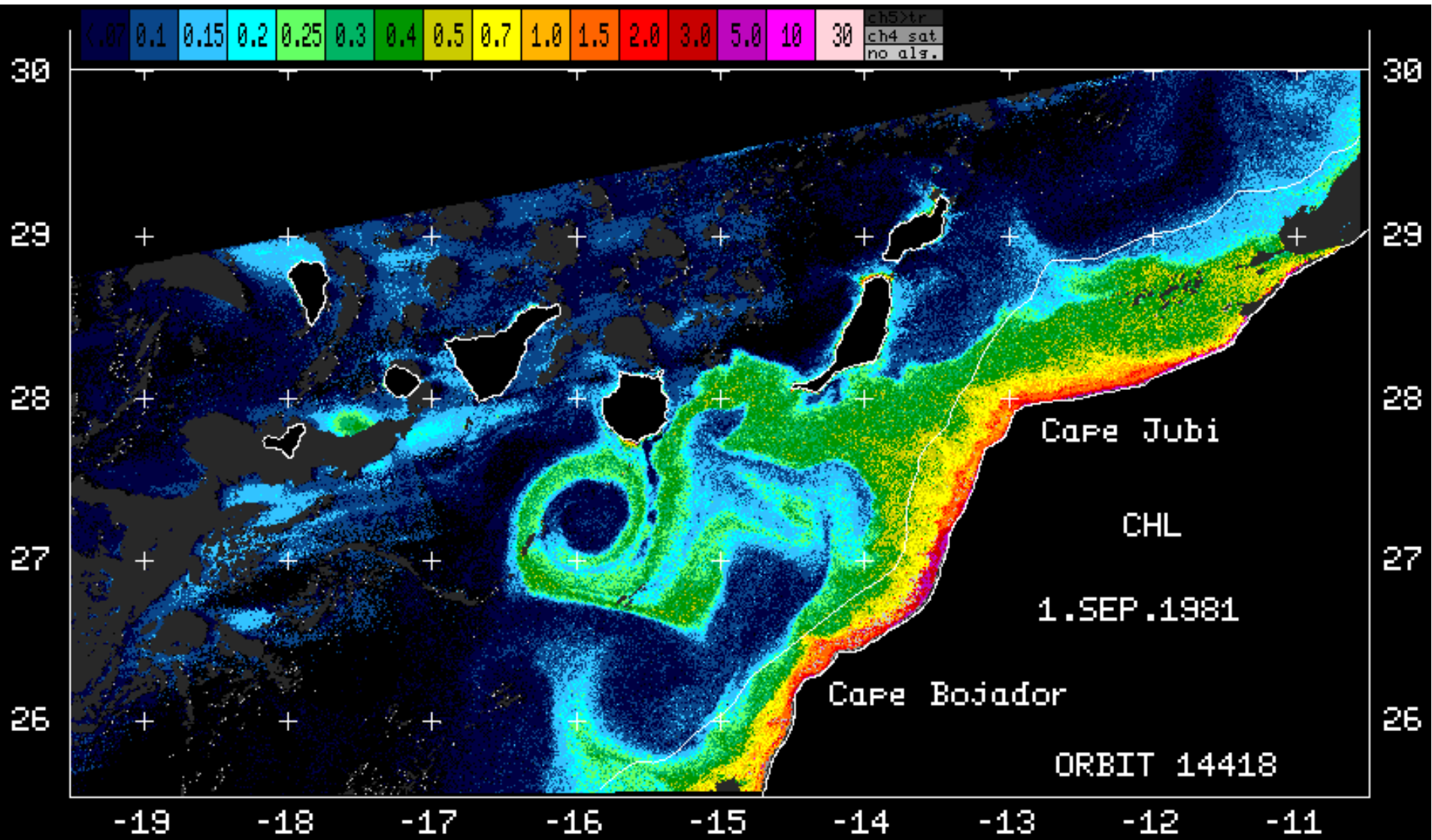
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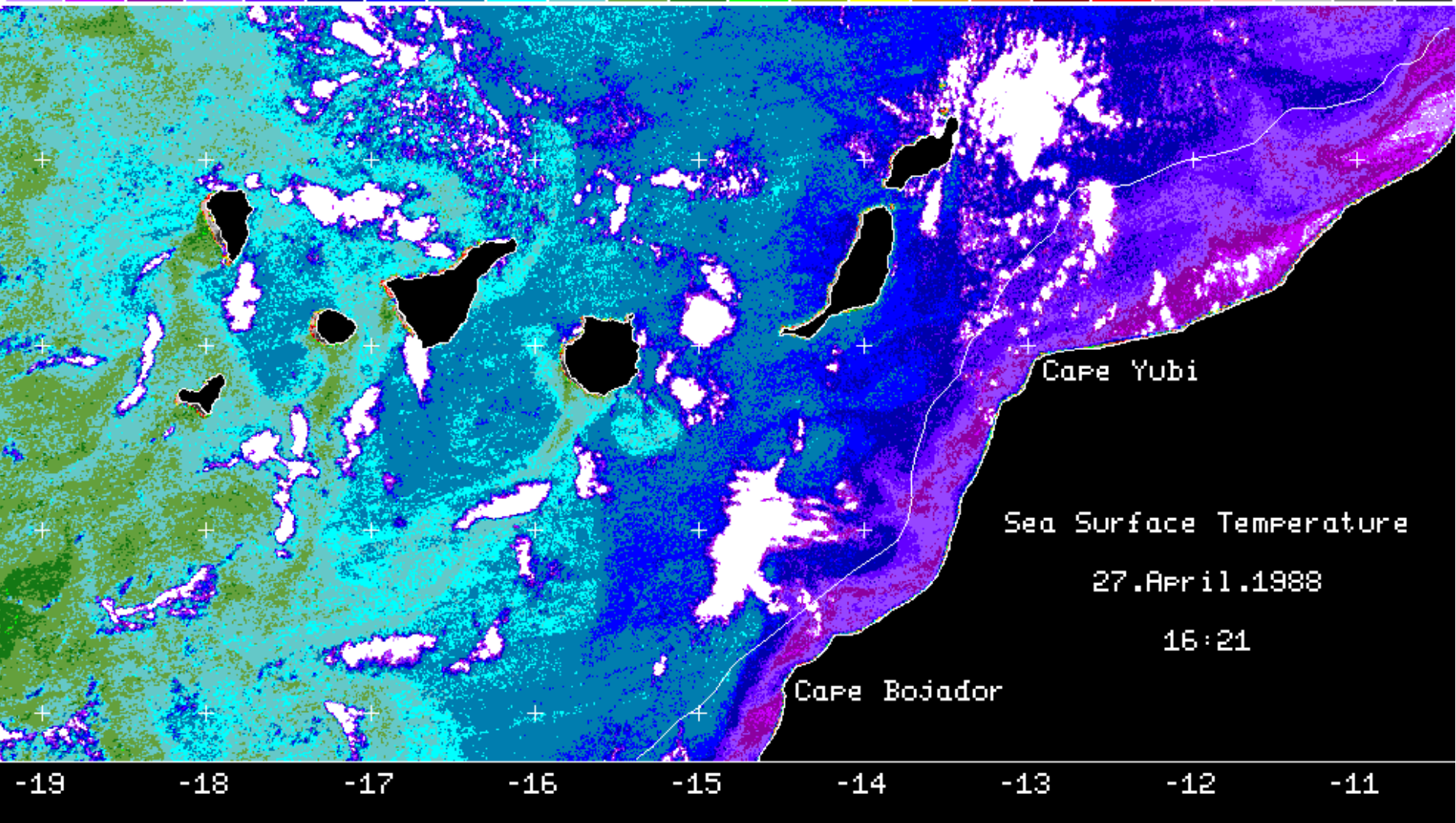
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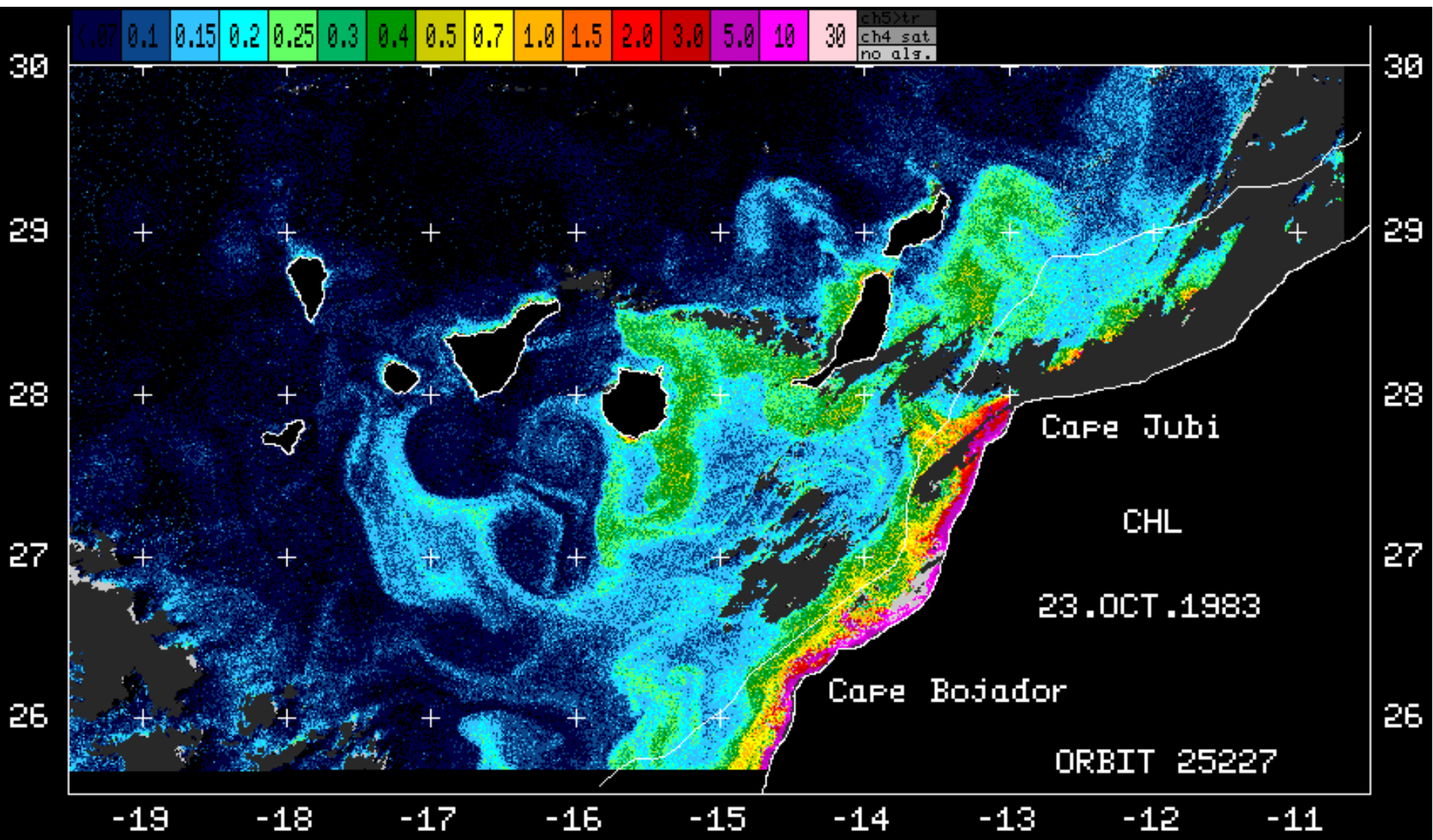
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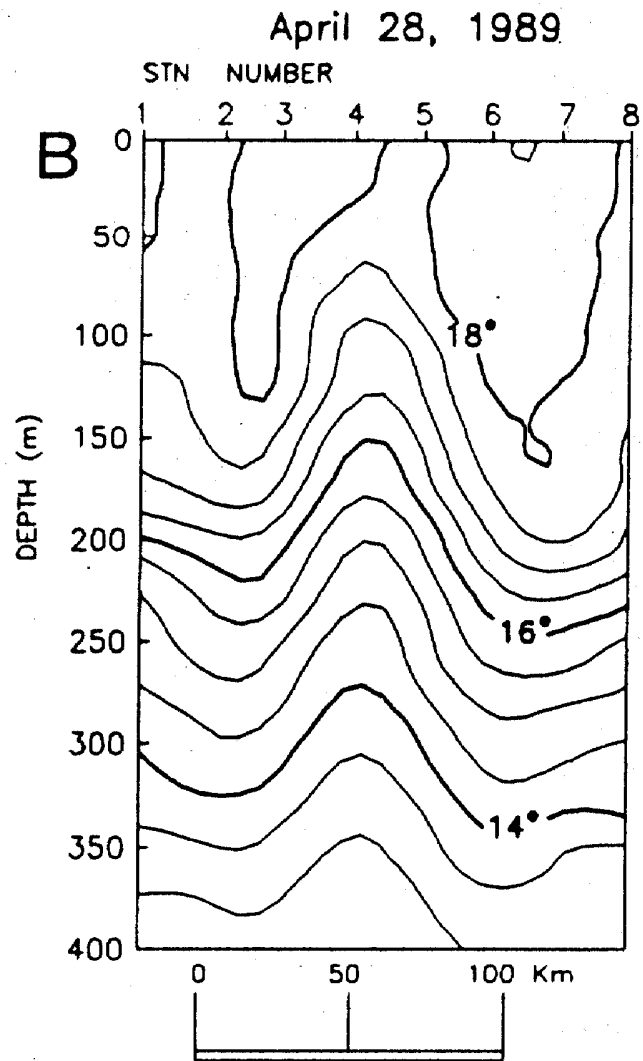
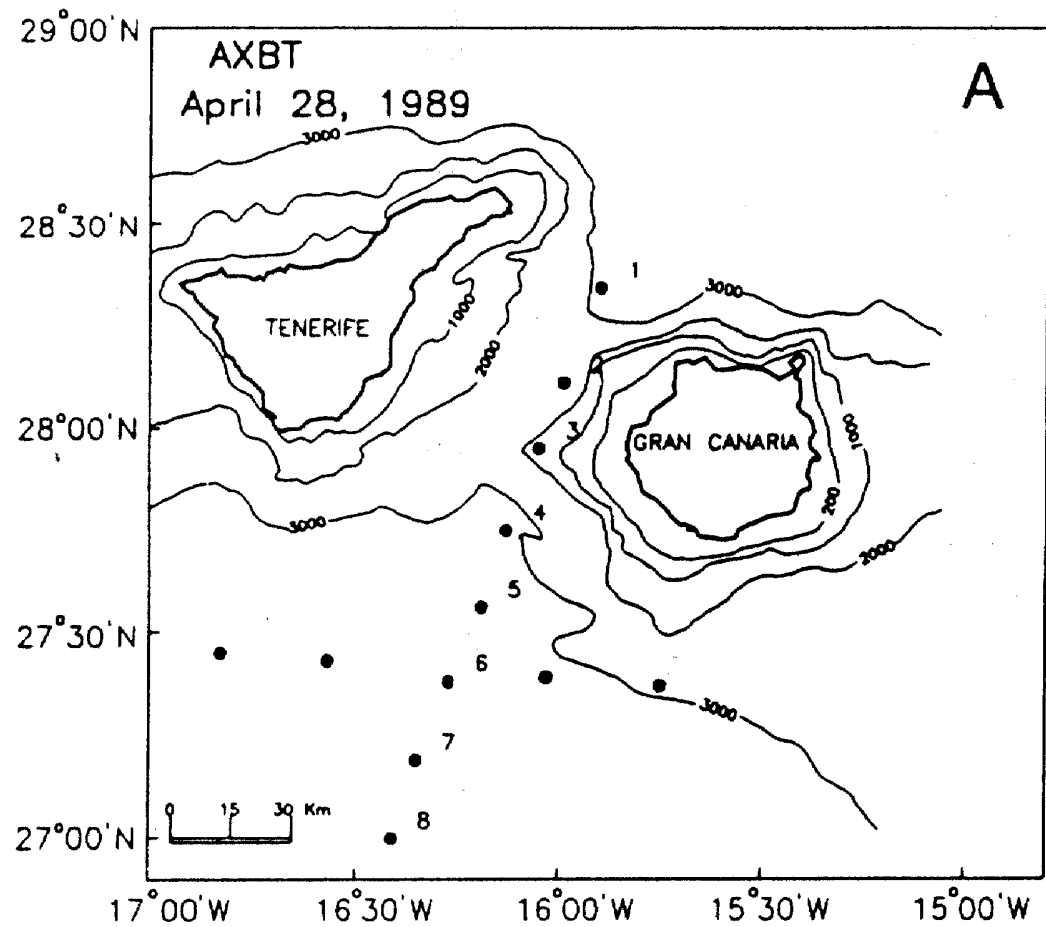
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29°00'N

$\Delta h = 10$  m  
May 5, 1989

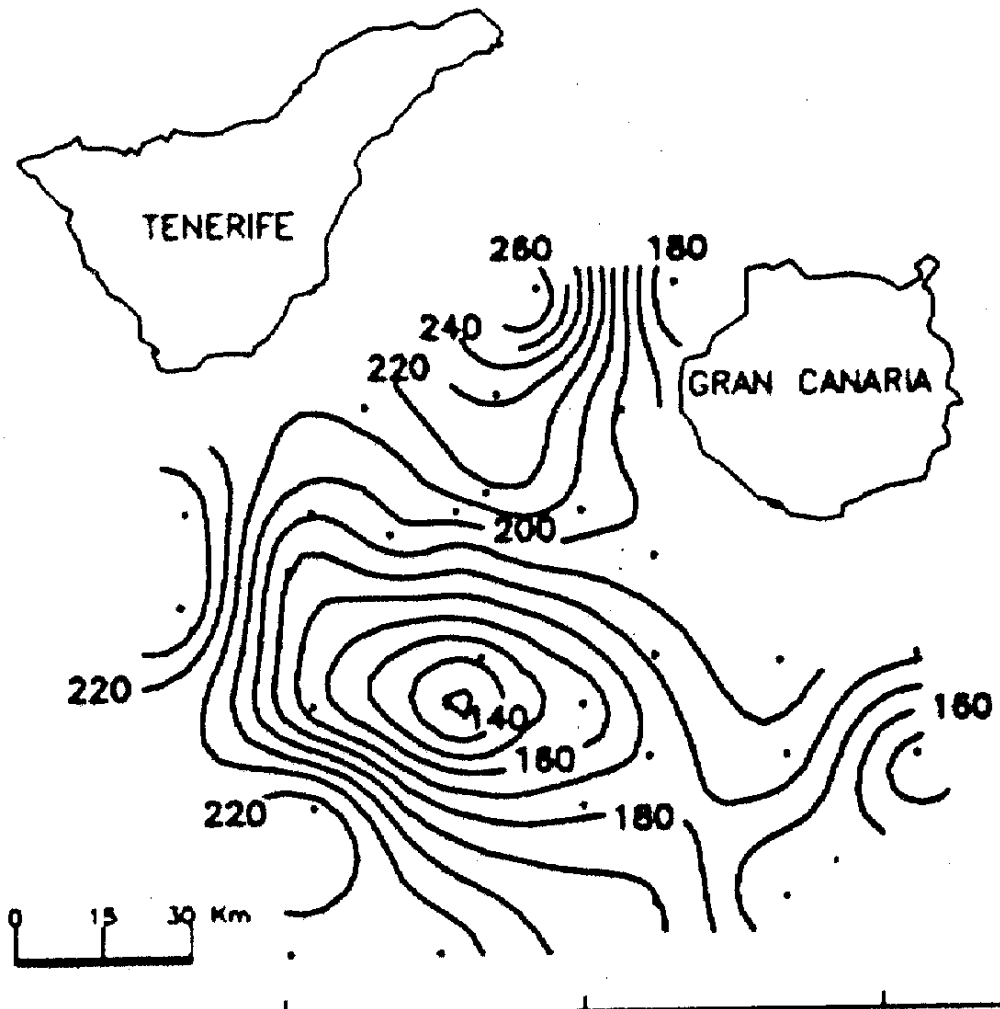
A

28°30'N

28°00'N

27°30'N

27°00'N



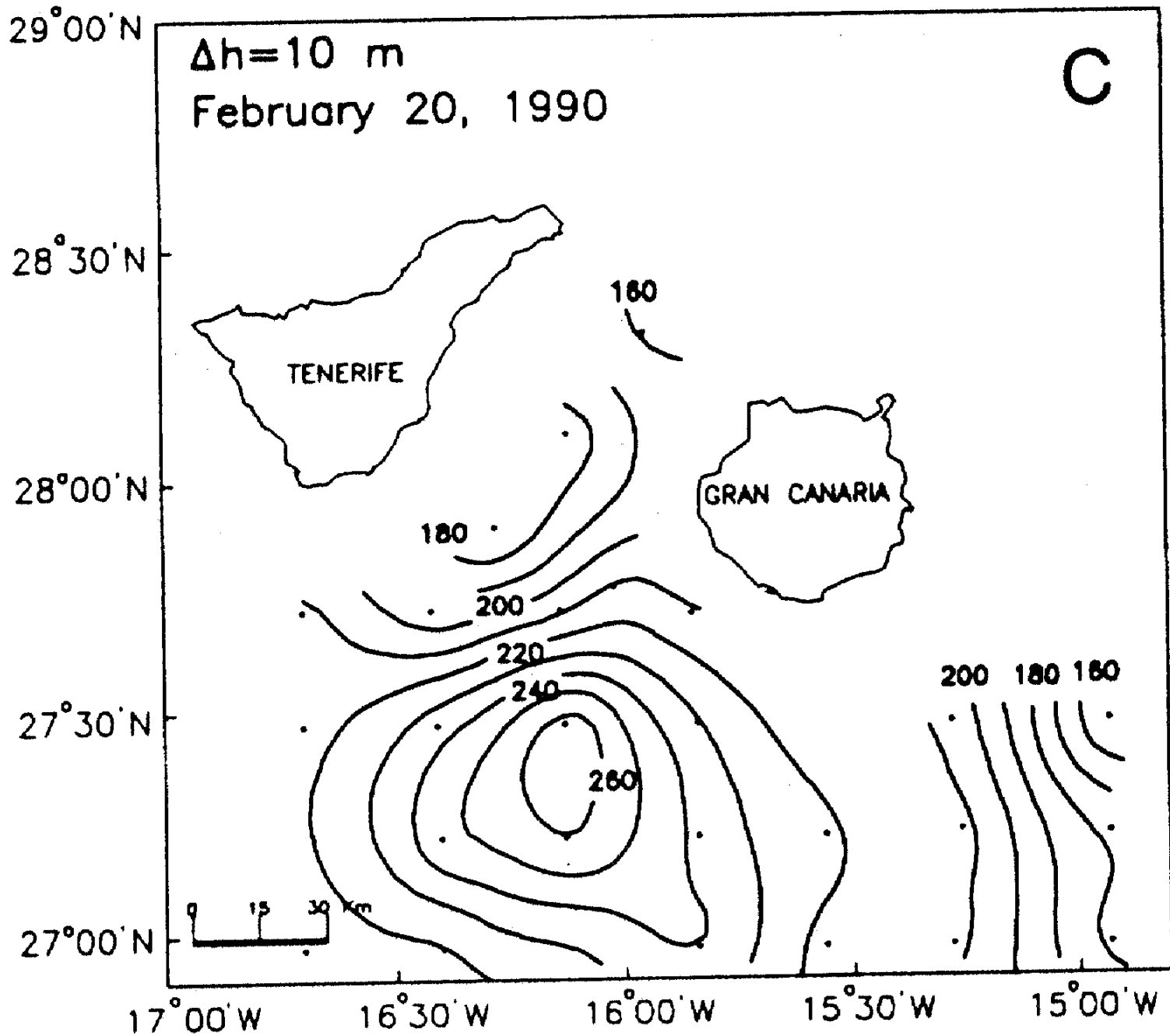
17°00'W

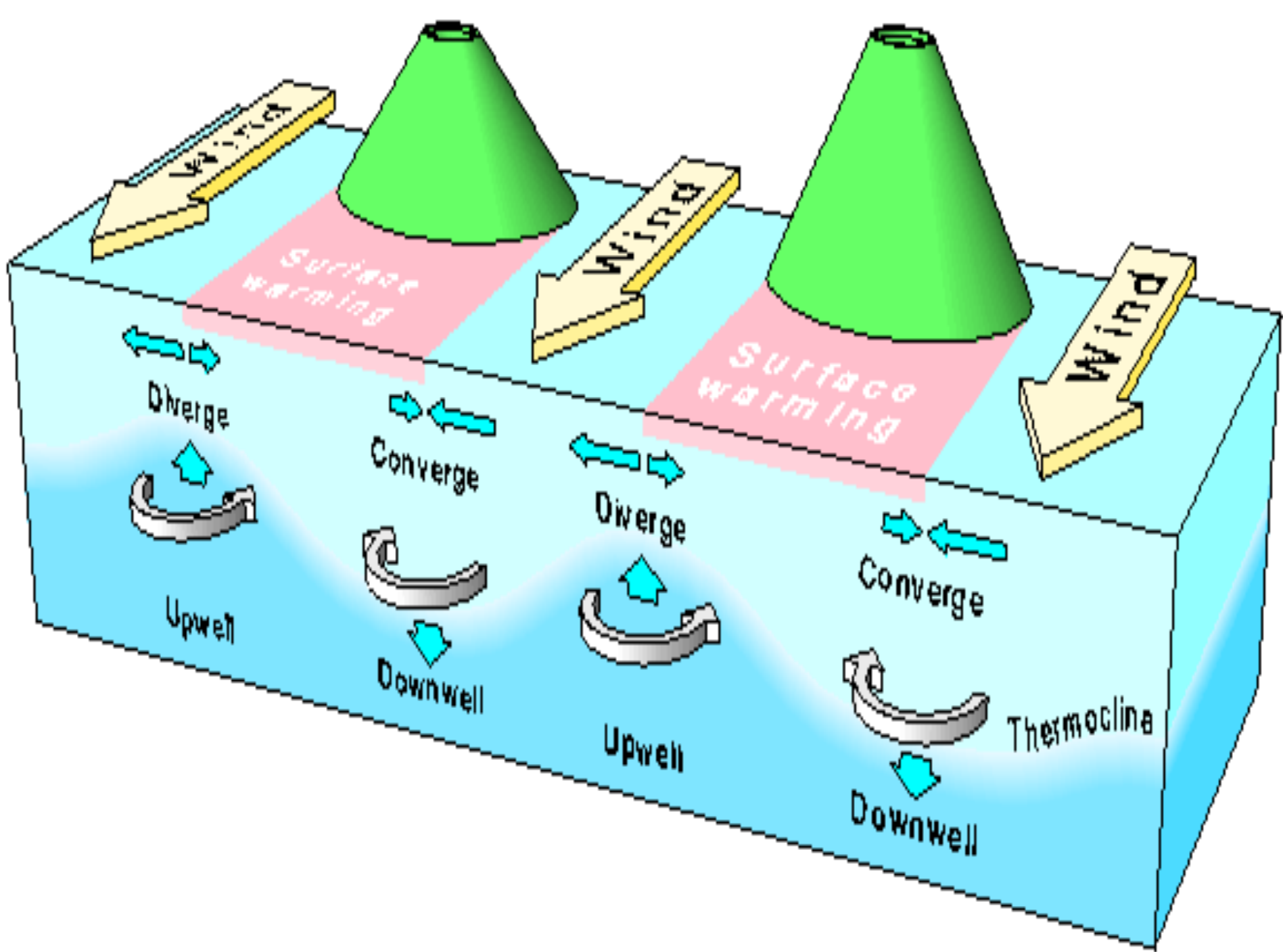
16°30'W

16°00'W

15°30'W

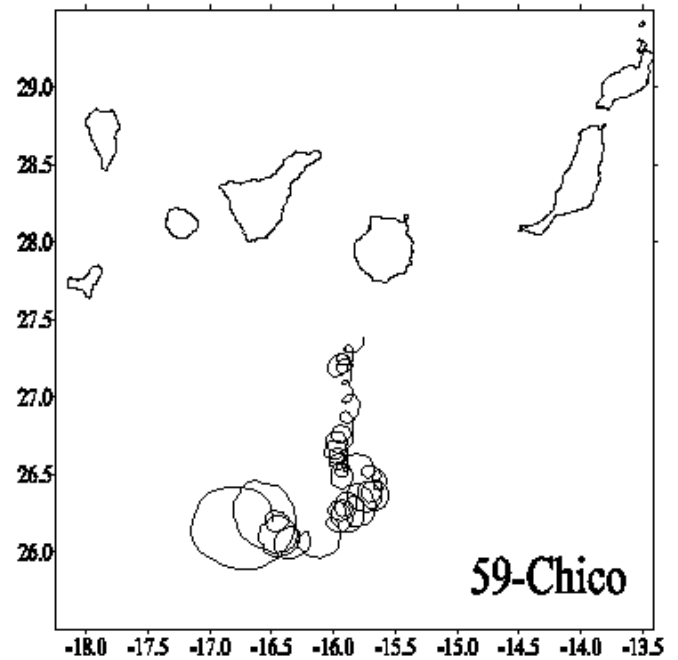
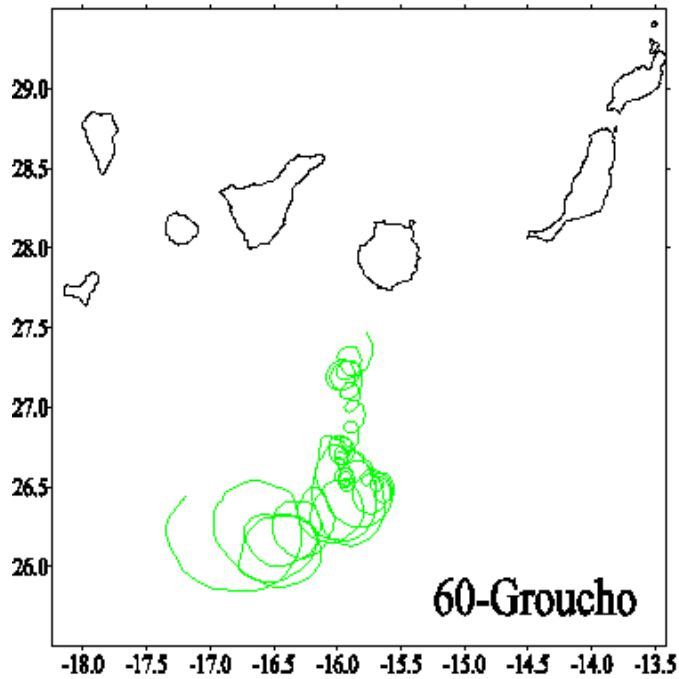
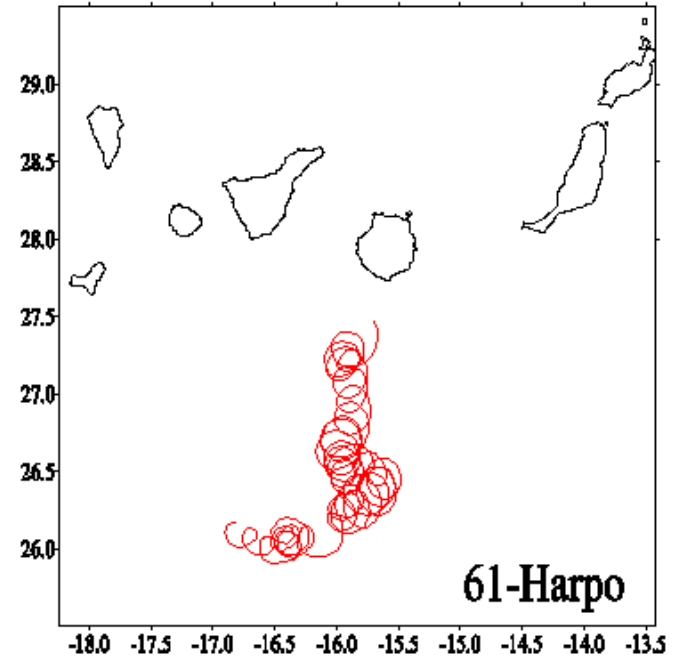
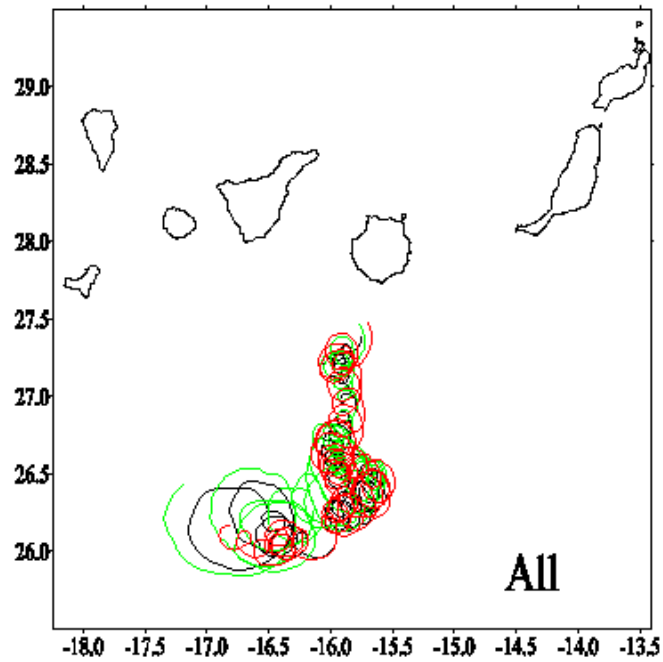
15°00'W

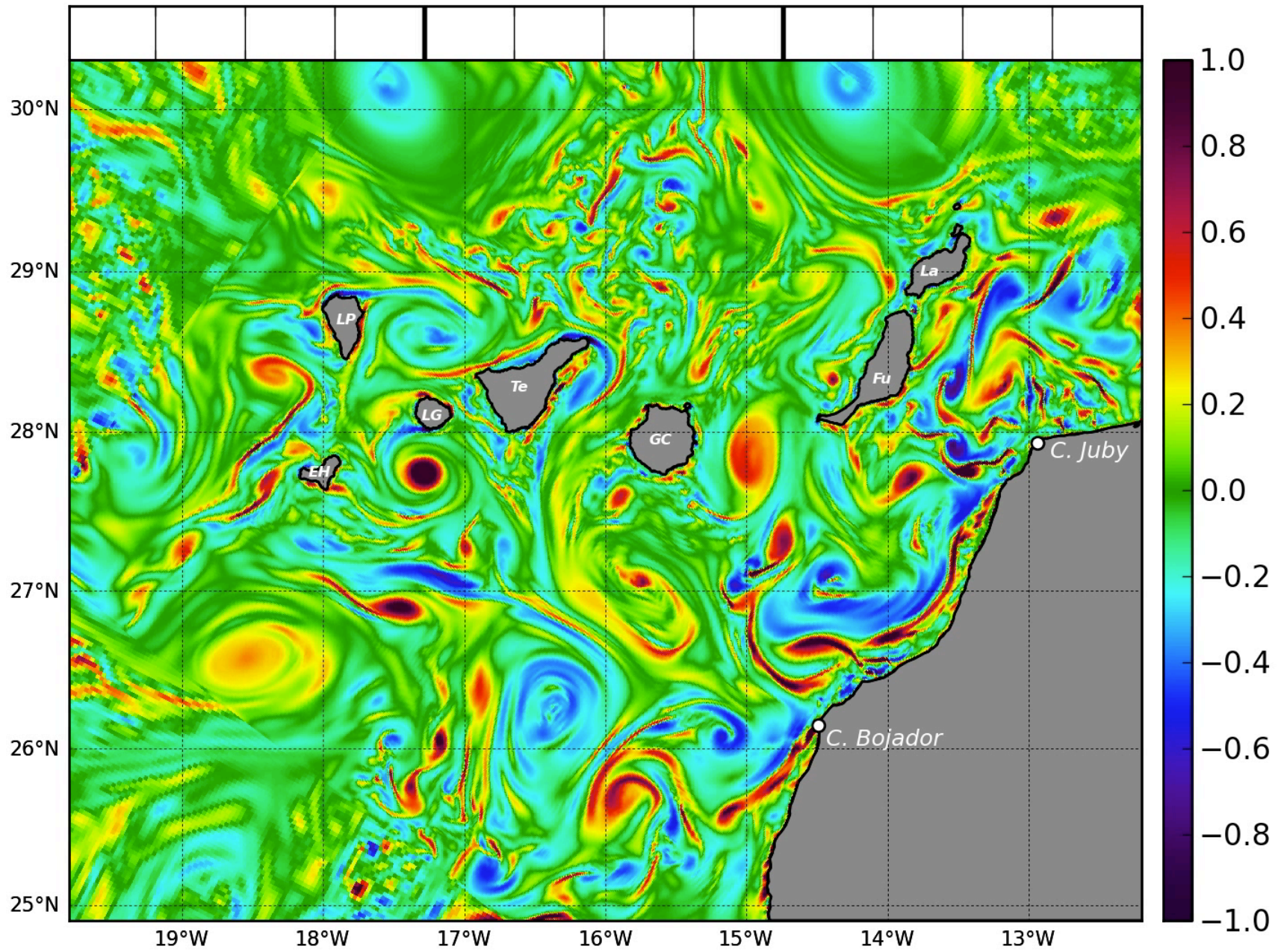




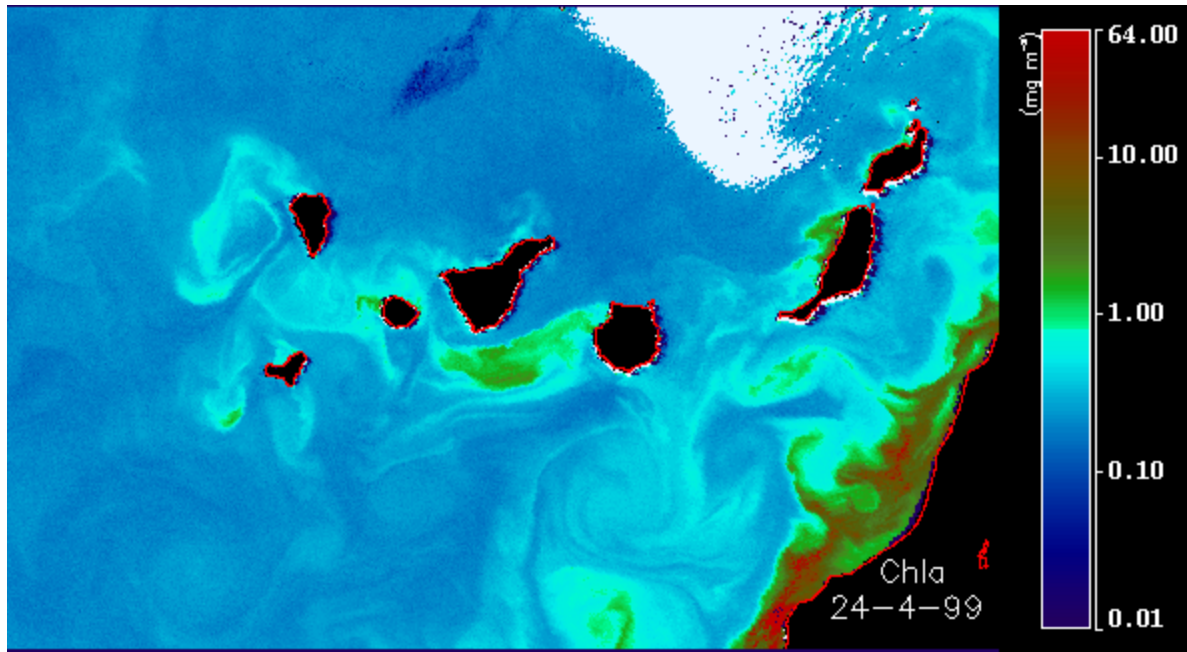


# Marx Brothers Tracks-29 july/6 october (99 days)



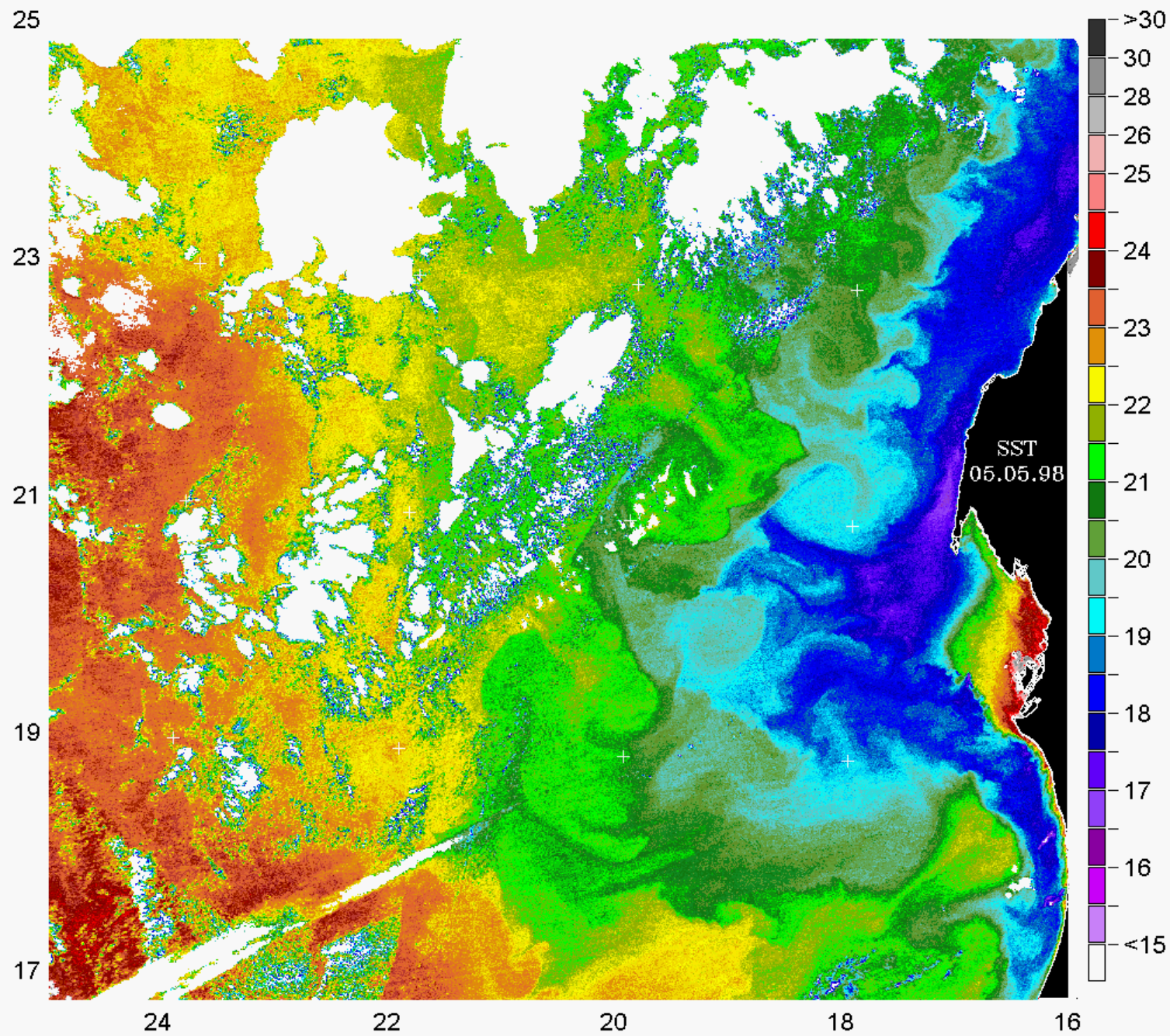


# Oceanographic features observed by satellite in the Canary Islands



# Cape Blanc

Sea Surface Temperature images



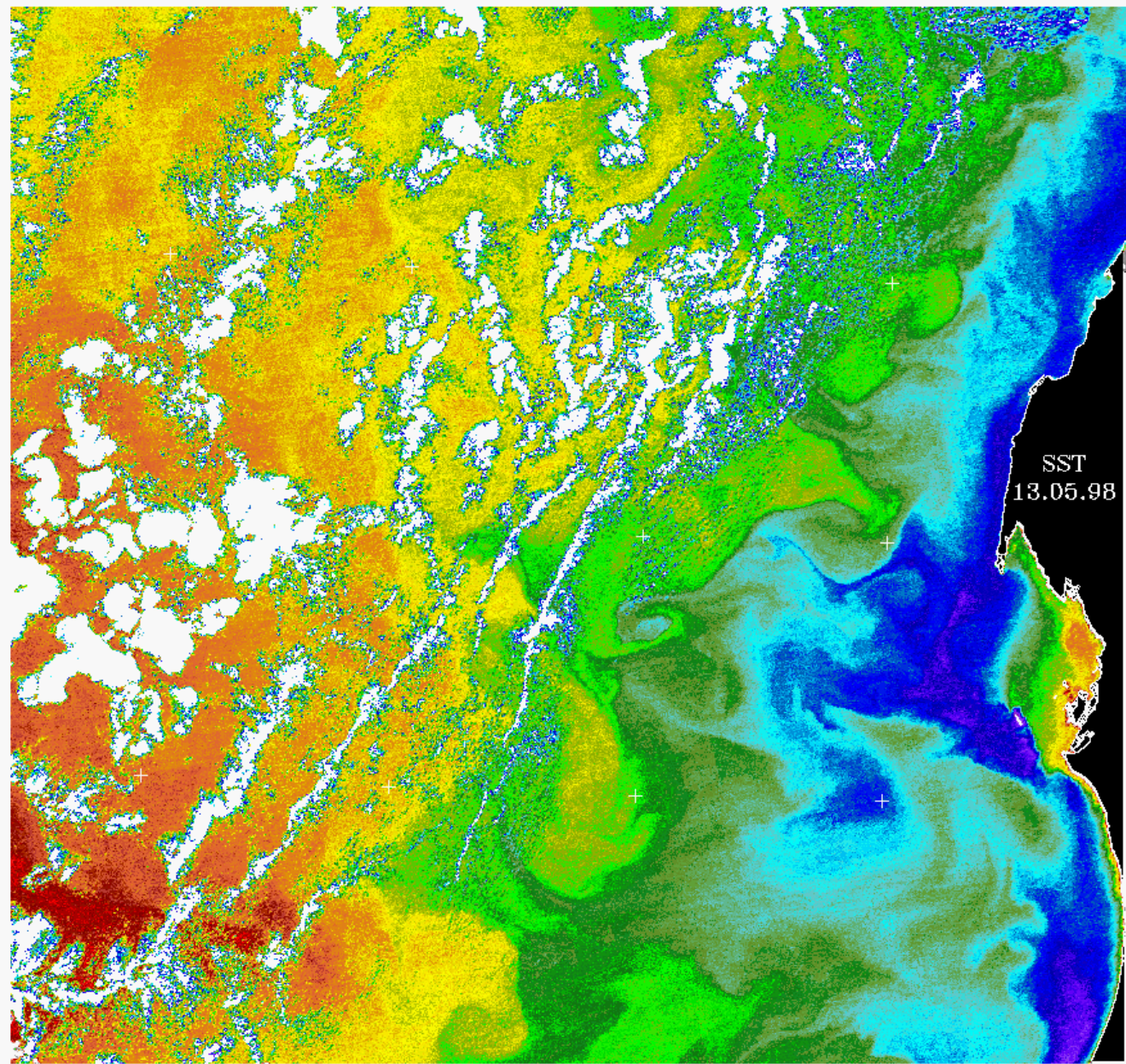
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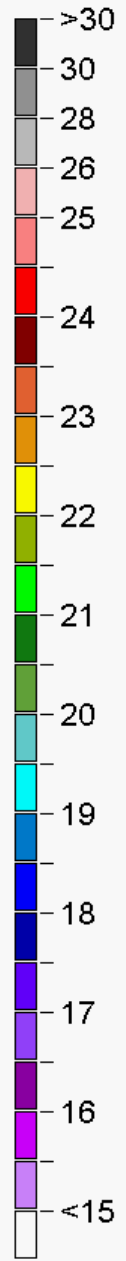
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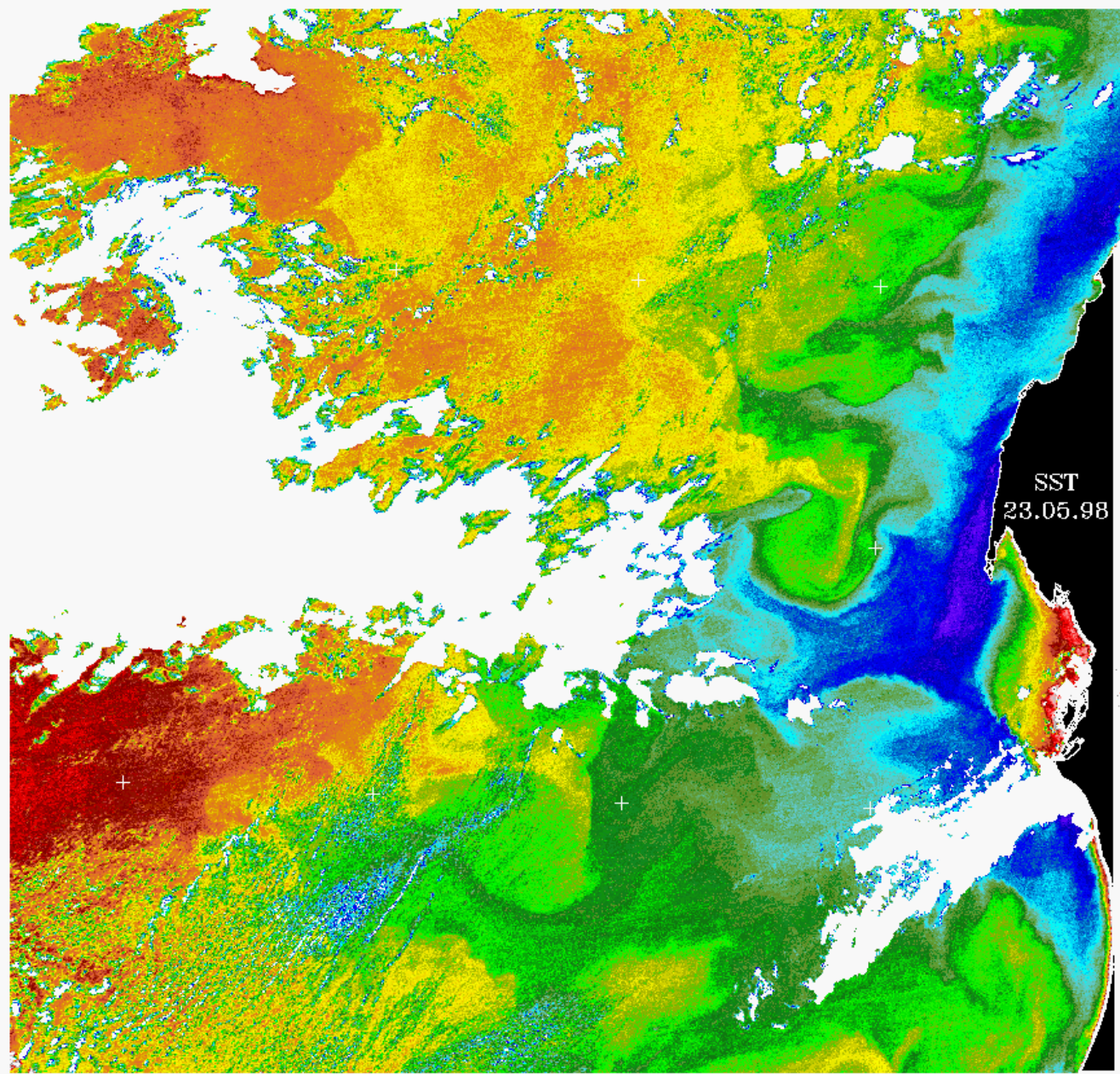
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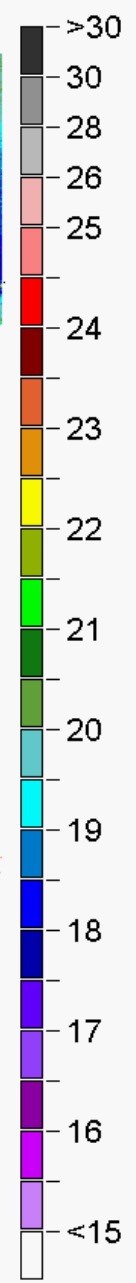
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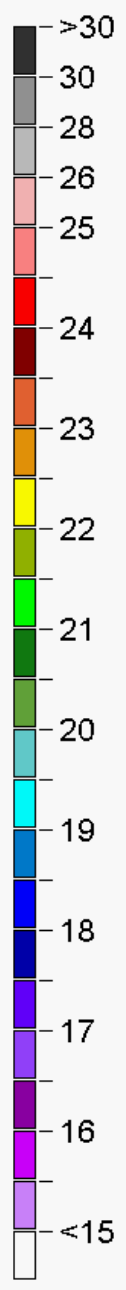
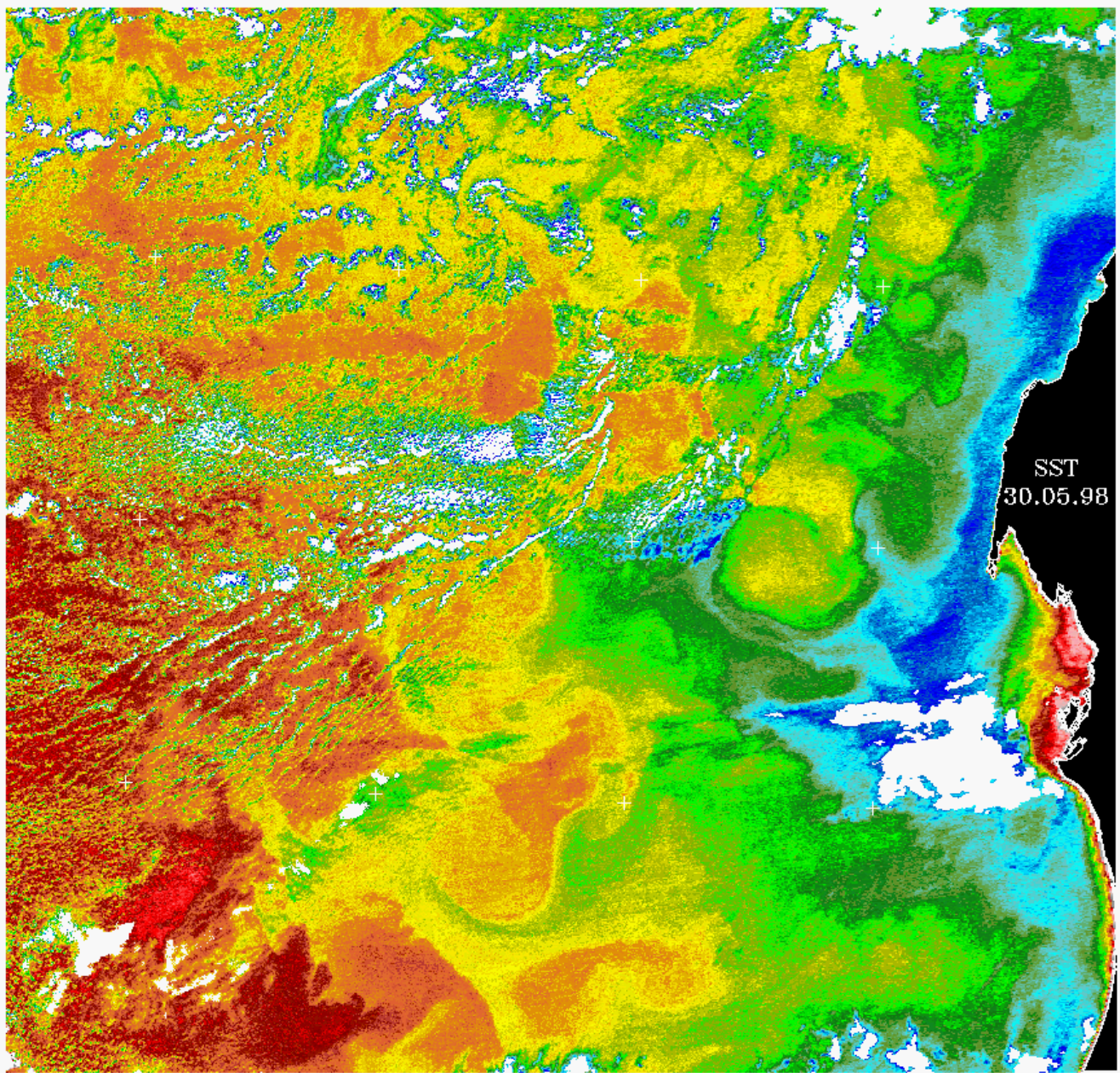
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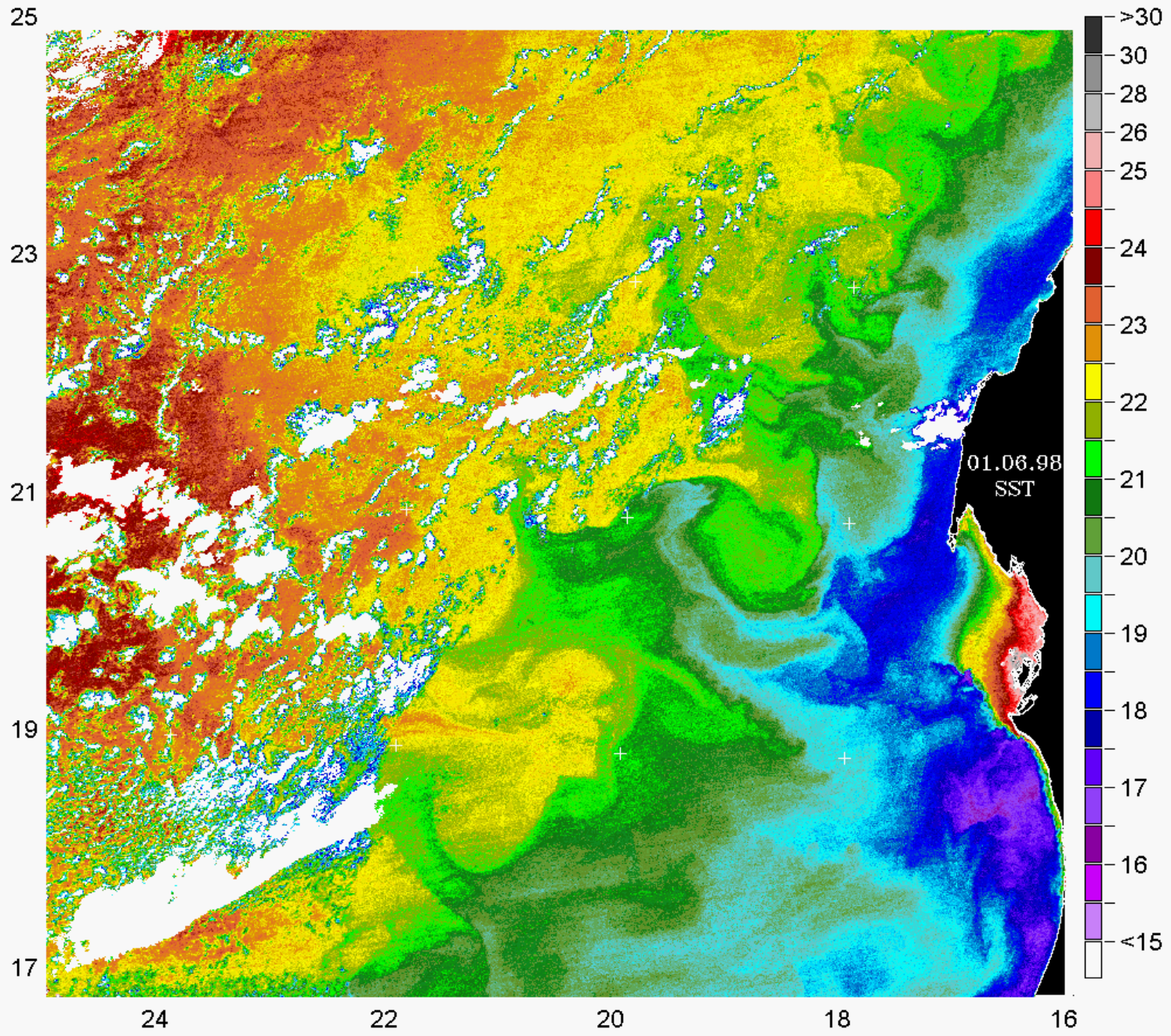


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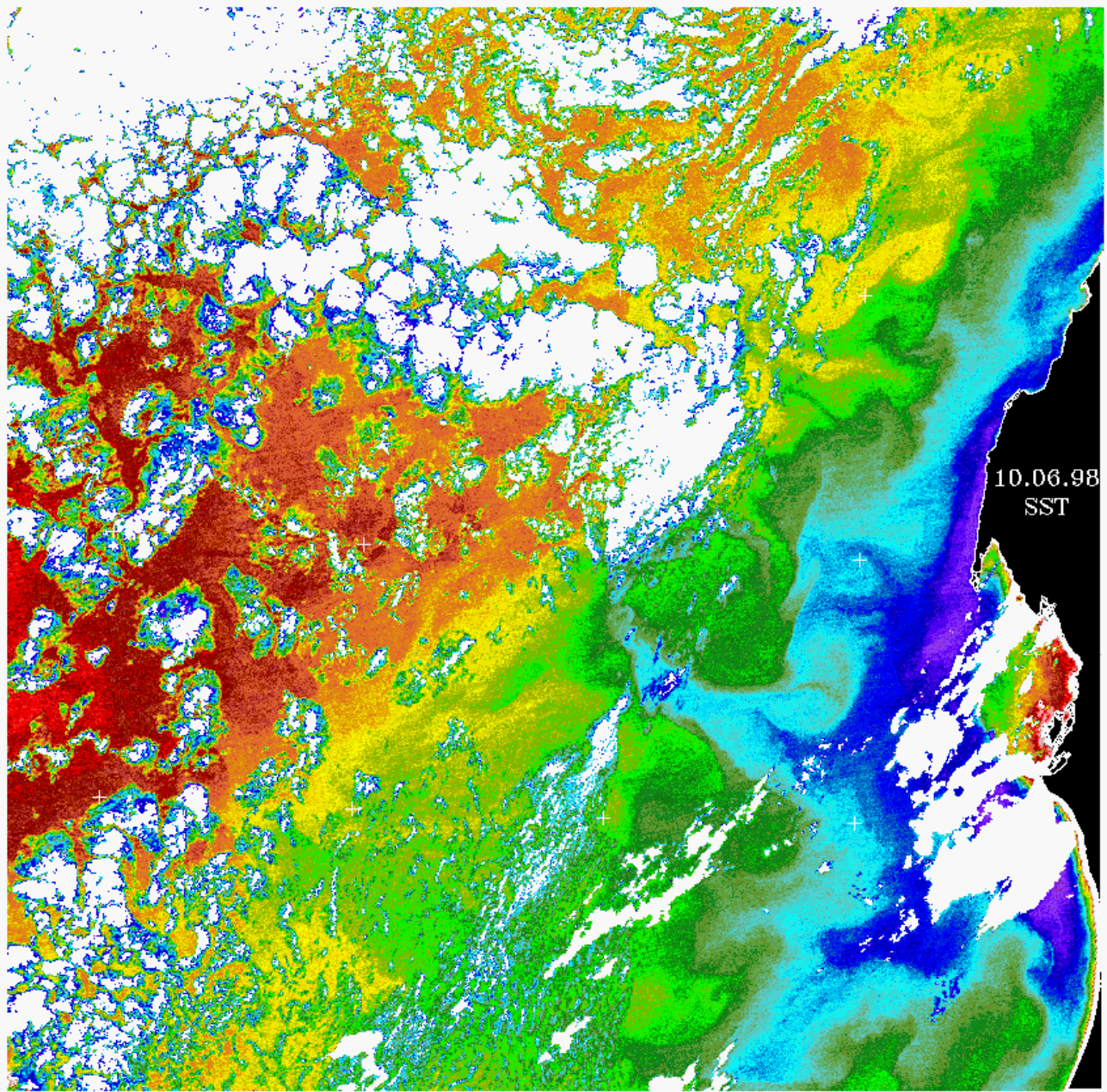
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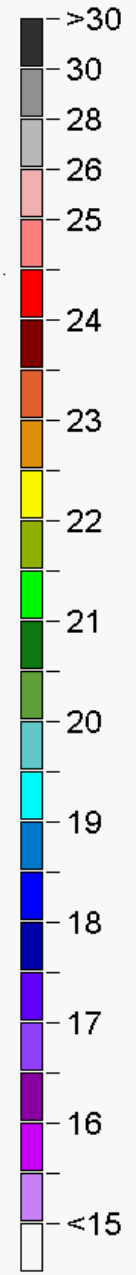
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10.06.98  
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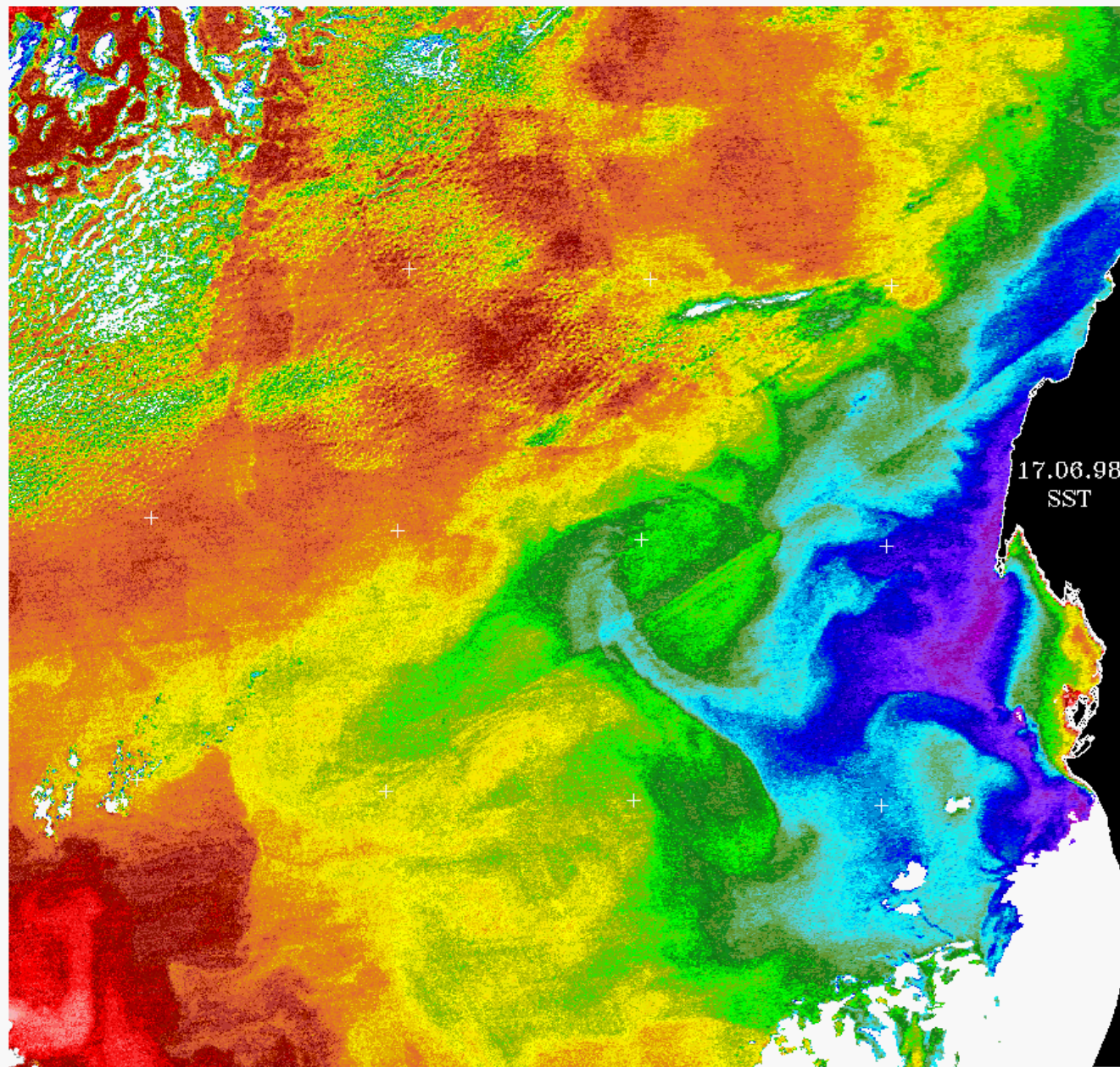
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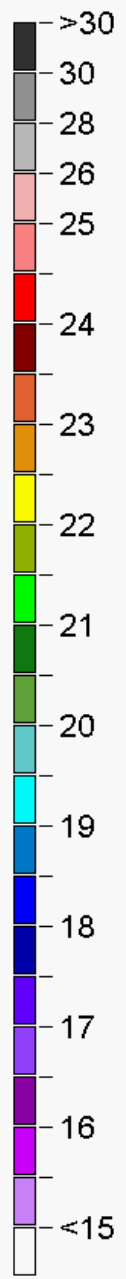
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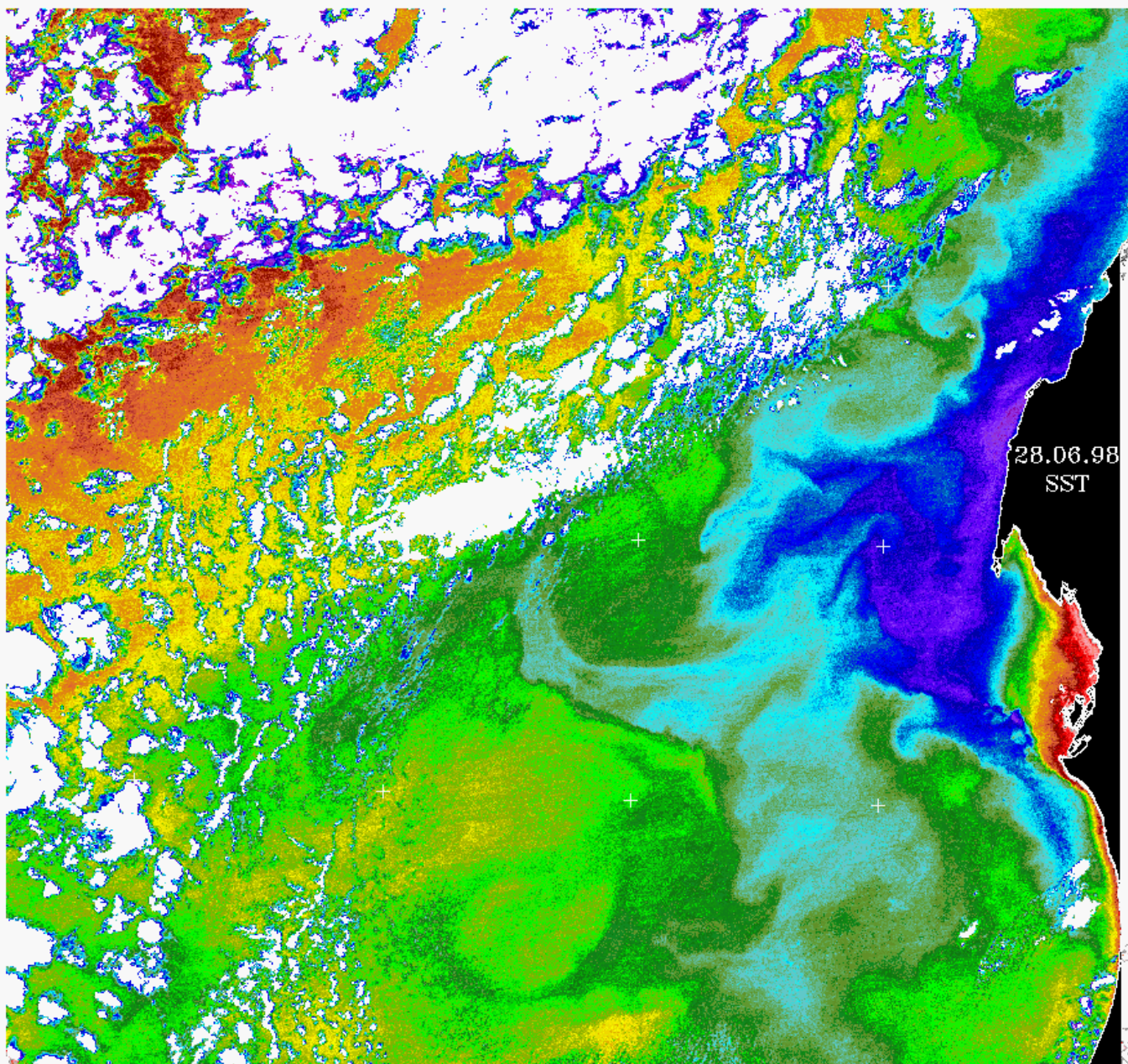
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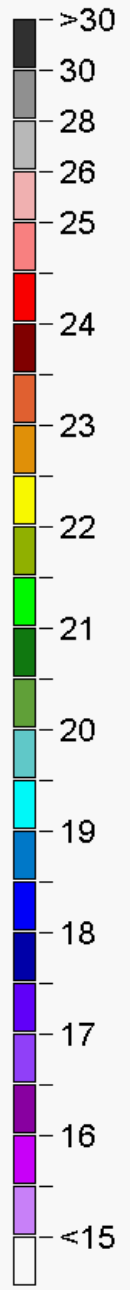
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28.06.98  
SST

# Cabo Blanco

Color Images

