

TEMPANO

(PANNA)

November 25 - December 21, 2002

Para ver esta película, debe
disponer de QuickTime™ y de
un descompresor Photo - JPEG.

Institut de Ciències del Mar, Barcelona (CMIMA, CSIC)

Universitat de Barcelona

Universidad de Málaga

Universidad de Jaén

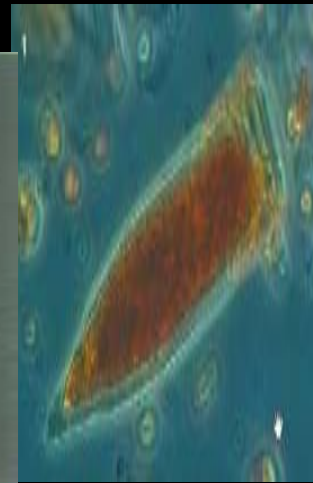
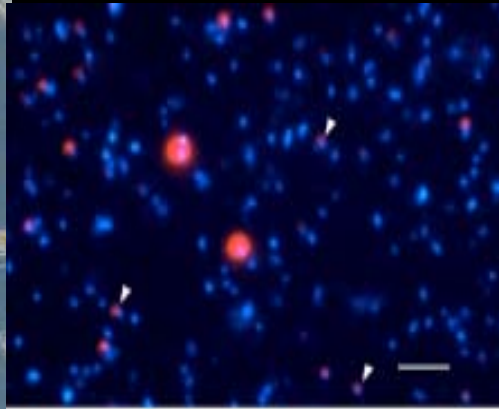
Instituto Español de Oceanografía, Málaga y Xixón

Unitat de Tecnologia Marina, Barcelona (CMIMA, CSIC)

GENERAL OBJECTIVE

Determine the effects of temperature on the structure and metabolism of Antarctic planktonic communities, including:

- autotrophs: phytoplankton
- heterotrophs: bacteria, archaea, protists, crustaceans.



WHY?

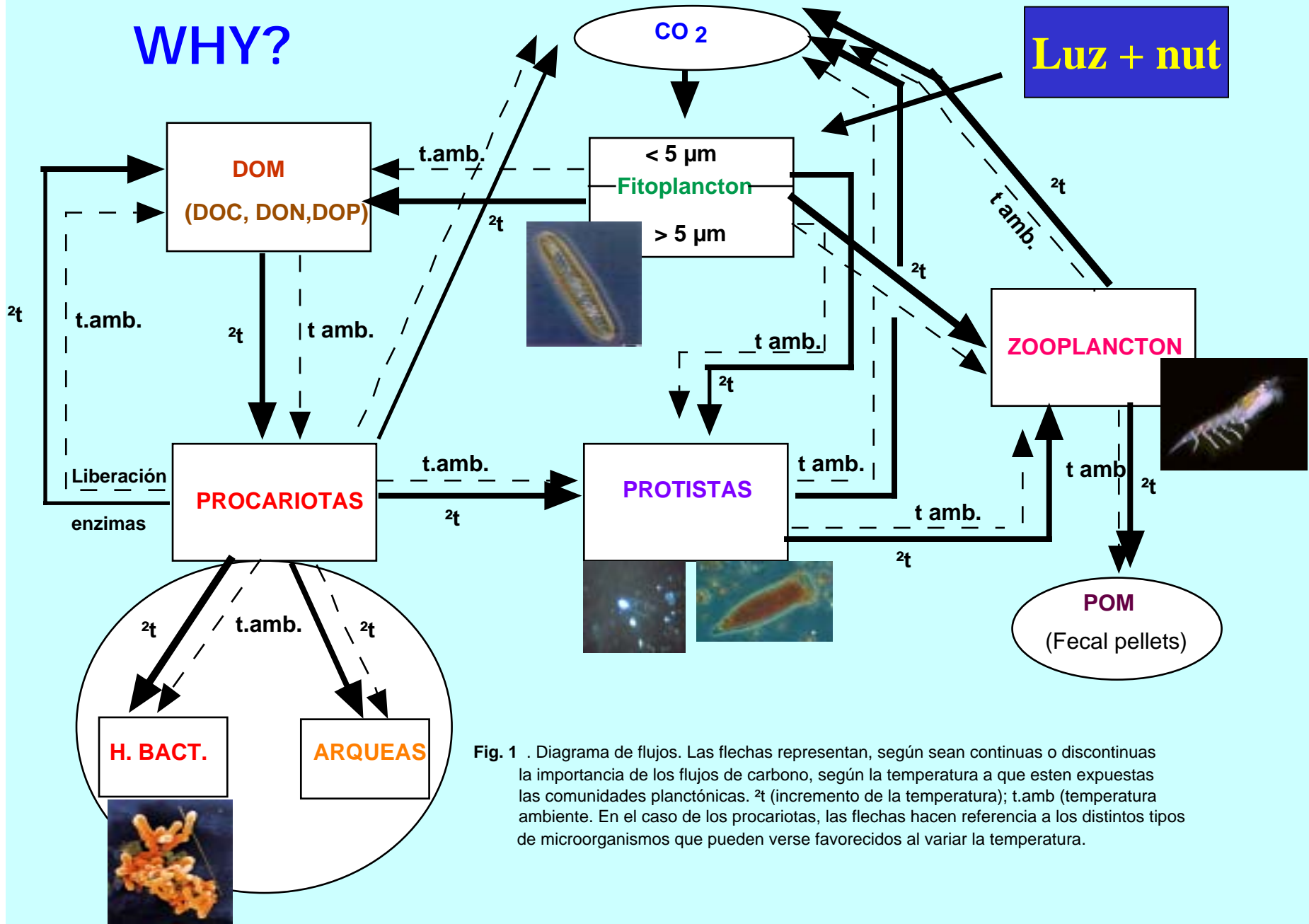


Fig. 1 . Diagrama de flujos. Las flechas representan, según sean continuas o discontinuas la importancia de los flujos de carbono, según la temperatura a que estén expuestas las comunidades planctónicas. $2t$ (incremento de la temperatura); $t_{amb.}$ (temperatura ambiente). En el caso de los procariotas, las flechas hacen referencia a los distintos tipos de microorganismos que pueden verse favorecidos al variar la temperatura.

WHERE?

61°S

63°S

65°S

67°S

Bransfield Strait

Gerlache Strait

Polar Circle

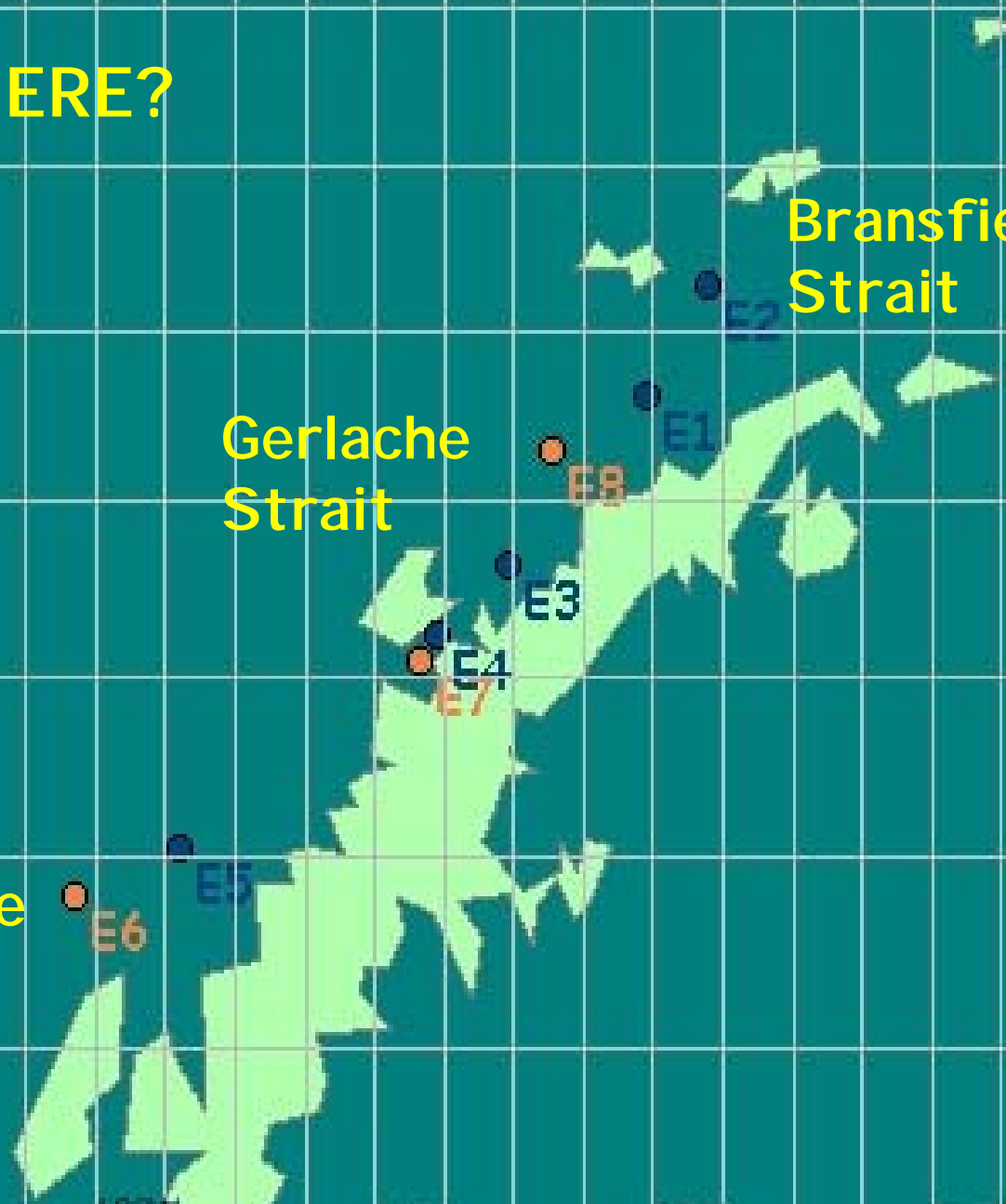
72°W

68°W

64°W

60°W

56°W



BI O-Hespérides





Mariona

Jordi

Montse

Xelu

Marta

IEO

Organic & Inorganic nutrients

Primary
production



Carles

Andrea

Laura

Vanessa

Prokaryotic heterotrophic
production, growth
efficiency

Bacterial exoenzymes

Ramon

Vanessa

Emilio

Andrea

Paco

Microbial diversity

**Picophytoplankton,
cell cycle**

Herbivory

Laura

Miguel

Oscar

Dolors

Jordi

Bacterivory

Crustacean biomass,
feeding and excretion

Dacha

Albert

Elisabetta

Kim

Joel

Jose

Raquel

Antonio

Sergi

Workplan: Day 1

9:00. Zooplankton tows

8:00. CTD+rosette vertical profile at station

10:00 CTD+rosette at depth chosen for experiments

11:00. Zooplankton
vertical tows

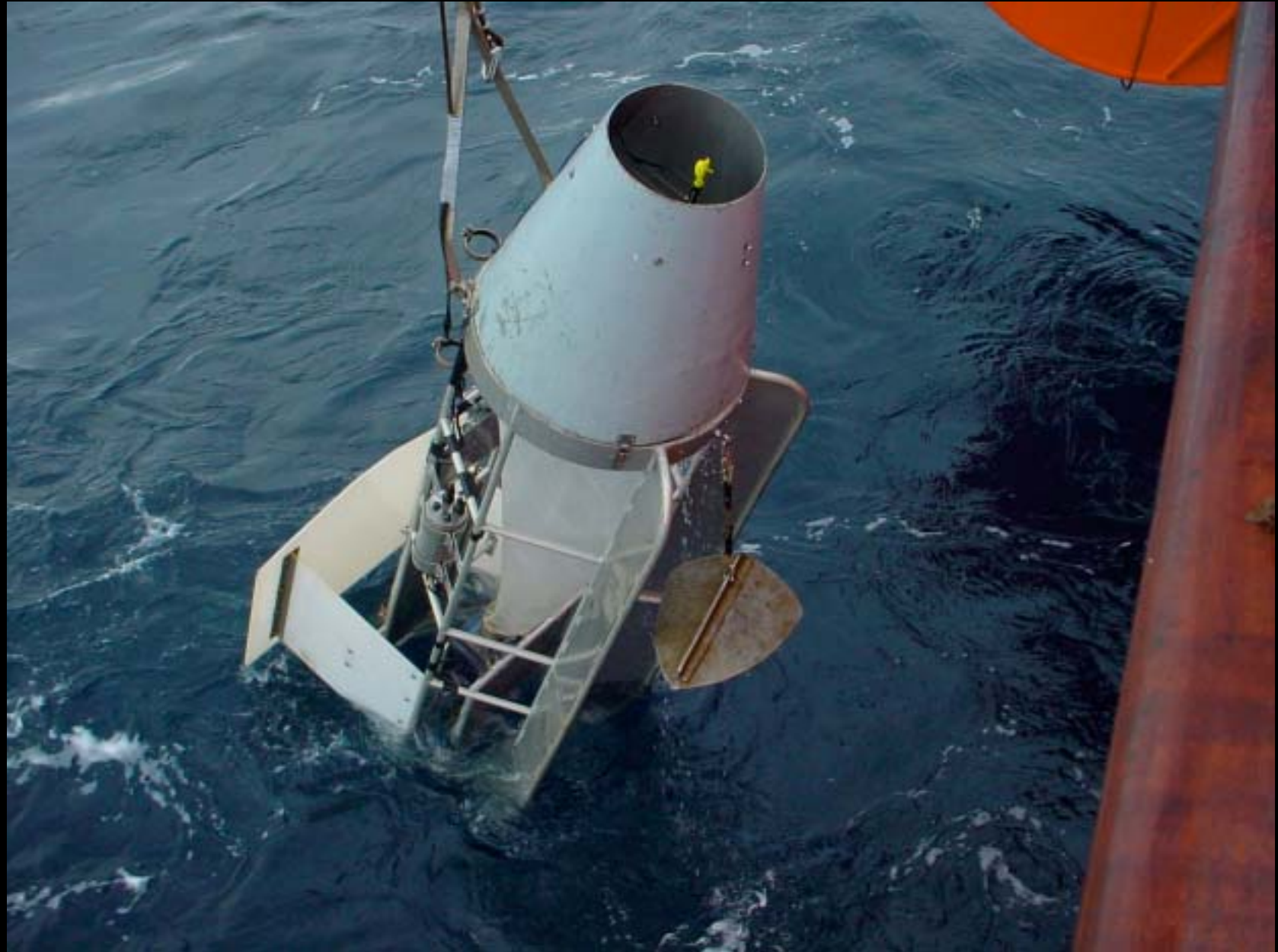
12:00. Vertical profile of
solar radiation

13:00. CTD+rosette at 3
depths for additional
experiments

17:00. LHPR for Zooplankton



17:00. LHPR for Zooplankton





Temperatures for experiments:

Ambient

-1
1
2
5



Workplan: Day 2

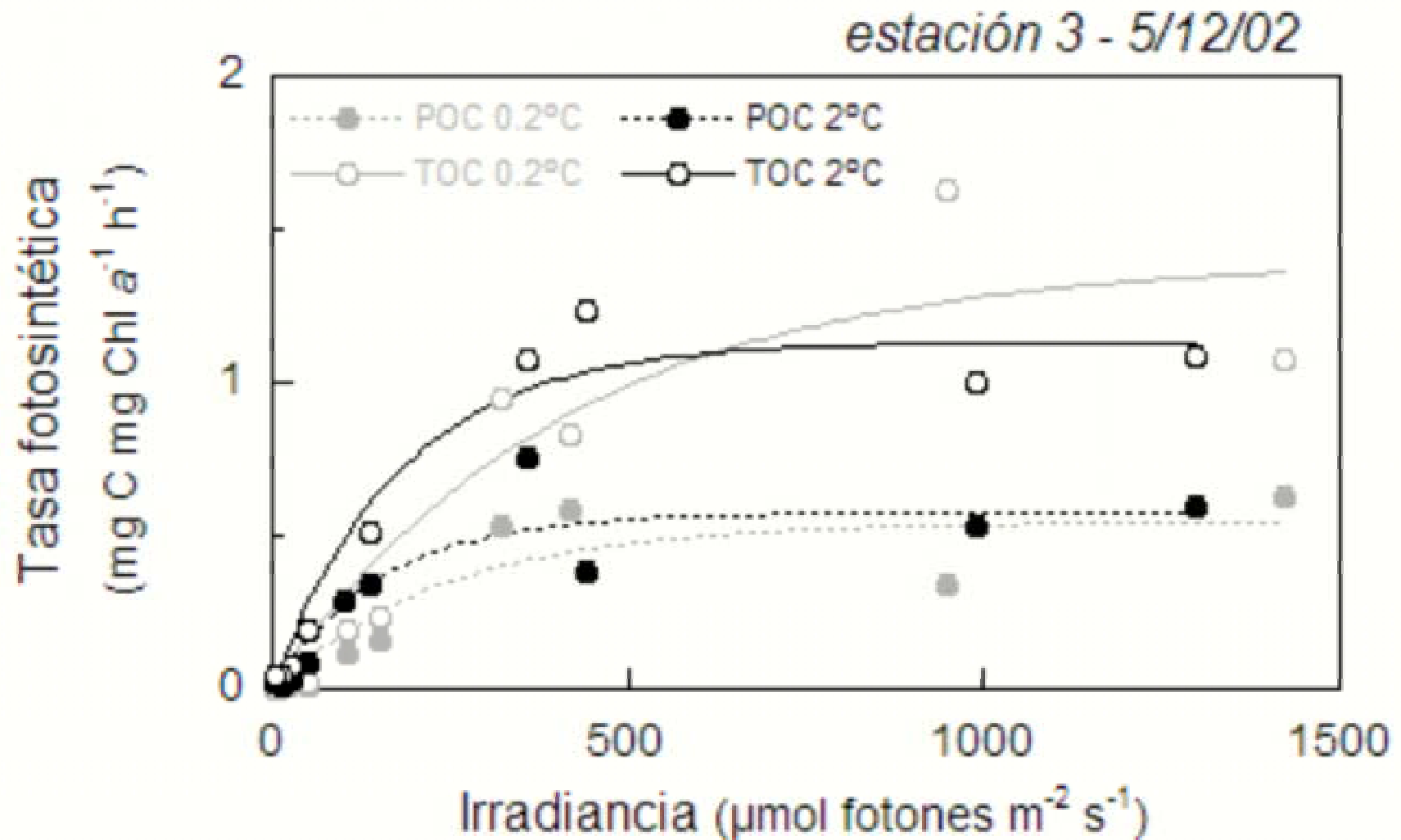
9:00. Van-Dorn bottles at 7 depths for plankton biomass and elemental composition

10:30. Additional zooplankton tows (optional).

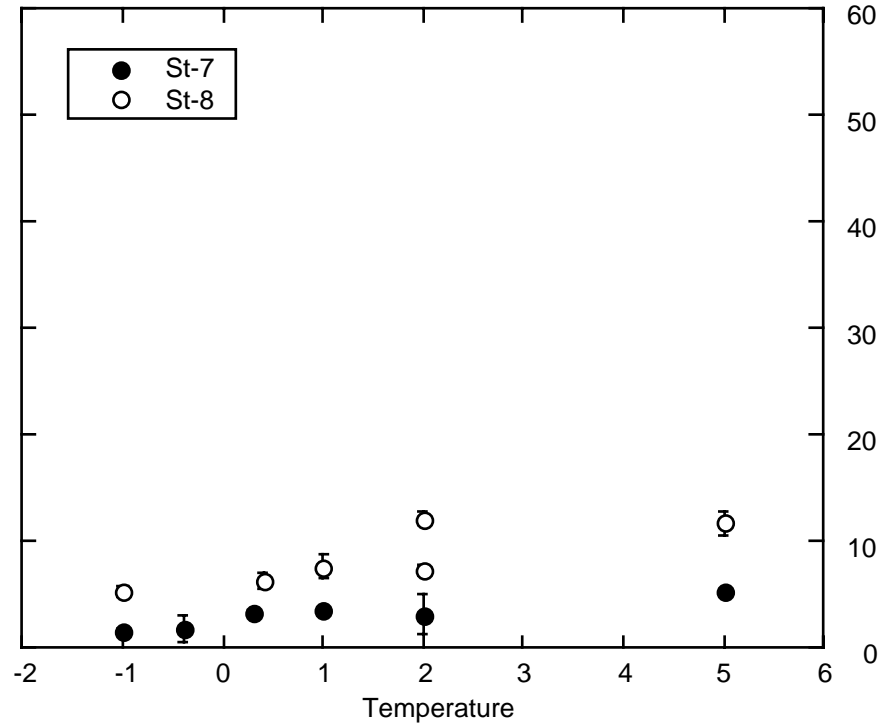
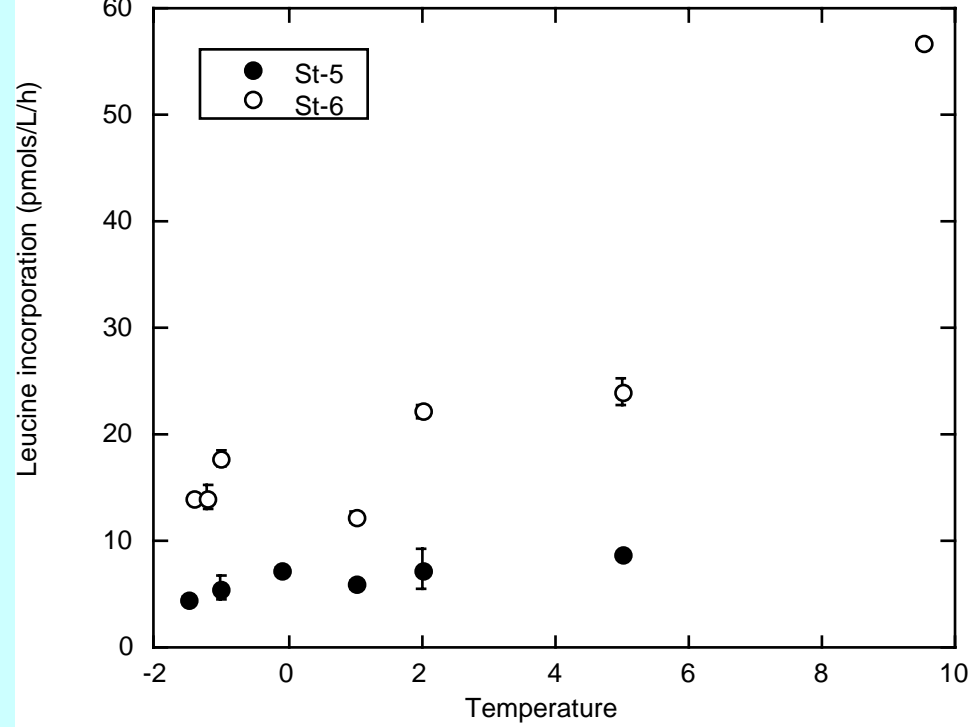
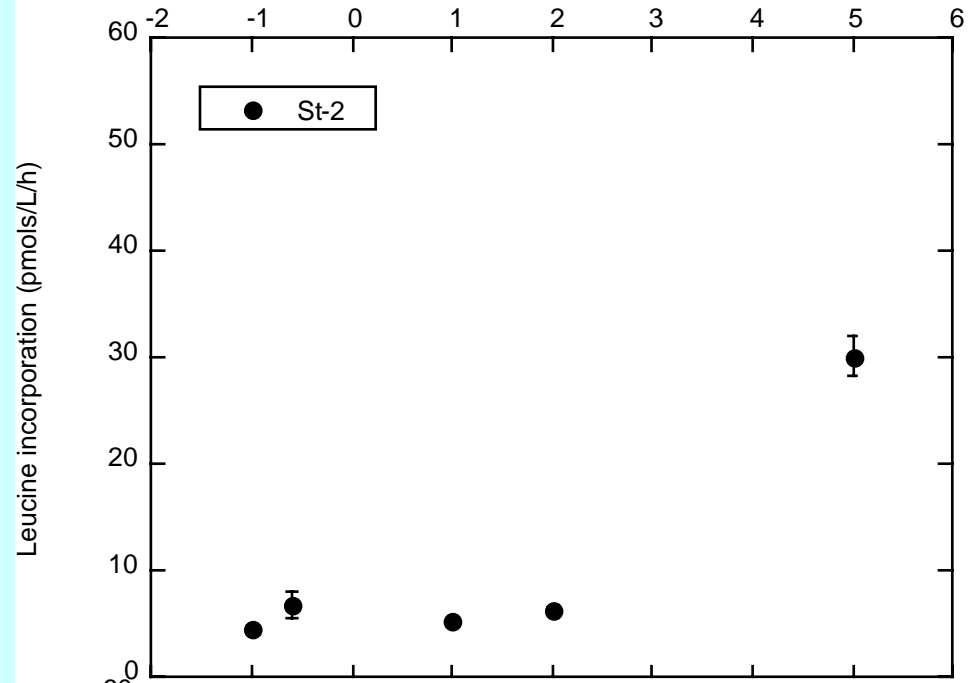
Station 6 (near Polar Circle)

Depth (m)

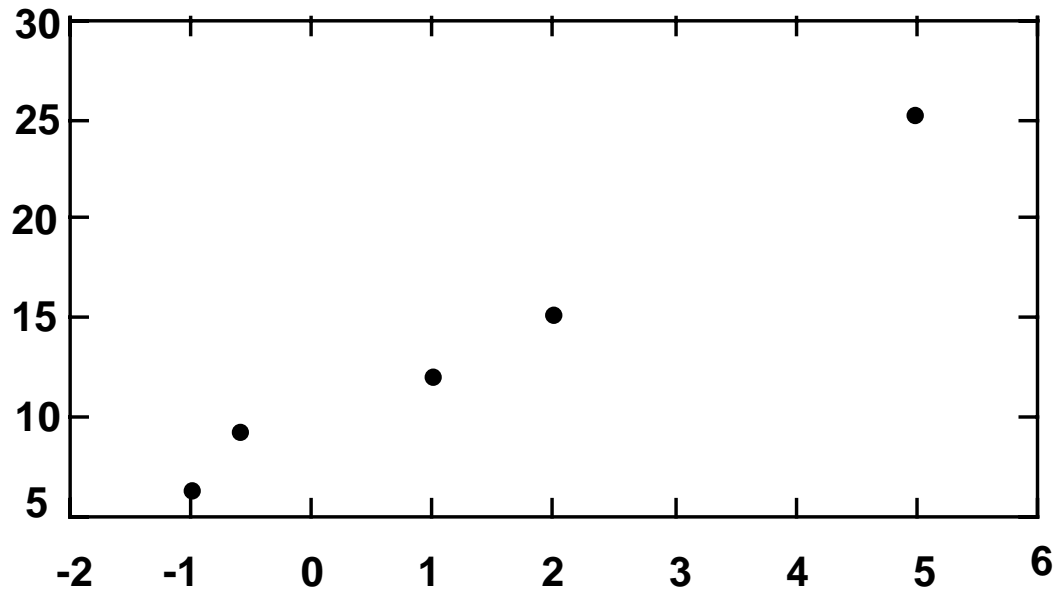
Primary production



Bacterial heterotrophic production

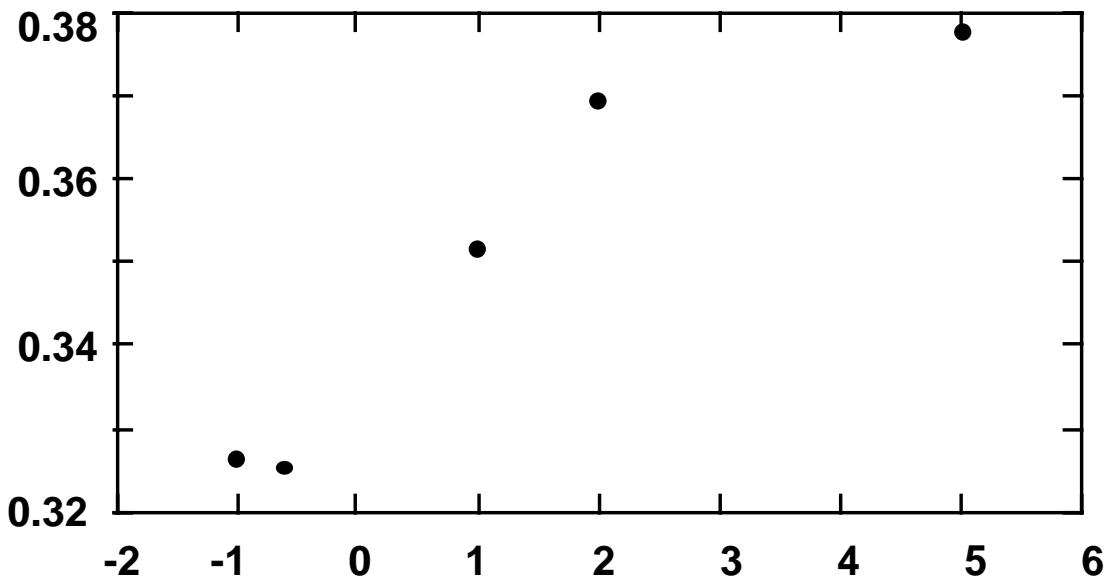


Incorporació leu (pmols/l/h)



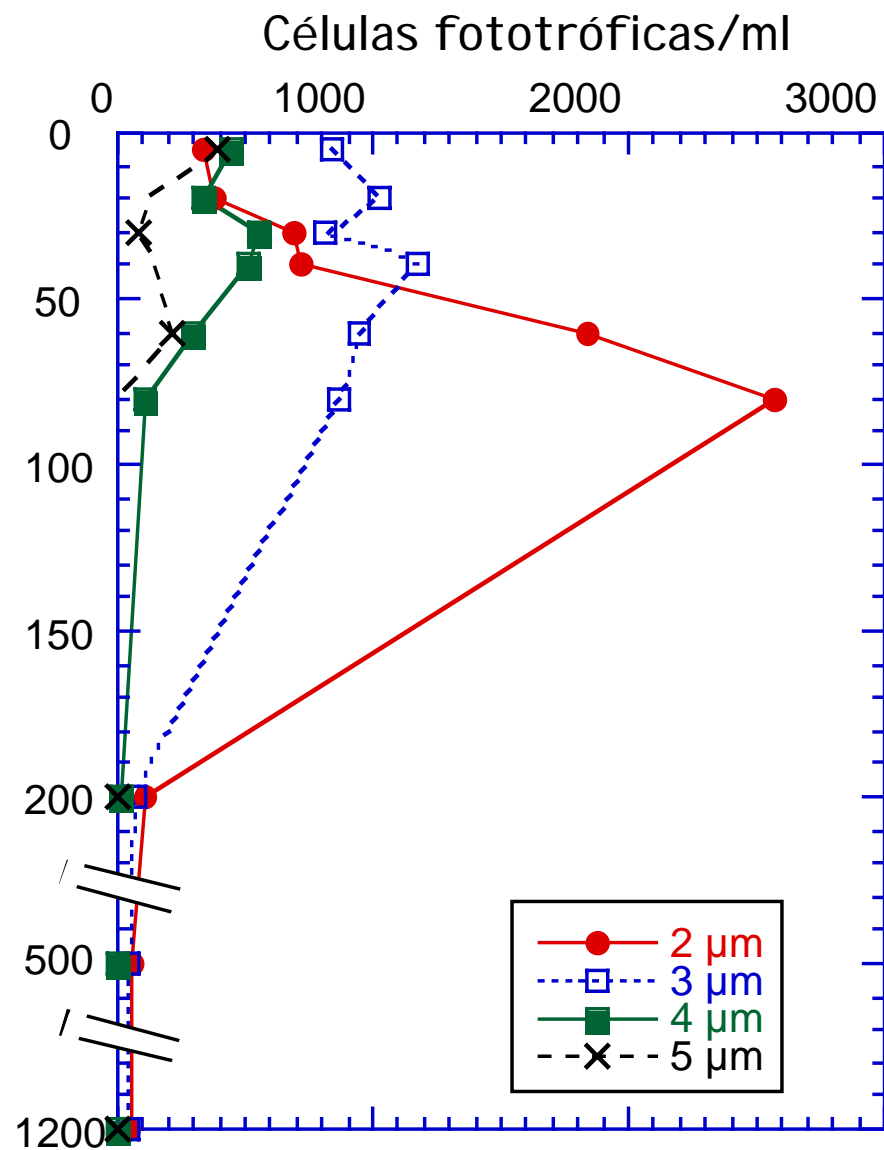
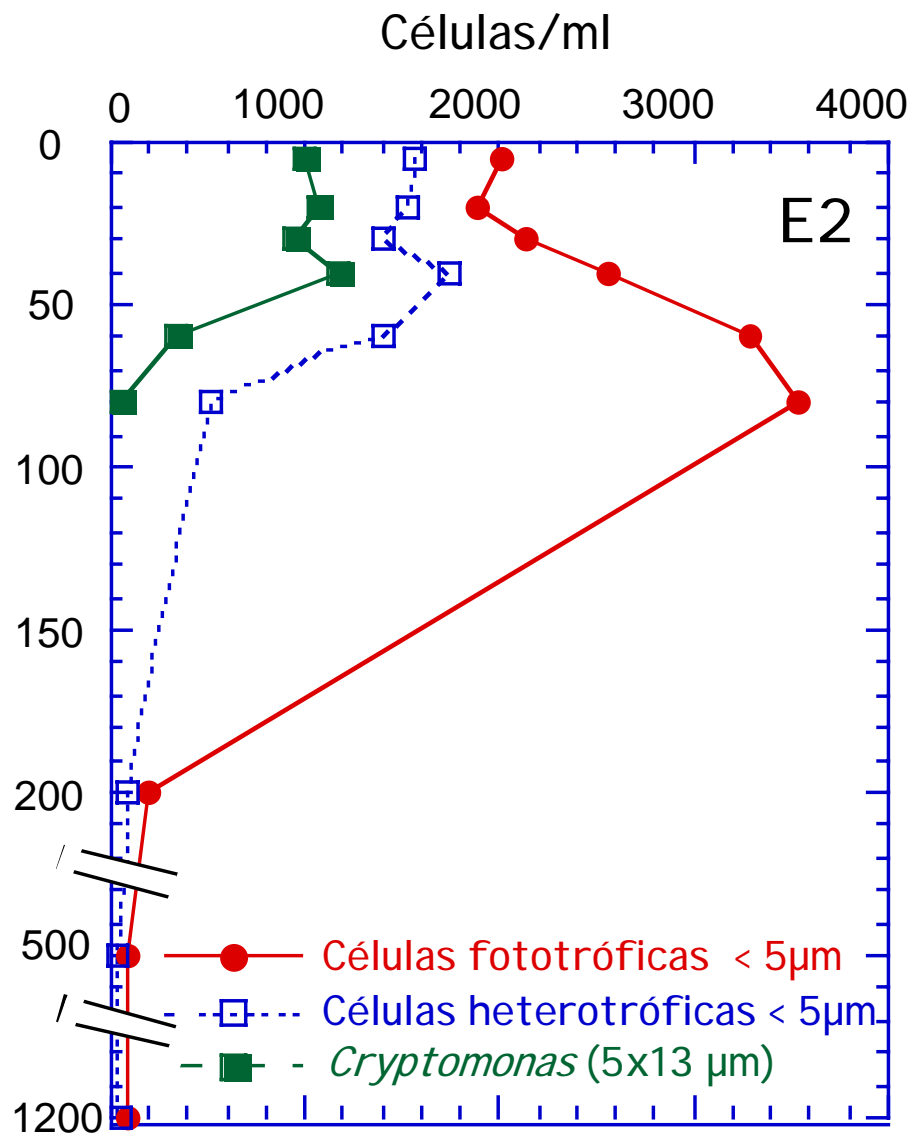
Bacterial
heterotrophic
production

Taxes depredació (d⁻¹)



Bacterivory

Abundance of small flagellates



TEPOC Experiments

