

ARGUS WORKSHOP: Manly, February 2006

THE COASTAL STATION OF BARCELONA BUILT AROUND ARGUS OBSERVATIONS

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STUDY AREA



GENERAL CHARACTERISTICS OF ARGUS BARCELONA

- Tower Mapfre: about 142 m high
- Five cameras oriented N, NE, E, SE and S
- Radius observation: 2 km
- Resolution: better than 20 m
- Timing of observations: every hour
- Images since 21-October-2001

GENERAL GOALS

- research on beach-bar morphodynamics and environmental control using “long-term” information
- to be an attractive lab for students
- information useful for society (coastal management, beach users ...)

PRESENT-DAY ACTIVITIES

- ARGUS station updating every hour
- AWAC sensor (real time information of waves, current, water temperature and turbidity). Seabed erosion/accretion (altimeter)
- Monthly surveys of hidrography, nutrients, bottom sediment grain size
- Bathymetric and topographic surveys

ICM - CSIC



Home
Coastal Monitoring
Station

What is it?
Images
Plan View
Monthly Movies
Observations
Shorelines

Surveys

Boat
Data Surveys

Meteo Station

Waves & Currents
Reports

People
Contact
Other Links
Administration



Web Statistics



Consejo Superior de Investigaciones Científicas
Centre Mediterrani d'Investigacions Marines i Ambientals

COASTAL MONITORING STATION OF BARCELONA

Last images available: 16/02/2006 - 03h GMT



Meteo Station



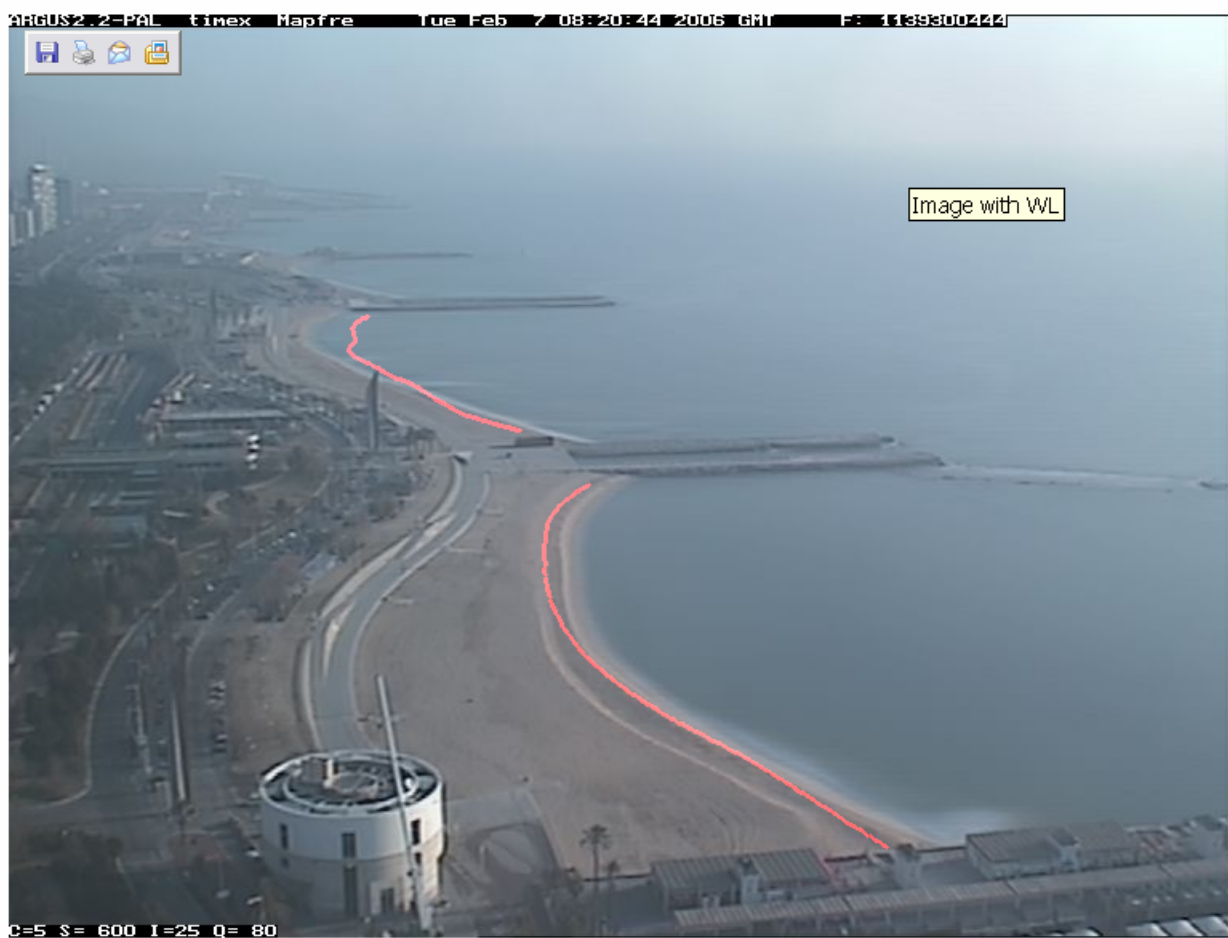
ITXASBIDE
Boat for coastal studies



Waves and Currents

<http://elb.cmima.csic.es>

- This study is supported by the project PUDEM (ref. REN2003-06637-C02) -



GRAPHICAL USER INTERFACE



Contouring Tool v2.0

Fecha Inicio: 06/02/2006 Fecha Fin: —

Hora GMT:

☐ 00	☐ 01	☐ 02	☐ 03	☐ 04	☐ 05	☐ 06	☐ 07
☐ 08	☐ 09	☐ 10	☐ 11	☐ 12	☐ 13	☐ 14	☐ 15
☐ 16	☐ 17	☐ 18	☐ 19	☐ 20	☐ 21	☐ 22	☐ 23

☒ CAM 1 ☐ CAM 2 ☐ CAM 3 ☐ CAM 4 ☐ CAM 5

SALIDA

☒ R (red) ☐ G (green) ☐ B (blue)

CONTOURING

☐ Tipo 1 ☒ Tipo 2 (recomendado)

PROYECCION

☒ Normal ☐ Plan View

GUARDAR SALIDA EN ARCHIVO

Directorio: [d:\jorge\proyectos\barcelona\raul\se....]

☐ .jpg ☐ matriz de datos

RANGOS

☒ Auto (Intervalos = 10; lmin = 0; lmax = 255)

☐ Manual Intervalos: (2-20)

lmin: lmax:

Procesar **Salir**

Generacion secuencia AVI

☒ DESDE BD IMAGENES 'MAPFRE'

Fecha Inicio
06/02/2006
Fecha Fin
06/02/2006

Hora GMT:
☐ Marcar/Desmarcar todas

☐ 00
☐ 01
☐ 02
☐ 03
☐ 04
☐ 05
☐ 06
☐ 07
☐ 08
☐ 09
☐ 10
☐ 11
☐ 12
☐ 13
☐ 14
☐ 15
☐ 16
☐ 17
☐ 18
☐ 19
☐ 20
☐ 21
☐ 22
☐ 23

☒ CAM 1
☐ CAM 2
☐ CAM 3
☐ CAM 4
☐ CAM 5

Tipo de Imagen
☐ Snap
☒ Timex
☐ Var

☐ DESDE DIRECTORIO

Especifica Directorio que contiene las imagenes:
Directorio

Tipo de Imagen
.jpg

[C:\]

FICHERO SALIDA AVI

Nombre Fichero AVI

FPS (frames por segundo)
FPS

Calidad AVI
— Selecciona CALIDAD —

(Pasando de calidad Alta a calidad Media se reduce el tamaño en aprox. un 90%)

Directorio Salida

[d:\jorge\proyectos\barcelona\raul\se...]

☐ Añadir Referencia

☒ Linea de Costa

☐ Libre

Generar AVI
Salir

Archivo Imagen Opciones Salir

ARGUS2.2-PAL tinex Mapfre Sat Feb 4 08:00:12 2006 GMT F: 1139040012



C=1 S= 600 I=25 Q= 80

coord. UTM
Longitud Ola
Direccion Ola
coord. UTM
WL a UTM

Añadir Ptos.
Borrar Ptos.
Guardar

Dibuja Linea Ptos.

☒ Visualiza Linea

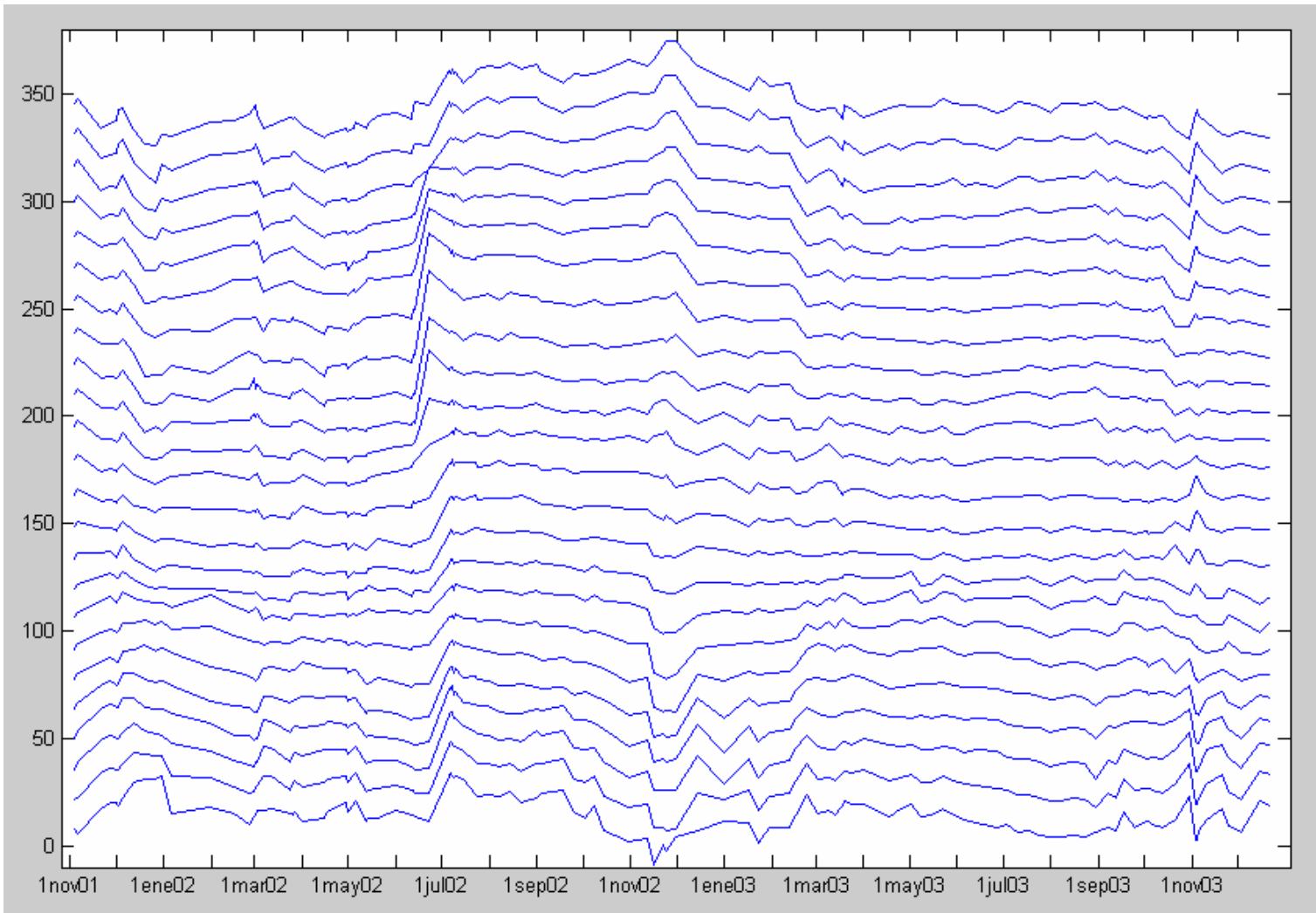
Deshacer Cambios

C=5 S= 1 I= 0 Q= 80

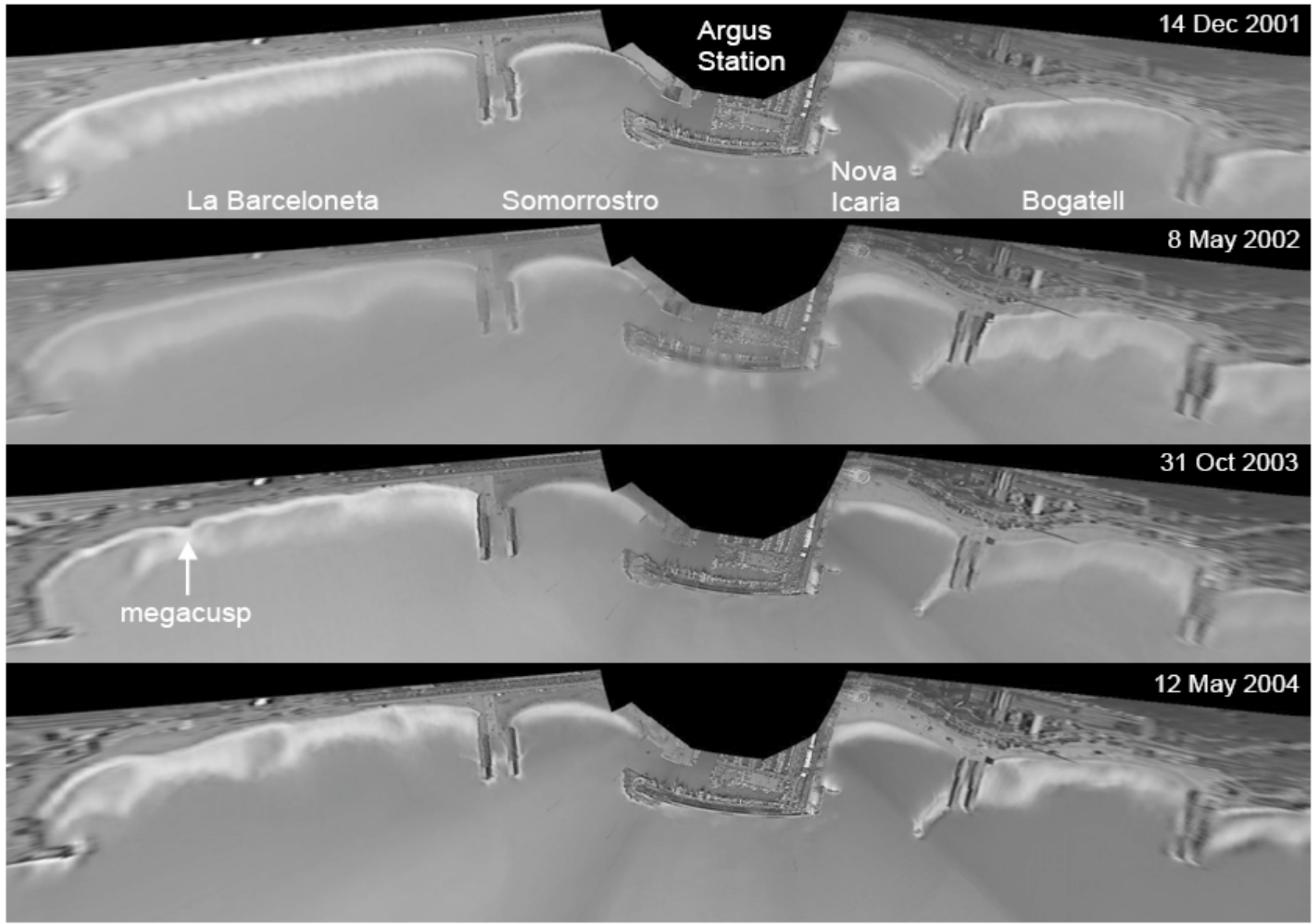
RESULTS

SHORELINE VARIABILITY

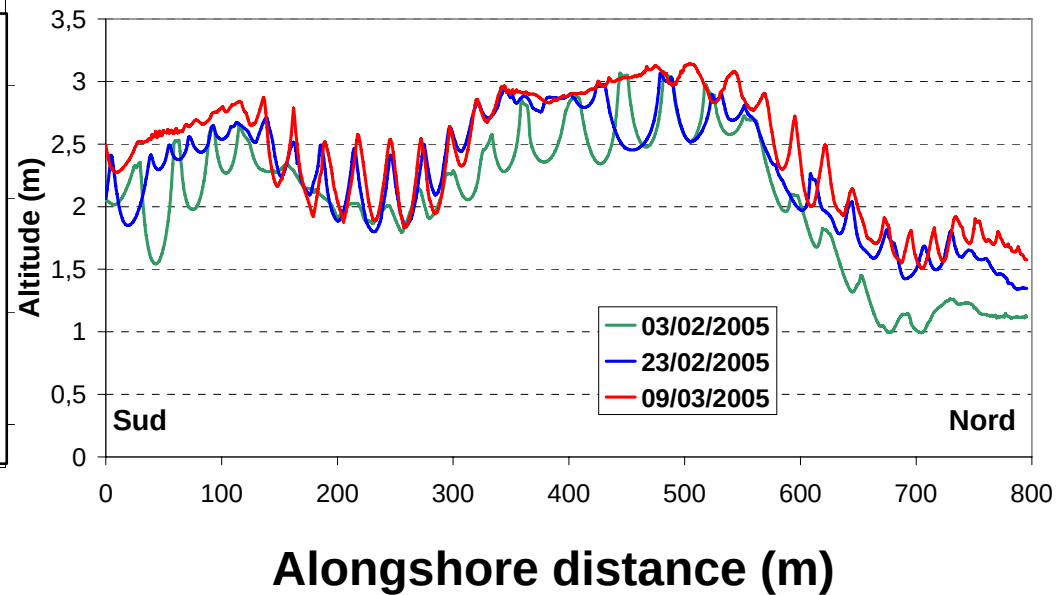
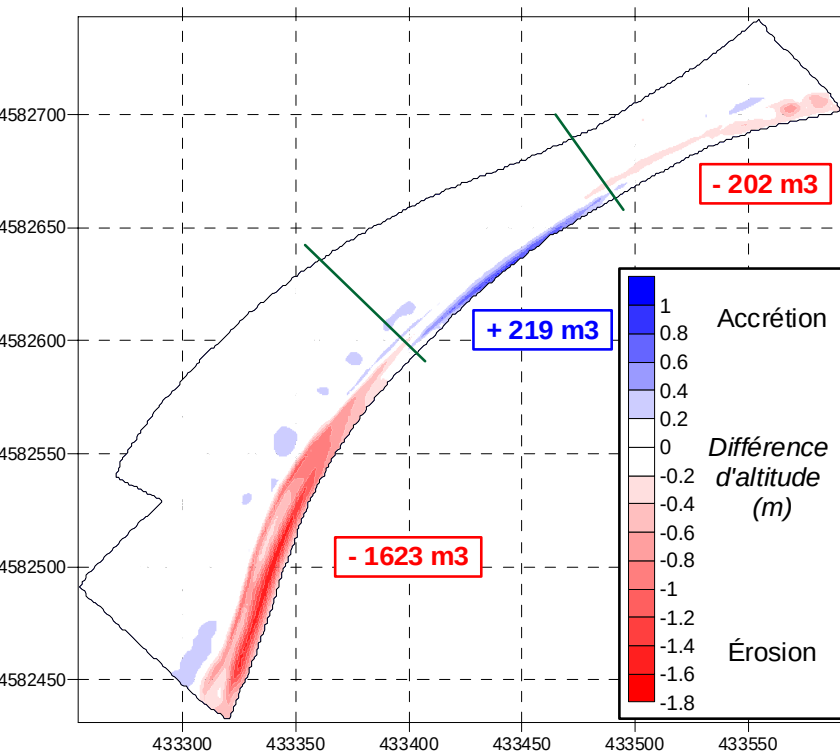
Bogatell



BAR EVOLUTION



TOPOGRAPHIC SURVEYS



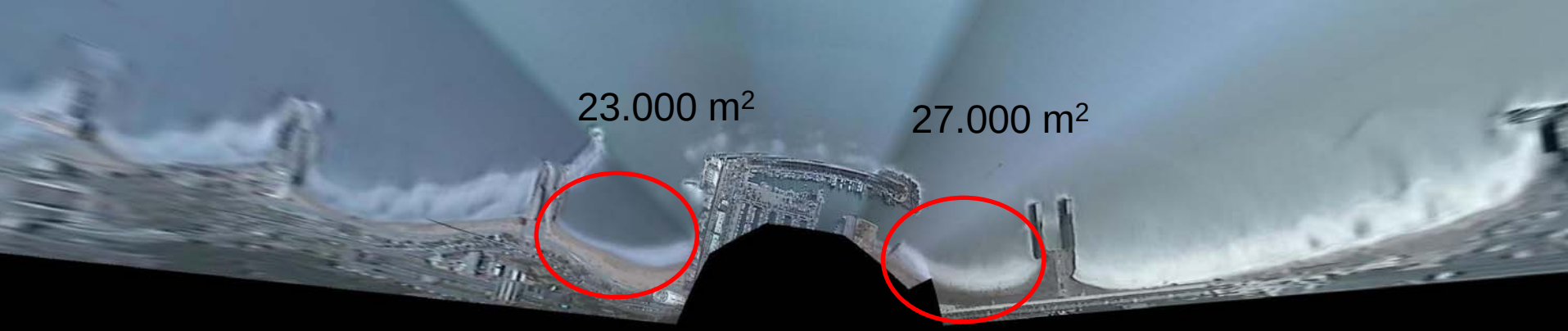
“OTHER” ARGUS APPLICATIONS

**EXAMPLE 1: HOW MANY PEOPLE IS
THERE?**

WHO IS THERE?

- WOMAN (55%)
- AGE: 25-34 (35%); 18-24 (18%)
- LIVING AROUND BARCELONA (91%)
- THE MOST POSITIVE: CLOSENESS (55%)
- THE MOST NEGATIVE: NON CLEAN ENOUGH (32%)
- WHY ARE THEY COMING: RELAX/SUN BATHING (47%)
- HOW LONG IN THE BEACH: 2h 45'

-SOURCE: Ayuntamiento de Barcelona, 2004





Observations - 10/09/04		
HOUR GMT	C1+C2	C5
06h	10	19
07h	34	29
08h	85	75
09h	214	249
10h	297	---
11h	383	383
12h	386	343

camera c1-c2 $Y = 2.94 * X - 351.6$ ($R^2 = 0.95$)

camera c5 $Y = 4.67 * X - 173.0$ ($R^2 = 0.88$)

“LOW”

ARGUS2.2-PAL snap Mapfre Sun Mar 27 12:20:40 2005 GMT F: 1111926040



C=5 S= 1 I= 0 Q= 80

“MEDIUM”

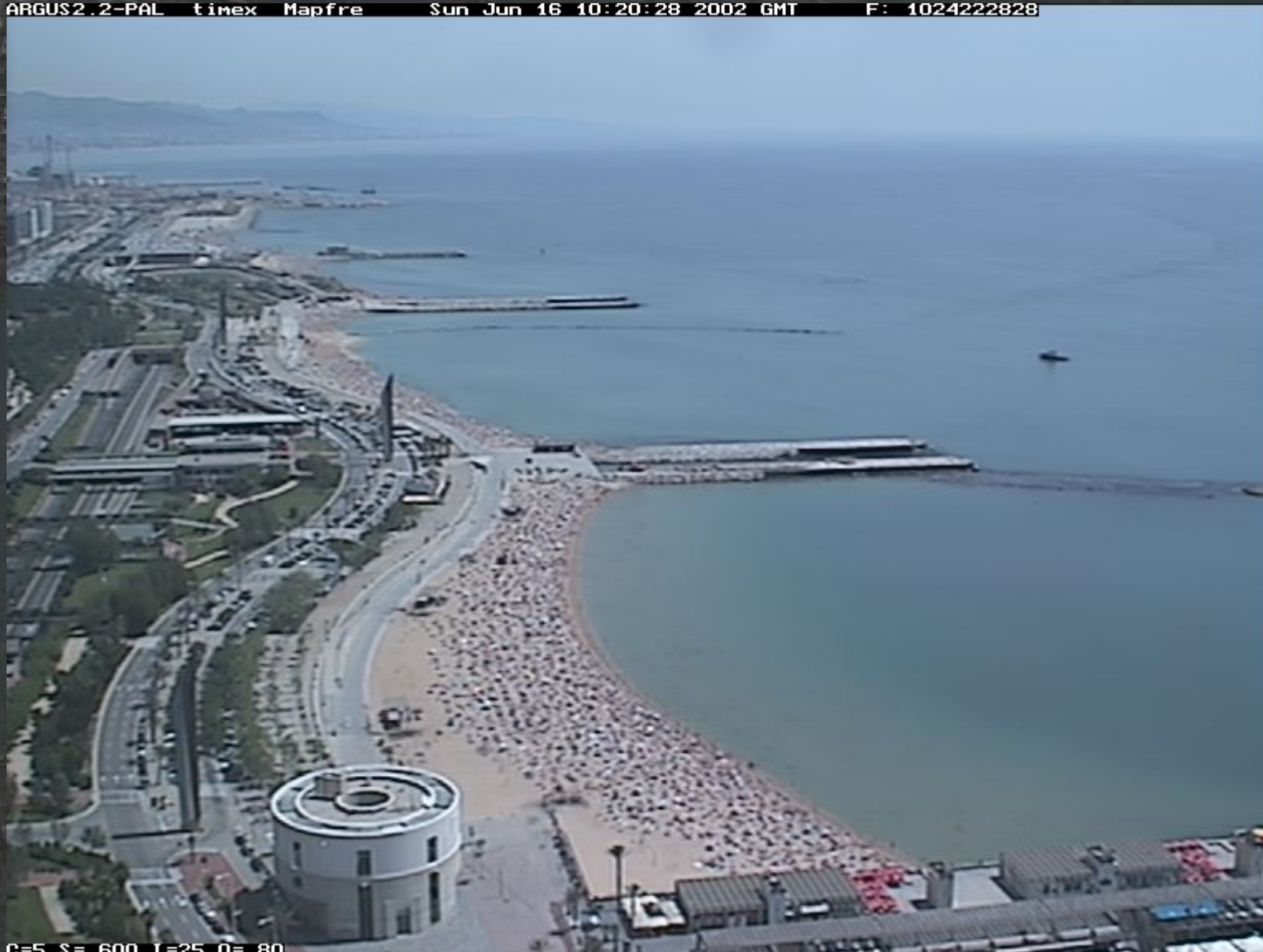
ARGUS2.2-PAL tinex Mapfre Sun Jul 18 08:20:45 2004 GMT F: 1090138845



C=5 S= 600 I=25 O= 80

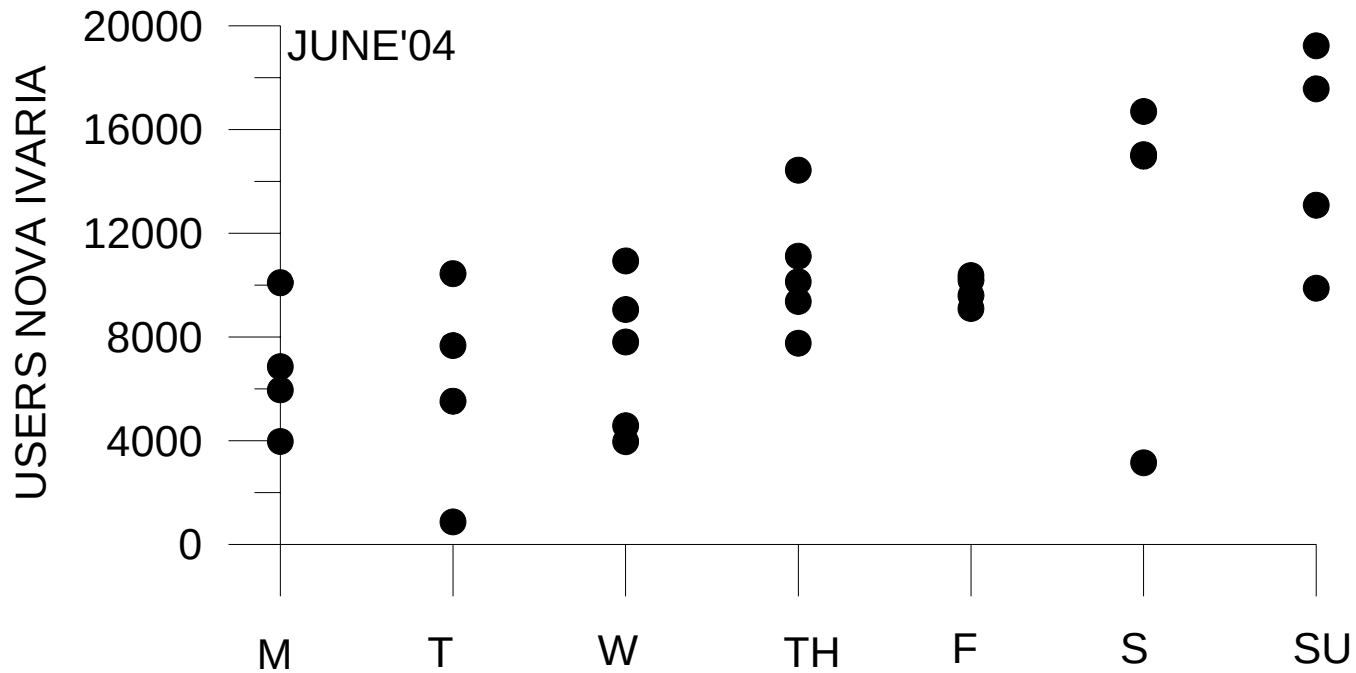
“HIGH”-SATURATION

ARGUS2.2-PAL timex Mapfre Sun Jun 16 10:20:28 2002 GMT F: 1024222828

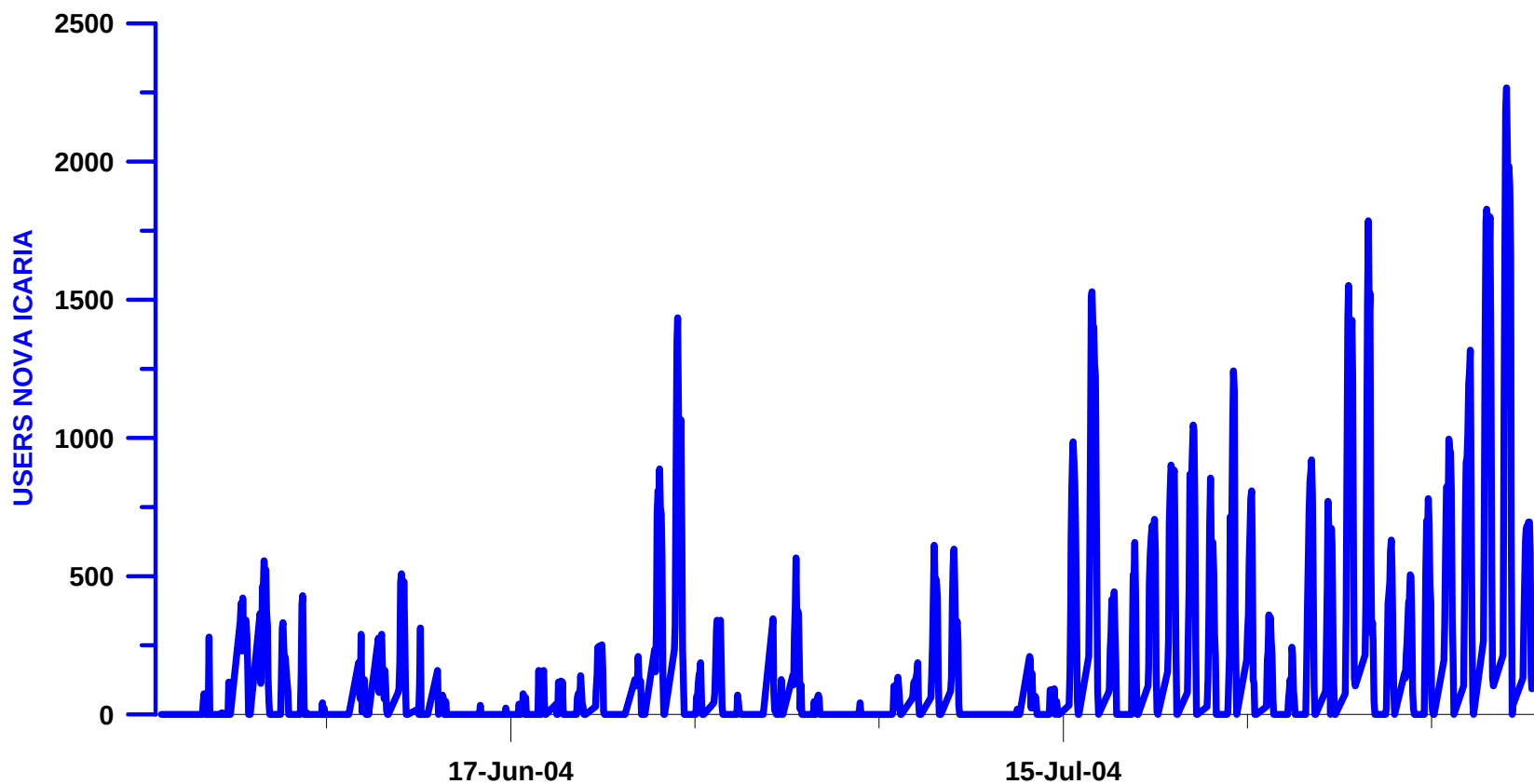


C=5 S= 600 I=25 Q= 80

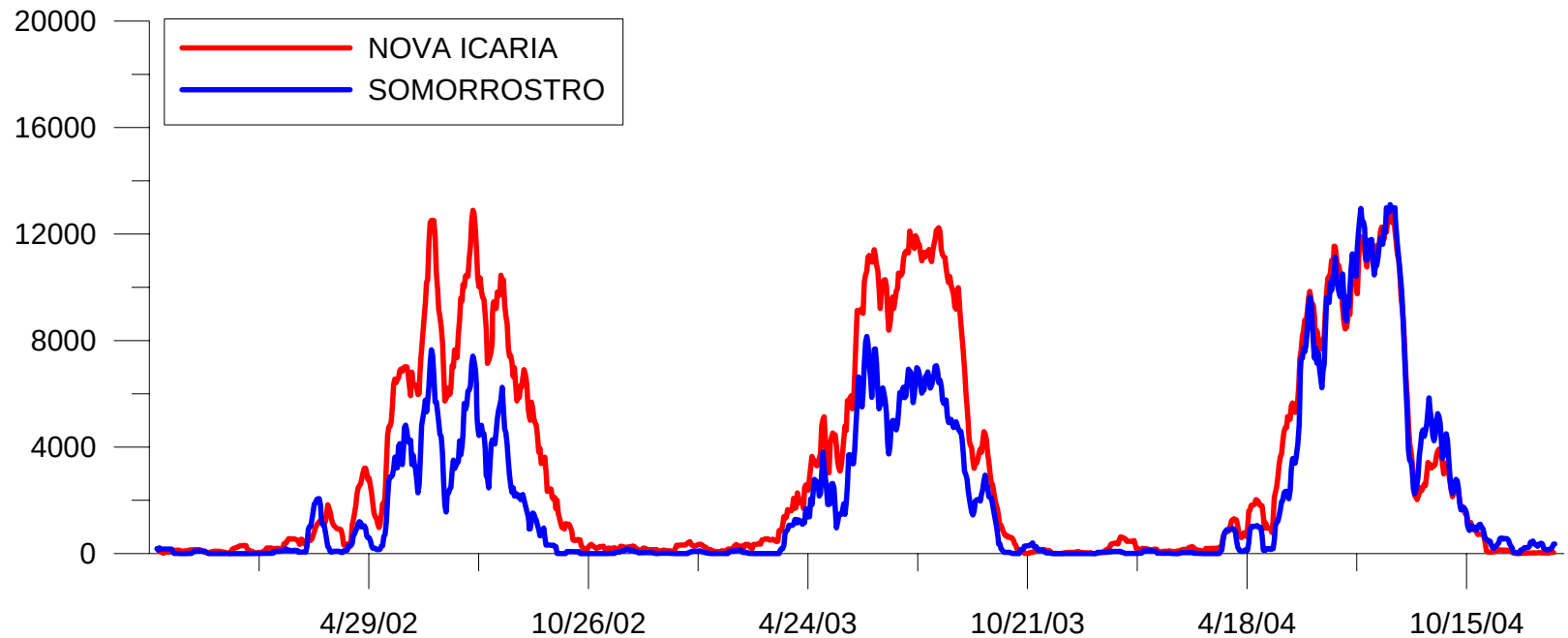
WEEKLY DISTRIBUTION



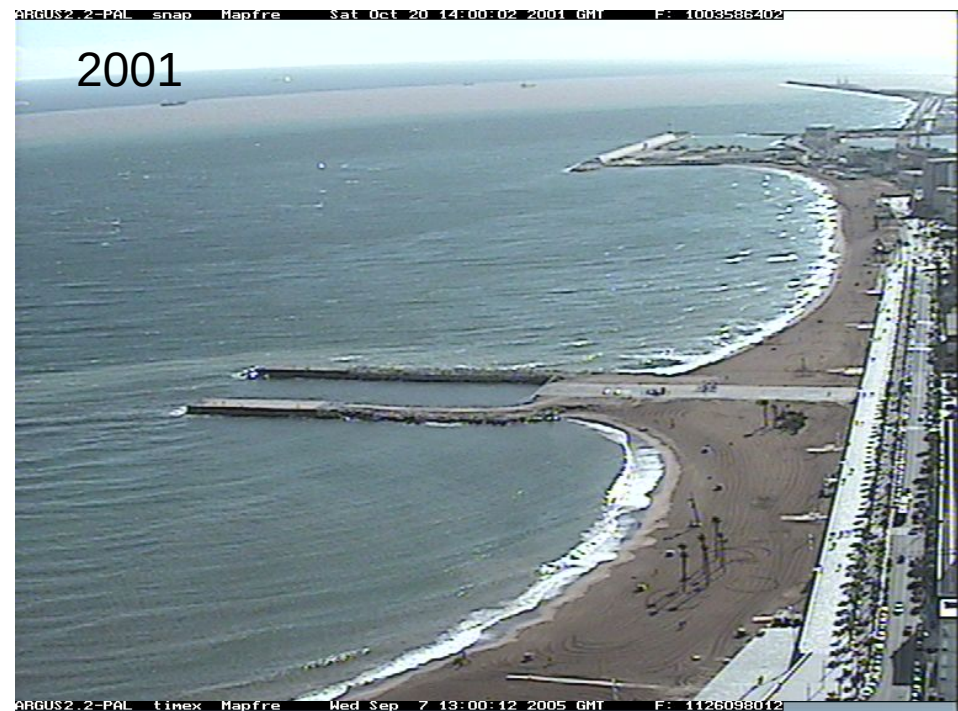
JUNE-JULY DISTRIBUTION



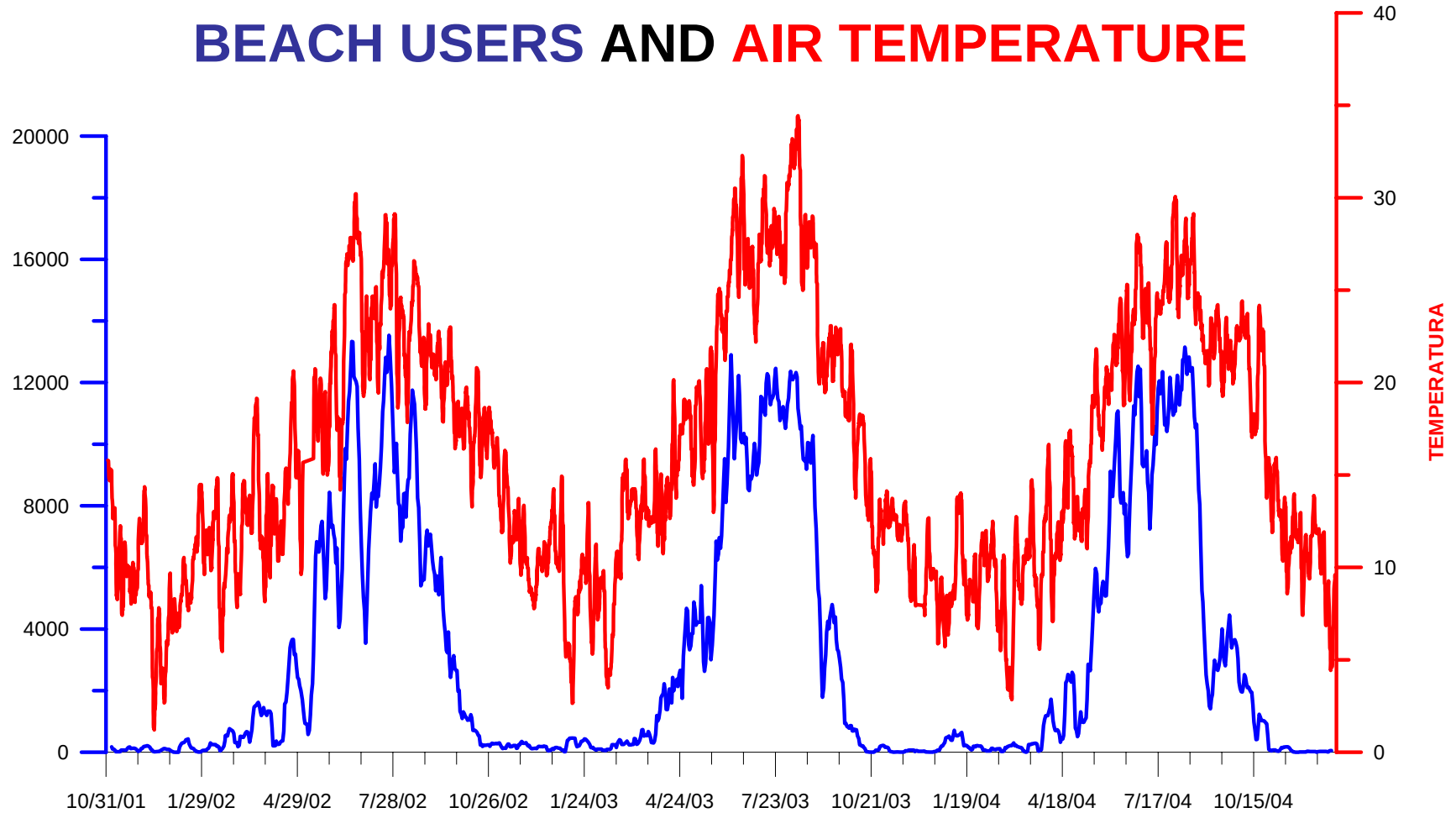
“LONG-TERM” DISTRIBUTION



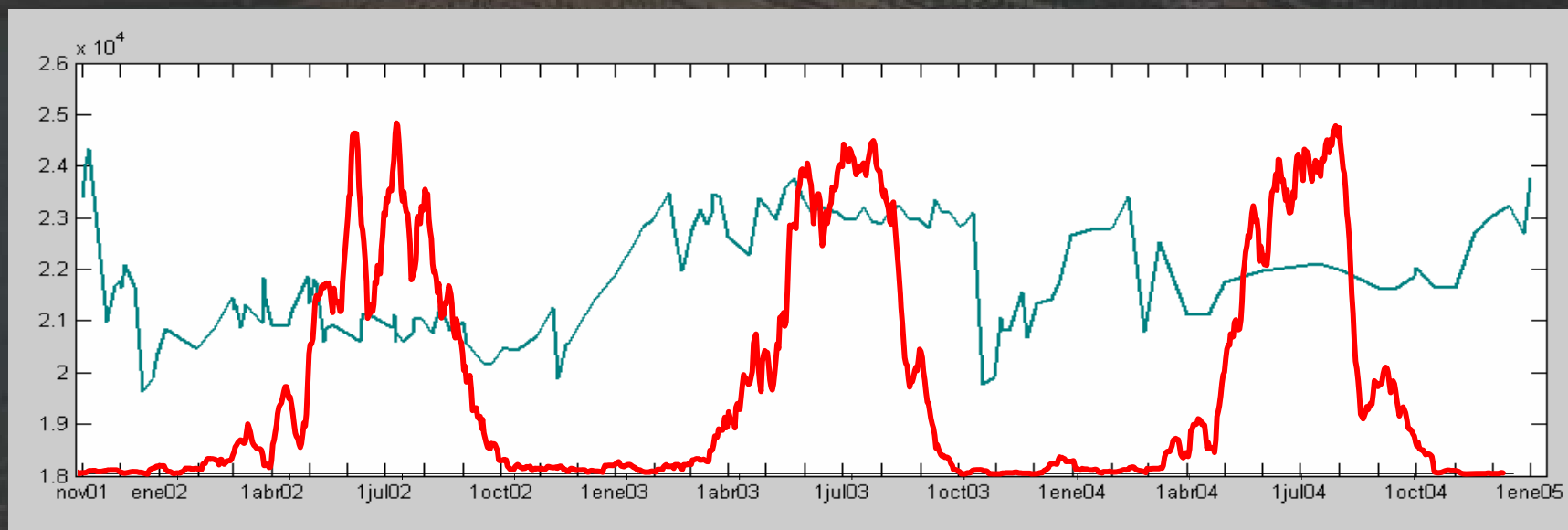
USERS CHANGED THE BEACH BECAUSE THE EROSION



BEACH USERS AND AIR TEMPERATURE

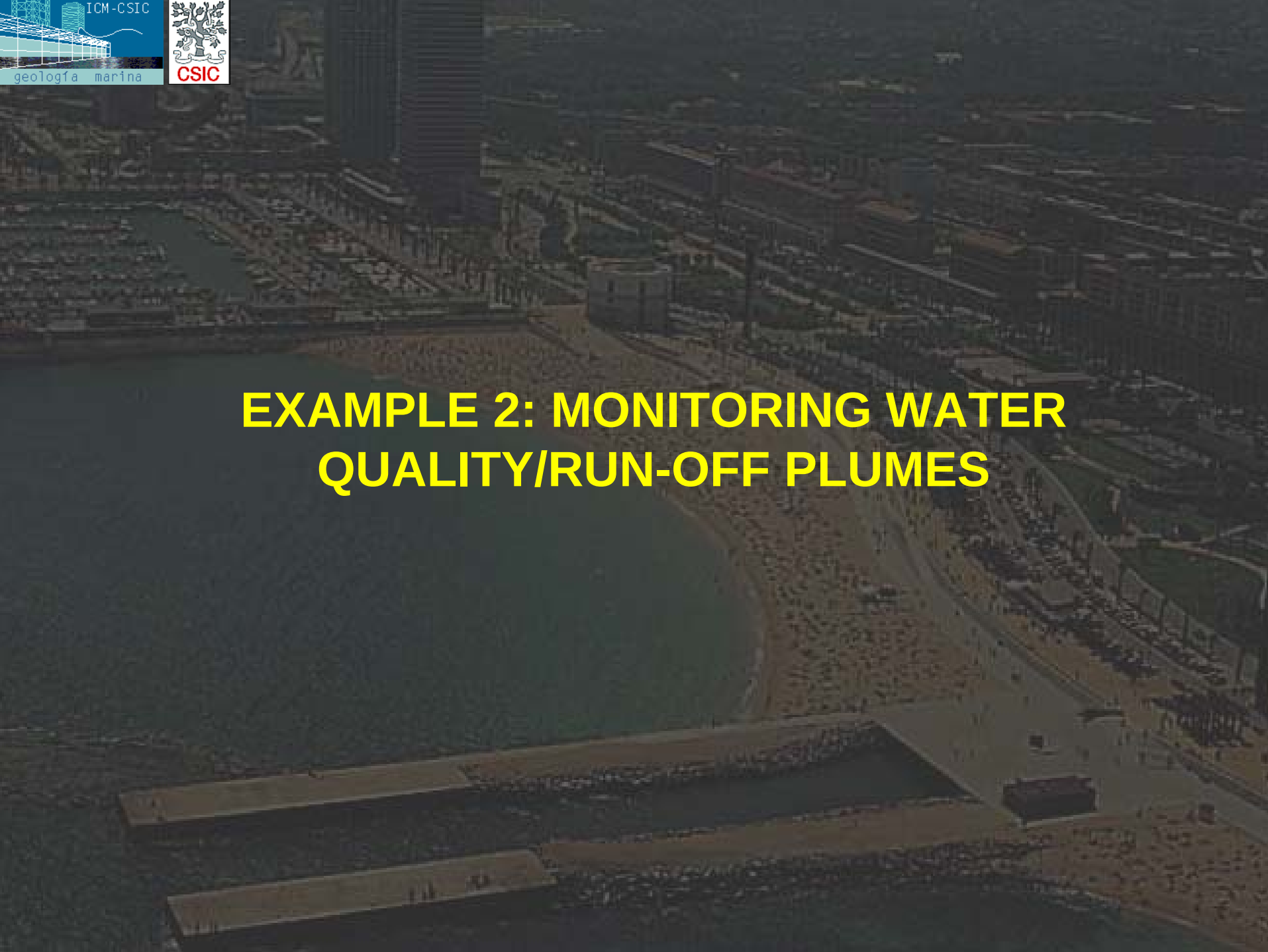


BEACH USERS AND BEACH AREA



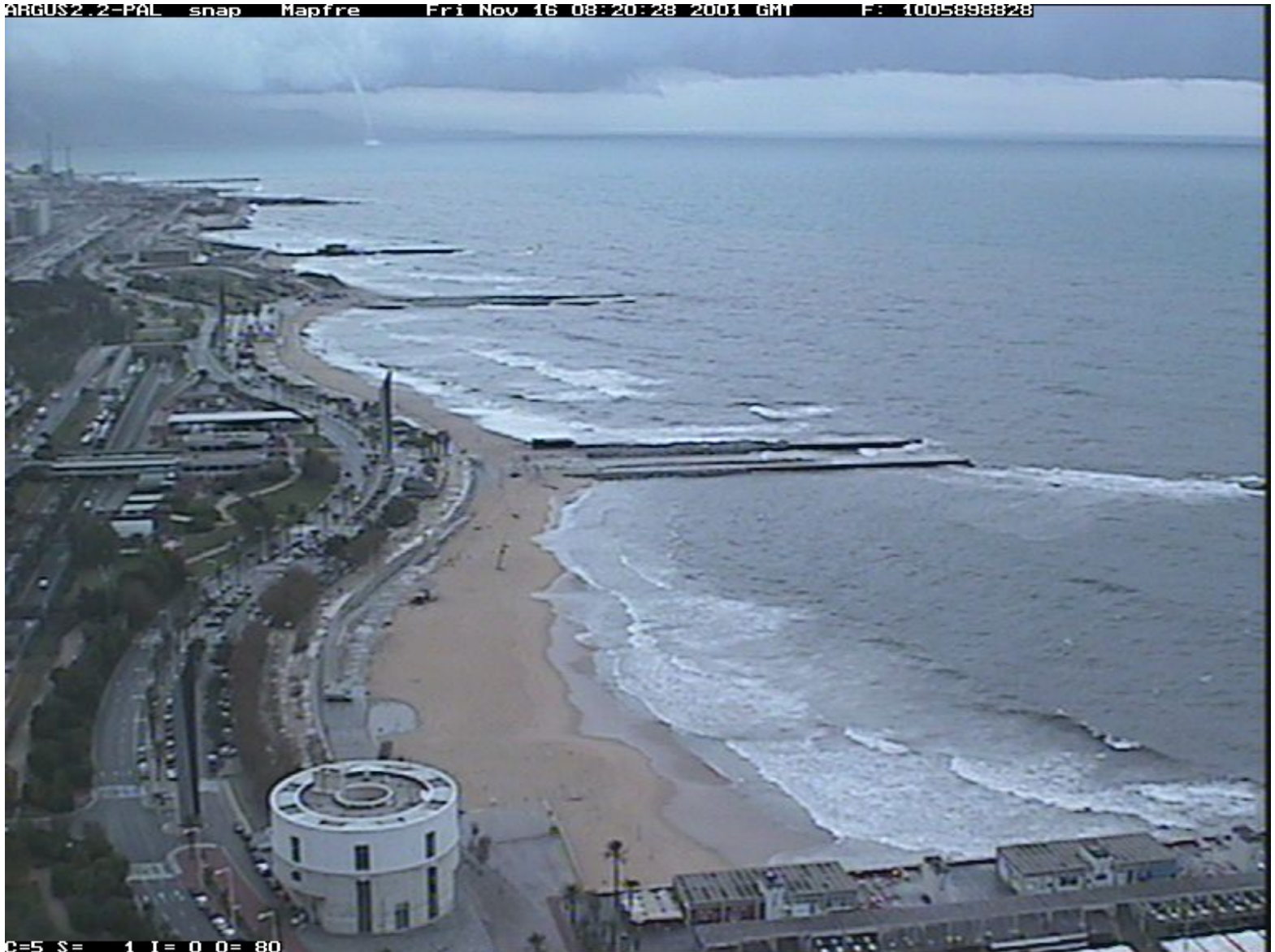
TOTAL BEACH USERS

	NOVA ICARIA	SOMORROSTRO
2002	390.000	175.000
2003	428.000	230.000
2004	407.000	390.000



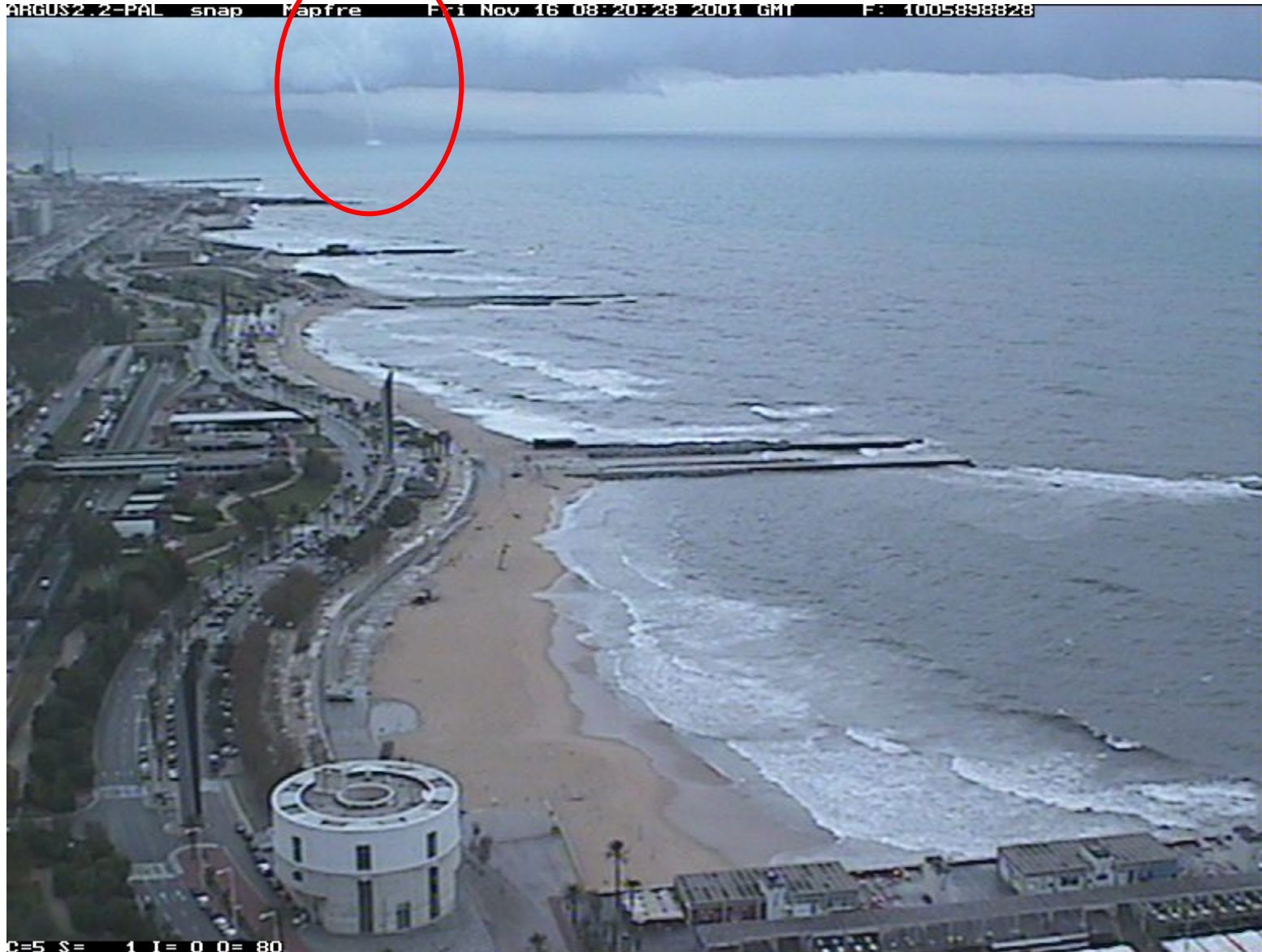
EXAMPLE 2: MONITORING WATER QUALITY/RUN-OFF PLUMES

ARGUS2.2-PAL snap Mapfre Fri Nov 16 08:20:28 2001 GMT F: 1005898828



c=5 s= 1 I= 0 Q= 80

ARGUS2.2-PAL snap Papfre Fri Nov 16 08:20:28 2001 GMT F: 1005898828



c=5 s= 1 I= 0 Q= 80

ARGUS2.2-PAL snap Mapfre Mon Oct 20 12:00:02 2003 GMT F: 1066651202



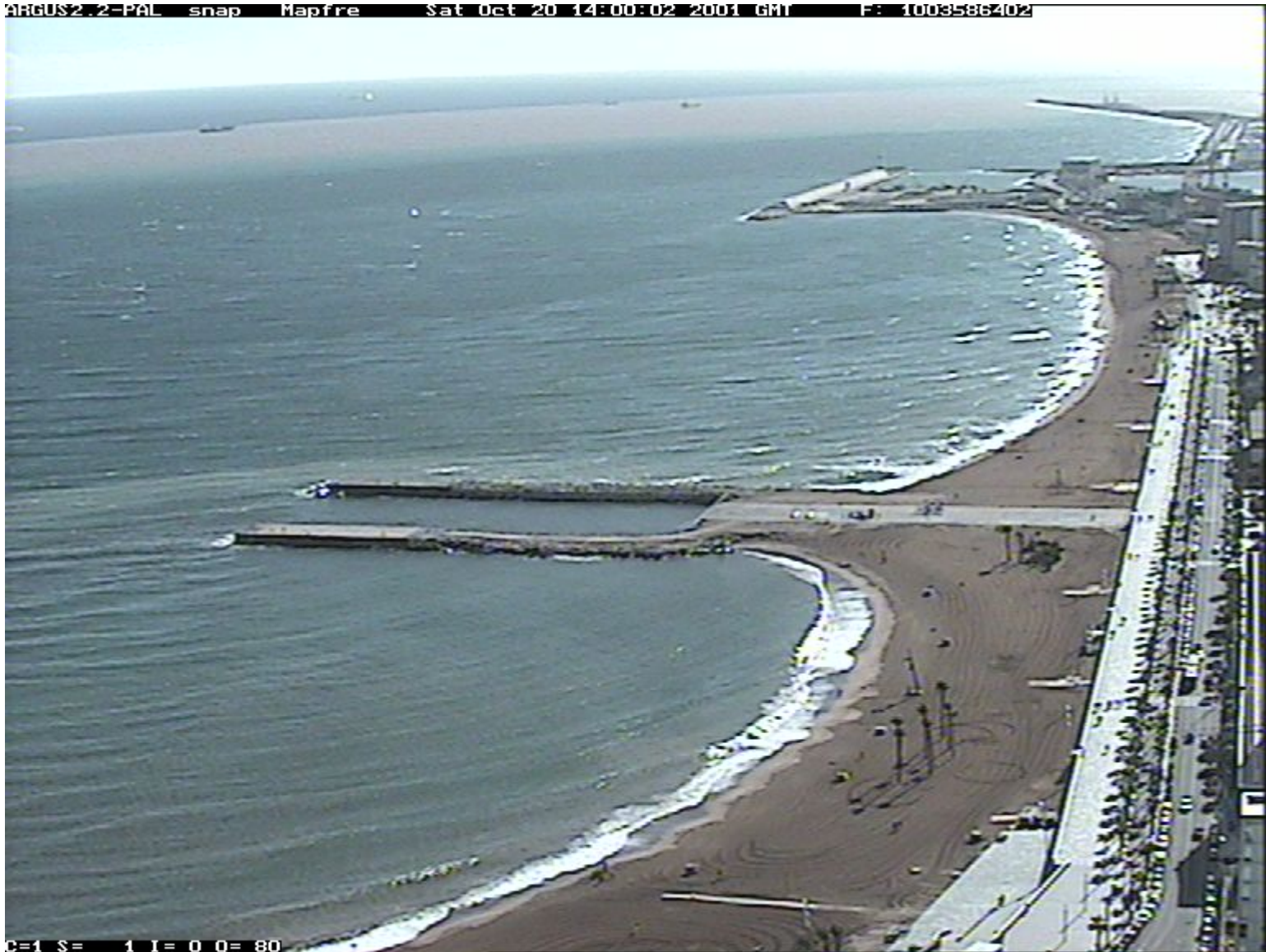
C=2 S= 1 I= 0 Q= 80

ARGUS2.2-PAL snap Mapfre Mon Oct 20 12:00:02 2003 GMT F: 1066651202



C=2 S= 1 I= 0 Q= 80

ARGUS2.2-PAL snap Mapfre Sat Oct 20 14:00:02 2001 GMT F: 1003586402



C=1 S= 1 I= 0 Q= 80

ARGUS2.2-PAL timex Mapfre Tue Sep 6 06:20:46 2005 GMT F: 1125987646



C=5 S= 600 I=25 Q= 80

BARCELONÈS

Barcelona

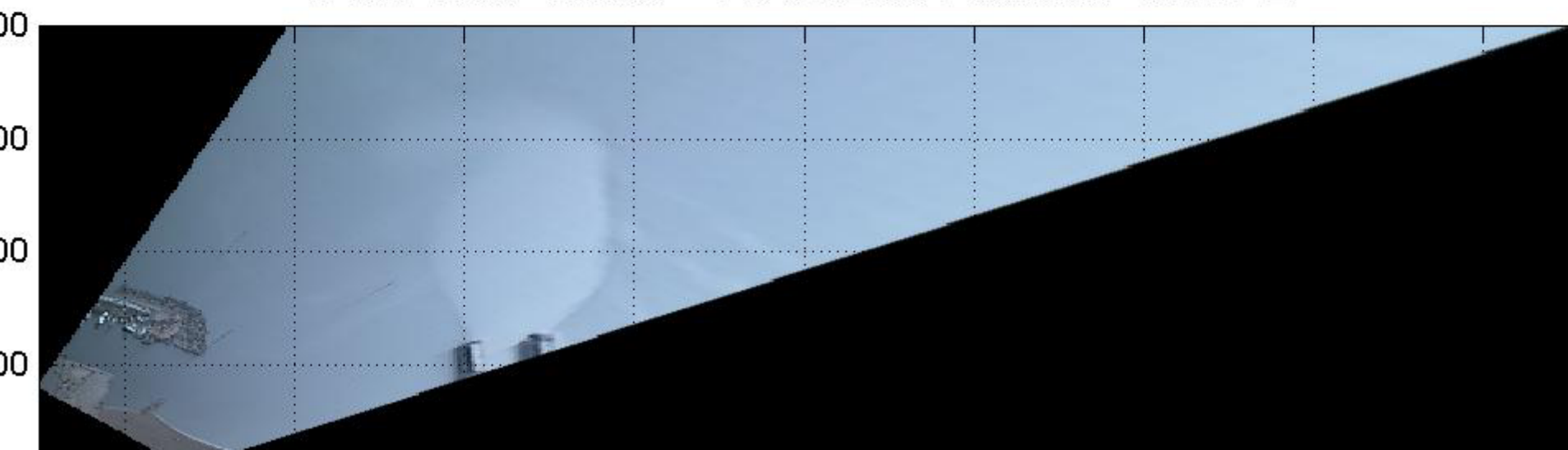




Timex - 14/09/2004 06:00h CAM-2



Plan View Timex - 14/09/2004 06:00h CAM-2



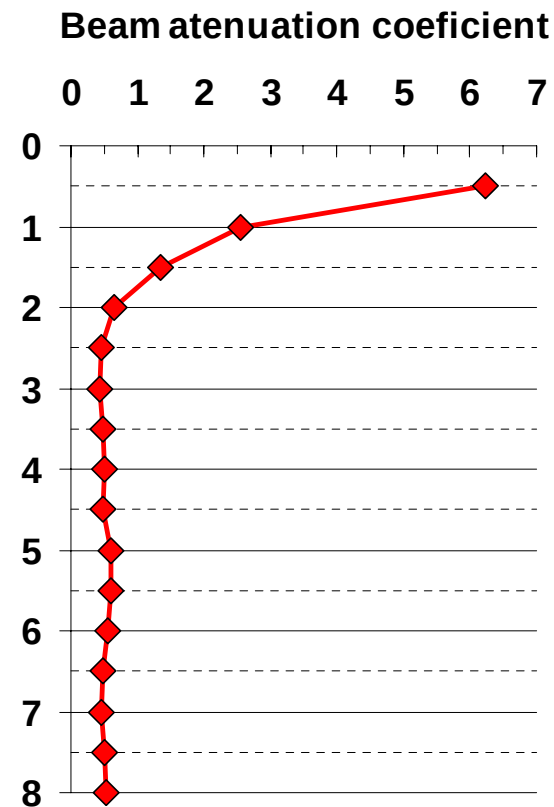
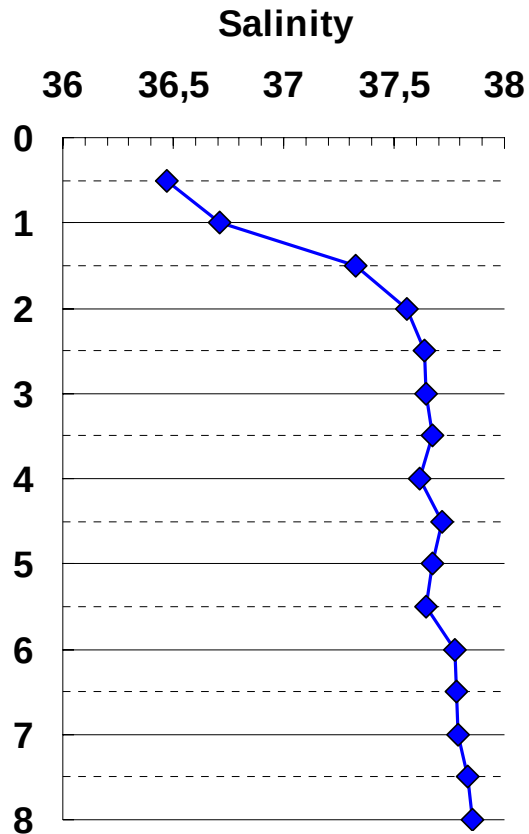
ARGUS2.2-PAL timex Mapfre Wed Sep 7 13:00:12 2005 GMT F: 1126098012



C=1 S= 600 I=25 Q= 80

VERTICAL PROFILES OF **SALINITY** AND **TURBIDITY**

Data from a station taken close to the coast on the 27 of May



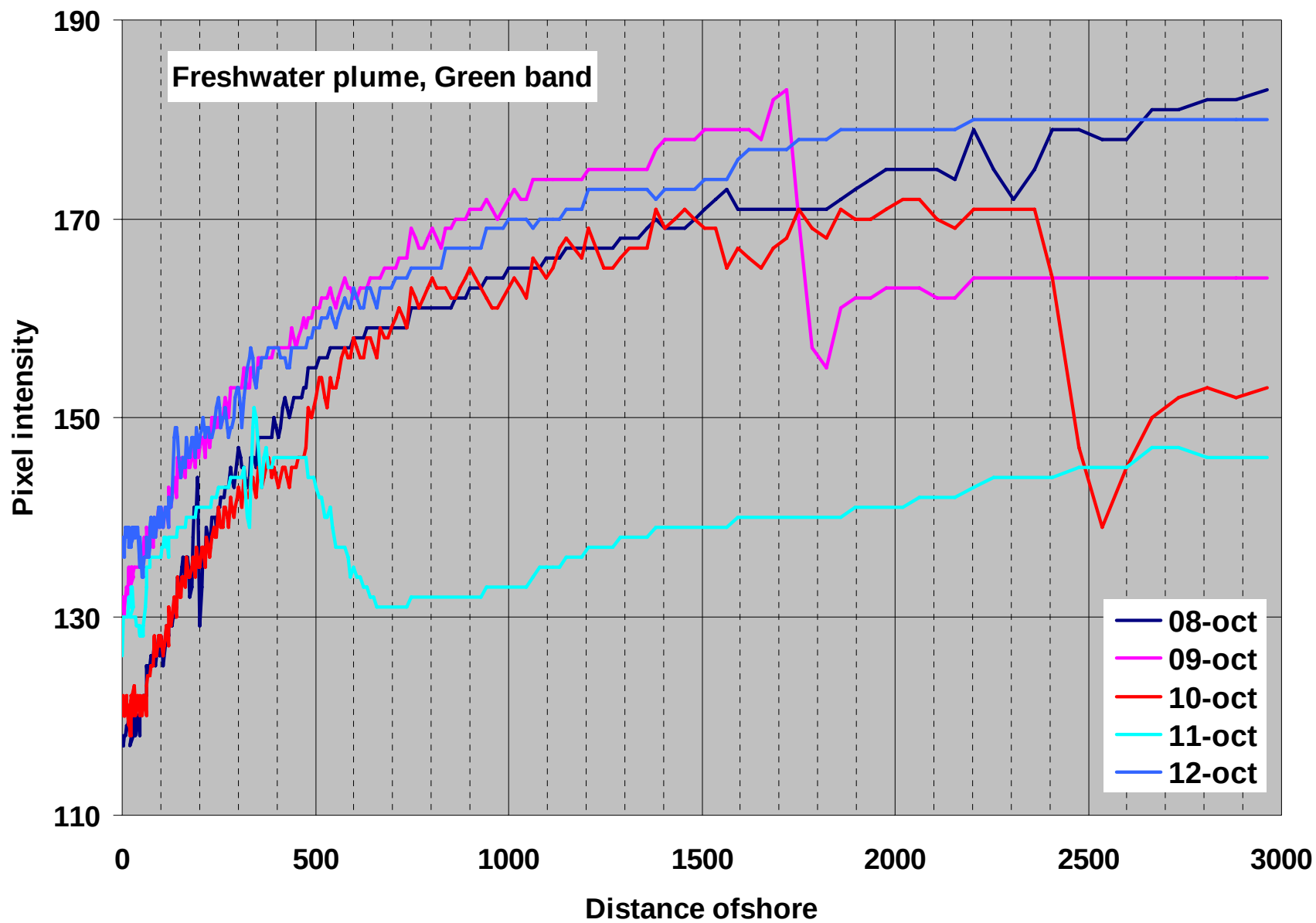


8 October

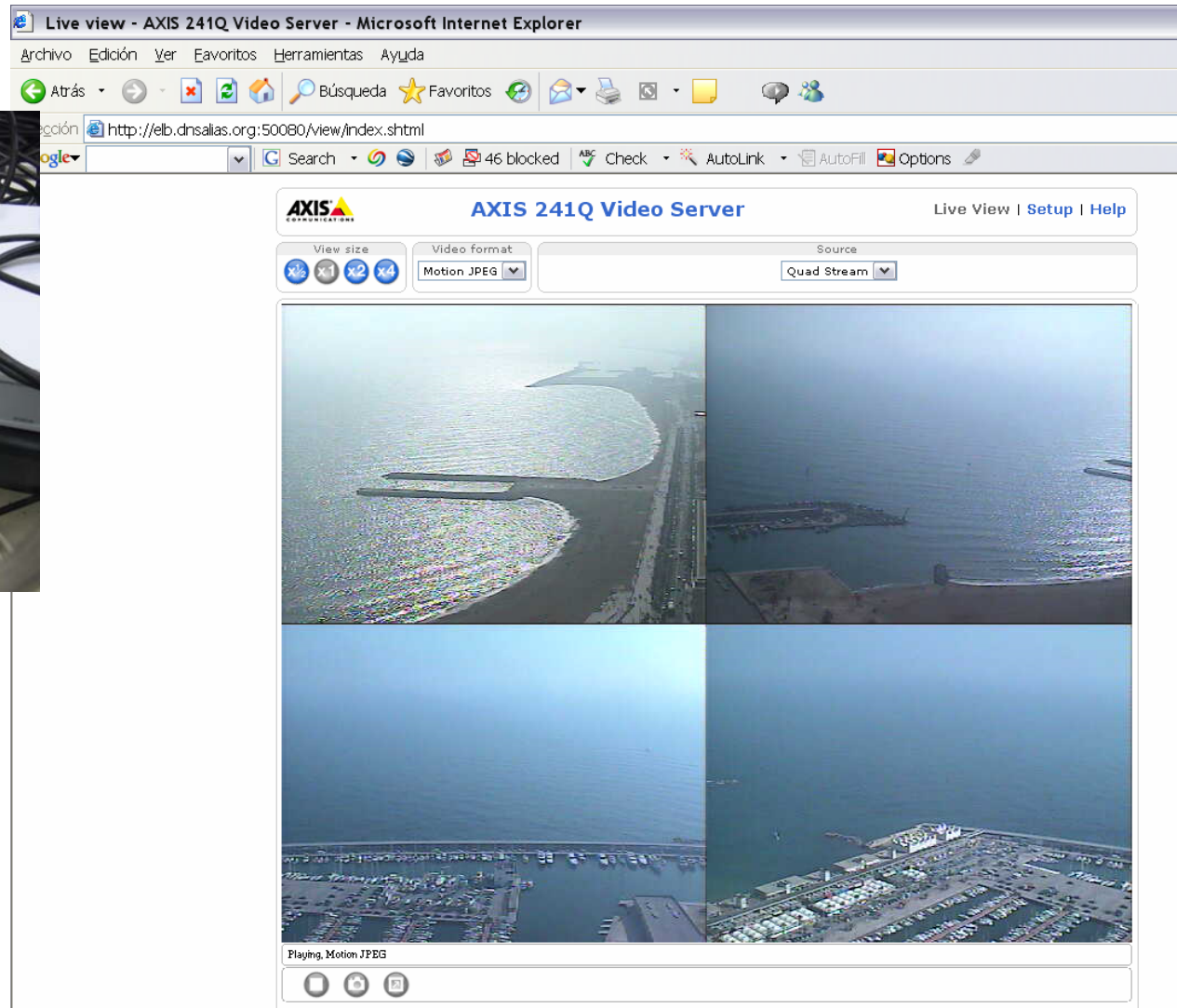


9 October





REAL-TIME VIDEO



SUMMARY

- Barcelona is an example of urban, artificial beach. It is complementary with other Argus stations.
- It provides data for research, environmental control and coastal management

To be continue...

