4th MAMA meeting Roma, 3-6th June 2003

Israel Oceanographic & Limnological Research

Israel Marine Data Center
ISRAMAR

Real time coastal data information system

During the second year of the MAMA project the main attention was invested in the development of a system which is able to gather results of measurements from local servers and load all data into an unified regional database.

Dov S. Rosen, Irena Lunin, Lazar Raskin, Yan Tsehtik and Isaac Gertman

http://www.ocean.org.il

The real time coastal data information system advantages:

- successful implementation of basin scale operational oceanographic models
- simple procedures of long term data archiving and disseminating the data for users
- implementation of a unified procedure of data quality control including comparison between measurements from different coastal stations with correlated parameters.

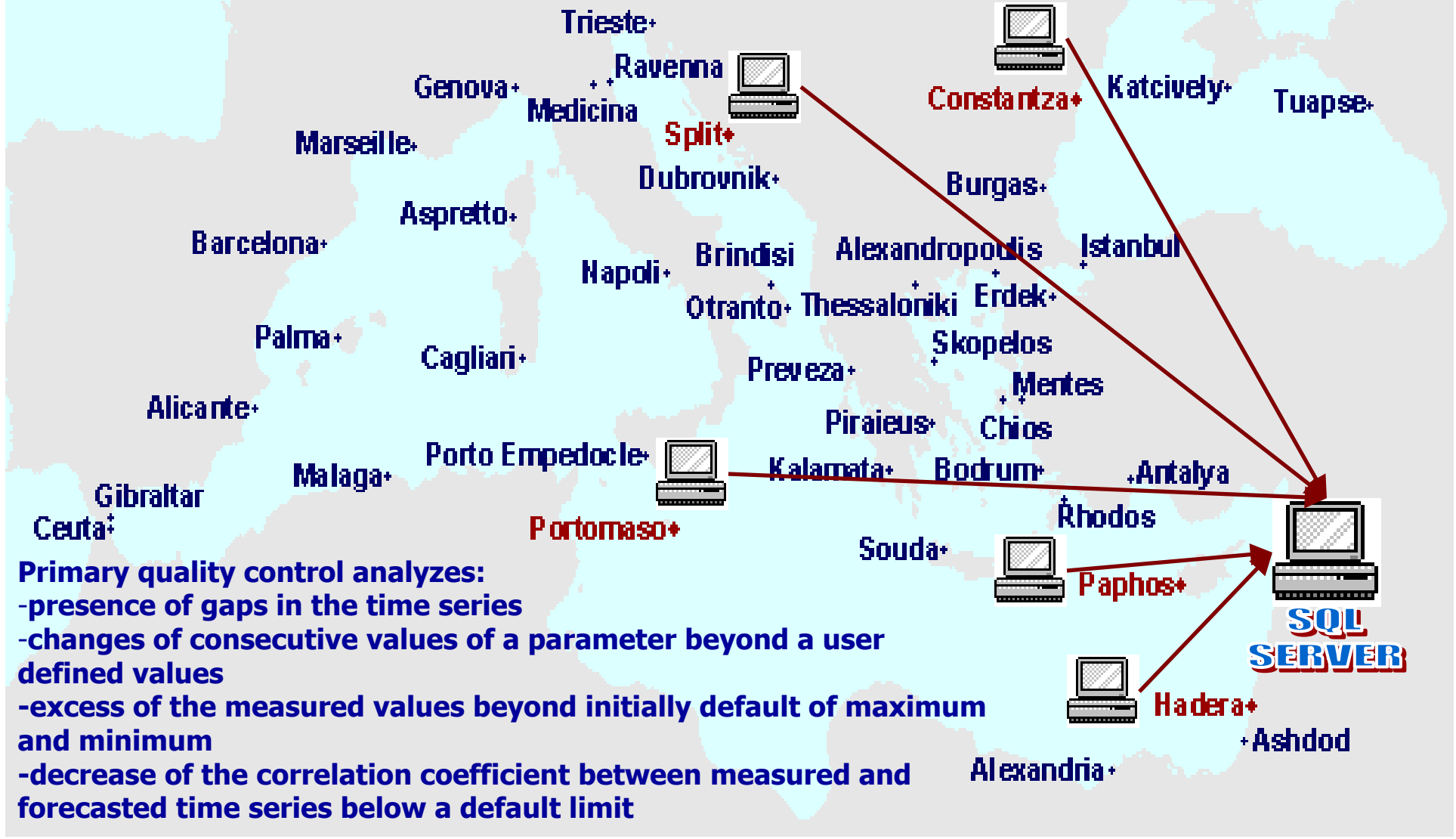
4th MAMA meeting Roma, 3-6th June 2003

The real time coastal data information system :

- data acquisition
- transmission
- quality control
- archiving data on SQL Server database
- data internet accessibility

4th MAMA meeting Roma, 3-6th June 2003

Data acquisition and transmission



Primary quality control analyzes:

-presence of gaps in the time series

-changes of consecutive values of a parameter beyond a user defined values

-excess of the measured values beyond initially default of maximum and minimum

-decrease of the correlation coefficient between measured and forecasted time series below a default limit

4th MAMA meeting Roma, 3-6th June 2003

Data processing procedure on the SQL server:

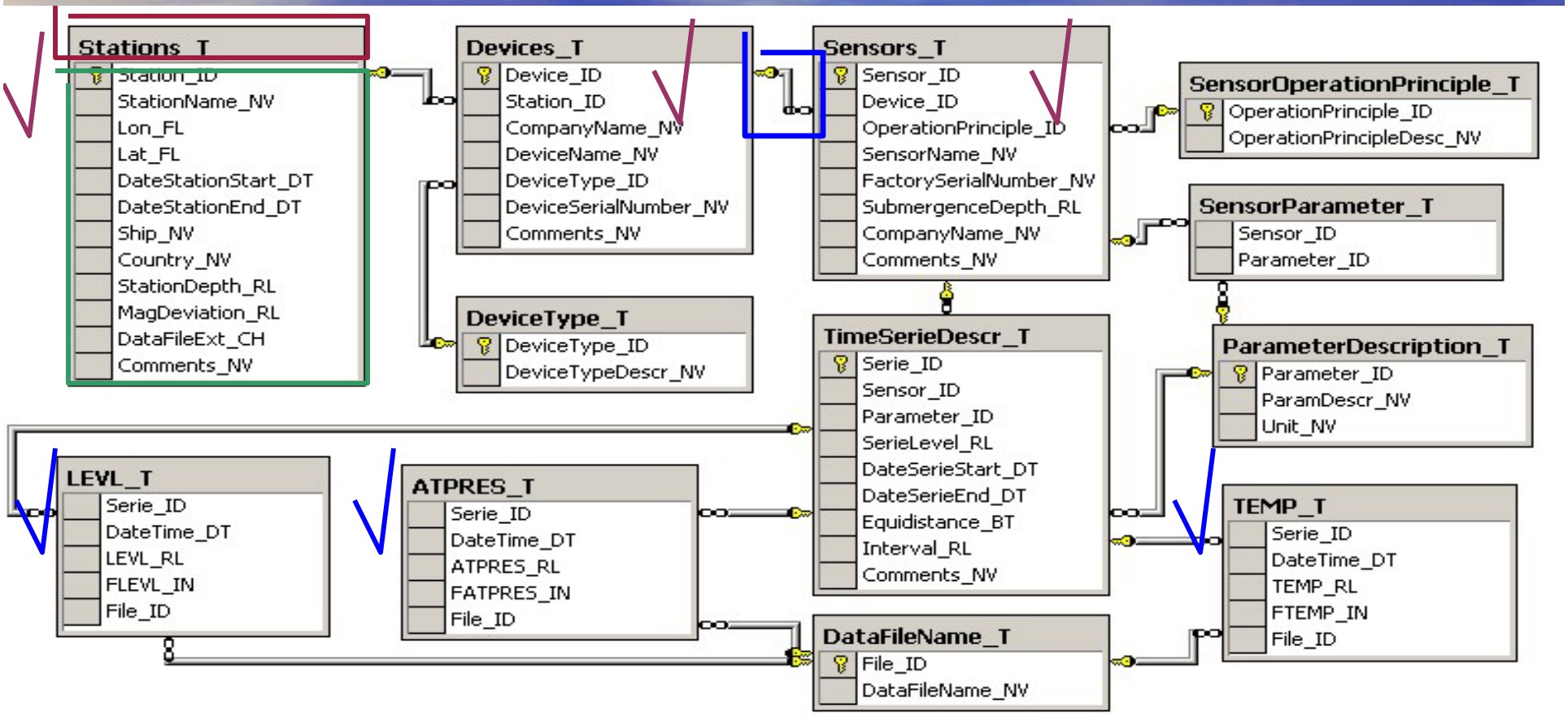
- Daily scanning of incoming files and loading new data into a unified database.
- Analysis of the database inputs for gaps in measurements.
- Analysis of parameters for coarse errors (exceeding of extreme, exceeding a typical increment between two measurements) and flagging the suspect values.

SQL SERVER 2000 advantages:

- internet integration
- high performance
- scalability
- easy database administration and using
- strong security features
- integration with familiar applications such as Microsoft Office

4th MAMA meeting Roma, 3-6th June 2003

Database structure



4th MAMA meeting Roma, 3-6th June 2003

New quality control procedure will be include:

- Seasonal tuning of the quality control parameters
- Control of correlation level between parameters measured on different stations
- Alerting system for e-mail messaging to responsible persons in case of identification of data quality problems.

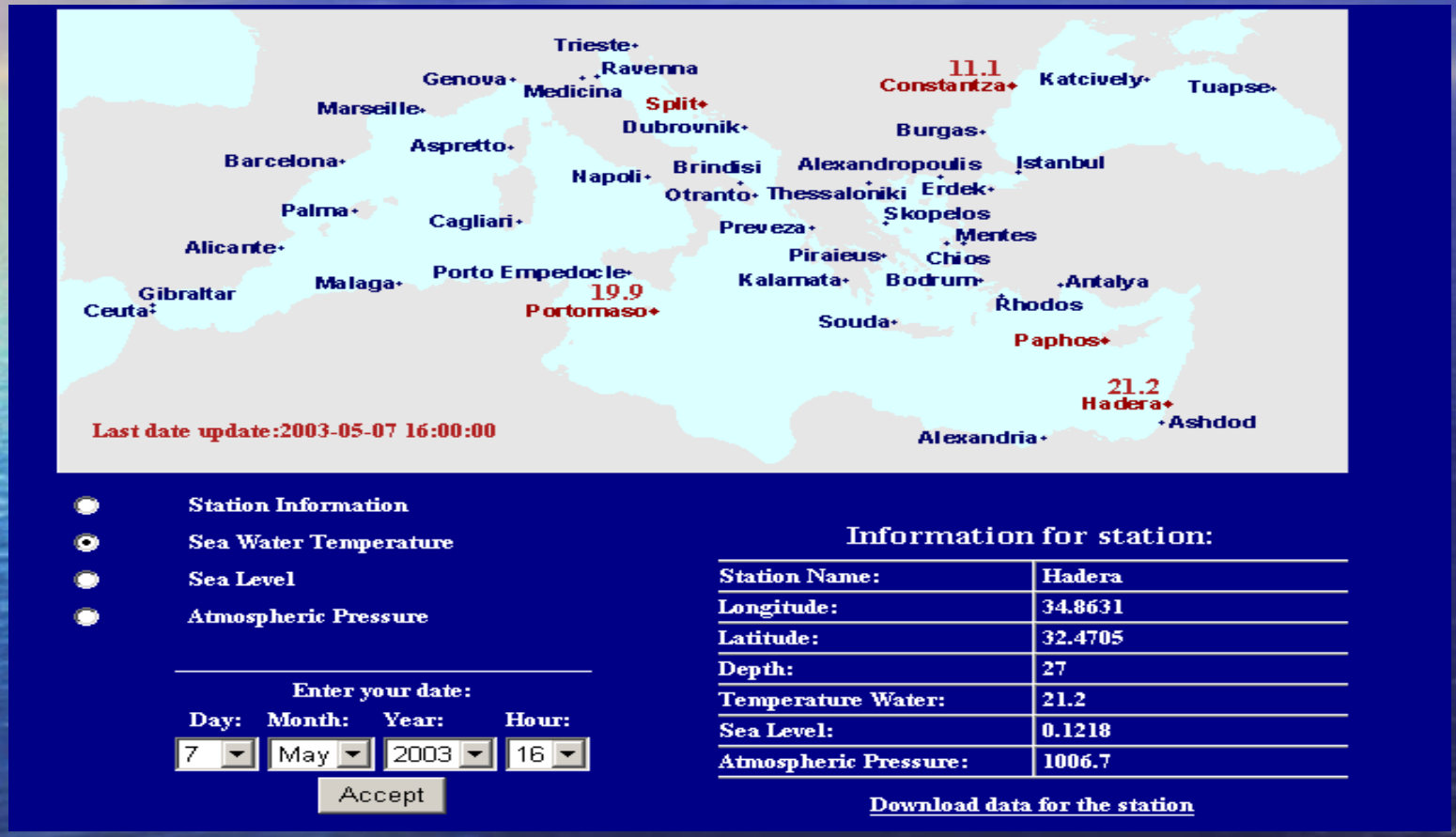
WEB interface

Active Server Page Technology (ASP):

- access to database
- access to file system on server
- using graphical objects such as maps, graphs and diagrams
- browser independence

4th MAMA meeting Roma, 3-6th June 2003

MEDGLOSS Site interface



Map interface allows exploring data for corresponding stations on the map. It demonstrates a real-time data spacial distribution. All stations, which were involved in the project, are shown on the map. Stations, on which data are presented in the database, are marked with a red color.
There is a list of parameters below the map. The numbers above the name of stations are values of selected parameter. These values are simultaneously measured at time determined as last updated time on the map. User can select previous date in the combo boxes (below). It demonstrates previous data from these stations on the map. The information of station appears in the table below the map when mouse over on the station.
User can click on the station and retrieve more details about it.

4th MAMA meeting Roma, 3-6th June 2003

Stations Description

Information about station:

Station Name:	Hadera
Longitude:	34.8631
Latitude:	32.4705
Depth:	27
Device Name:	PACER 10635-12

Additional information about sensors which are installed on this station could be retrieved from link Device Name.

4th MAMA meeting Roma, 3-6th June 2003

Equipment Description

Device CIESM Sea Level Complect includes:

SETRA atmospheric pressure sensor-Model 470

Factory Serial Number: 1101369

Company Name: Setra Systems,Inc.

Operation Principle Description:

Measurements of the resulting change in capacitance between two closely-spaced, parallel metallic surfaces, one of which is essentially a diaphragm capable of slight flexing under applied pressure is detected and converted by Setra's custom Application Specific Integrated Circuit (ASIC) to a proportional high level analog signal.

INTELLIGENT DEPTH SENSOR SERIES 8DP

Factory Serial Number: 75208

Company Name: Paroscientific,Inc.

Operation Principle Description:

The change in frequency of the quartz crystal oscillator is a measure of the applied pressure. The digital temperature sensor consists of piezoelectrically-driven, torsionally oscillating tines whose resonant frequency is a function of temperature. Its output is used to thermally compensate the calculated pressure and achieve high accuracy over a wide range of temperatures.

4th MAMA meeting Roma, 3-6th June 2003

On line data access

Data for individual station

1. Select station name and parameters from drop down boxes.
   - To select consecutive parameters, click the first item, press and hold down SHIFT, and then click the last item.
   - To select parameters that are not consecutive, press and hold down CTRL, and then click each item.
2. Define time period and press Submit button to retrieve information for the station. The information appears in a additonal window.

These files have been optimised for easy inspection by packages such as Excel or Access.

Station: Hadera

Parameters: Water Temperature, Sea Level

From: 1 Jan 2002 To: 1 Jan 2003

Submit

Download page allows retrieving data from desired station for any time period.

4th MAMA meeting Roma, 3-6th June 2003

On line data access

http://10.0.0.82/mamatest/eseas/data.asp?param=TEMP_LEVL_ATPRI

File Edit View Favorites Tools Help

Back Search Favorites Media

Address http://10.0.0.82/mamatest/eseas/data.asp?param=TEMP_LEVL_ATPRES

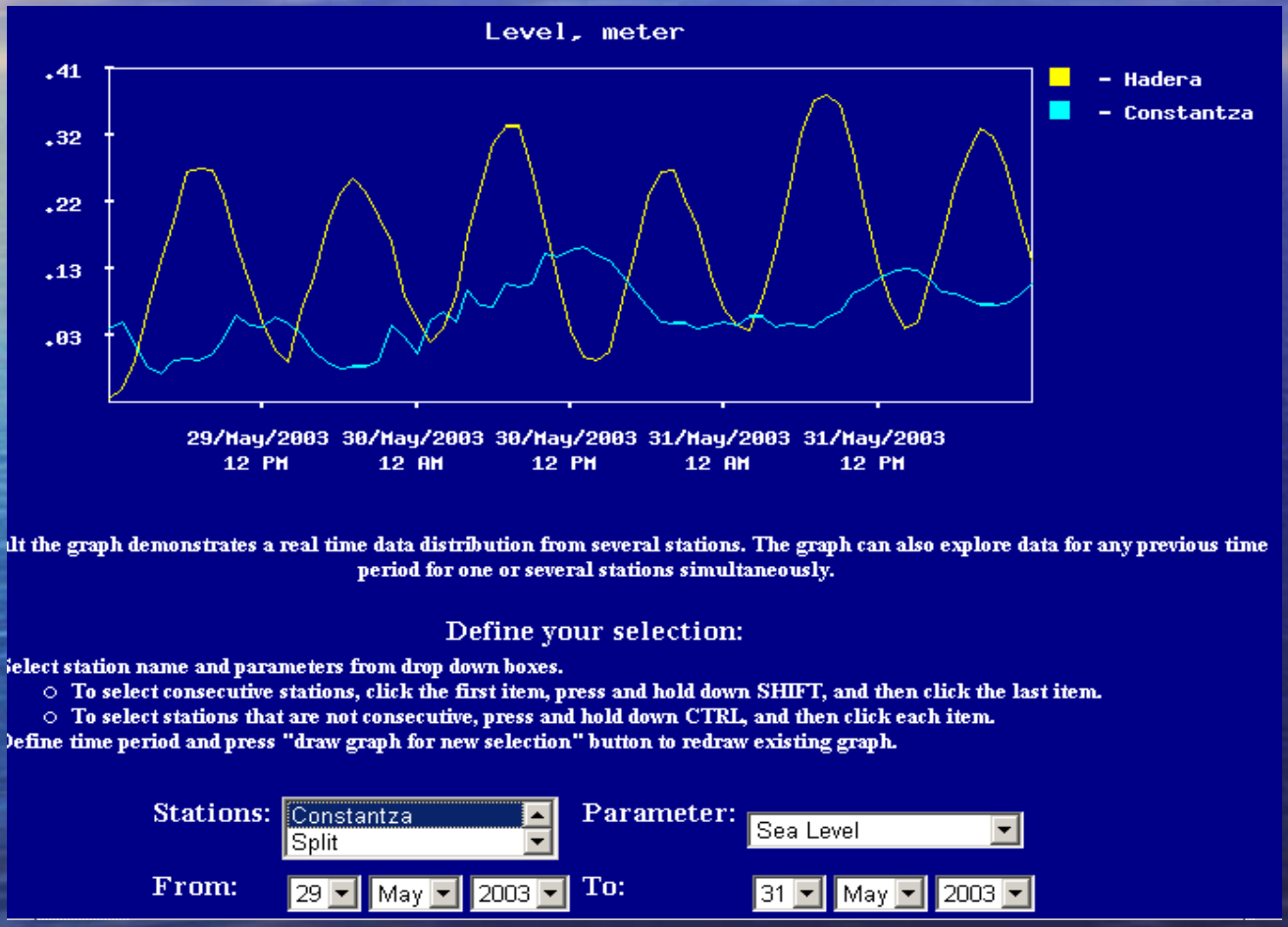
Information for Hadera station from 1/1/2003 to 5/2/2003

DateTime(ddmmyyhh) TEMP LEVL ATPRES
06020302 18.3 0.1054 1017.96
06020303 18.3 0.0437 1017.72
06020310 18.3 0.2551 1017.28
06020311 18.3 0.258 1016.48
06020312 18.3 0.2387 1016.21
06020313 18.3 0.2031 1016.07
06020314 18.3 0.1557 1016.01
06020315 18.3 0.1123 1015.64
06020316 18.3 0.079 1016.18
06020317 18.3 0.066 1016.38
06020318 18.3 0.0785 1016.33
06020319 18.3 0.1256 1015.71
06020320 18.3 0.1952 1015.35
06020321 18.3 0.2716 1015.01

Data output into text file which could be easy import to Excel or other databases.

4th MAMA meeting Roma, 3-6th June 2003

Real time data in graphical form



The measured data are explored on the Graph. By default the graph demonstrates a real time data distribution from several stations. Each station is marked with different color. The Graph can explore data for any previous time period from one or several stations simultaneously.

4th MAMA meeting Roma, 3-6th June 2003

WEB Interface

Monitoring Network System for Systematic Sea Level Measurements in the Mediterranean and Black Sea

Home | Sea Level Station | Sea Level Related Data | About | Publications | Contacts

May. 08, 2003 12:37

Sea Level Related Data

- Real Time Map
- Real Time Graph
- Download Data
- Quality Control

Quality Control - Hadera:

Parameter	Avg	StDev	Min	Max	Median
TEMP	18.7	0.9	16.4	21.3	18.5
LEVL	0.110	0.123	-0.276	0.404	0.120
ATPRES	1,011	4	997	1,021	1,011

Quality Control - Portomaso:

Parameter	Avg	StDev	Min	Max	Median
TEMP	16.2	1.3	14.1	20.4	16.0
LEVL	-0.087	0.087	-0.347	0.147	-0.078
ATPRES	1,016	6	996	1,029	1,018

Quality Control - Paphos:

Parameter	Avg	StDev	Min	Max	Median
TEMP	16.0	0.8	14.6	17.5	15.9
LEVL	-0.539	0.116	-0.853	-0.256	-0.546
ATPRES	1,012	5	1,000	1,021	1,013

Quality Control - Constantza:

Parameter	Avg	StDev	Min	Max	Median
TEMP	5.1	3.3	0.3	12.6	4.9
LEVL	0.124	0.252	-0.976	1.027	0.107

There are values of statistic parameters like minimum, maximum, average for all presented station on Statistic page

4th MAMA meeting Roma, 3-6th June 2003

Monitoring Network System for Systematic Sea Level Measurements in the Mediterranean and Black Sea

Monitoring Network System for Systematic Sea Level Measurements in

Monitoring Network System for Systematic Sea Level Measurements in the Mediterranean and Black Sea

Home | Sea Level Station | Sea Level Related Data | About | Publications | Contacts

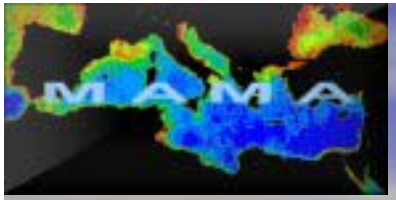
May. 21, 2003 15:42

News

Welcome to Israel Oceanographic & Limnological Research, Ltd.

Sea Level Related Data

Jpload Files



4th MAMA meeting Roma, 3-6th June 2003

http://medgloss.ocean.org.il/medgloss/