The implementation of WFD (and MSFD) in a non EU country

TÜBİTAK- Marmara Research Center
Environment Institute

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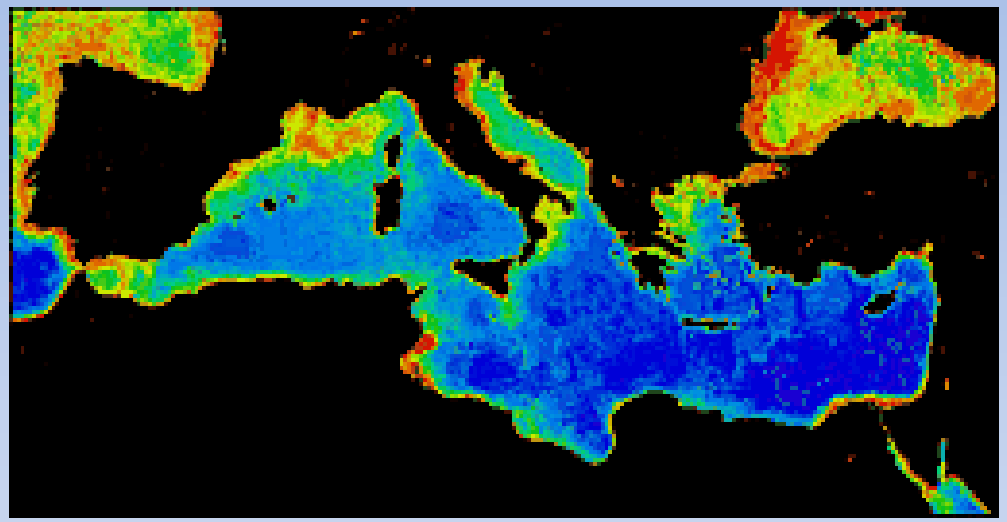
MED POL Focal Point

Plan of the Presentation

- Regional seas surrounding Turkey (incl. the Sea of Marmara)
- Environmental policies for the coastal and marine waters / Responsible institutes of implementation
- Projects of adaptation to WFD and MSFD:
- Watershed Protection Action Plans
- Coastal sensitive areas and hot spots
- Environmental Assessment and Quality Classification of Coastal and Marine Waters (in relevance to WFD and MSFD)
- IPA Proposals
- EU Projects

Turkey in a peculiar and unique geography



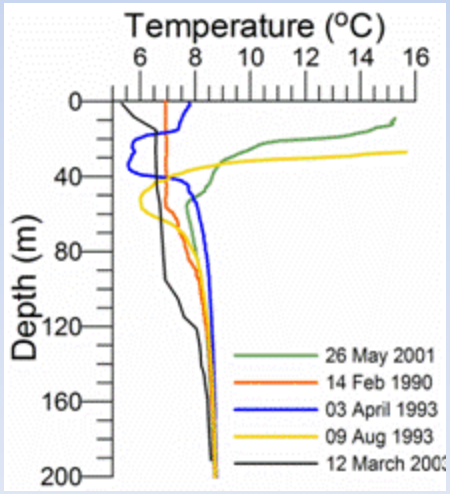
Distinct regional features

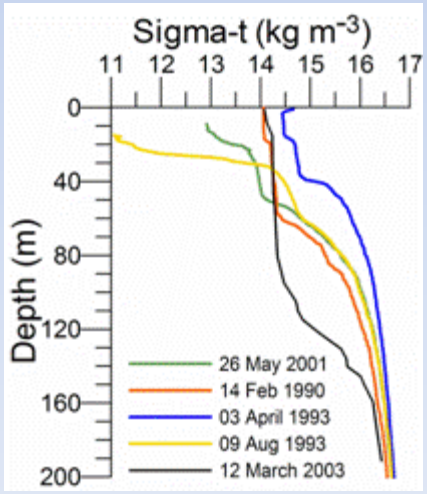
- 8,333 km of coastline
- 17 coastal river basins of 459,264 km^2 (56% of county total area)

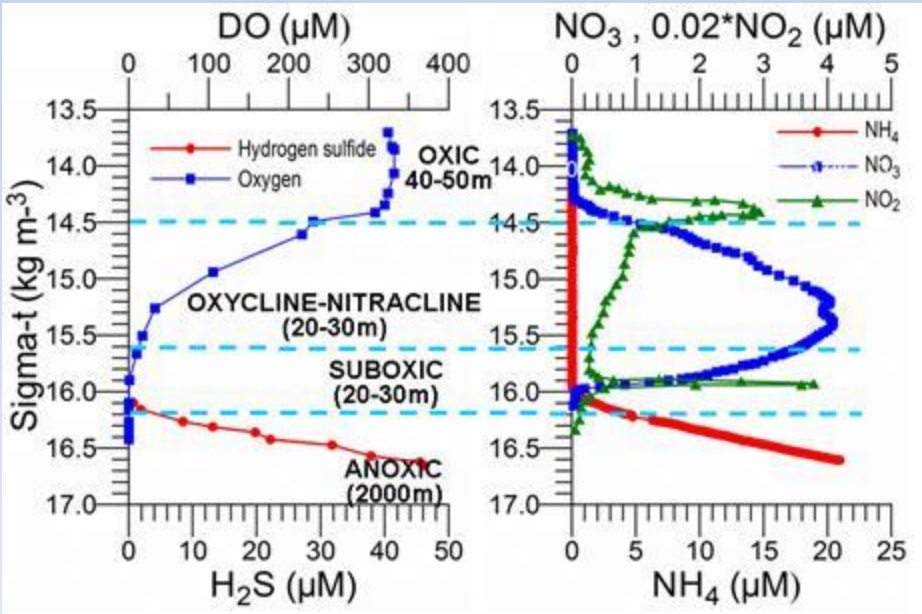
Black Sea

having a large watershed area and river flows

SoE of Black Sea, 2008







Black Sea

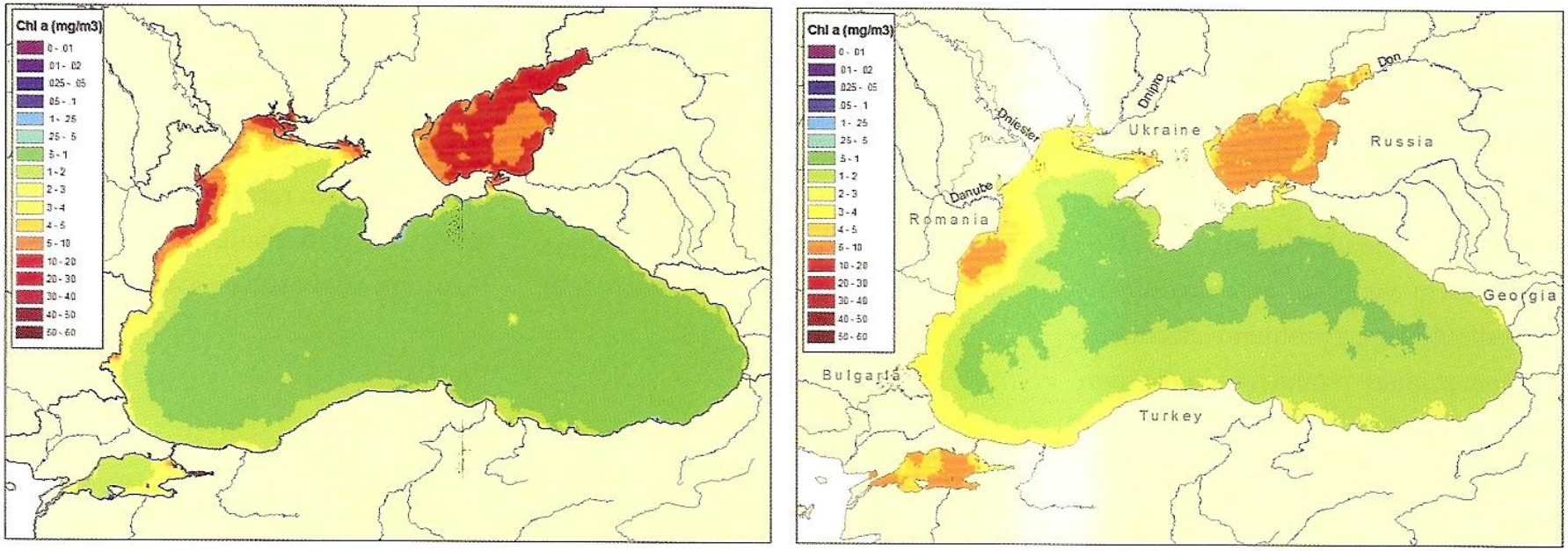
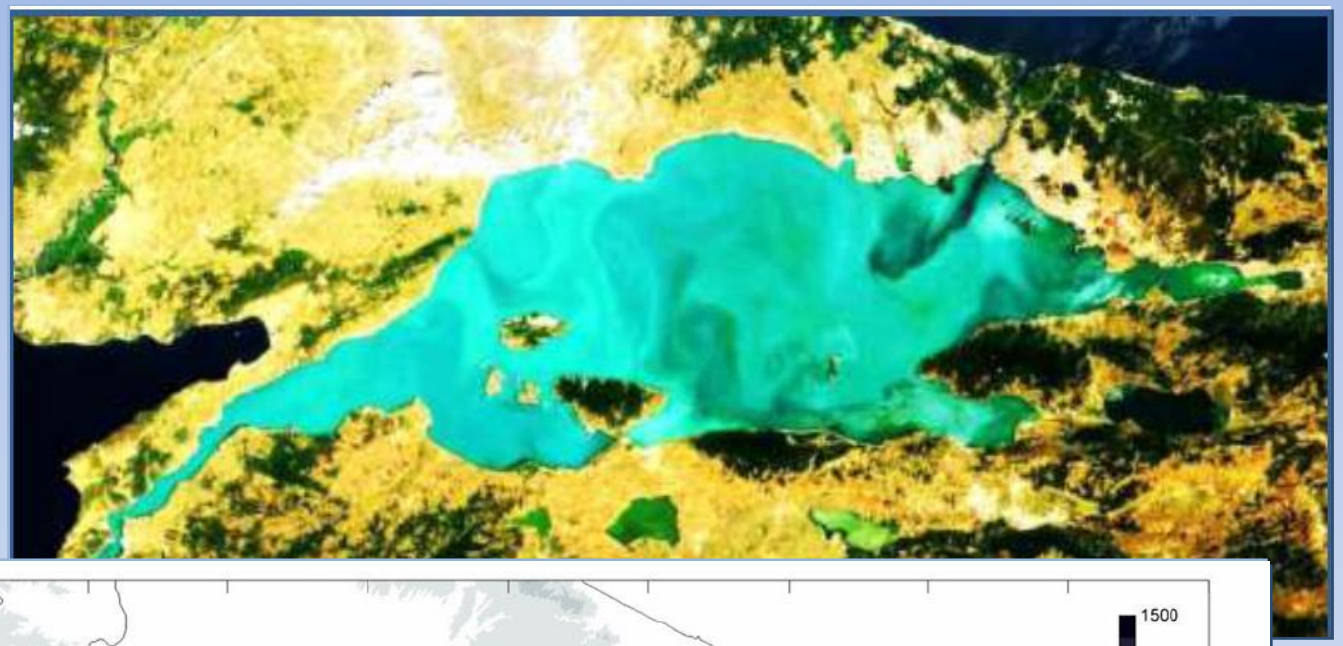
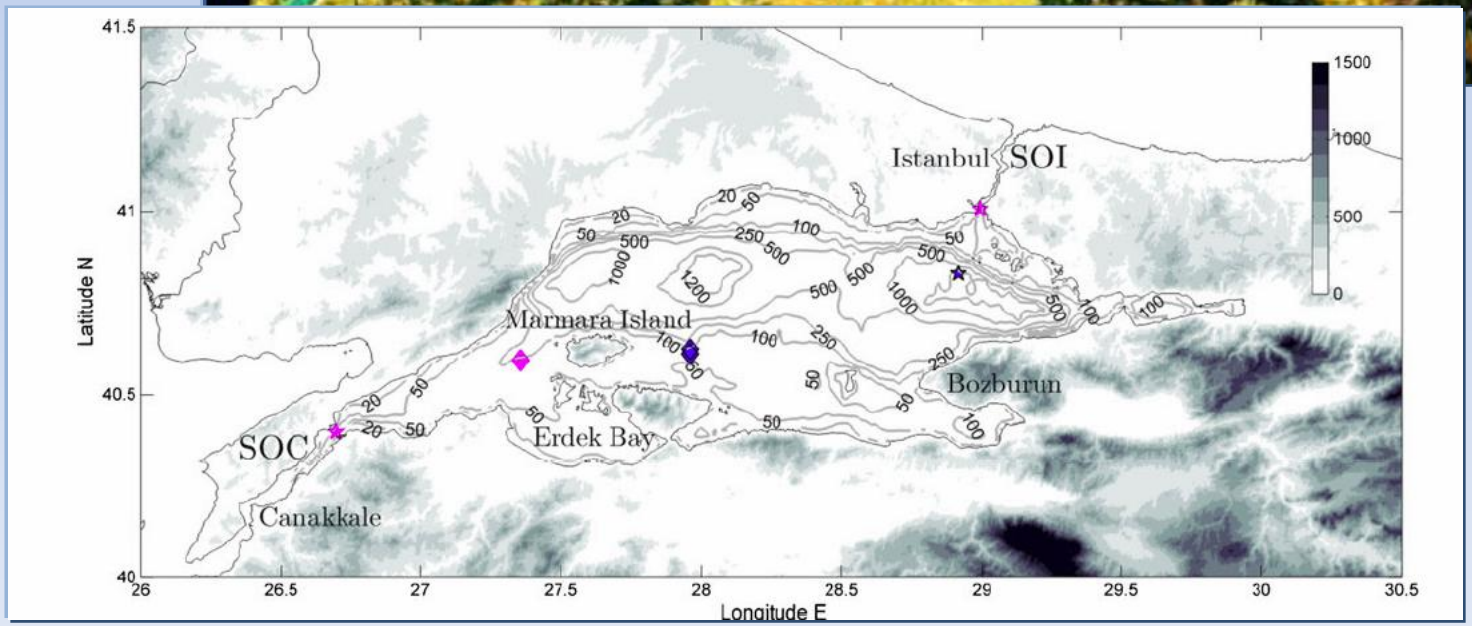


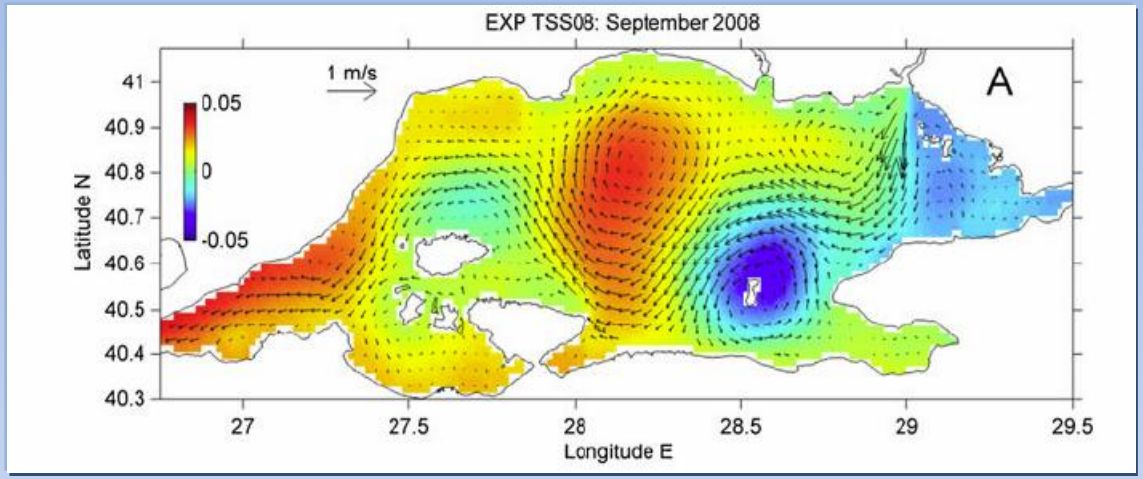
Figure 6. Summer (July, left) and winter (January, right) surface chlorophyll concentrations in the Black Sea derived from SeaWiFS satellite data averaged from 1997 to 2003. Note the intense summer bloom on the northwestern shelf and the winter bloom along the Turkish and Georgian coasts.

The Sea of Marmara

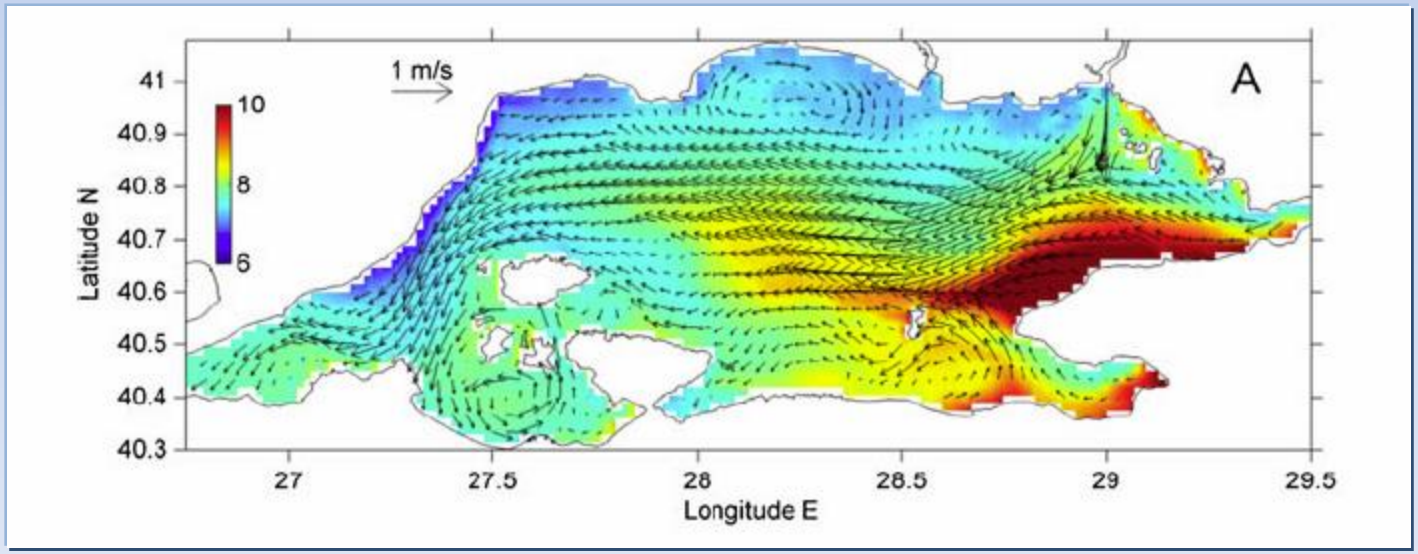




A monthly mean surface circulation and sea level anomaly *Chiggiato et al. 2011*



Daily avegared surface currents and T(ºC) from 26Feb'08
Chiggiato et al. 2011



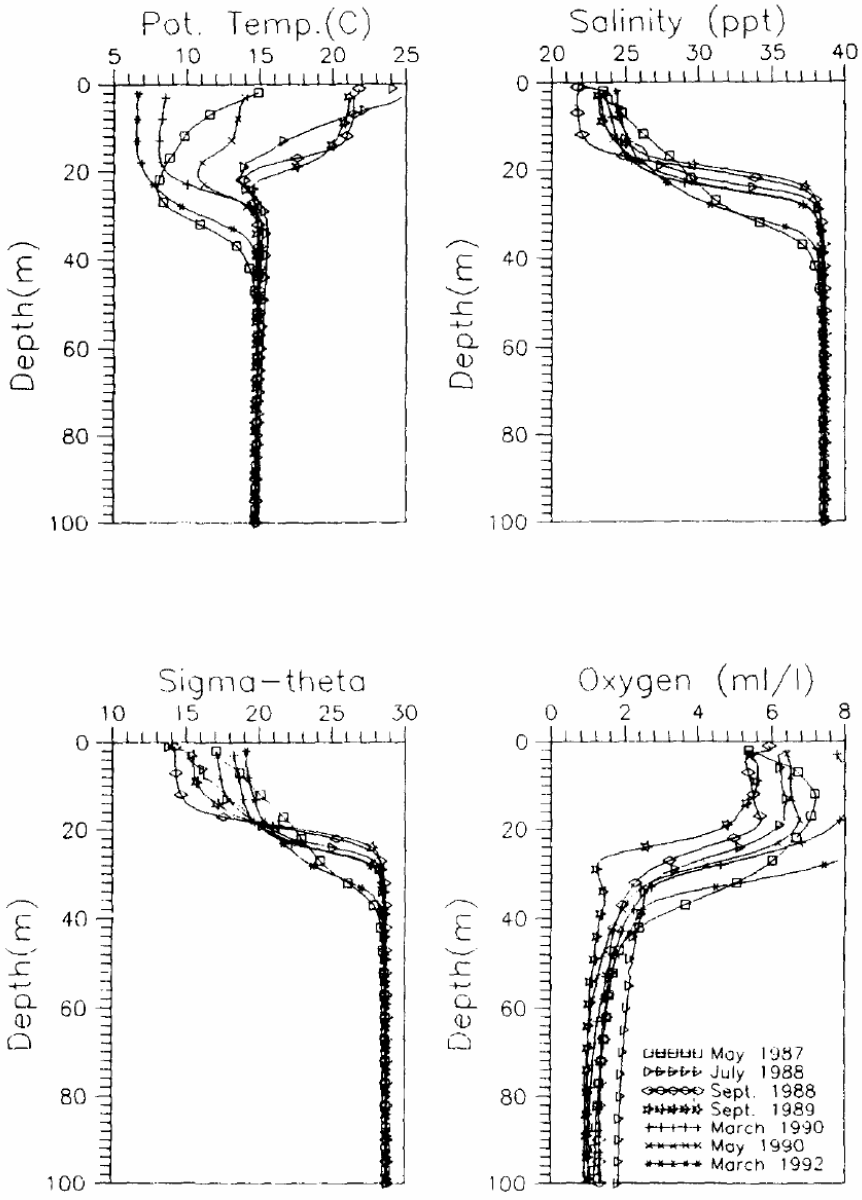
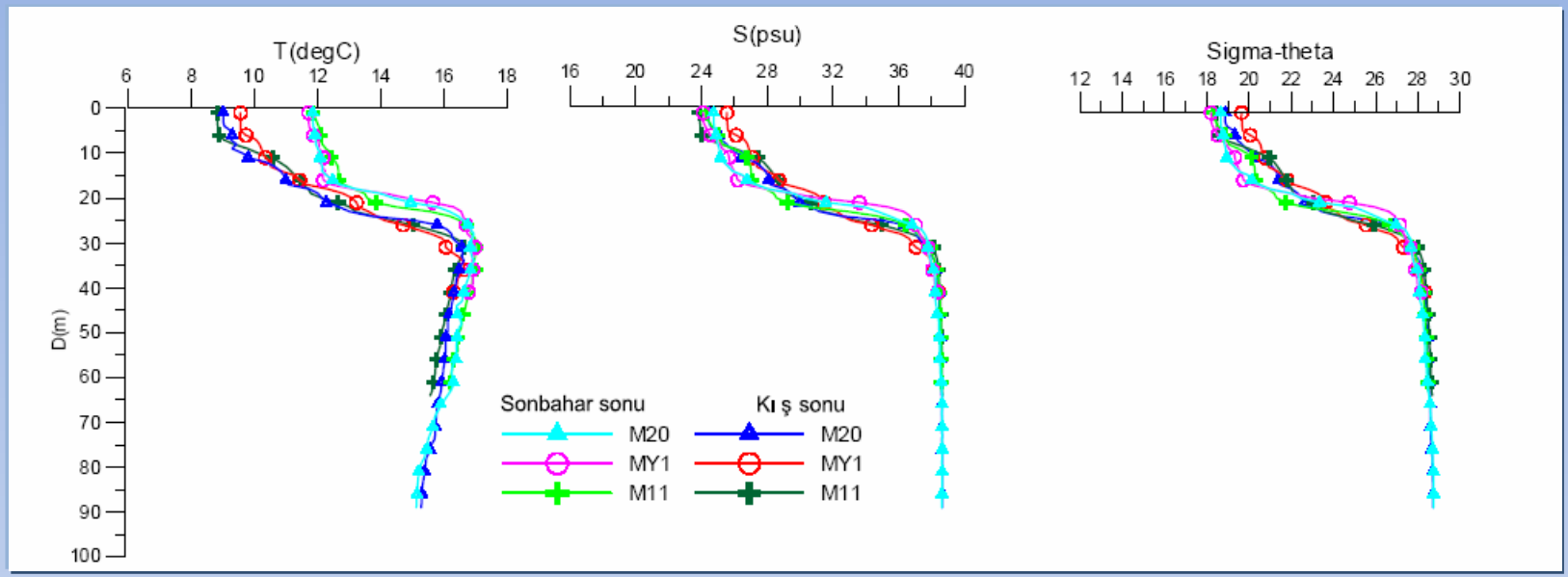


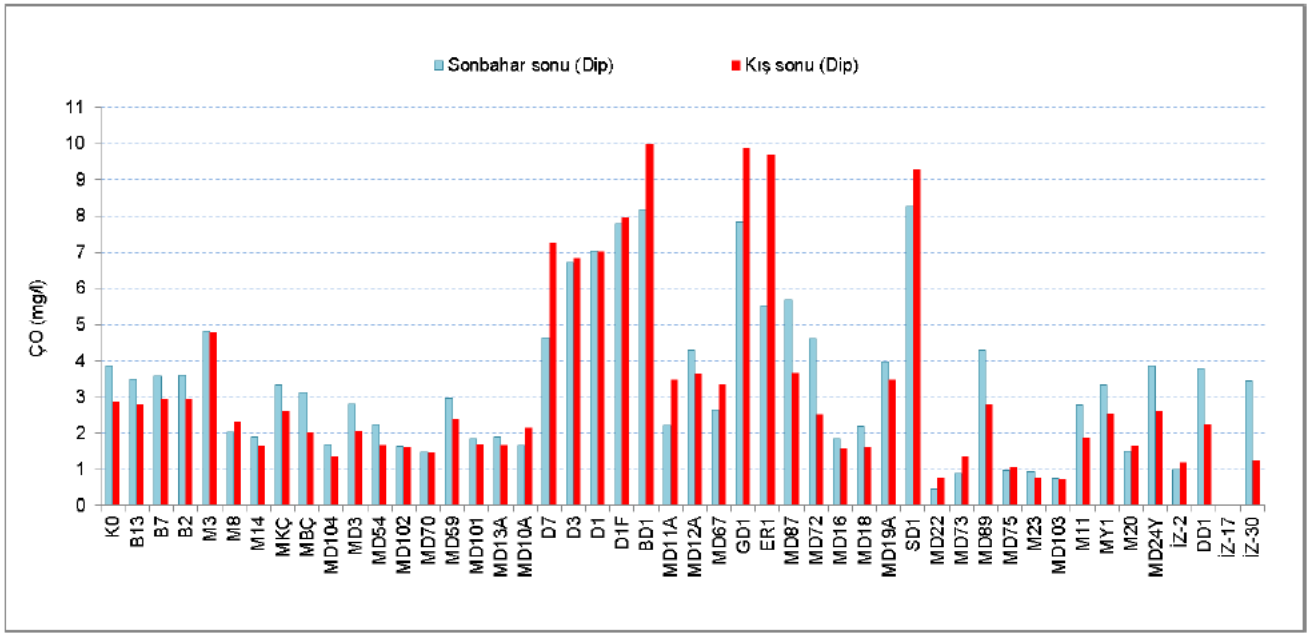
FIG.7. Cruise averaged (a) potential temperature (b) salinity (c) sigma-theta (d) oxygen profiles for the upper 100m of the basin for ten different months.

Beşiktepe et al., 1994

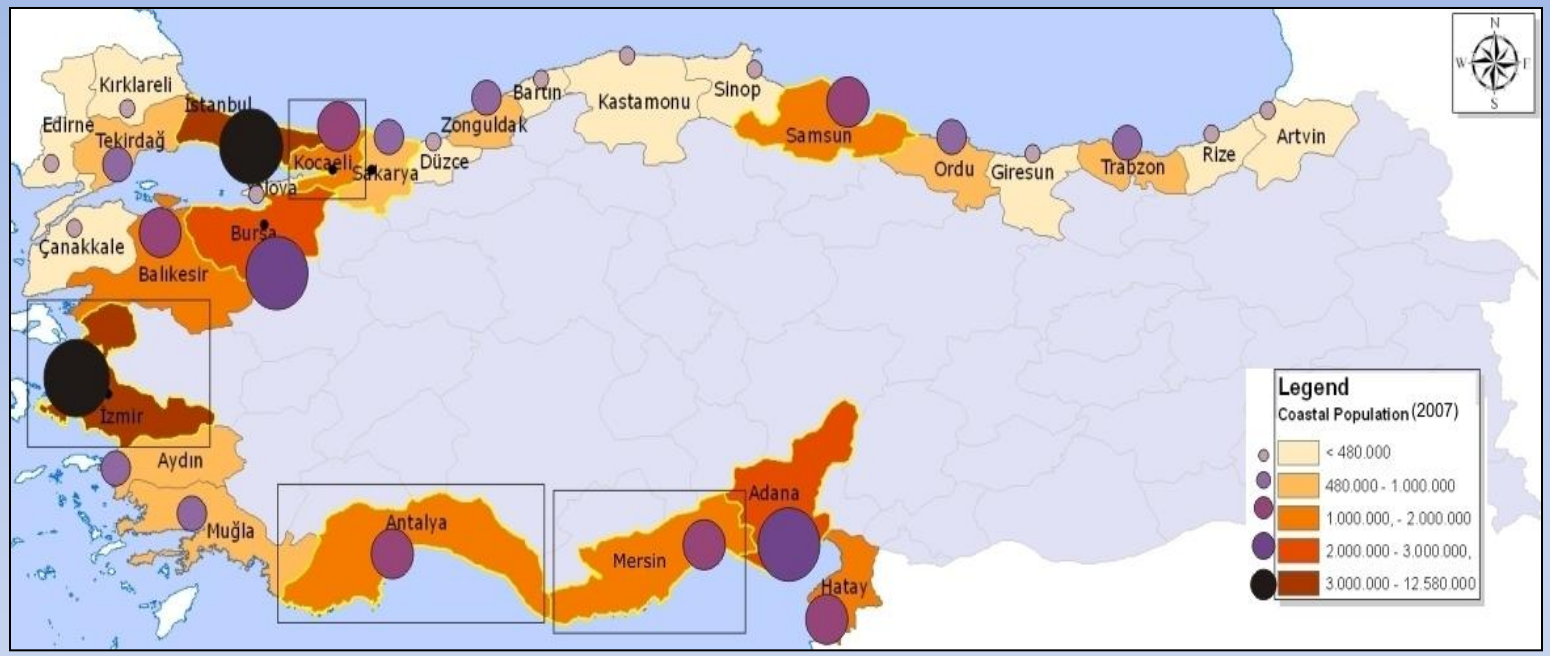


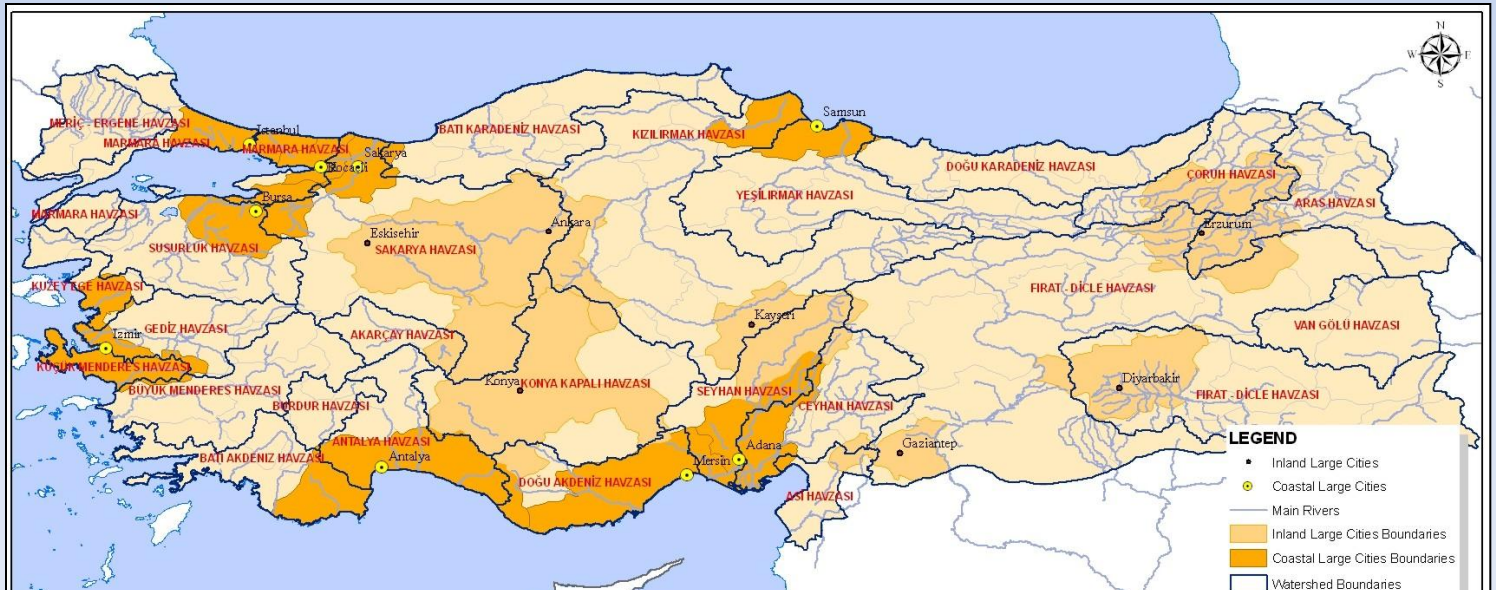
2010 - Marmara

Bottom oxygen values



Pressures: Coastal population / Rivers





Environmental Regulation to include coastal and marine waters

- **Environment Protection Law (1983)**
- Fisheries Law (1971) ammended in 1983
- Law for Protection of Cultural and Natural Amenities (1983)
- National Parks Law (1983)
- Regulation on the protection of waters against pollution caused by nitrates from agricultural sources (2004)
- By-law of Water Pollution Control (2004) (modified in 2008 for chemicals)
- By-law of Urban Wastewater Treatment (2006)
- Communication on Sensitive water Areas for the By-Law of Urban Wastewater Treatment (2009)
- By-law of Dangerous Chemicals (1993)
- By-law of the Control of Hazardous Wastes (2005)
- By-law of the Control of the Pollution in Water and the Water Environment caused by Hazardous Substances (2005)
- Regulation on Environmental Impact Assessment (2003)
- Law Pertaining to Principles of Emergency Response and Compensation for Damages in Pollution of Marine Environment by Oil and Other Harmful Substances (2005)
- Implementation Regulation Related to Principles of Emergency Response and Compensation for Damages in Pollution of Marine Environment by Oil and Other Harmful Substances (2006)
- Regulation on Taking Waste from the Ships and Waste Control (2004)

Water Pollution Control Act (2004)

- Main instrument for the protection and the use of groundwater and surface waters
- River basin protection plans are asked to be prepared
- Quality classification criteria of inland waters
- Coastal waters classified according to their use purposes and required quality for each use type is defined by limits
- Organization of monitoring activities

Responsible Institute of implementation

Ministry of Forestry and Water Works since 2011 (Ministry of Environment and Forestry: 2004-2011)

Article 9: On the Organization and Missions of Ministry of Forestry and Water Works, General Directory of Water was nominated by doing the necessary work in order to prepare plans for water protection and usage, and providing an integrated watershed-based management of terrestrial water and soil resources.

Article 5: States that Water Protection Action Plans are prepared by Ministry of Forestry and Water Works consulting with General Directorate of DSİ (State Hydraulic Works) and other related enterprizes.

Adaptation/Preparation Projects for WFD - 1

Watershed Protection Action Plans

Phase I: 2009-2010
Ministry of Environment and Forestry – TUBITAK MRC Environment Institute

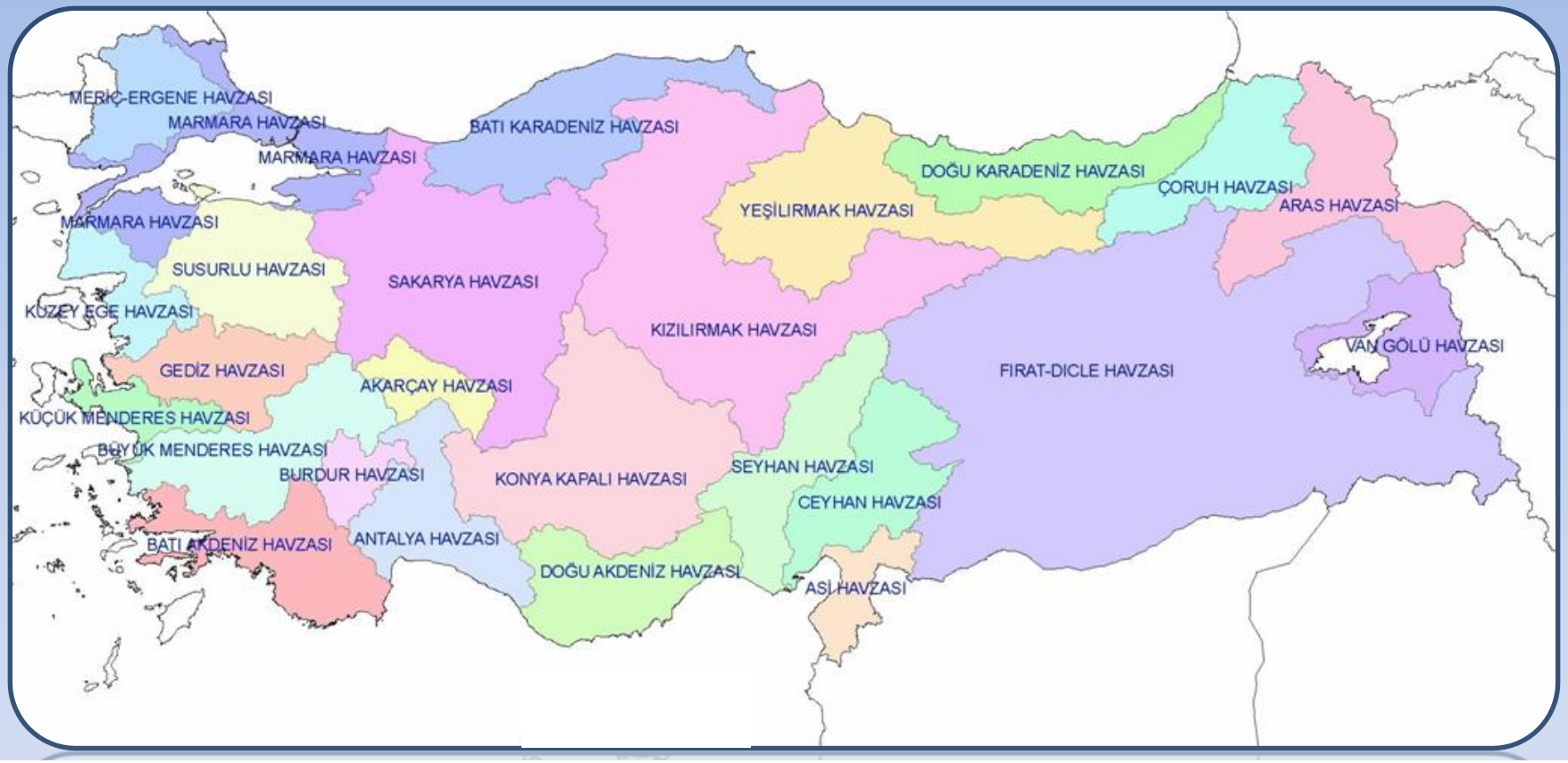
Determination of pressures and their influences related to characteristics and pollution of surface and ground waters as well as urban, industrial, agricultural and economical activities, and consequently planning of actions towards pollution prevention and watershed protection by taking short-, mid- and long term precautions with the participation of all stakeholders in 11/25 watersheds of Turkey.

Phase II: 2011-2013
Ministry of Forestry and Water Works

Similar to Phase I for the rest of the watersheds (14/25)

Watershed Protection Action Plans will contribute to Turkey in the process of nomination for European Union in order to comply with Water Framework Directive which came into force in 2000 and forms a basis for all EU water directives, and to form **a basis for preparation and application of River Basin Management Plans** which will include the necessities of the directive.

River basins in Turkey

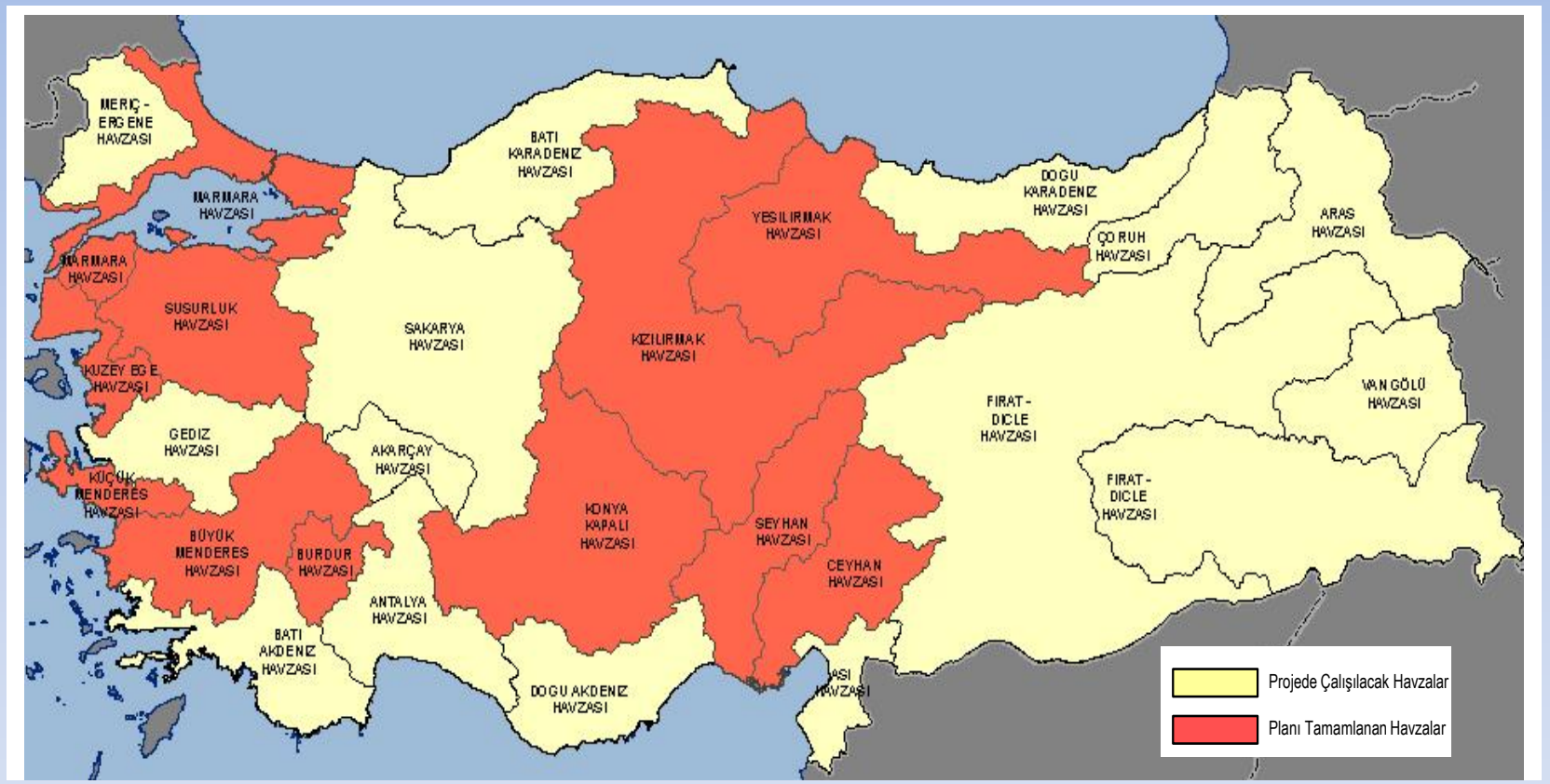


25 River basins; 17 being coastal basins

Watershed Protection Action Plans are being prepared as basis for River Basin Management Plans in the context of WFD.

11 basins were completed, 5 basins are being updated, 9 basins recently started.

Project started in December 2011 involves preparation of protection action plans for 14 Basins (5 of them being revision) by TUBITAK MRC



Harmonization of policy for WFD

Revising the existing legislation	New legislation *
Environmental Law/By-Law on Water Pollution Control	

- Water Law*
- By-law on River Basin protection (Draft)*

IPA-2011 Project on the Conversion of River Basin Protection Action Plans into River Basin Management Plans

- **Budget :** 6.660.000 Euro
- **Duration :** 3 years
- **Beneficiary :** Ministry of Forestry and Water Works
- **Purpose :** Meriç Basin, Susurluk Basin, Akarçay Basin, Büyük Menderes Basin and Konya Closed Basin

TIME TABLE

	Action	Year	Remarks
1	**Designation of River Basin Districts**	**2012**	**25 basins have already been defined.**
2	**Start preparing the Article 5 Reports for River Basins**	**After 2013**	**River Basin Protection Action Plans (RBPAP) will set the basis for Article 5 reports**
3	**Start preparing the river basin management plans**	**After 2014**	
4	**Start of implementation of river basin management plans**	**After 2015**	
5	**Achievement of "good water status"**	**2027**	**Depends on the actual challenges in the basins.**

Adaptation/Preparation Projects for WFD / MSFD - 2

Identification of Hot Spots and Sensitive Areas (to eutrophication) in the Turkish coastal waters

2008-2011 (completed)

Ministry of Environment and Forestry – TUBITAK MRC Environment Institute

Update/review the hot spots (HS) and sensitive areas (SA) of the coasts of Turkey based on scientific data assessment methods;

Determination of the risk of eutrophication and to develop eutrofication coast models for the priority areas in terms of social-economic point of view; to determine nutrient assimilation capacity and limiting nutrient

Determination of the optimum treatment technology for Nitrogen (N) and Phosphorus (P) sourced by urban wastewater which has an important input to eutrophication risk compliance with local conditions and Urban Wastewater Treatment Regulation.

Methodology to identify sensitive areas and hotspots

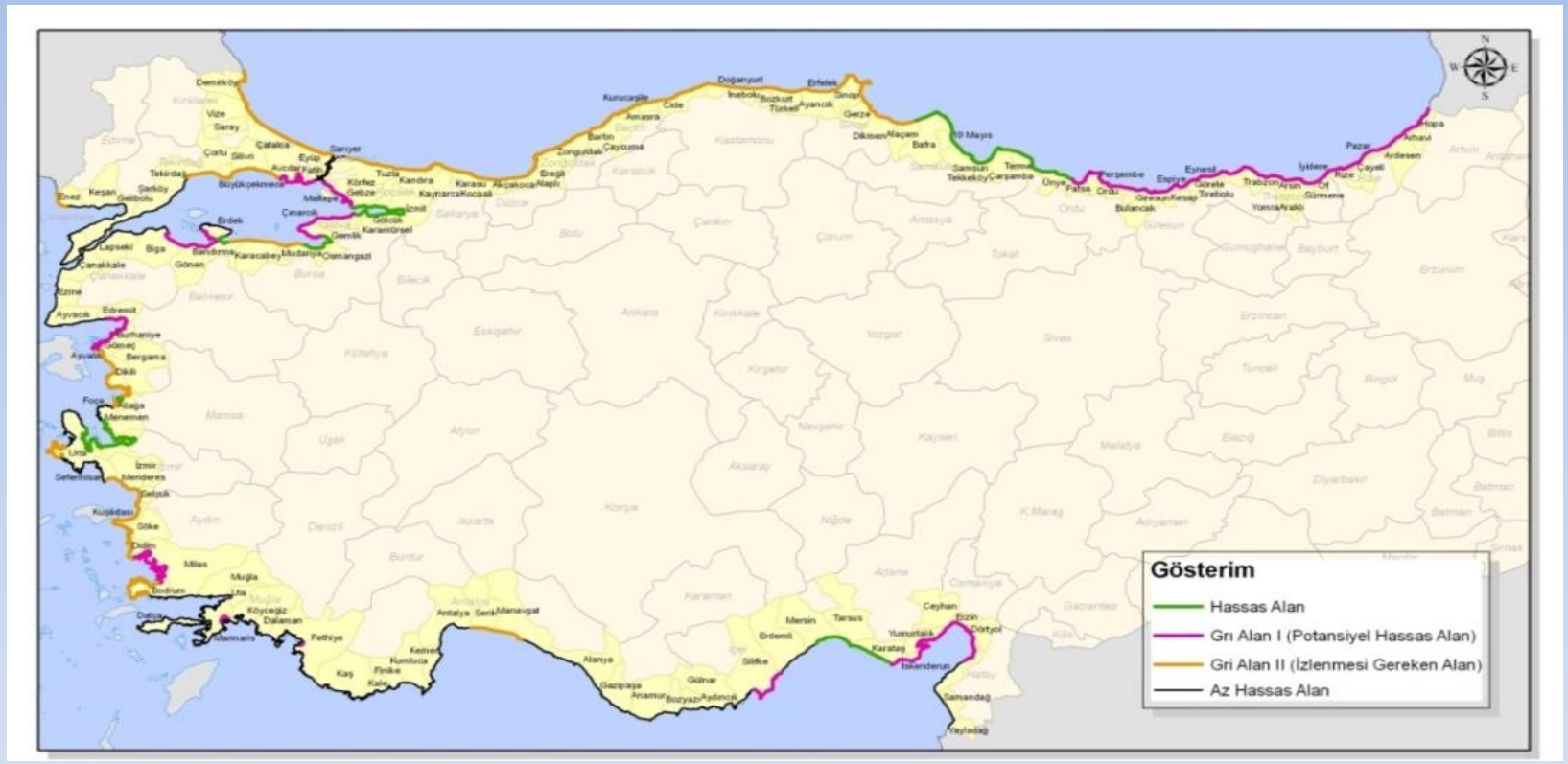
UNEP -MAP Methodology and Expert views/ judgement

- Morphology
  - Closed/open
  - Slope
- Hydrography
  - Currents/ Renewal
  - Stratification
- Water quality
  - Bottom DO sat
  - DIN
  - Chl-a
  - TP
  - TRIX
  - Secchi Disc
- Land Based Pressures
  - Point sources: Domestic
  - Diffuse sources: Agriculture

Policy Instrument:

Bay-law of Urban Wastewater Treatment (2006) and its Communication (2009)

4 - Classes according to Sensitivity to Eutrophication



Adaptation/Preparation Projects for WFD / MSFD - 3

Quality Assessment and Classification of Marine and Coastal Waters

2012-2013
Ministry of Environment and Urbanization – TÜBİTAK MRC Environment Institute

Aim of the Project: In the Black Sea, Marmara Sea, Aegean and Mediterranean Seas;

- In relation to the WFD: Classification of Ecological and Chemical status of coastal and transitional waters, setting up ecosystem quality objectives and production of pollution maps,
- In preparation for the MSFD: Make initial assessments/identify gaps in data and information, definition of Good Environmental Status for marine waters, setting up environmental targets towards their achievement, identification of indicators and proposal of a monitoring programme

Quality Assessment and Classification of Marine and Coastal Waters
(in relevance to WFD and MSFD)

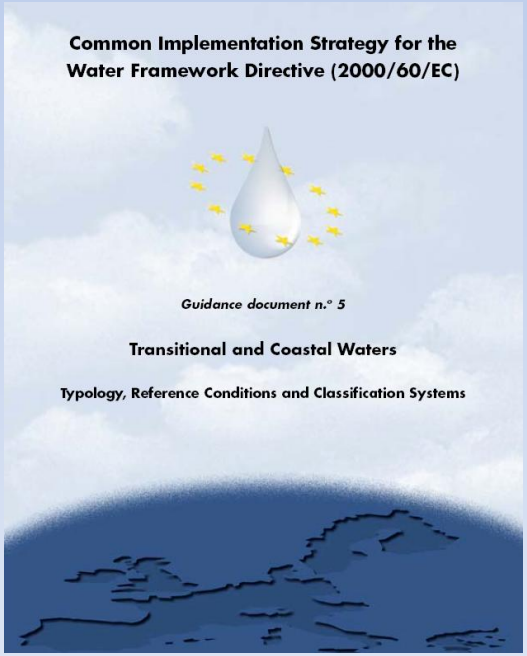
IP No 1	• **Literature survey / establisment of expert lists**
IP No 2	• **Data mining** (monitoring and research databases) **/ gap filling** (field surveys)
IP No 3	• **WFD application in coastal and transitional waters**
IP No 4	• **Pollution maps of coasts and seas** (under various pressures: GIS applications)
IP No 5	• **Programmes of action** (based on the quality classification of coastal and transitional waters) **/proposals for discharge criteria and management plans**
IP No 6	• **Assessment for GES in coastal and marine waters – preparation for the implementation of MSFD**
IP No 7	• **Identification of legislative gaps and proposal of necessary tools**
IP No 8	• **Identification of necessary institutional structure for implementation**
IP No 9	• **Training and dissemination activities**

Quality Assessment and Classification of Marine and Coastal Waters (in relevance to WFD and MSFD)

WP 3 WFD application in coastal and transitional waters	**3.1** Identification of different typologies / water massess for all TR coastal and transitional waters: MED-AEGEAN MARMARA SEA BLACK SEA	1) WFD CIS Guidelines 2) Country examples/ experiences/ GIG's recommendations 3) Data mining 4) Use of monitoring data 5) Identification of data gaps 6) Expert meetings and workshops
	3.2 Reference conditions for each type and biological element and supporting parameters Setting up environmental targets	1) WFD CIS Guidelines 2) Country examples/ experiences/ GIG's recommendations 3) Mining for historical data, reference sites / use of expert views 4) Workshops
	3.3 Setting up class boundaries and EQRs Application of recommended assesment tools for ecological classification	1) Use of long-term data 2) Use of percentiles for class boundaries 3) Use of tested/recommended indices
	3.4 Ecological and chemical classification maps	1) GIS applications 2) Mapping

Where are we ?
in WFD application in coastal and transitional waters

- **Typologies**
  1- North Aegean and Marmara Sea
  2- South Aegean and Mediterranean
  3- Black Sea



TYPOLOGY SYSTEM B COASTAL & TRANSITIONAL

Salinity	f.w. ≤ 0.5 ; 0.5 ≤ 5-6 5-6 ≤ 18-20 ; 18-20 ≤ 30 ; > 30 *
Tidal range (m)	< 1 * ; 1-5 ; >5
Wave exposure	Exposed ; Moderately exposed ; Sheltered
Mixing characteristics	Fully mixed ; Partially stratified ; Permanently stratified
Residence time	days ; weeks ; month-year
Mean substratum composition	Hard (rock, boulders) ; sand/gravel ; Silt ; mixed sediment
Depth	shallow< 30 m moderate depth 30 m to 50 (40) m *deep> 50 (40)m- depth limit of Posidonia oceanica*
Current velocity (kn)	<1 * ; 1-3 ; >3

- **Typologies** (Judgement on parameters- importance of them in different basins)

	MED	Aegean	Marmara	Black Sea	Bays	Straits	Transitional
Obligatory							
Long-Lat	***	***	***	***	***	***	***
Salinity	**	**	***	***	***	**	***
Tidal range	-	-	-	-	-	-	?
Optional							
Wave Exp.	-	**	**	?	-	-	?
Mixing	*	*	*	*	***	*	**
Ret. Time					***	**	**
Substratum	***	***	***	***	***		***
Current Velocity	*	*	*	*	**	***	***
Turbidity	**	**	**	**	***	**	***
MWT	**	**	**	**	**	**	***
Depth							

No monitoring data/information in transitional waters to work out the boundaries – Field studies are planned for few pilot sites

MED- GIG criteria for typologies are taken into account for the Aegean

Initial Typology for the Mediterranean

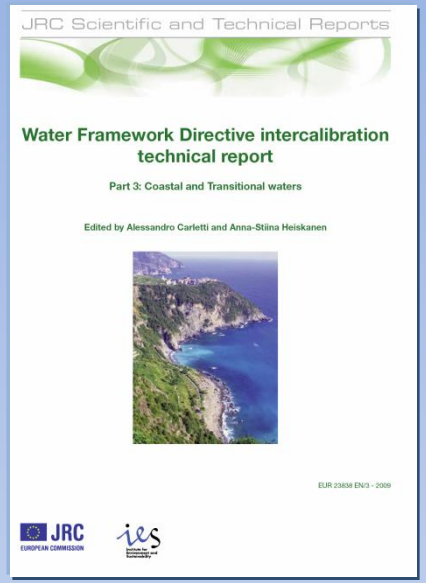
COASTAL WATERS

1. Rocky shallow
2. Rocky deep
3. Sedimentary shallow
4. Sedimentary deep
5. very sheltered bays

** This typology for CW was abandoned during Phase II of IC*

TRANSITIONAL WATERS

1. coastal lagoons
2. estuaries, deltas



EUR 23838 EN/3 - 2009

MED – GIG common coastal types for benthic

Table 2.3.1: Mediterranean coastal common intercalibration types.

Type	Name of Type	Substratum (1)	Depth (2)
CW - M1	Rocky shallow coast	rocky	shallow
CW - M2	Rocky deep coast	rocky	deep
CW - M3	Sedimentary shallow coast	sedimentary	shallow
CW - M4	Sedimentary deep coast	sedimentary	deep

(1) In many cases different seabed substrata will occur within one water body type. The dominant substratum should be defined.
(2) Depth division is based on 40 m depth at 1 mile distance from the coastline.

MED – GIG common coastal types

Biological Quality Element	Phytoplankton

Description of types that have been intercalibrated (applicable for phytoplankton only)

Type	Description	Density (kg/m^3)	Annual mean Salinity (psu)
Type I	Highly influenced by freshwater input	<25	<34.5
Type IIA	Moderately influenced by freshwater input (continent influence)	25-27	34.5-37.5
Type IIIW	Continental coast, not influenced by freshwater input (Western Basin).	>27	>37.5
Type IIIE	Not influenced by freshwater input (Eastern Basin)	>27	>37.5

Countries sharing the types that have been intercalibrated

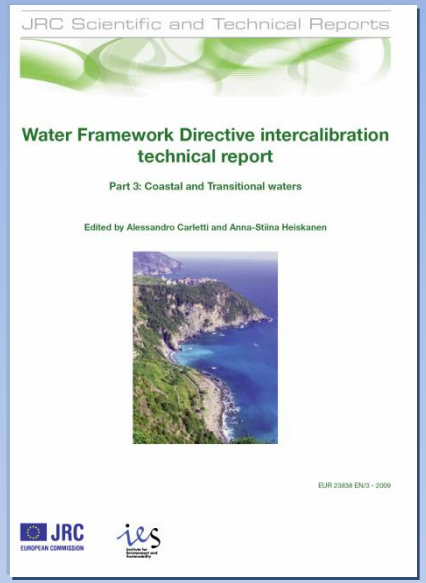
Type I: France, Italy

Type IIA: France, Spain, Italy, Slovenia

Type IIIW: France, Spain, Italy

Type IIIE: Greece, Cyprus

Phytoplankton: parameter indicative of biomass (Chlorophyll a)



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BLACK SEA - GIG

Typology

In the Black Sea was identified only one common type, as is shown in the table below:

Tab 2.2.1: Black Sea GIG Coastal Water Types included in the intercalibration.

Type	Salinity	Tidal range	Depth	Substratum
CW – BL1	mezohaline	microtidal	shallow	mixed

The countries participating at this intercalibration exercise into the Black Sea region are Bulgaria and Romani

Water Framework Directive Intercalibration Technical Report Part: 3 Coastal and Transtional Waters, JRC European Comission, 2009

Table 2: Typology of the Bulgarian coastal waters according to system B

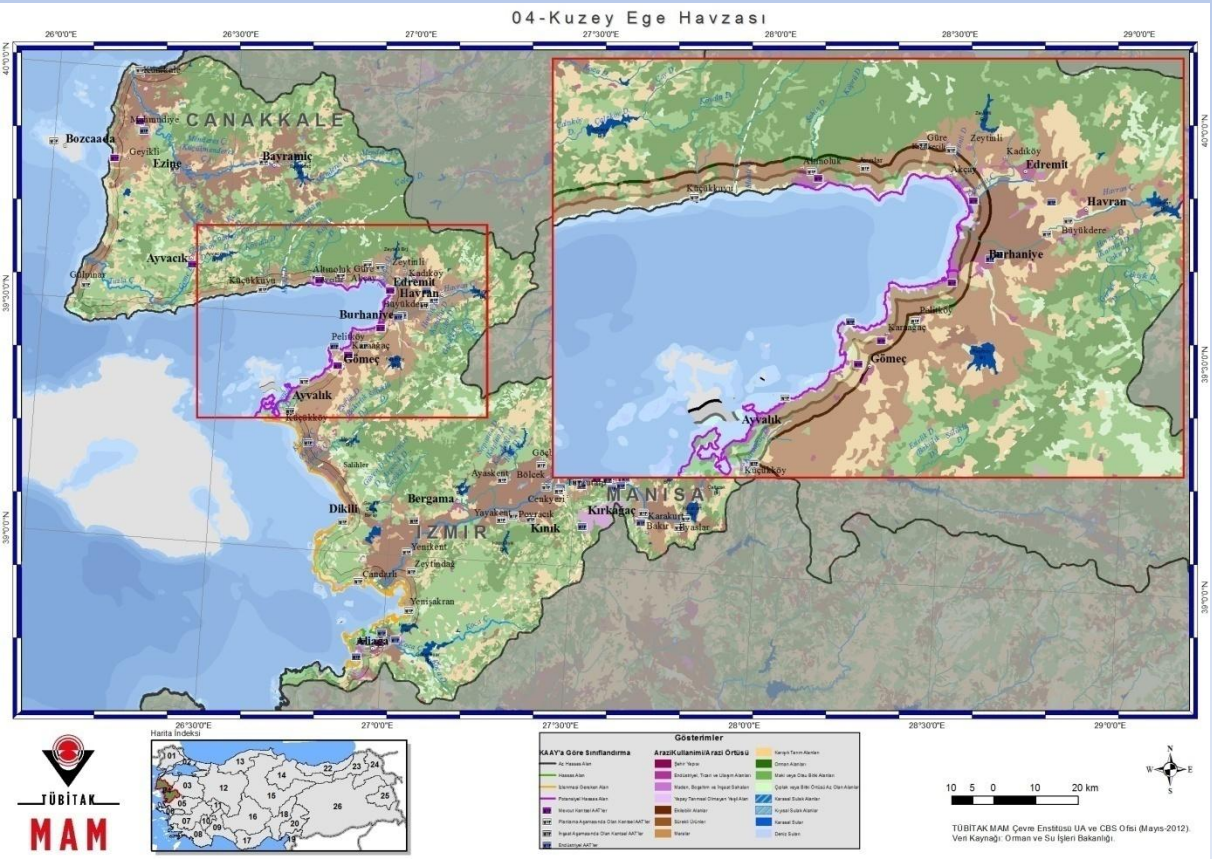
Ecoregion	*Salinity*	*Tidal*	*Exposure*	*Substratum*	*Depth*	*Type*	*Colour*
Black sea	Mesohaline	Microtidal	Exposed	Sand	Shallow	CW602210	Pink
Black Sea	Mesohaline	Microtidal	Exposed	Mud	Shallow	CW602220	Green
Black sea	Mesohaline	Microtidal	Exposed	Mixed	Shallow	CW602230	Red
Black sea	Mesohaline	Microtidal	Moderately exposed	Sand	Shallow	CW602310	Blue
Black sea	Mesohaline	Microtidal	Moderately exposed	Mud	Intermediate	CW602321	Yellow
Black sea	Mesohaline	Microtidal	Moderately exposed	Mixed	Shallow	CW602330	Purple

Evaluation of the Impact from Land-based activities on the Marime & Coastal Environment, Ecosystems & Biodiversity in Bulgaria (BSBD); ECOLAS; 2007

Pressures -Impacted Area Analysis

Data Inputs

- Corine land cover (CLC) data set (urbanisation, agricultural areas, animal husbandary areas, industrial areas)
- Pollution loads from diffused and point sources
- Point sources illustration (waste water treatment plant, critical industrial plants and solid waste management facilities) on GIS
- Coastal slope map
- Biodiversity and valuable ecological areas infomation on coastal areas
- Water mixing capacities and stratification of coastal areas
- Tourism density, and information on the use of coastal areas
- Chl-a and other euthtophication indacator parameters distribution on coastal areas



Help to identify water massess and reference sites

Method Alternatives

1) LUSI: Using LUSI by using CLC like France

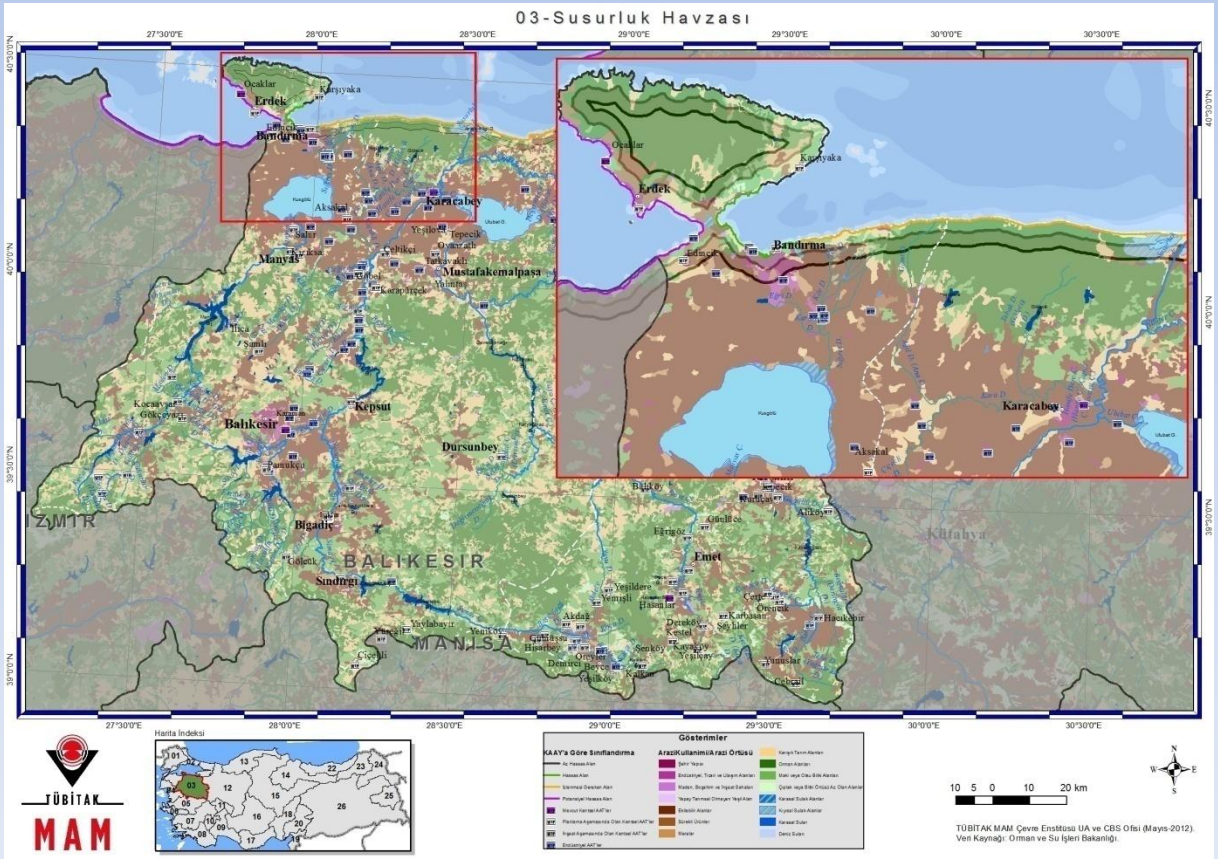
Advantage: existing and approved methodology, enough existing data (CLC) from other institute projects , simple method to be applied

Disadvantage: Covering limited area to evaluate the pressures, not covering the pressures from whole watershed area affecting the receiving water body somehow.

2) Development of a new multi criteria analysis (MCA) methdology taking into account whole watershed area by using pollution loads, morphology, hydrology, water quality etc.

Advantage: existing detailed data from other institute projects, to be covered whole watershed area, skilled experts on GIS, MCA and LBS pressures.

Disadvantage: calibration of method, sensitivity of method for wider areas, complexity and difficulty of a method for dynamic systems.



1st test on identification of reference conditions and quality class boundaries with phytoplankton / chl data

1- Identification of reference conditions

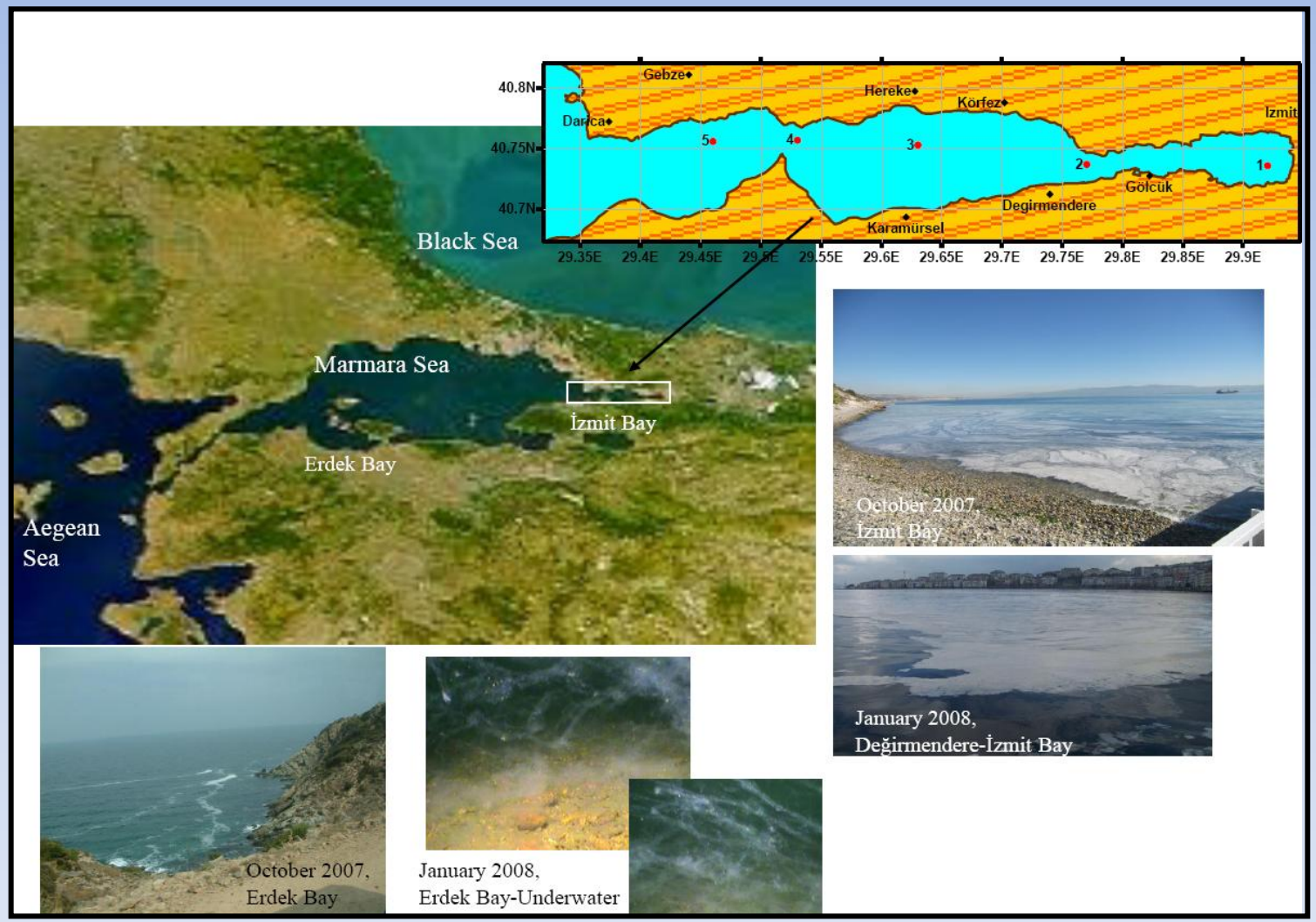
- Historical data
- İzmit Bay external end (İst. 6); summer months ; surface waters
- Percentile method (10-90%)
- Expert judgement

2- Identification of class boundaries

- 5 years (longterm) continuous monthly data (2008-2012), Growing season
- Cumulative Distribution (relative frequency)
- Percentile (10-90%)

Water Framework Directive Intercalibration Technical Report Part: 3 Coastal and Transtional Waters, JRC European Comission, 2009

İzmit Bay study

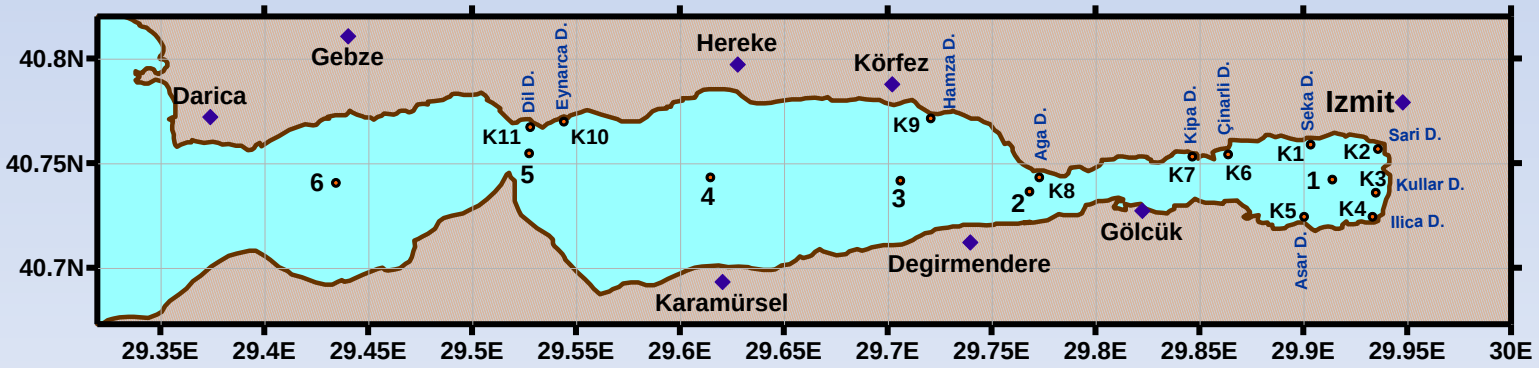


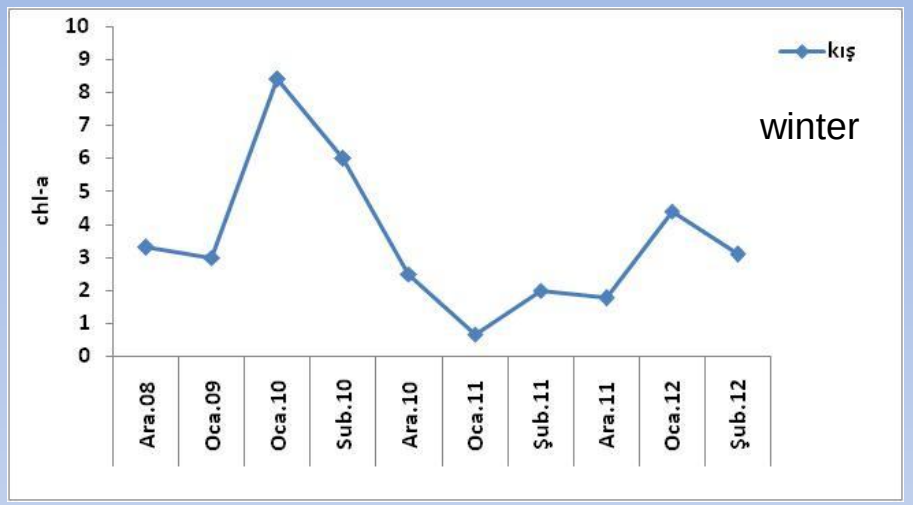
Tüfekçi et al., 2010

Data set for he reference conditions for the İzmit Bay water mass (ist. 6 n:8) summer (July, August)

mean	**0,96**
std	**0,87**
median	**1,10**
mak	**2,50**
min	**0,05**

10%	25%	50%	75%	90%
0,14	0,23	1,10	1,32	1,84

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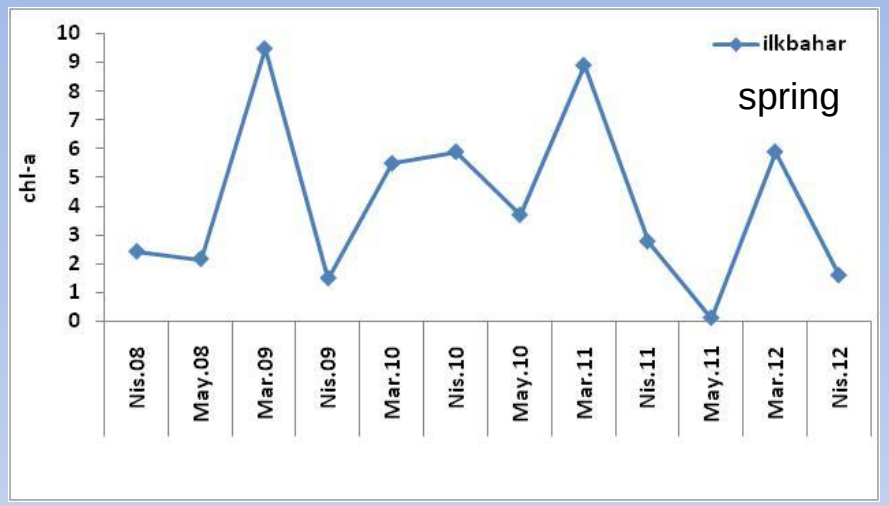
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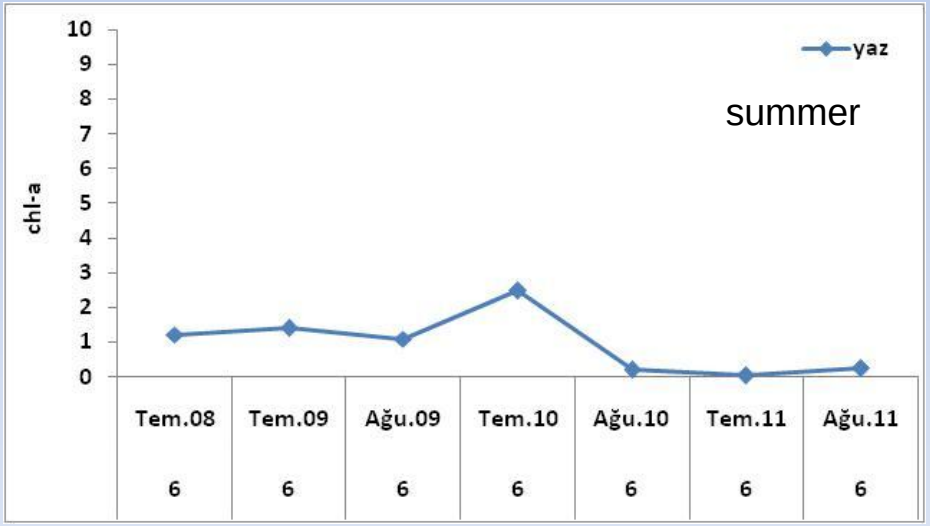
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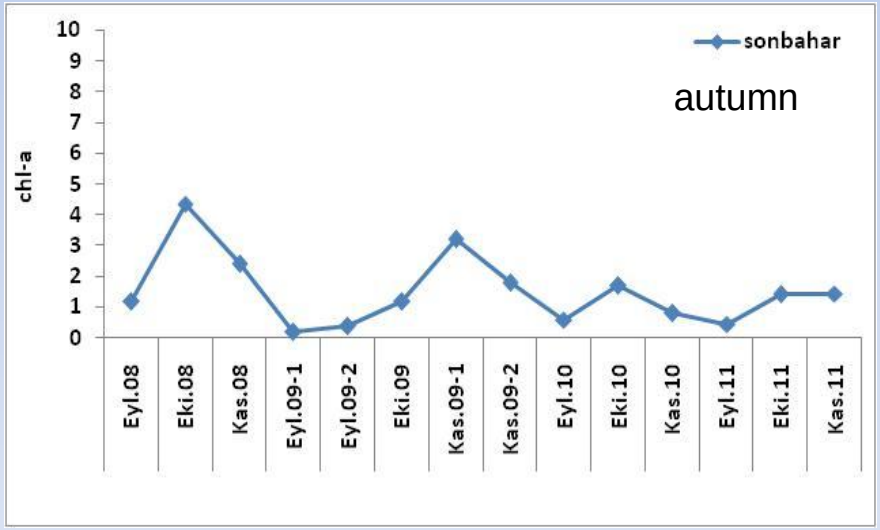
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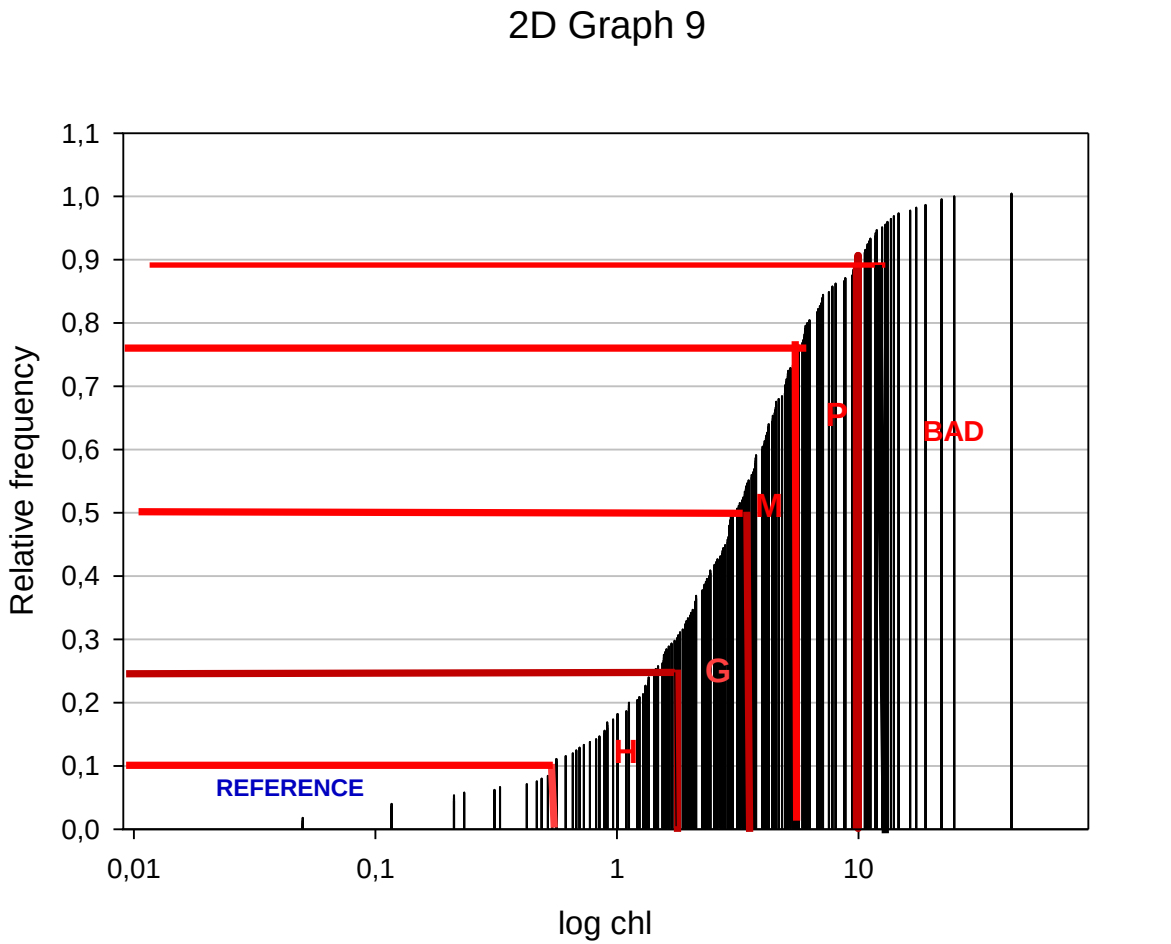
İzmit Bay Growing Season data set
Application of percentiles for setting quality class boundaries

90%	75%	50%	25%	10%
9,50	6,00	3,30	1,31	0,54

Referans

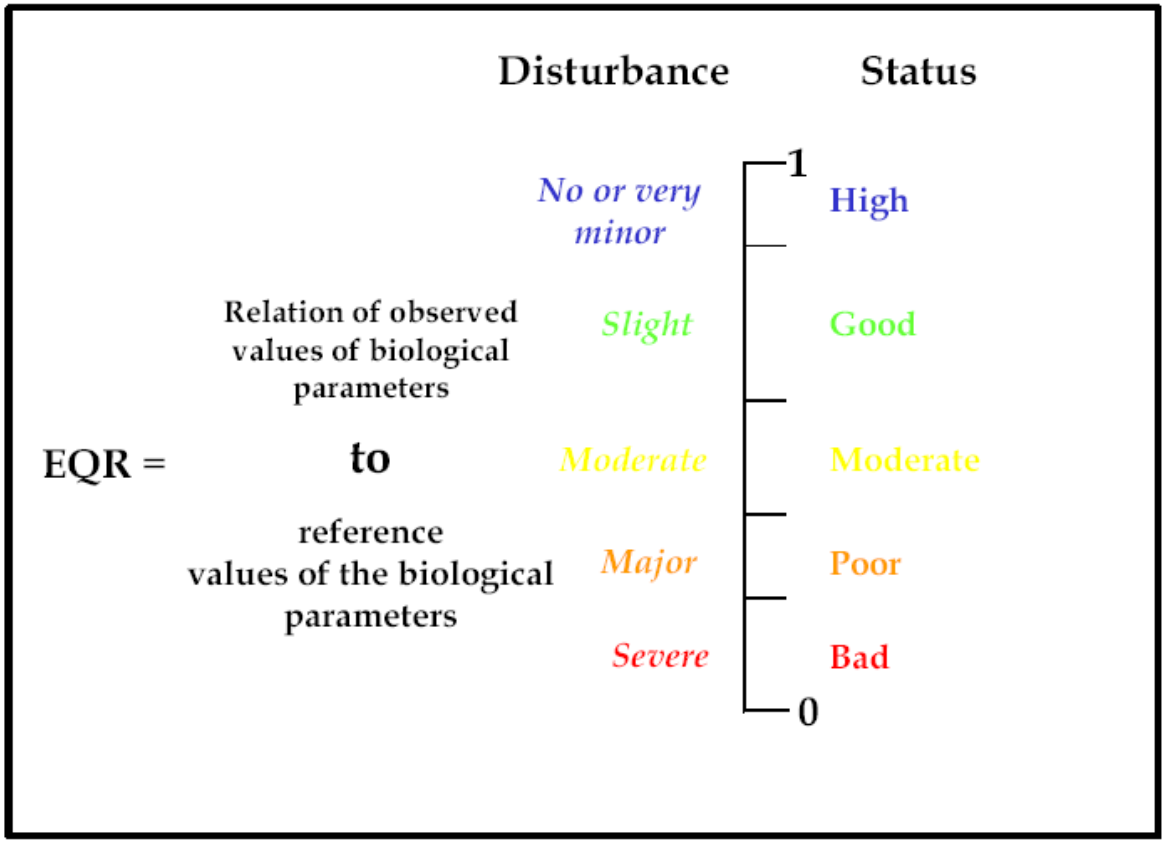
10%	25%	50%	75%	90%
0,14	0,23	1,10	1,32	1,84

Cumulative Distribution (relative frequency)



90%	75%	50%	25%	10%
9,50	6,00	3,30	1,31	0,54

Ecological quality ratios



Based on ref conditions: 25% chl=0.22 July-August						
		BAD	POOR	MODERATE	GOOD	HIGH
		90%	75%	50%	25%	10%
☑	Chl a boundaries	9,50	6,00	3,30	1,31	0,54
☑	Chl a quality ranges	>9,6	9,5-6,0	5,9-3,3	3,2-1,3	<1,3
?	EQR	0,02	0,04	0,07	0,17	0,41

referans koşullara göre 25% chl=0.52 HAZ-TEM-AĞ					
	BAD	POOR	MODERATE	GOOD	HIGH
	90%	75%	50%	25%	10%
	9,98	6,09	3,40	1,35	0,60
	>10	9,9-6.0	5,9-3,5	3,4-1,35	<1,3
EQR	0,05	0,09	0,15	0,38	0,87

Workshop (19-20 June) for the evaluation of the first term of the Project

1- North Aegean and Marmara Sea

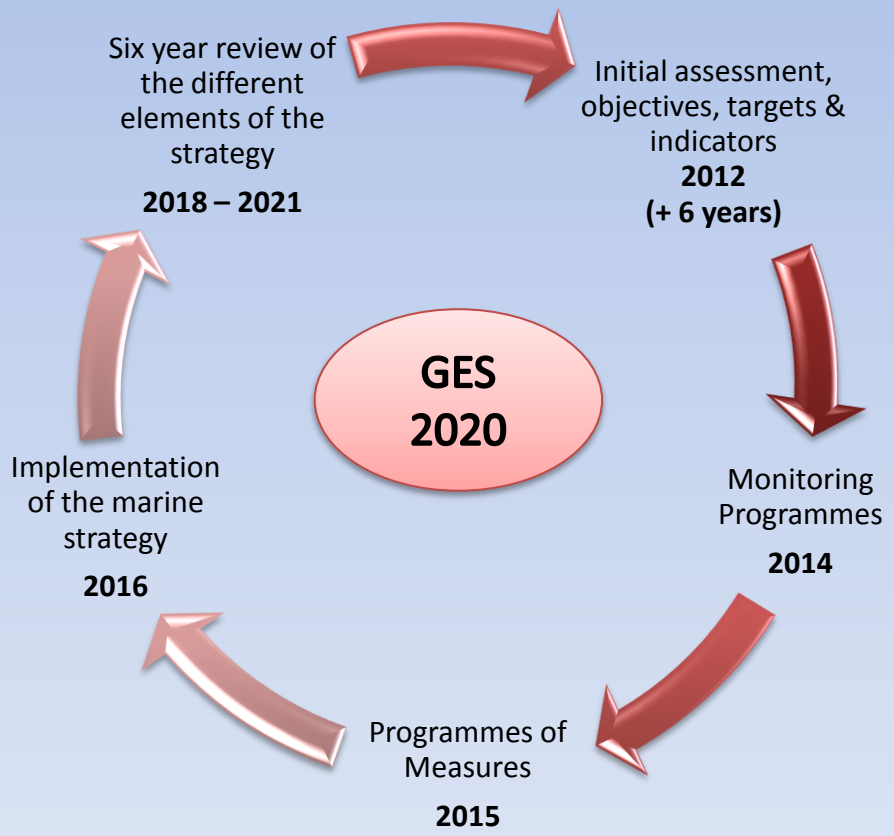
2- South Aegean and Mediterranean

3- Black Sea

- Types / water masses
- Phyto / chl classification examples
- Benthic indeces
- Comparison of methods for classification with macroalgae
- Data inventoris and management
- GIS database structure

Adaptation/Preparation Projects for WFD / MSFD - 3

MSFD Implementation steps for MSs



For TR Preparation via the Project :

Quality Assessment and Classification of Marine and Coastal Waters **2012-2013**

Project (2011-2013)

Quality Assessment and Classification of Marine and Coastal Waters

WP 6 Preparation for MSFD in coastal and marine waters	**6.1** Initial assessments for MSFD considering the Annex I and III of the Directive. Identification of missing data and information . Consideration of the standards and criteria (2010) developed for each descriptor by the experts **2012-2013**	1) Identification of experts/ Planning of work : time and budget 2) Initial assessments for each region according to Table 1 and 2 of Annex III 3) Data and information present and missing for each descriptor / region
	6.2 Exploration of the definition of Good Environmental Status for marine waters, setting up environmental targets	1) Expert meetings 2) Experiences of MSs
	6.3 Proposal of a set of criteria and indicators (for each descriptor) to monitor and to make future assessments	1) Expert meetings 2) Experiences gained in international projects 3) Experiences of MSs 4) Delivery of a National Monitoring Programme for coastal and marine waters

Marine regions / subregions MSFD	Aegean-Levantine Sea Black Sea
	Marmara Sea

Initial assessments for 3 basins

National Experts identified/proposed within the project

MSFD / (D.1) Biodiversity	MRC; Ahsen Yüksek, Ahmet Kıdeyş, Kadir Seyhan, Levent Bat, Tuncer Katağan, Bayram Öztürk
MSFD /(D.2) Invasive /non-indageneous	MRC; Murat Bilecenoğlu, Ahmet Kıdeyş, Melih Ertan Çınar
MSFD / (D.3) Fisheries	Ali Cemal Gücü; GTHB
MSFD/(D.4) Food web	Barış Salihoğlu; Ahmet Kıdeyş, Zahit Uysal, Ahsen Yüksek, Can Bizsel
MSFD /(D.5) Eutrophication	MAM; Süleyman Tuğrul, Ahsen Yüksek, Dilek Ediger
MSFD /(D.6) Sea Floor Integrety	Melih Ertan Çınar; MRC
MSFD /(D.7) Hydrographical conditions	(Coşkun Erüz, Atilla Özdemir, MRC, ÇŞB, OSİB)
MSFD /(D.8) Contaminants	Filiz Küçüksezgin; MRC
MSFD /(D.9) Contaminants in seafood	MRC
MSFD /(D.10) Litter	MRC, ÇŞB
MSFD /(D.11) Underwater noice and energy	MRC; Şükrü Beşiktepe

Coordinators: Prof Ahmet E. Kıdeyş (IMS/METU) & Çolpan Polat Beken (TUBITAK/MRC)

EU Projects

PERSEUS **(**Policy-oriented marine Environmental Research in the Southern EUropean Seas**)**

ODEMM Options for Delivering Ecosystem-Based Marine Management

CoCoNET Towards COast to COast NETworks of marine protected areas (from the shore to the high and deep sea), coupled with sea based wind energy potential

MISIS MSFD Guiding Improvements in the Black Sea Integrated Monitoring System

MSFD Guiding Improvements in the Black Sea Integrated Monitoring System

Project Acronym : MISIS

Proposal No. 07.020400/2012/616044/SUB/D2

Programme Concerned - Preparatory action - Environmental monitoring of the Black Sea Basin and a common European framework programme for development of the Black Sea region - Black Sea and Mediterranean 2011

MISIS Kickoff Meeting, 19-20 April 2012
Constanta, Romania

PROJECT CONSORTIUM:

PROJECT'S OBJECTIVES

Overall goal is to support efforts to protect and restore the environmental quality and sustainability of the Black Sea.

Specific objectives:

- to improve availability and quality of chemical and biological data to provide for integrated assessments of the Black Sea state of environment, including pressures and impacts (in line with Annex I and III of the MSFD) ;
- to increase number and size of protected areas in the Black Sea as well as to increase their degree of protection;
- to enhance stakeholders participation and public awareness on environmental issues.

PROJECT ACTIVITIES

- **PA1:** Monitoring: **Contribution to development of national integrated monitoring programmes compliant with the MSFD and the WFD** allowing also compliance of beneficiary countries with other international obligations, in particular implementation of the Bucharest Convention and its Protocols.

- **PA2:** Initial testing of the revised monitoring programmes (field and laboratory work), management of data, assessments: Organisation of **Joint Black Sea Survey.**

- **PA3:** Contribution to **existing database systems (**Black Sea Commission, WISE-MARINE) as far as marine/coastal environment monitoring is concerned

- **PA4:** Conservation and protection of the Black Sea through establishment of new MPAs with **focus on transboundary MPAs and MPAs networking** Prospective for going beyond the art.

- **PA5:** Increase in **sectors expertise**, dissemination of knowledge, public awareness, project visibility

- **PA6:** Project management

PROJECT'S CONTRIBUTIONS

- To improve regional cooperation and agreements implementation for the protection of the Black Sea, focusing on the alignment of policies and strategies *sensu* MSFD and WFD;
- To develop national integrated monitoring programs in line with the MSFD and WFD;
- To improve research and increase in knowledge on the state of the Black Sea and common understanding of GES;
- To strengthen capacities of relevant organizations for monitoring in the Black Sea, taking into consideration the requirements of the MSFD and WFD;
- To strengthen capacities of relevant organizations to identify, designate, and manage protected areas;
- To improve stakeholders involvement and public awareness

Turkey's preparation for MSFD- Ministrial Interactions

- Coordination of work by Mof Environment and Urbanization (MoEU) since 2011 (Mof Environment and Forestry btw 2008-2011)
- Two coordination meeting held in 04, 06/2008 attended by 12 governmental institutions :

  DG of Environmental Management of MoEU; Mof Food, Agriculture and Husbandry ; Mof Transport and Communications; DG of National Parks and Nature Conservation of Mof Forestry and Water Works; DG of Conservation of Natural Wealth of MoEU; Mof Foreign Affairs; Chamber of Shipping ; Turkish Coast Guard Commend; Admiralty
- Two working themes were identified to examine: 1)Legislation and Institutional structure and 2) Data and Relevant Projects

Turkey's preparation for MSFD- Ministrial Interactions

- Decisions of two thematic groups by 2008:

  - Preparation of National Action Plan for the Protection of Marine Environment

  - Establishment of necessary national legislation for the Protection of Marine Environment

  - Establisment of permanent working groups / cooperation with research organizations

  - Inclusion of other ministries (Mof Health , Mof Tourism and Culture)
- MoEU is currently dealing with MSFD like other EU Environmental Legislation in Subcommittee No:6 "Transport, Environment, Energy" and Trans-European Networks "Environment"
- Having access to EU MSFD Communication groups via Circa

- Submitted a Project on Capacity Building on MSFD in Turkey to 2011- IPA Programme. Still at the evaluation stage.

Adaptation/Preparation Projects for WFD and MSFD - 4

National Integrated Monitoring Project (Pollution & ecological status)

2011-2013

Ministry of Environment and Urbanization

Environmental Management GD (responsible in 2011)

EIA – Measurements and assessments GD (responsible since 2012)

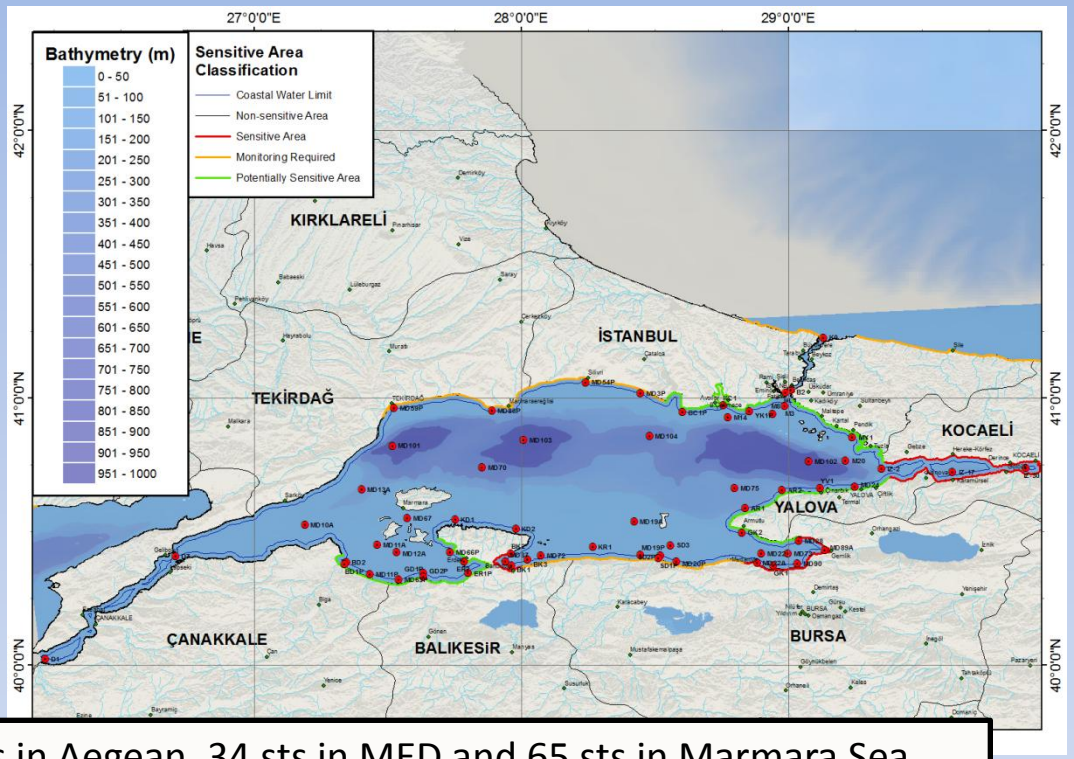
Ongoing monitoring programmes were revised according to the WFD to include the biological quality elements and the supporting hydrophysical/chemical elements as well as contaminants at coastal and reference sites.

Transitional waters are still not covered in any of the monitoring activity.

Monitoring frequencies

- Twice/year for hydrochemical elements, nutrients and phytoplankton(NOT enough).
- Every 3-years for benthic invertabrates and macro algae (recommended by the experts: twice per year for the first 2-3 yrs)
- Every 3 yrs for trend monitoring of contaminants in sediments (recommended: once per year for the first 5 years)
- Once per year for trend monitoring of contaminants in biota

Implementation of NIMP in 2011



52 sts in Aegean, 34 sts in MED and 65 sts in Marmara Sea monitored in 2011 (2/yr, 1/yr). Black Sea NOT achieved.

Previous monitoring activities

1) Black Sea : 2004-2010 (BSIMAP)

2) Med and Aegean Seas: 2003-2010 (MED POL)

3) Marmara Sea: 1990s, 2005, 2009-2010 (Project Basis)

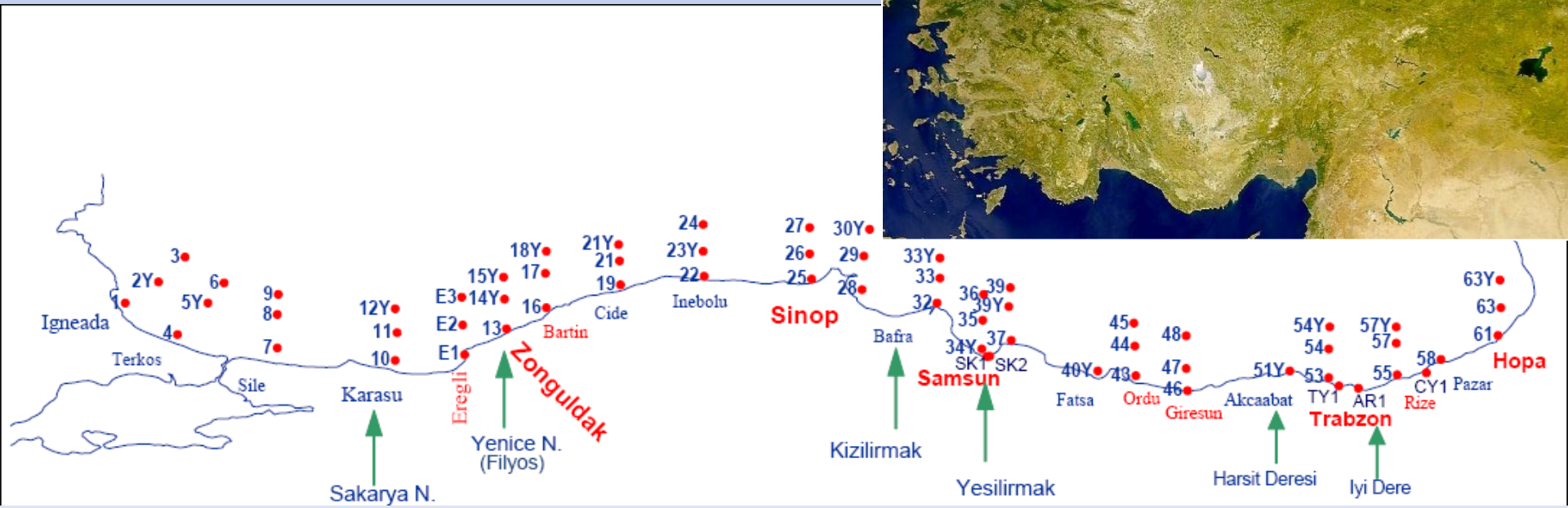


Image taken from CoCoNet Presentation of Mrs Tania Zaharia, MISIS Kick off Meeting (19-20 April 2012)

THANK YOU.....