

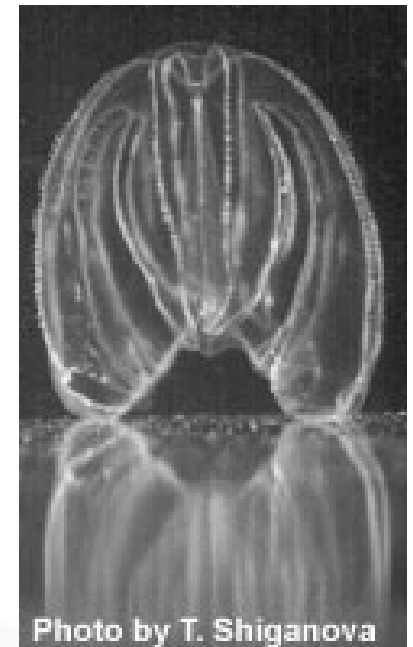
# Basin-Wide Black Sea Mnemiopsis Leidyi Database (MLDB)

*Volodymyr Myroshnychenko*  
*Ahmet Kideys*  
*Permanent Secretariat*  
*Black Sea Commission*

# Objectives

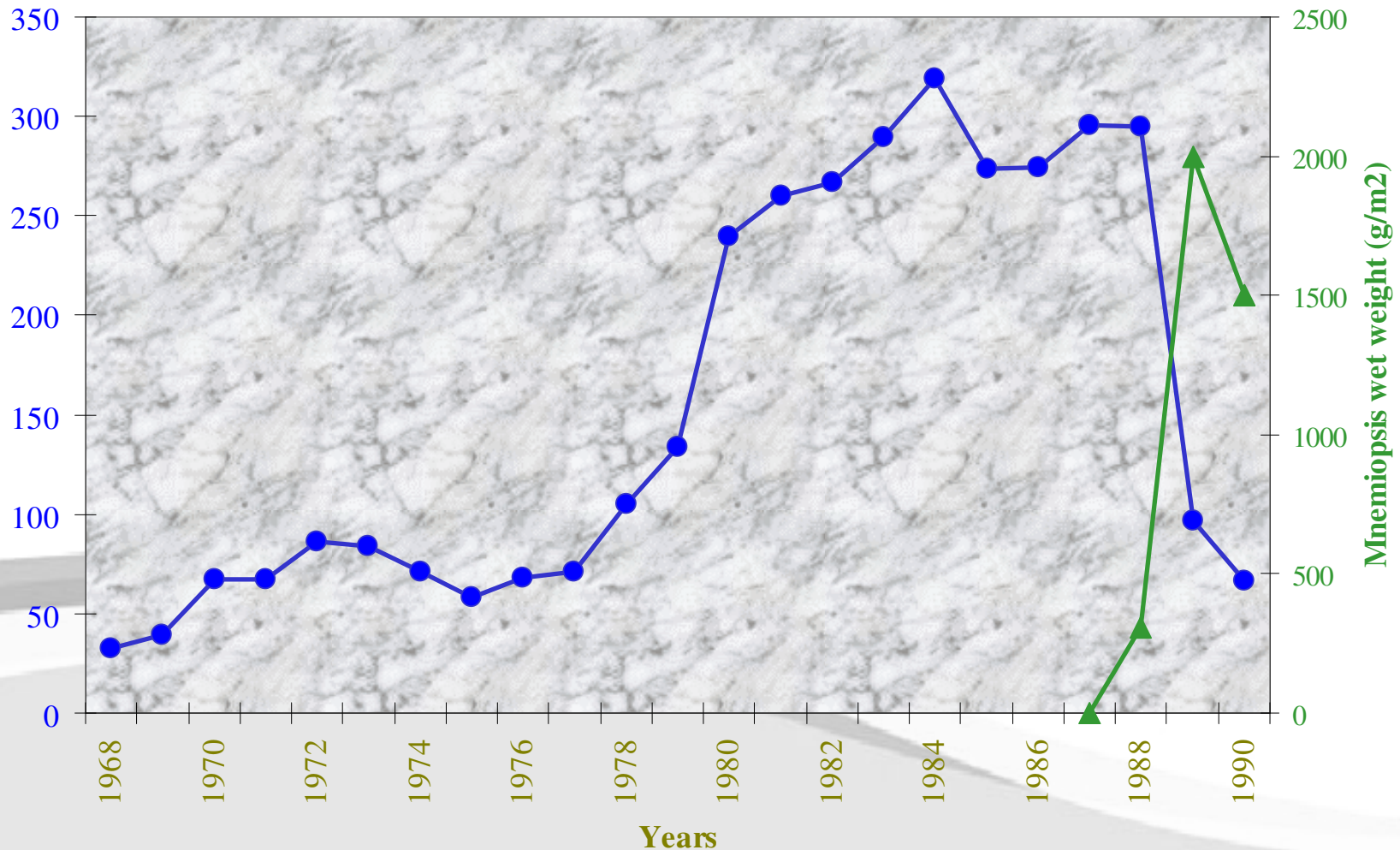
*Mnemiopsis leidyi* database (MLDB) was developed as an information management tools of a high priority for the Black Sea region.

The invasive ctenophore *Mnemiopsis leidyi* (*Agassiz, 1865*) was first found in the Black Sea in early 1980-s and reached a dramatic abundance within a decade. This species created the tremendous ecosystem damage and big economic losses in the region in the late 1980-s and 1990-s. It was recognized as one of the main ecological problems for the Black Sea ecosystem.



# Invasive species: catches decrease

Relationship between the decrease in Turkish anchovy catch (Ktons) and *Mnemiopsis* outburst



# MLDB history (1)

- 2008: Black Sea MLDB developed by the Institute of Biology of the Southern Seas (IBSS-NASU, Sevastopol, Ukraine) and Institute of Marine Sciences Middle East Technical University (IMS-METU, Erdemli, Turkey) in the framework of the EC FP6 Black Sea SCENE project.
- October, 2008: MLDB web site launched in Institute of Marine Sciences, Turkey

## MLDB history (2)

- December, 2008: 1<sup>st</sup> MLDB workshop organized with support of the Permanent Secretariat of the Commission on the Protection of the Black Sea Against Pollution (BSC PS)
  - MLDB team created
  - MLDB Agreement elaborated
  - Formats for data submission
  - Decision on development unified methodology on ML sampling, samples and data processing
- August, 2009: MLDB moved to server of BSC PS

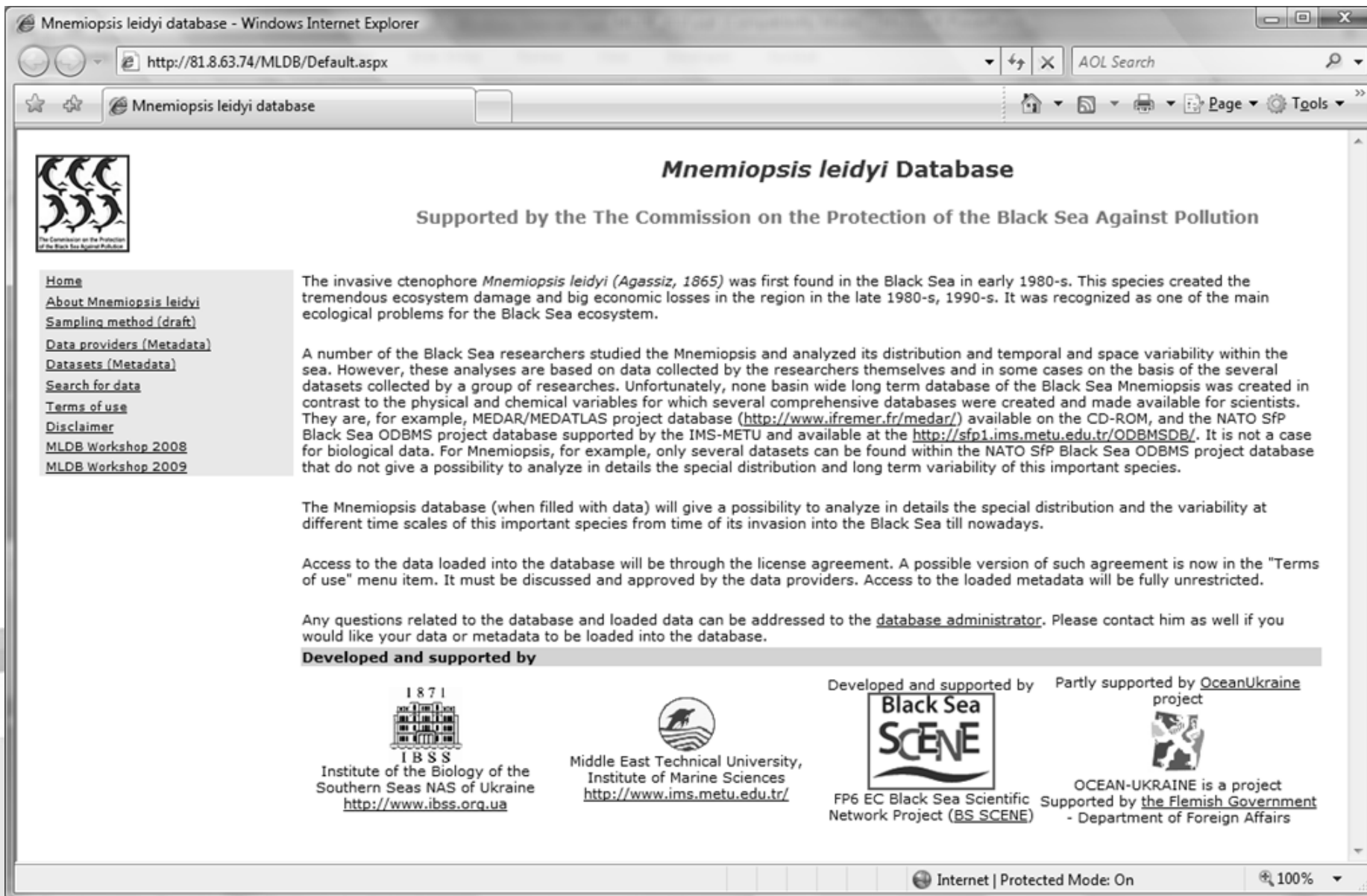
# MLDB history (3)

- September, 2009: 2<sup>nd</sup> MLDB workshop
  - Review of data submission
  - Draft manual discussed
- October, 2010: 3<sup>rd</sup> MLDB workshop to be held

# MLDB data policy

- Metadata are freely accessible
- Data older 10 years are freely accessible
- Data 5-10 years old are accessible to registered users, however usage of data will require permission from the corresponding data contributor
- Data contributor are encouraged to provide their data to MLDB with no access restriction applied

# MLDB web site




Mlemiopsis leidyi database - Windows Internet Explorer

http://81.8.63.74/MLDB/Default.aspx

Mlemiopsis leidyi database

## Mlemiopsis leidyi Database

Supported by the The Commission on the Protection of the Black Sea Against Pollution



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[Data providers \(Metadata\)](#)  
[Datasets \(Metadata\)](#)  
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[MLDB Workshop 2008](#)  
[MLDB Workshop 2009](#)

The invasive ctenophore *Mlemiopsis leidyi* (Agassiz, 1865) was first found in the Black Sea in early 1980-s. This species created the tremendous ecosystem damage and big economic losses in the region in the late 1980-s, 1990-s. It was recognized as one of the main ecological problems for the Black Sea ecosystem.


A number of the Black Sea researchers studied the Mlemiopsis and analyzed its distribution and temporal and space variability within the sea. However, these analyses are based on data collected by the researchers themselves and in some cases on the basis of the several datasets collected by a group of researches. Unfortunately, none basin wide long term database of the Black Sea Mlemiopsis was created in contrast to the physical and chemical variables for which several comprehensive databases were created and made available for scientists. They are, for example, MEDAR/MEDATLAS project database (<http://www.ifremer.fr/medar/>) available on the CD-ROM, and the NATO Sfp Black Sea ODBMS project database supported by the IMS-METU and available at the <http://sfp1.ims.metu.edu.tr/ODBMSDB/>. It is not a case for biological data. For Mlemiopsis, for example, only several datasets can be found within the NATO Sfp Black Sea ODBMS project database that do not give a possibility to analyze in details the special distribution and long term variability of this important species.


The Mlemiopsis database (when filled with data) will give a possibility to analyze in details the special distribution and the variability at different time scales of this important species from time of its invasion into the Black Sea till nowadays.


Access to the data loaded into the database will be through the license agreement. A possible version of such agreement is now in the "Terms of use" menu item. It must be discussed and approved by the data providers. Access to the loaded metadata will be fully unrestricted.


Any questions related to the database and loaded data can be addressed to the [database administrator](#). Please contact him as well if you would like your data or metadata to be loaded into the database.

**Developed and supported by**

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IBSS  
Institute of the Biology of the  
Southern Seas NAS of Ukraine  
<http://www.ibss.org.ua>

  
Middle East Technical University,  
Institute of Marine Sciences  
<http://www.ims.metu.edu.tr/>

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project  
  
OCEAN-UKRAINE is a project  
Supported by the [Flemish Government](#)  
- Department of Foreign Affairs

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# Providers (1)

	<b>Provider Name</b>	<b>Organization</b>	<b>Country</b>
1	Dr. Ludmila Kamburska Mrs. Kremena Stefanova	Institute of Oceanology, BAS	BULGARIA
2	Mrs. Vesselina Mihneva	Institute of Fishery Resources	BULGARIA
3	Mrs. Meri Xalvashi	National Environmental Agency " Monitoring Center"	GEORGIA
4	Dr. Tamara Shiganova	Shirshov Institute of Oceanology, RAS	RUSSIAN FEDERATION
5	Laboratory of Functioning of Pelagic Ecosystems	Shirshov Institute of Oceanology, RAS	RUSSIAN FEDERATION
6	Prof Ahmet E. Kideys	Institute of Marine Sciences, METU	TURKEY

## Providers (2)

	<b>Provider Name</b>	<b>Organization</b>	<b>Country</b>
7	Dr. Erhan Mutlu	Institute of Marine Sciences, METU	TURKEY
8	Dr. Yesim Ak Orek	Institute of Marine Sciences, METU	TURKEY
9	Mrs. Zekiye Birinci Özdemir	Sinop University, Faculty of Fisheries	TURKEY
10	Dr. Melek Isinibilir	Istanbul University, Faculty of Fisheries	TURKEY
11	Dr. Galina Finenko Dr. Galina Abolmasova	Institute of Biology of the Southern Seas, NASU	UKRAINE
12	Dr. Zinaida Romanova	Institute of Biology of the Southern Seas, NASU	UKRAINE
13	Dr. Boris Anninsky	Institute of Biology of the Southern Seas, NASU	UKRAINE

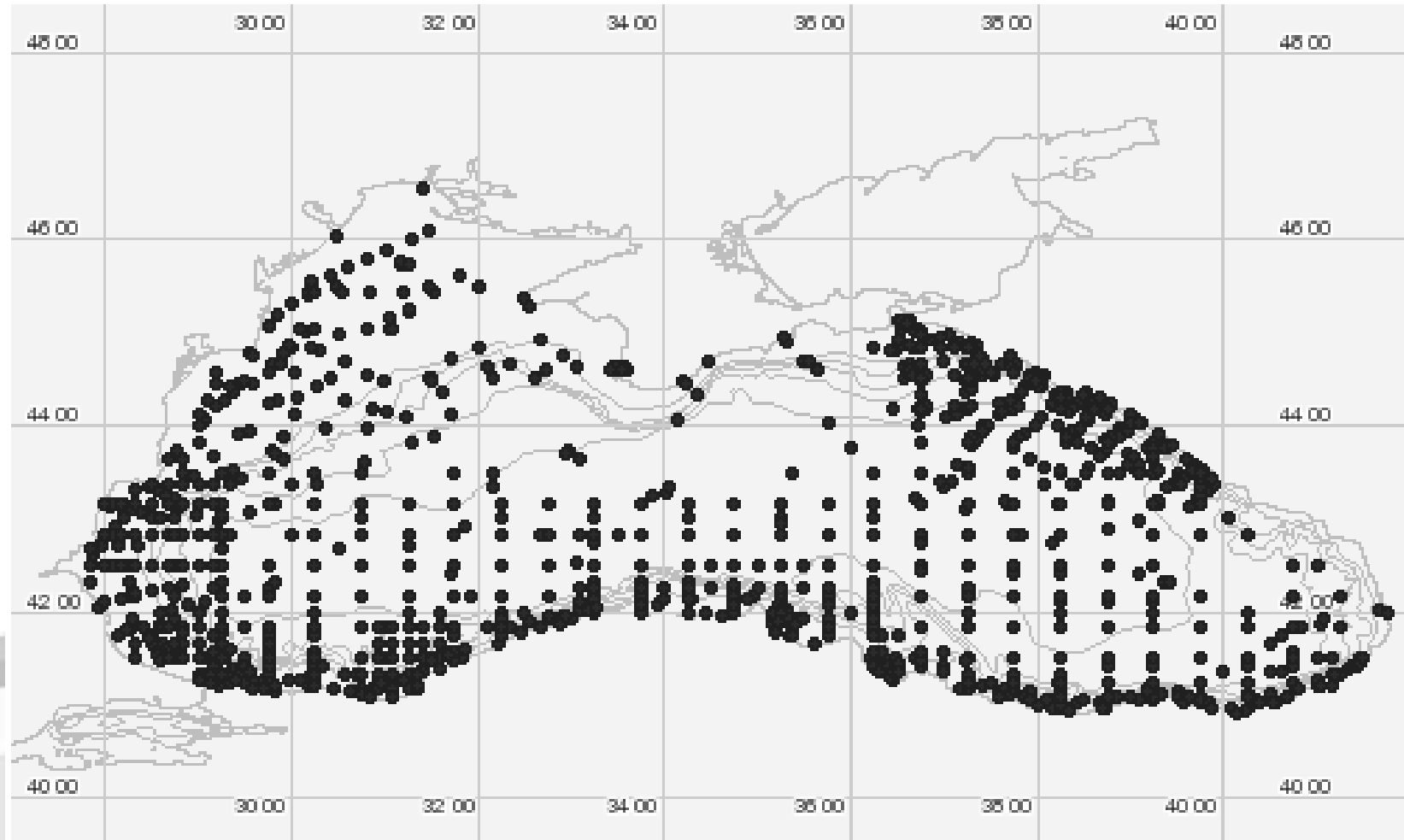
# What is in database?

- Metadata (what, when, where, how, who)
- ML abundance and biomass
- Sampling parameters (net, layer etc)
- Supplementary oceanographic parameters (temperature, salinity, density, transparency)

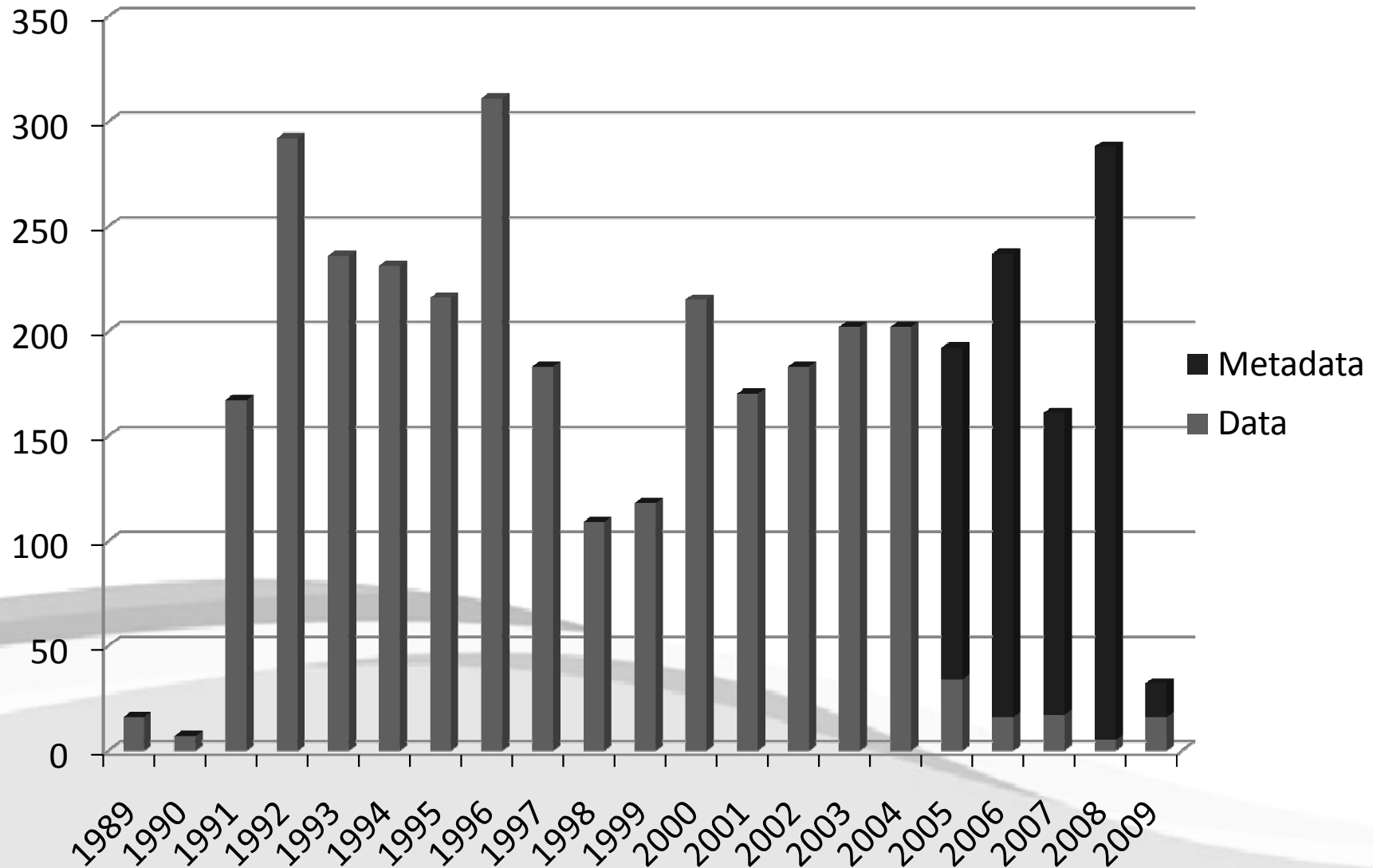
# MLDB general statistics

	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>Providers</b>	3	12	13
<b>Datasets</b>	8	51	69
<b>Stations</b>	743	1721	2359
<b>Samples</b>	745	2940	3768
<b>Data</b>	745	1919	2946

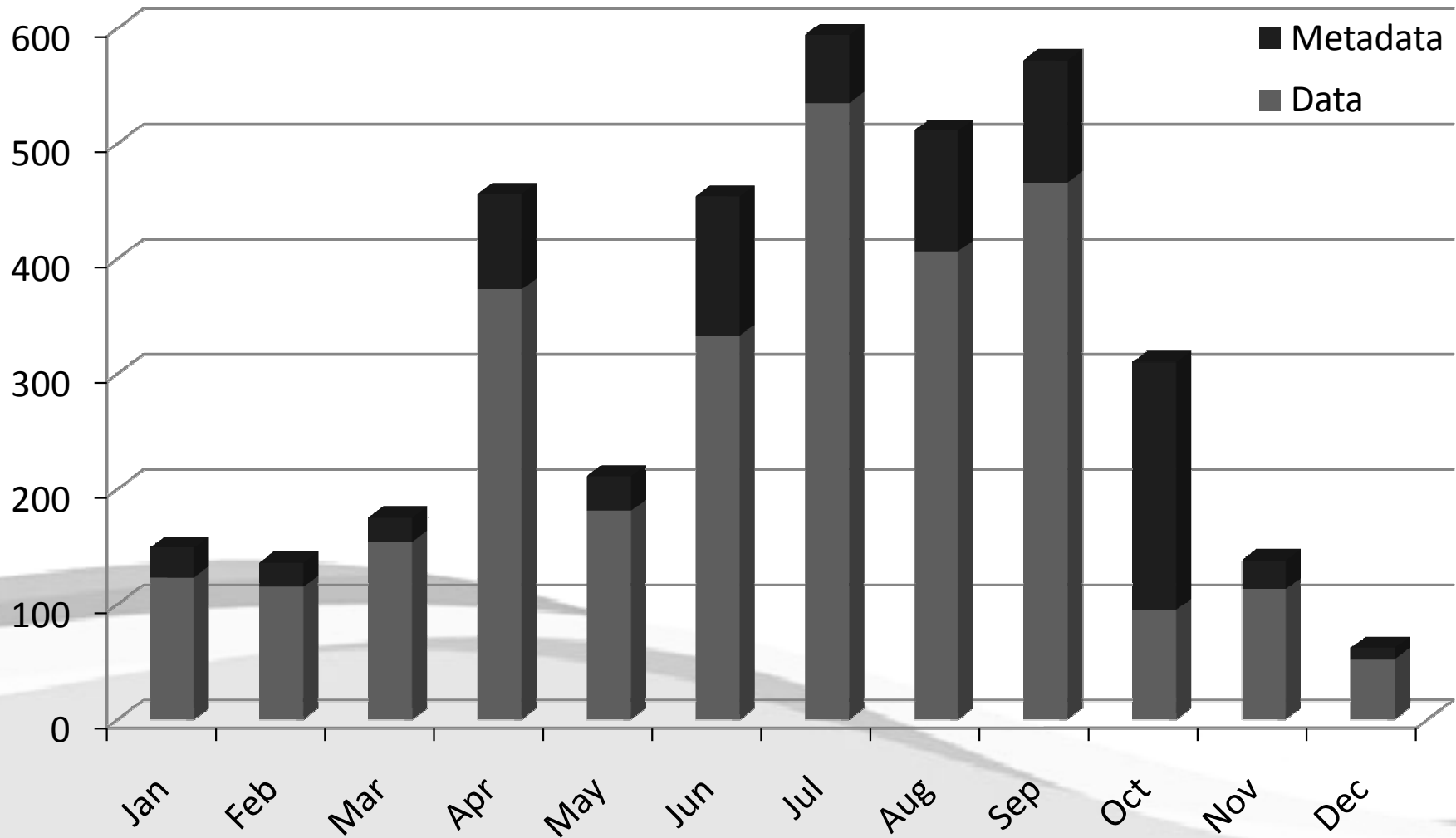
# Spatial distribution



# Temporal Distribution



# Monthly Distribution



# Successes

- Continuous metadata and data flow to MLDB
- Possibilities for joint analysis of data to analyze:
  - basin-wide spatial distribution
  - time trends
- Awareness about jellyfish sampling activities in the Black Sea
- Regional data resource for further application, e.g. in ecosystem modeling



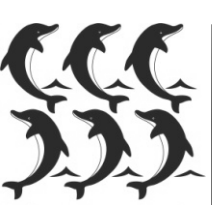
# Challenges

- Long time span between data collection and submission to the database
- Compatibility of data collected by different providers
- Need to extend database to accommodate data on other Black Sea gelatinous
- Needs to improve MLDB web interface

MLDB is accessible through the web site of the  
Black Sea commission  
<http://www.blacksea-commission.org/>

## MLDB team

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The Commission on the Protection  
of the Black Sea Against Pollution



Thank you for your attention