

**Communications and Data Exchange via the Black Sea and Caspian Sea  
Environmental Information Center  
(<http://pims.ed.ornl.gov>)**

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**ABSTRACT**

A U.S. interagency committee (including representatives from the U.S. Departments of Energy, Defense, Commerce, and State, and others) was formed to deal with Black Sea and Caspian Sea environmental issues. Oil tanker traffic is expected to increase significantly on the Black and Caspian Seas in the coming years, giving increased potential for more oil spills. The United States decided to address this issue, with the Department of Energy's (DOE's) Office of Policy and International Affairs taking the lead. The goal is to facilitate cooperation among the countries of the region to develop contingency plans should a spill occur. This is being done through a series of workshops held in the Black Sea countries and Kazakhstan and through the establishment of a regional information and communications center. The activity has strong support from the oil industry, whose representatives participate in all of the workshops.

The Black Sea and Caspian Sea Environmental Information Center web site (<http://pims.ed.ornl.gov>), created by Oak Ridge National Laboratory (ORNL) for DOE, facilitates information flow and dialog between the countries of the region. The web site is intended to provide a comprehensive source for information on

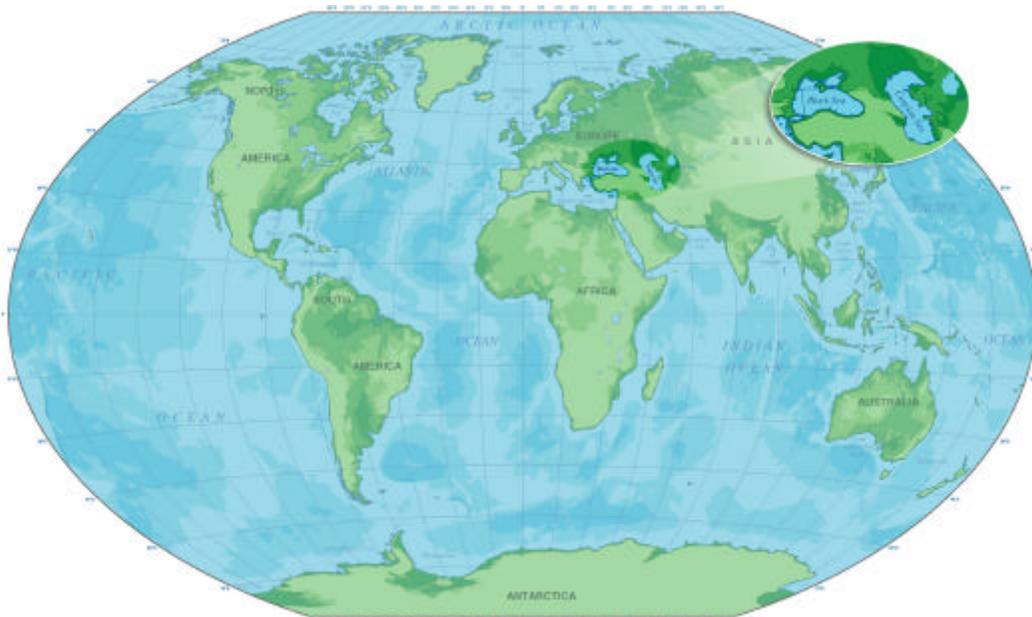
- oil spill cleanup, monitoring, and related commercial technologies;
- scientists' requests for research partners;
- the laws, regulations, and standards of various countries relating to the environmental condition of the seas;
- publication of scientific papers, and on-line discussions of these issues; and
- lists of individuals and companies working on Black Sea and Caspian Sea environmental issues.

The web site also provides a real-time chat capability where meetings are organized. Several meetings among regional officials and scientists have been conducted by this means. The web site is also host to a growing database of historical pollution testing data from research institutes in the region.

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**Figure 1: Location of Black and Caspian Seas on world map.**

Workshop participants are trained by staff from Oak Ridge National Laboratory (ORNL) in the use of a DOE-sponsored web site (developed by ORNL) to enhance knowledge and communication on oil spill contingency planning (<http://pims.ed.ornl.gov>). The U.S. Department of Defense (DOD) has provided several computers for electronic communications between member countries' research institutes. The Center, its workshops, and its web site have been a huge success. A DOE press release with more background on this activity can be found at <http://www.energy.gov/HQPress/releases00/julpr/prl00010.htm>

The Center is inviting other countries in the region to join in its activities, which include sharing data on the Center's web site and coordinating responses to spills. The previous Secretary of Energy was so impressed with the Center's activities that he committed DOE to a similar workshop for Africa as part of his Africa Initiative. DOE scheduled an African Ministerial planning meeting in conjunction with the workshop (Cameroon, November 2000).

The workshops that ORNL has organized for DOE's Office of Policy and International Affairs and the interagency committee, are as follows:

- Funding Science Research with Central Asia and Caucasus Institutes, August 22–23, 2002, Oak Ridge National Laboratory, Oak Ridge, Tennessee (see Figure 2)
- US-Kazakhstan Workshop on Marine Science, May 30, 2001, Almaty, Kazakhstan
- Workshop on Legal and Legislative Issues with Implementing National and Regional Oil Spill Response Systems, April 18–19, 2001, Astana, Kazakhstan
- Workshop on Water Modeling for Oil Spill Response, January 22–26, 2001, Tbilisi, Republic of Georgia

- Workshop on Oil Spill Response Contingency Planning, November 1–3, 2000, Douala, Cameroon (Africa)
- Workshop on the Black Sea Environment and Oil Spill Response, July 25–27, 2000, Constanta, Romania
- Workshop on Legal and Legislative Issues Associated with Implementing National and Regional Oil Spill Response Systems, June 20–22, 2000, Tbilisi, Republic of Georgia
- Workshop on a Regional Oil Spill Emergency Response System for the Black Sea, September 14–17, 1999, Odessa, Ukraine



**Figure 2: Briefing book cover from most recent workshop.**

These workshops have been an important effort by DOE to bring together representatives from the region, oil companies, and other organizations to accelerate the dialog on environmental issues and to facilitate the creation of a regional capability to respond to oil spill threats on the Black and Caspian Seas. The workshops give countries of the region an opportunity to meet and discuss progress made and current research initiatives presently under way. The progress made by these countries is very impressive. Almost all have completed a draft or published national oil spill emergency response contingency plans.

The Black Sea and Caspian Environmental Information Center web site (<http://pims.ed.ornl.gov>) was unveiled at the Odessa workshop. Created by ORNL, the web site facilitates information flow and dialog between the countries of the region (Thompson and Lapsa 2001). The site, which is in a stage of rapid development, is dedicated to providing information and training on environmental issues and problems related to the Black and Caspian Seas. The content of the web site and its functionality are defined by the participants in the Black Sea and Caspian Sea Environmental Initiative and participants in the regional environmental workshops. The site contains an area where web site users can post and reply to questions related to the Black Sea and Caspian Sea environment and can register as a point of contact. A series of training links is provided to help prepare for environmental emergency response situations. Web site visitors are also able to review information provided by the countries on national laws. The site also hosts a chat feature where “live” meetings can be scheduled and conducted on-line across time zones.

The web site is intended to provide a comprehensive source for information on

- oil spill cleanup, monitoring, and related commercial technologies;
- scientists’ requests for research partners;

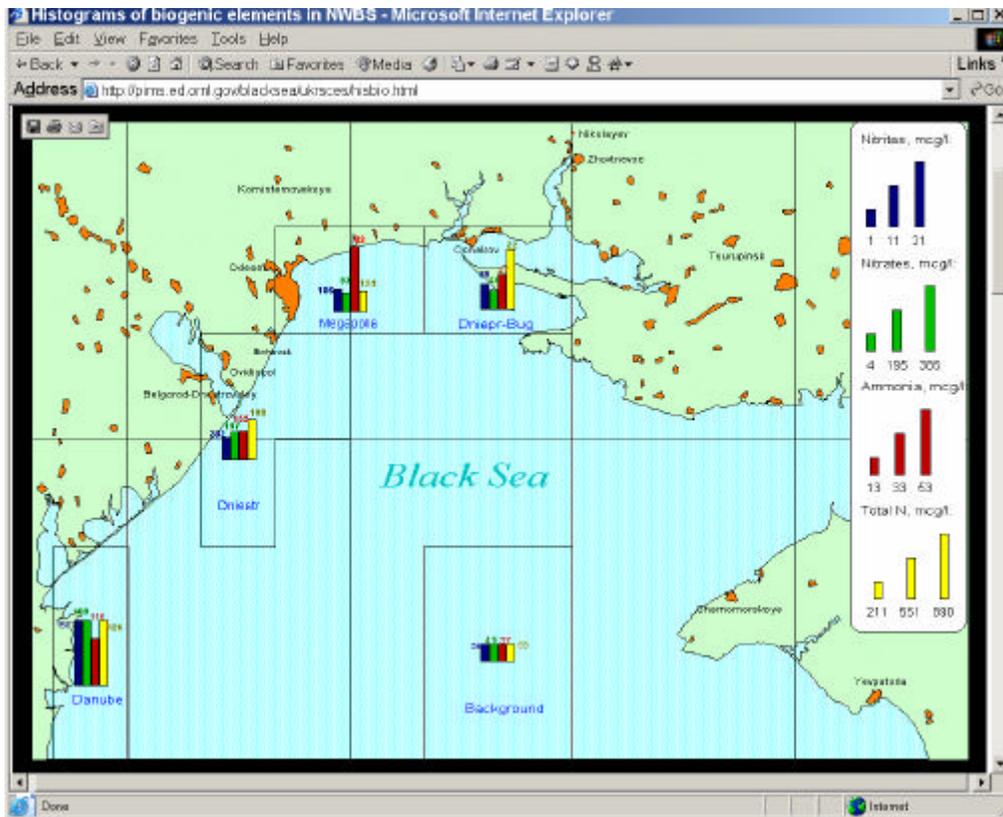
- the laws, regulations, and standards of various countries relating to the environmental condition of the seas;
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- a list of individuals and companies working on Black Sea and Caspian Sea environmental issues.

The web site is also host to a growing database of historical pollution testing data from research institutes around the Black Sea (Besiktepe, Unluata, and Bologna 1999). Recently, 31 years of pollution testing data collected by the Ukrainian Scientific Center of the Ecology of the Sea (UkrSCES) was loaded onto the web site. The information includes compiled data, maps, graphic files, and background information on UkrSCES. The data consists of a catalog of oceanographic data on the Black Sea (including chemistry and pollution), geophysical data, statistical evaluations of the data, meteorology, and aerology for a period of 31 years. Figure 3 shows an example of the kind of data provided by UkrSCES.

DOE and ORNL have partnered with the Department of Defense's Partnership for Peace Information Management System (PIMS) to provide the infrastructure necessary to support access to this web-based information in the region. This infrastructure includes satellite uplinks and the hardware necessary to support the Black Sea and Caspian Sea Environmental Information Center web site.

DOE plans future workshops in each of the countries to facilitate progress on national laws and regulations to protect the Black and Caspian Seas. These separate workshops for each country are in recognition that each country has a unique legislative system, group of existing laws, and laws in preparation. The workshops will focus on legal and legislative issues that are

critical to effective oil spill response systems and identify legislative issues essential to regional cooperation on oil spill response. They will also cover international agreements.



**Figure 3: Histograms of biogenic elements in the Black Sea, courtesy of UkrSCES.**

In order for the Black Sea and Caspian Sea environmental initiative to have maximum impact and effect, participation, collaboration, and cooperation is essential from several groups (National Energy Policy Group 2001):

- policy makers and administrators in government agencies, including federal, state, and municipal government organizations;
- nongovernmental groups and community organizers;
- manufacturing, commercial, industrial, agricultural, transportation, and residential sectors;
- financial institutions;

- citizens likely to be affected by the policies adopted; and
- schools who educate tomorrow's decision-makers.

Therefore, the Black Sea and Caspian Sea Environmental Information Center web site is designed for many audience groups and in the future will customize information retrieval results by audience category.

Statistics on the usage of the web site confirm positive results. The web site has consistently attracted users from around the world (over 30 countries) each month, and users from the Black Sea region are finding it a useful tool for communications and information.

We have expanded the web site to include information on all the existing petroleum pipelines and proposed additions to the transportation network surrounding the Black and Caspian Seas.

We hope that the scientific community will use the Black Sea and Caspian Sea Environmental Information Center web site to share information, conduct on-line meetings, and strengthen their own networks for collaboration. Discussions are already under way with research institutes in Kazakhstan, to contribute data and research papers.

Collaboration is a necessity in addressing the serious environmental challenges faced by the Black and Caspian Seas. With 200 nations in attendance at the World Summit on Sustainable Development (Johannesburg, South Africa, August 26–September 4, 2002), there is clearly a united view on the need to protect our valuable resources.

## REFERENCES

- Besiktepe, S. T., U. Unluata, and A. Bologa. 1999. *Environmental Degradation of the Black Sea: Challenges and Remedies*. NATO Science Series, Kluwer Academic Publishers, Dordrecht, The Netherlands, May.
- National Energy Policy Group. 2001. *National Energy Policy: Report of the National Energy Policy Development Group*. U.S. Government Printing Office, Washington, D.C., May, pp. 8-12 and 8-13. Available online at <http://www.netl.doe.gov/publications/press/2001/nep/nep.html>.
- Thompson, M. K., and M. V. Lapsa. 2001. "Communication across the Black Sea via Internet Technology," in *Proceedings of the 2001 International Oil Spill Conference*, American Petroleum Institute, Publication Number 14710 B, Washington, D.C., March, pp. 1119–20.