

**NATIONAL REPORT OF UKRAINE TO 16th CONFERENCE
OF THE MEDITERRANEAN AND BLACK SEAS
HYDROGRAPHIC COMMISSION (MBSHC)**

1. Hydrographic Service

- a) State Hydrographic Service of Ukraine (SHS) is the national Hydrographic Office of Ukraine established within the framework of the Ministry of Transport and Communications of Ukraine.

The main tasks of the SHS are as follows:

- Fulfilment of international commitments of Ukraine pertaining to safety of navigation, in particular hydrographic surveying of the seas and oceans in accordance with the IHO standards, maintenance of aids to navigation (AtoN) in the seas and inland waterways within zone of responsibility of Ukraine and ensuring their continuous operation in conformity with the requirements approved by International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA);
 - Compilation and distribution of nautical and pilot inland charts, Sailing Directions and Notices to Mariners;
 - Development of the AtoN system by means of creation and implementation of new methods, techniques and technologies in navigation, hydrography and cartography; lighthouses renovation involving the energy-saving technologies (solar batteries, wind power stations, LEDs, etc.), modernization of floating AtoNs through use of plastics, flasher mechanisms with LEDs modules and implementation of the automatic monitoring systems.
- b) Please, see below the updates to the IHO Yearbook dated as of 11 August 2009 including new postal address, new e-mails, phone and fax numbers, etc. All updated information is in **red bold**.

STATE HYDROGRAPHIC SERVICE OF UKRAINE 23, Gagarina Avenue Kyiv 02660 UKRAINE	
Department of which the Hydrographic Office is part	State Administration of Maritime and Inland Water Transport, Ministry of Transport and Communications of Ukraine
Principal functions of the H.O.	Hydrographic surveys, oceanography, nautical paper and electronic navigational charts, Notices to Mariners, radio navigational warnings, aids to navigation
National day	24 August
Telephone: Fax:	+38 (044) 296 60 40 +38 (044) 292 12 17

E-mail:	office@hydro.gov.ua miagkova.a@hydro.gov.ua
Date of establishment and Relevant National Legislation	6 June 1997
Name and rank of the Director or Head	Mr. Sergii SYMONENKO Head
Tonnage	2006 = 1 617 924.57
Staff employed - Hydrographers (Name and rank of managing staff)	Mr. Mykola GOLODOV – Deputy Head of the State Hydrographic Service of Ukraine Mr. Dmytro PADAKIN – Deputy Head of the State Hydrographic Service of Ukraine Mr. Oleksandr BORYS – Head of <i>Ukrmorcartographia</i> (charting branch of the State Hydrographic Service of Ukraine)
№ of charts published	164 paper charts 64 paper charts for inland waterways
№ of INT charts published	8
№ of ENC cells published	223 ENCs 96 IENCs
Type of publications produced (e.g.; Tide Tables, Sailing Directions, List of Lights etc.)	- Notices to Mariners (in Ukrainian and English) No.907.00; - ‘ <i>Sailing Directions on Ukrainian Waters of the Black Sea and the Sea of Azov</i> ’ No.101 (in Ukrainian); - ‘ <i>Lights and Beacons of the Black Sea and Sea of Azov</i> ’ No.201 (in Ukrainian); - ‘ <i>Regime of Navigation in Ukrainian Waters of the Black Sea and the Sea of Azov</i> ’ (summary description) No.402 (in Ukrainian and Russian); - Catalogue ‘ <i>Nautical Charts, Books, Sailing directions</i> ’ No.701 (in Ukrainian and English); - ‘ <i>Nautical Charts Symbols</i> ’ No.902 (in Ukrainian and English); - ‘ <i>Description of Maritime Buoyage System in Ukrainian Waters. IALA System. Region A</i> ’ No.903 (in Ukrainian); - ‘ <i>Maritime Buoyage System in Ukrainian Waters. IALA System - Region A</i> ’ No. 904 (in Ukrainian); - ‘ <i>Symbology for Inland Waterways Charts</i> ’ No. 908 (in Ukrainian, English and Russian); - ‘ <i>Lights and Beacons of the Danube River. Kiliis’ke Mouth Delta to the Prut River Mouth</i> ’ No.202 (in

	<p>Ukrainian and Russian);</p> <ul style="list-style-type: none"> - ‘Sailing Directions of the Danube River. Kiliis’ke Mouth Delta to the Prut River Mouth’ No.103 (in Ukrainian and Russian); - ‘Instructions on Producing of Field Updates to Navigational Charts, Manuals and Sailing Directions (IKM-2005)’ No.918 (in Ukrainian); - ‘Instructions for Compilation of Technical Orders and Technical Reports Resulting from Hydrographic Surveys (ITII-2005)’ No.932 (in Ukrainian); - ‘Instructions on Requirements and Methods of Bottom Features Surveying for Navigational Purposes’ No.933 (in Ukrainian); - ‘Regulation on Aids to Navigation on the Inland Waterways, in the Territorial Sea and Exclusive (Maritime) Economic Zone of Ukraine’ No.937 (in Ukrainian); - ‘Regulation on the Numbering System for Paper Nautical Charts, Electronic Navigational Charts and Inland Waterways Charts, Books, Sailing Directions and Blank Technical Documentation’ No.934 (in Ukrainian); - ‘General Provisions for Compilation of Notices to Mariners’ No.935 (in Ukrainian); - ‘Regulation on Procedure for Conducting of Oceanologic Surveys in the Black Sea and the Sea of Azov’ No. 920 (in Ukrainian); - ‘Instructions on Compilation and Preparation of Coastal Warnings and Appropriate Informing of Mariners’ No. 944 (in Ukrainian); - ‘Summary Updates, 2008’ No. 402 3 (in Ukrainian and Russian); - ‘Instructions on Input Expertise of Hydrographic Surveys Materials for the Purpose of Charting’ No. 936; - ‘Oceanographic Atlas of the Black Sea and the Sea of Azov’ No. 601 (in Ukrainian and English) 		
<p>Surveying vessels / Aircraft</p> <p>GS – 82</p> <p>GS – 273</p> <p>A. LYSENKO</p> <p>A. SOLODUNOV</p> <p>V. ZARUDNIY</p> <p>ODESA</p>	<p>Displacement</p> <p>807.0</p> <p>713.0</p> <p>52.7</p> <p>52.7</p> <p>53.0</p> <p>320.0</p>	<p>Date Launched</p> <p>1969</p> <p>1972</p> <p>2003</p> <p>2005</p> <p>2006</p> <p>2007</p>	<p>Crew</p> <p>23</p> <p>23</p> <p>4</p> <p>4</p> <p>4</p> <p>10</p>

2. Surveys

Within Ukrainian zone of responsibility the SHS routinely performs hydrographic surveys in the water areas of commercial ports, approach channels, places of anchorage and areas of high-density vessel traffic.

The hydrographic surveys at scales of 1:5 000 and 1:1 000 are performed routinely in the water areas of and approaches to the commercial ports of Odesa, Illichivs'k, Mariupol', Mykolaiv, as well as the Yuzhnyi, Khersons'kyi, Kerchens'kyi, Dnipro-Buz'kyi, Pheodosiys'kyi, Bilhorod-Dnistrovs'kyi and Yevpatoriis'kyi ports.

In addition, for the purpose of safety of navigation the hydrographic surveys by a multi-beam echosounder are performed regularly in the Buz'ko-Dniprovs'ko-Lymans'kyi channel and in the Kerch-Yeni-Kale.

During the years 2008-2009 it was carried out:

- hydrographic surveying of approaches to the Danube River mouth at scale 1:5 000;
- hydrographic surveys in some areas of Donuzlav Lake at scale 1:2 000;
- hydrographic surveys in some areas of Sevastopols'ka Harbour at scale 1:1 000;
- detailed depth soundings by multi-beam echosounder in vicinity of Zmiinyi Island;
- hydrographic surveys of the Dnipro River in the area of the Dniprodzerzhyns'ke Reservoir and the river part of the Kremenchutske Reservoir (from Kaniv to Cherkasy) at scale 1:25 000;
- hydrographic surveys in the western part of the Sea of Azov at approaches to the port of Genichesk at scale of 1:50 000;
- hydrographic surveying of approaches to the port of Ochakiv.

State Hydrographic Service of Ukraine fulfils examinations of sunken wrecks and other navigational dangers by means of multi-beam echosounder, side-scan sonar, marine magnetometer and bottom profiler. The SHS also disseminates in the coastal warnings and in Ukrainian Notices to Mariners the information about detected dangers and changes in navigational conditions.

State Hydrographic Service of Ukraine permanently upgrades its technical base for the purpose of performance of hydrographic surveys in accordance with modern standards and requirements.

In 2008 we have updated the existing versions of HYPACK software intended for hydrographic surveys and data processing.

It was also purchased the software for collection and processing of data obtained from a side-scan sonar and a bottom profiler SONAR WIZ MAP+SBP.

For the moment the SHS has a modern technical base for fulfilment of hydrographic surveys. For example, for the purpose of areal surveys we use SeaBat 8101 multi-beam echosounder. In addition, our hydrographic surveys are also supported with single-beam echosounders, side-scan sonars, Magis magnetometer and StrataBox bottom profiler.

For horizontal positioning of surveys it is used the Trimble DSM232 DGPS receivers. The planimetric base of hydrographic surveys is maintained with the help of geodetic GPS receiver Trimble 5700. For topographic and geodetic surveys of the coastal areas and for creation of planimetric base of the surveys the SHS uses the SET 3130R3 electronic total stations.

3. New Charts and Updates

New charts & updates:	During the years 2008-2009 it was produced and approved 64 nautical navigational charts, while 43 charts were updated.
ENCs:	223
ENC Distribution method:	In accordance with the existing agreements; Primar RENC.
RNCs:	The SHS does not produce RNCs.
INT charts:	8
National paper charts:	164
Inland ENCs:	96
Other charts:	2 special publications for pleasure crafts/yachts, <i>Set of Navigational River (Pilot) Charts of the Danube River from Reni Port to the Mouth No. 3504</i> , <i>Navigational River Chart of Kanivs'ke Reservoir from Kyivs'ka Hydroelectric Power Station to Kanivs'ka Hydroelectric Power Station No. 3533</i> , <i>Navigational River Chart of the Nyzhnii Dnipro River from Kakhovs'ka Hydroelectric Power Station to the Mouth No. 3528</i> , <i>Navigational River Chart of Dniprovs'ke Reservoir and the Samara River from Novomoskovs'k to the Mouth No. 3530</i> .

4. New Publications and Updates

New publications: 17 new publications

Updated publications: 4 updated publications:

- *Sailing Directions on Ukrainian Waters of the Black Sea and the Sea of Azov No. 101*;
- *Catalogue 'Nautical Charts, Books, Sailing Directions' No. 701*;
- *Regime of Navigation in Ukrainian Waters of the Black Sea and the Sea of Azov No. 402*;
- *List of Lights for the Black Sea No. 201*.

Means of delivery: Publications are delivered in paper form. Notices to Mariners are provided on the users' requests either in paper or electronic form.

The SHS has finished transition of national portfolio of paper navigational nautical charts to the WGS-84 World Geographic Reference System.

It has been implemented the technology "Print-on-Demand" intended for distribution of paper navigational nautical charts of national portfolio among users.

It is performed the updating and upgrading of production software systems in relation with extending of services provided in the sphere of safety of navigation.

5. MSI (Maritime Safety Information)

A couple of years ago in Kyiv it was created a Centre of Navigational and Hydrographic Information. Its tasks include informing mariners on changes in navigational conditions and regime of navigation in the sea area of Ukraine by means of:

- transmission of NAVAREA III navigational warnings for 031 region via international automated service for transmission of navigational and meteorological warnings and urgent information to the vessels;
- transmission of coastal warnings in English via NAVTEX (Automatic Narrow Band Printing System) at frequencies of 518 and 490 kHz;
- transmission of coastal warnings in English and Russian via radiotelephone;
- transmission of local warnings in zones responsibility of ports; and
- dissemination of Notices to Mariners.

Transmission of coastal warnings (navigational information) in NAVTEX mode is carried out through *Odesa-radio* and *Kerch-radio* radio centres.

The radio stations transmit the coastal warnings according to the schedule only for their operative range, while *vital* and *important* coastal warnings are transmitted out of schedule.

6. S-55

In accordance with Annex A to the IHO S-55 Publication we provide the latest update on the status of hydrographic surveys in zone of responsibility of Ukraine in the International Charting Region F.

The table below describes the hydrographic surveys for the depth ranges 0-200 m and > 200 m (/--/--) out to the limits of EEZ:

Nation / Area	A	B	C	Amplifying notes including significant gaps in coverage
Ukraine	75%/100%	25%/0%	0%/0%	<ol style="list-style-type: none">1. Annual program of re-surveys of the Danube and Dnipro deltas, as well as the Pivdennyi Buh mouth, is in progress.2. High-priority tasks:<ol style="list-style-type: none">a. Regional routes: coastal waters, especially in the south-western part of the Black Sea.b. Internal routes: surveys for inland charts of the Dnipro, Danube and Pivdennyi Buh rivers.

In accordance with Annex B to IHO S-55 Publication we provide the latest update on the status of Ukrainian charts portfolio coverage in zone of responsibility of Ukraine in the International Charting Region F:

Nation / Area	Offshore passage / Small			Landfall and Coastal passage / Medium			Approaches and Ports / Large			Amplifying notes
	A	B	C	A	B	C	A	B	C	
Ukraine	100%	-	100%	100%	-	100%	100%	-	99%	Ukraine does not produce RNCs. A number of large-scale charts need to be updated.

NAVIGATIONAL INFORMATION (S-53)

SERVICE	Yes	No	Partial	NOTES
LOCAL WARNINGS	+			
COASTAL WARNINGS	+			
NAVAREA WARNINGS	+			
INFORMATION ON PORTS AND HARBOURS	+			

GMDSS IMPLEMENTATION (IMO Publication 970 - GMDSS Handbook)

SERVICE	Yes	No	Partial	NOTES
Master Plan	+			
A1 Area	+			
A2 Area	+			
A3 Area		+		
NAVTEX	+			
SafetyNET		+		

7. Capacity Building

According to the *Standards of Competence for Hydrographic Surveyors* (IHO M-5 Publication) and using facilities of Odesa Maritime Academy the SHS has implemented the program of training and advanced training for hydrographic surveyors. However, State Hydrographic Service of Ukraine has been constantly in want of supplementary ways of its personnel training, such as visiting by our hydrographic surveyors various specialized courses under the auspices of International Hydrographic Organization.

The task of training the cartographers has been allotted on the Faculty of Geography of the National Taras Shevchenko University in Kyiv.

As things now stand the SHS is at the stage of entering into bilateral agreements with hydrographic offices of the Black Sea countries. Such agreements are designed for increasing charting production in conformity with the IHO recommendations and international copyright.

To date the SHS has already concluded an agreement on exchange of navigational information with the United Kingdom Hydrographic Office.

8. Oceanographic Activities

For the purpose of performance of oceanographic researches the SHS has recently purchased modern hydrological probes and current meters. In addition, with a view of conduction of magnetic measurements in the Black and Azov Seas intended for mapping of the Earth's magnetic field and for detection of iron objects on the sea bottom, the SHS has also bought the state-of-the-art Magis magnetometer. We also use the StrataBox bottom profiler for examination of the surface soils. This equipment ensures acquisition and accumulation of oceanographic data in the Black Sea and the Sea of Azov and contributes to creation of the oceanographic data bank. The above instrumentation is used both for the purpose of charting and in commercial projects.

9. Other Activities

The employees of the State Hydrographic Service of Ukraine take an active part in the activities conducted by different IHO bodies, Working Groups and Committees, such as BASWG, MBSHC, WEND, CSPCWG, S-23.

10. Conclusions

- 1 In 2009 the SHS has achieved considerable results in fulfilment of international obligations of Ukraine as pertaining to aids of navigation and, in particular, in development of aids to navigation system through implementation of new navigational, hydrographical and charting methods, techniques and technologies.
- 2 All SHS branches have been provided with modern facilities for hydrographic surveying of the bottom contour, instrumentation for positioning of hydrographic surveys and maintenance of planimetric base. All this together with specialized software allows compliance of the level of accuracy, including that in the critical shallow waters, with the international standards.