NATIONAL REPORT OF UKRAINE
TO 17-th CONFERENCE
OF THE MEDITERRANEAN AND BLACK SEAS
HYDROGRAPHIC COMMISSION (17-th MBSHC)

1. Hydrographic Office/Service

a. General

State Hydrographic Service of Ukraine (SHS) is the national hydrographic office of Ukraine established within the framework of the Ministry of Infrastructure 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, equipment and technologies in navigation, hydrography and cartography;

- Lighthouses renovation involving the energy-saving technologies (solar batteries, wind power stations, LEDs, etc.), modernization of floating aids to navigation through use of plastics, flasher mechanisms with LEDs modules and implementation of the Automatic Identification System (AIS).

*b. Updates for the IHO Yearbook, e.g. reorganization (please, see below the updates to the IHO Yearbook as of 11 May 2011; 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 Infrastructure 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:** **E-mail:**	+38 (044) 296 60 40 +38 (044) 292 12 17 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, PhD 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, PhD – Deputy Head of the State Hydrographic Service of Ukraine Mr. Oleksandr BORYS – Head of *Ukrmorcartographia* (charting branch of the State Hydrographic Service of Ukraine)
№ of charts published **№ of INT charts published** **№ of ENC cells published**	164 paper charts **103** paper charts for inland waterways **10** 223 ENCs **162** 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; - *'Sailing Directions on Ukrainian Waters of the Black Sea and the Sea of Azov'* No.101 (in Ukrainian); - '*Lights and Beacons of the Black Sea and Sea of Azov*' No.201 (in Ukrainian); - '*Regime of Navigation in Ukrainian Waters of the Black Sea and the Sea of Azov*' (summary description) No.402 (in Ukrainian and Russian); - Catalogue '*Nautical Charts and Publications*' No.701 (in Ukrainian and English); - '*Nautical Charts Symbols*' No.902 (in Ukrainian and English); - '*Description of Maritime Buoyage System in Ukrainian Waters. IALA System. Region A*' No.903 (in Ukrainian); - '*Maritime Buoyage System in Ukrainian Waters. IALA System - Region A*' No. 904 (in Ukrainian); - '*Symbology for Inland Waterways Charts*' No. 908 (in

	Ukrainian, English and Russian); - '*Lights and Beacons of the Danube River. Kiliis'ke Mouth Delta to the Prut River Mouth* ' No.202 (in Ukrainian and Russian); - '*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 Publications (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 Correction", 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) - ***'The list of current Temporary and Preliminary NtMs of State Hydrographic Service of Ukraine' No. 910* (in Ukrainian and English)**		
Surveying vessels / Aircraft	Displacement	Date Launched	Crew
GS – 82	807.0	1969	23
GS – 273	713.0	1972	23
A. LYSENKO	52.7	2003	4
A. SOLODUNOV	52.7	2005	4
V. ZARUDNIY	53.0	2006	4
ODESA	320.0	2007	10
SHLIAHOVYK	92.0	2010 (rema-nufacturing)	6

2. Surveys

a. Coverage of new surveys

Within Ukrainian zone of responsibility the SHS routinely performs hydrographic surveys in the water areas of commercial ports, approaches to ports, 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 regularly 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 channel.

During the years 2010-2011 it was carried out:

- hydrographic surveying of the approach channel to the Danube River mouth at scale 1:5 000;
- hydrographic surveys in approaches to the Port of Scadovs'k at scale 1:2 000;
- hydrographic surveys of some areas of Sevastopols'ka Harbour at scale 1:1 000 and of approach to the Sevastopol Port at scale 1:10 000;
- detailed depth soundings by multi-beam echosounder of approach to the Odessa Port at scale 1:10 000;
- hydrographic surveys of the Dnipro River in the area of the Kremenchutske Reservoir at scale 1:25 000;
- hydrographic surveys in the southern part of the Sea of Azov at approaches to the port of Kerch at scale of 1:25 000;
- hydrographic surveying of approaches to the port of Bilhorod-Dnistrovs'kyi.

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 constantly upgrades its technical base for the purpose of performance of hydrographic surveys in accordance with modern standards and requirements.

In 2010 we have updated the existing versions of the HYPACK software intended for hydrographic surveys and data processing.

b. New technologies and/or equipment

We have purchased RESON Navisound 620 side-scan echosounder and the software for collection and processing of data obtained from the side-scan sonar.

At present the SHS possesses 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 supported with single-beam echosounders, side-scan sonars, Magis magnetometer and StrataBox bottom profiler.

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

c. New ships
NtR

d. Problems encountered
NtR

3. New Charts & Updates

a. ENCs
NtR

b. ENCs distribution method
Distribution agreements with PRIMAR and UKHO.

c. RNCs
The SHS does not produce RNCs.

d. New INT Charts
8 new INT Charts to be produced during the year 2011.

1	*INT 3818*	*UA/RU*	*300 000*	*Sea of Azov*
2	*INT 3886*	*UA*	*50 000*	*Pivdennyi Buh River. From the Mouth to Mykolaiv*
3	*INT 3897*	*UA/RU*	*50 000*	*Kerchens'ka Strait*
4	*INT 3899*	*UA/RU*	*50 000*	*Approaches to Mariupol' Port*
5	*INT 3819*	*UA*	*75 000*	*Approaches to Zmiinyi Island*
6	*INT 3884*	*UA*	*10 000*	*Mykolaiv Port*
7	*INT 3901*	*UA*	*10 000*	*Mariupol' Port*
8	*INT 3903*	*UA*	*10 000*	*Kerch Port*

e. New national paper charts
- 2 new charts:
  No. 3445, *The Danube River from Reni Port to the Mouth' 1:60 000*
  No. 3325, *The Dnipro River from Lubecht to the Mouth' 1:450 000*
- 4 new editions

– 8 new national paper charts to be produced during the year 2011.

f. Other charts, e.g. for leisure craft

– 162 inland ENCs;
– 6 albums of navigational rivers charts:

No. 3504, *Navigational River (Pilot) Charts of the Danube River from Reni Port to the Mouth*

No. 3533, *Navigational River Chart of Kanivske Reservoir from Kyivska Hydroelectric Power Station to Kanivska Hydroelectric Power Station*

No. 3531, *Navigational River Chart of Dniprodzerzhynske Reservoir and the Vorskla River Mouth*

No. 3530, *Navigational River Chart of Dniprovske Reservoir and the Samara River from Novomoskovsk to the Mouth*

No. 3529, *Navigational River Chart of Kakhovske Reservoir from Dniprovska Hydroelectric Power Station to Kakhovska Hydroelectric Power Station*

No. 3528, *Navigational River Chart of the Nyzhnii Dnipro River from Kakhovska Hydroelectric Power Station to the Mouth*

All charts have been produced according to WGS-84 datum.

4. New publications & updates

a. New publications

3 new publications:

No. 910*, "Cumulative list of the temporally and preliminary notices to mariners";*
No. 601*, "Oceanographic atlas of the Black Sea and the Sea of Azov"*
No. 911*, "Tracing of corrections of nautical charts"*

b. Updated publications

1 updated publication:

No. 701, *Catalogue 'Nautical Charts and Publications'*

c. Means of delivery

Publications are delivered in paper form.

Notices to Mariners are provided on the users' requests either in paper or in digital forms.

The technology "Print-on-Demand" had been implemented for production, maintenance and dissemination among users of paper navigational nautical charts from national portfolio.

5. MSI

a. Existing infrastructure for transmission

Several years ago the Centre of Navigational and Hydrographic Information was created in Kyiv. 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 vessels;
- transmission of coastal warnings in English via NAVTEX at frequencies of 518 and 490 kHz;
- transmission of coastal warnings in English and Russian via radiotelephone;
- transmission of local warnings in zones of 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.

Nation/Area	**Service MSI**		**GMDSS**	
Ukraine	a. Local warnings	**Yes**	a. Master plan	**Yes**
	b. Coastal warnings	**Yes**	b. A1 Area	**Yes**
	c. Navarea warnings	**Yes**	c. A2 Area	**Yes**
	d. Information about ports	**Yes**	d. A3 Area	**No**
			e. NAVTEX	**Yes**
			f. SafetyNET	**No**

New radio centre NAVTEX had been built in Kerch last year. 10 stations of the Automatic Identification System (AIS) were commissioned on the seacoast of Ukraine in 2010. In addition, 5 AIS stations and national AIS-web server will be brought into service in 2011.

b. New infrastructure in accordance with GMDSS

NtR

c. Master Plan

NtR

d. Problems encountered

NtR

6. C-55 latest update (Tables)

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

Nation/ Area	**A**	**B**	**C**	**Amplifying notes including significant gaps in coverage**
Ukraine	75%/100%	25%/0%	0%/0%	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: a. Regional routes: costal waters, especially in the north-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 C-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

7. <u>Capacity Building</u>

a. Offer of and/or demand for Capacity Building

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

b. Training received, needed, offered

The candidate from Ukraine was finally selected for the course at the UK Hydrographic Office in 2010 for the period from 6 September till 17 December 2010. It was the second Course in Hydrographic Data Processing and Marine Cartography funded by the Nippon Foundation. Ukrainian candidate Mr. Yuriy Smagin, Head of Shipping Department of the SHS Sevastopol Branch, has successfully graduated from the course.

Ukrainian National Taras Shevchenko State University in Kyiv is engaged in training of cartographers on geographic department of the University.

The HYPACK software training seminar took place in Odesa Maritime Academy in January 2010. The seminar was presented by Mr. Patrick Sanders, the President of HYPACK Inc.

c. Status of national, bilateral, multilateral or regional development projects with hydrographic component (in progress, planned, under evaluation or study):

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

d. Definition of bids to IHO CBC

NtR

8. Oceanographic Activities

a. General

For the purpose of performance of oceanographic researches the SHS has recently purchased modern hydrological probes and current meters. The SHS uses the Magis magnetometer for measurements in the Black and Azov Seas for mapping of the Earth's magnetic field and for detection of iron objects on the sea bottom.

In addition, we 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 charting purposes and for commercial projects.

b. GEBCO/IBC's activities

NtR

c. Tide gauge network

NtR

d. New equipment

NtR

e. Problems encountered

NtR

9. Other activities

a. Participation in IHO Working Groups

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 and S-23.

b. Meteorological data collection

NtR

c. Geospatial studies

NtR

d. Disaster prevention
NtR

e. Environmental protection
NtR

f. Astronomical observations
NtR

g. Magnetic/Gravity surveys
NtR

h. Other
The Traffic Separation Scheme for the area of south-western coast of Crimea Peninsula presented by the SHS at the 55-th session of NAV-Subcommittee (June 2009) and at the 87-th session of IMO Maritime Safety Committee (May 2010), was finally approved by the International Maritime Organization and has come into effect in Ukraine from December 1, 2010.

10. Conclusions

1 During 2010-2011 the SHS has achieved considerable results in fulfilment of international obligations of Ukraine as pertaining to aids to 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 ensures compliance of the level of accuracy, including that in the critical shallow waters, with the international standards.