

**NATIONAL REPORT OF UKRAINE
TO 19th MEETING
OF THE MEDITERRANEAN AND BLACK SEAS
HYDROGRAPHIC COMMISSION (MBSHC)**

1. Hydrographic Office/Service

a. General

The State Hydrographic Service of Ukraine (SHSU) is a national hydrographic office established within the framework of the Ministry of Infrastructure of Ukraine.

The main tasks of the SHSU 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 (AtoNs) in the seas and inland waterways within the 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 the fields of 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).

Due to the Russian Federation's occupation and annexation of the part of Ukrainian territory, from March 2014 SHSU doesn't have access to Ukraine's inland waters and territorial sea in the area of Crimean Peninsula; aids to navigation on the Crimean coast have been out of SHSU' control. Mariners are requested to exercise caution.

The sea ports of Kerch, Sevastopol, Feodosiia, Yalta, Yevpatoriia are closed until the restoration of the constitutional order of Ukraine within the territory of the Autonomous Republic of Crimea and Sevastopol city that are temporarily occupied by the Russian Federation (in accordance with the Order of the Ministry of Infrastructure of Ukraine No. 255 of June 16, 2014).

In compliance with the Law of Ukraine No 1207-VII of 15 April 2014 'On Securing the Rights and Freedoms of Citizens and the Legal Regime on the Temporarily Occupied Territory of Ukraine', inland waterways and territorial sea of Ukraine around Crimean Peninsula, as well as the territory of exclusive (maritime) economic zone of Ukraine along Crimean coastline have been defined as temporarily occupied territories.

- b. Updates for the IHO Yearbook, e.g. reorganization (please, see below the updates to the IHO Yearbook as of 29 May 2014; 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	Ministry of Infrastructure of Ukraine
Principal functions of the H.O.	Hydrographic surveys, oceanography, nautical paper and electronic navigational charts, Notices to Mariners, nautical charts and inland charts in paper and digital form, nautical publications (Notices to Mariners, Sailing Directions, List of Lights, etc.) , 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	February 9, 1994 in compliance with Ordinance of the Cabinet of Ministers of Ukraine No. 84 of February 9, 1994
Name and rank of the Director or Head	Mr. Sergii SYMONENKO, PhD Head
Tonnage	2013 = 856 508
Staff employed - Hydrographers (Name and rank of managing staff)	Mr. Dmytro PADAKIN, PhD – Deputy Head of the State Hydrographic Service of Ukraine Mr. Mykola GOLODOV, PhD – 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	173 paper charts 129 paper charts for inland waterways
№ of INT charts published	11

<p>№ of ENC cells published</p>	<p>232 ENCs 75 cells 181 IENCs</p>
<p>Type of publications produced (e.g.; Tide Tables, Sailing Directions, List of Lights etc.)</p>	<ul style="list-style-type: none"> - 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. Kiliiske Mouth Delta to the Prut River Mouth’ No.202 (in Ukrainian and Russian); - ‘Sailing Directions of the Danube River. Kiliiske 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 (in Ukrainian); - ‘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); - ‘Navigational and Reference Tables for Navigators’ No. 909 (in Ukrainian and English); - ‘Dnipro River Pilot’ No.105 (in Ukrainian and English); - Navigational-Hydrographic Dictionary (in Ukrainian, English and Russian); - Charting Support for Navigation (in Ukrainian); - Nautical Support for Navigation (in Ukrainian).		
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 (remanufactured)	6
KAPITAN BASHEV	133	2014 (remanufactured)	6
MGK-catamaran *	2.5	2013	2
MGK-catamaran	2.5	2013	2
MGK-catamaran	2.5	2014	2
MGK-catamaran	2.5	2014	2
MGK-catamaran	2.5	2014	2
* Temporarily detained in the occupied territory.			

2. Surveys

a. Coverage of new surveys

Within Ukrainian zone of responsibility the SHSU 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 were performed regularly in the water areas of Buzko-Dniprovsko-Lymanskyi channel, Khersonskyi sea channel, Spaskyi channel, sea approach channel to Bystre Estuary, water areas, anchorages and approach channels to the commercial ports of Odesa, Illichivsk (also, the fishing port), Mykolaiv (also, the river port),

Yuzhnyi, Khersonskiy, Dnipro-Buzkyi, Bilhorod-Dnistrovskiy, Ochakiv ports, as well as the specialized sea port of Oktiabrsk.

Since March 2014 the State Hydrographic Service of Ukraine has not carried out hydrographic surveys in water areas and approaches to Crimean ports, inland waterways and territorial sea of Ukraine in the vicinity of the Crimean Peninsula, due to occupation and annexation of the Autonomous Republic of Crimea by the Russian Federation.

During the years 2014-2015 the following was carried out:

- integrated hydrographic surveying of the Ukrainian sea areas, aiming to re-issuance of the nautical navigational charts and redaction of the ENC cells in compliance with the requirements of the International Hydrographic Organization;
- hydrographic surveying at the approaches to the Traffic Separation Scheme No2 (Approaches to the ports of Illichivsk, Odesa and Yuzhnyi) within the limits of the territorial waters (12 miles) and beyond these limits in the north-western part of the Black Sea;
- hydrographic surveying within the 12-mile coastal zone from the Dniester Estuary to the Zhebriyanska Bay;
- hydrographic surveying of the Pivdennyi Buh River and the western part of the Dnipro Estuary;
- hydrographic multibeam surveying of approaches to the ports of Odesa, Illichivsk, Bilhorod-Dnistrovskiy, Yuzhnyi;
- hydrographic surveys in approach channel to the Bystre Mouth, navigable channel of the Bystre Mouth, Starostambulske Mouth to Vylkove town.

We have also carried out hydrographic surveys in the areas of main recommended routes for vessel traffic in the Azov Sea and in the north-western part of the Black Sea.

The State Hydrographic Service of Ukraine routinely fulfils examination of sunken wrecks and other navigational dangers by means of a multi-beam echosounder and a side-scan sonar. The SHSU also disseminates in the coastal warnings and in Ukrainian Notices to Mariners the information about detected dangers and changes in navigational conditions.

For the purpose of the hydrographic surveying fulfilment, the SHSU permanently modernizes its hydrographic fleet and equipment.

In 2013-2015 five minor hydrographic catamarans, specially designed for hydrographic surveying in the coastal waters, were purchased. Two of them have already been involved in work performance even since 2013.

The hydrographic surveying and data processing are fulfilled employing the HYPACK software.

b. New technologies and/or equipment

At present the SHSU possesses modern technical facilities for fulfilment of hydrographic surveys. As a result of upgrade, the SeaBat 7101 multi-beam echosounder complex ensures increased capabilities for the purpose of multibeam surveys. In addition, our hydrographic surveys are supported with single-beam echosounders and side-scan sonars.

We use the Trimble DSM232 and SPS461 DGPS receivers for horizontal positioning of surveys. The planimetric base of hydrographic surveys is maintained by means of geodetic GPS receiver Trimble 5700. The SHSU 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

5 MGK-catamarans during 2013-2014.

d. Problems encountered

The State Hydrographic Service's of Ukraine inability to carry out hydrographic surveys in the area of the Crimean Peninsula due to obstacles described above in paragraph 1(a).

3. New Charts & Updates

a. ENCs

54 updated ENCs

We have issued 32 ENC cells of the 3rd range and 35 ENC cells of the 4th range.
3 new ENCs

b. ENCs distribution method

Distribution Agreements with PRIMAR and UKHO.

c. RNCs

The SHSU does not produce RNCs.

d. INT Charts

The new 3615 INT3884 Mykolaiv Port Chart, 1:10 000 has been issued.

The 3439 INT3819 Approaches to Zmiinyi Island Chart, already agreed with Romania, is expected to be endorsed by Region F Coordinator:

INT 3819	UA	75 000	Approaches to Bystre (Novostambulske) mouth
		25 000	Approach channel to Bystre (Novostambulske) mouth

The following charts from the international portfolio are to be updated in 2015:

3226 INT3816 Zmiinyi Island to Tarkhankut Cape, 1:300 000
3228 INT3812 Illi Cape to Vulkan Bay, 1:300 000
3407 INT3891 Approaches to Odesa, Illichivsk, Yuzhnyi Ports, 1:75 000
3502 INT3887 Approaches to Yuzhnyi Port, 1:25 000
3503 INT3893 Approaches to Odesa Port, 1:25 000
3507 INT3885 Kizomys Settlement to Kherson Port, 1:25 000
3605 INT3889 Yuzhnyi Port, 1:12 500
3606 INT3895 Illichivsk Port with Approaches, 1:10 000

2 INT Charts to be issued in 2015 have been agreed by Region F Coordinator and included to the Catalogue:

3404	INT 3886	UA	50 000	Pivdennyi Buh River. From the Mouth to Mykolaiv
3624	INT 3901	UA	10 000	Mariupol Port

4 more INT Charts are currently under consideration of Region F Coordinator:

3417	3897	UA	50 000	Kerchenska Strait
3421	3899	UA	50 000	Approaches to Mariupol Port
3632	3903	UA	10 000	Kerch Port
3229	3818	UA	350 000	Sea of Azov

The proposal was submitted regarding including of 2 new INT Charts into the international portfolio:

3506	3888	UA	25 000	Stanislav Cape to Kizomys Settlement
3405	3890	UA	50 000	Ochakiv to Pivdennyi Buh River
			25 000	A. Rybalche Quarry with Approach

e. National paper charts

4 new navigational paper charts of the national portfolio were issued:

- No. 24002 “Gulf of Izmit”, 1:60 000;
- No. 3640 “Fiolent Cape to Aiya Cape”, 1:12 500;
- No. 3521 “Taman Port”, 1:25 000;
- No. 91001 “World Ocean”, (8 sheets).

16 paper charts of the national portfolio were updated.

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

NtR

4. New publications & updates

a. New publications

NtR

b. Updated publications

The following publications were re-issued:

No. 701 “Catalogue of Nautical Charts and Publications” (new edition)

No. 910 “List of Current Temporary and Preliminary Notices to Mariners of the State Hydrographic Service of Ukraine” (annual edition)

No. 402 “Regime of Navigation in Ukrainian Waters of the Black Sea and the Sea of Azov” (Summary Description) (new edition)

No. 201 “Lights and Beacons of the Black Sea and the Sea of Azov. Ukrainian Coast” (new edition)

No. 101 “Black Sea and the Sea of Azov Pilot on Ukrainian Waters” (new edition).

c. Means of delivery, e.g. paper, digital

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" has been implemented for production, maintenance and dissemination among users of paper navigational nautical charts from national portfolio.

d. Problems encountered

NtR

5. MSI

a. Existing infrastructure for transmission

Centre of Navigational and Hydrographic Information operates in Kyiv city. 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 centres.

Coastal warnings are transmitted 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 b. Coastal warnings c. Navarea warnings d. Information about ports	Yes Yes Yes Yes	a. Master plan b. A1 Area c. A2 Area d. A3 Area e. NAVTEX f. SafetyNET	Yes Yes Yes No Yes No

For improvement of safety of navigation it has been implemented a new unified system for surface conditions monitoring using Automated Identification System in the Black Sea and the Sea of Azov in Ukrainian zone of responsibility (AIS Monitoring System).

The AIS Monitoring System is based upon existing networks of AIS base stations belonging to the State Hydrographic Service of Ukraine (19 base stations, 7 of which have been detained by Russia in the occupied territory), "Delta-Pilot" State Enterprise (11 base stations, 3 of which have been detained by Russia) and "Maritime Search and Rescue Service" State Enterprise (5 base stations, 3 of which have been detained by Russia). The system functions through

integration of received information by dint of a central server intended for the monitoring system routing.

Currently urgent NAVTEX navigational warnings are repeated via AIS channels. In addition, the AIS channels are used as back-up for transmission of all NAVTEX warnings.

It has been started the transmission of information on virtual aids to navigation via AIS channels.

b. New infrastructure in accordance with GMDSS Master Plan

NtR

c. 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%	High-priority tasks: a. Regional routes: water areas of sea ports and their approach channels, in particular in the north-western part of the Black Sea, Kerchenska Strait and approaches to it. 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 the latest update on the status of Ukrainian charts portfolio coverage in Ukrainian zone of responsibility in the International Charting Region F is as follows:

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 needs to be updated.

7. Capacity Building

a. Offer of and/or demand for Capacity Building

According to the Standards of Competence for Hydrographic Surveyors (M-5 IHO Publication) the SHSU has implemented the program of training and advanced training for hydrographic surveyors using facilities of the Odesa Maritime Academy. However, the 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 the International Hydrographic Organization.

b. Training received, needed, offered

The HYPACK software training seminar took place in Odesa in October 2014. The seminar was presented by Mr. Patrick Sanders, the President of HYPACK Inc.

The SHSU employee Mr. Ivan Snovydiv participated in the IMO-IHO Regional Training on Hydrography and Hydrographic Governance in November 2014 in Constanta, Romania.

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

To date the SHSU has concluded the agreement on exchange of navigational information with the United Kingdom Hydrographic Office. For the purpose of distribution of ENC's the agreements have been signed with PRIMAR, Jeppesen (Boeing Company), Navionics S.r.l., Periskal CVBA, Transas Marine and Garmin Companies.

d. Definition of bids to IHO CBC

The State Hydrographic Service of Ukraine is in want of training its personnel through participation at the following courses/workshops/seminars:

- hydrographic surveys by a multibeam echosounder, 2 students in 2015-2016;
- up-to-date methods and instruments for hydrographic surveys, 2 students in 2015-2016;
- nautical cartography, ENC's, 2 students in 2015-2016.

8. Oceanographic Activities

a. General

The SHSU has designed a digital version of Oceanographic Atlas of the Black Sea and the Sea of Azov.

b. GEBCO/IBC's activities

NtR

c. Tide gauge network

SHSU uses hydrological probes for performance of oceanographic researches. In 2014 we have furnished our own tide gauge stations along the Black Sea coast and arranged permanent monitoring of the measurements of the Black Sea level.

d. New equipment

NtR

e. Problems encountered

NtR

9. Other activities

a. Participation in IHO Working Groups

The representatives of the State Hydrographic Service of Ukraine take part in the activities conducted by MBSHC, BASWG, S-100WG, ENCWG, NIPWG, NCWG, TWCWG and MSDIWG.

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. MSDI

NtR

i. International

NtR

j. Other

NtR.

10. Conclusions

- 1 In 2014-2015 the SHSU has ensured the 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 SHSU divisions and branches have been provided with modern watercraft and facilities for hydrographic surveying of the bottom contour, instrumentation for positioning of hydrographic surveys and maintenance of planimetric base. All the

aforementioned together with specialized software ensure compliance of the level of accuracy, including that in the critical shallow waters, with the international standards.

- 3 The high-priority tasks with regard to hydrographic surveys are hydrographic soundings in the areas of recommended and actual vessel traffic routes, harbour waters and approach channels to ports, heavy traffic areas and critical shallow waters.
- 4 The important factor in hydrographic surveys is a need in resurveying for the purposes of nautical charts re-edition and/or updating.
- 5 In 2014-2015 the SHSU has issued and re-issued 20 nautical charts, which are based on recent hydrographic data and cover the waters around the Crimean Peninsula. A number of nautical charts for the Kerchenska Strait and south and north approaches to the Kerchenska Strait have been also issued.
- 6 At the same time, due to the Russian Federation's occupation and annexation of the part of Ukrainian territory since March 2014, the State Hydrographic Service of Ukraine has not had access to Ukraine's inland waters and territorial sea in the area of the Crimean Peninsula. According to the Law of Ukraine No. 1207-VII 'On Securing the Rights and Freedoms of Citizens and the Legal Regime on the Temporarily Occupied Territory of Ukraine' as of April 15, 2014, these waters have been defined as temporarily occupied territories.

The sea ports of Kerch, Sevastopol, Feodosiia, Yalta, Yevpatoriia will remain closed until the restoration of the constitutional order of Ukraine within the territory of the Autonomous Republic of Crimea and the City of Sevastopol in accordance with the Order of the Ministry of Infrastructure of Ukraine No 255 of June 16, 2014.

Aids to navigation on the Crimean coast have been temporarily out of control of State Hydrographic Service of Ukraine. Mariners are requested to exercise caution.

Signature:

Sergii Symonenko, National Hydrographer

Date: May 29, 2015