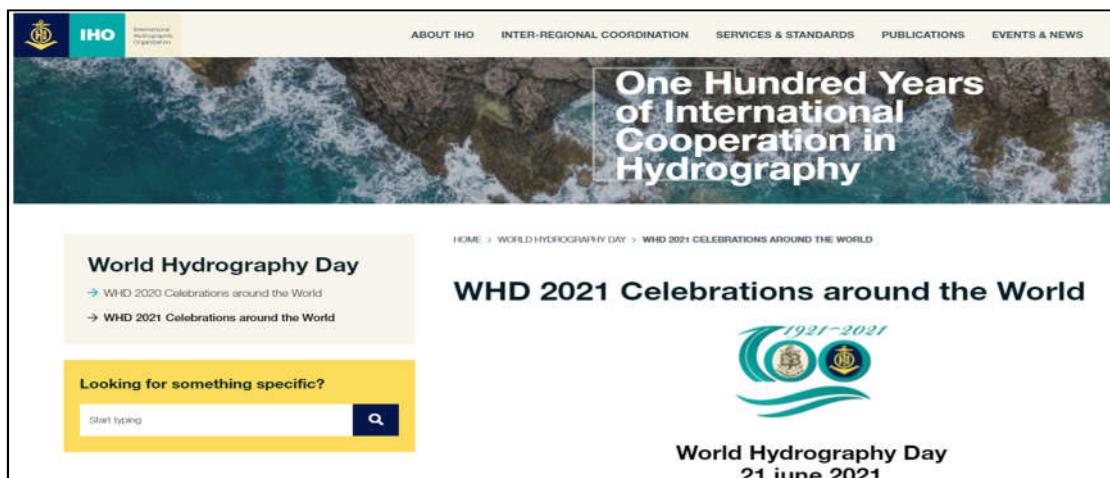


## World Hydrography Day in Croatia

The International Hydrographic Organization (IHO) was established in London in 1919, being based in Monaco since 1921. The World Hydrography Day (WHD) is celebrated every year on 21 June. The International Hydrographic Organization and its full members (94) celebrate this day through various actions with the aim of raising awareness of importance of hydrography in many sea-related activities. Special attention is given to activities that increase the coverage of sea areas with high-quality hydrographic data, as well as initiatives and joint projects whose results contribute towards the safety of navigation, protection of marine environment, planning of coastal zone management, implementation of a marine spatial data infrastructure, and use of new technologies in hydrography.

In preparations for the celebration of WHD, the IHO member states are invited to propose a theme to be the common IHO theme of the year. To mark 100 years since the establishment of the International Hydrographic Bureau (IHB) in Monaco on 21 June 1921, which was later renamed the Secretariat of the IHO (IHO Sec.), this year's theme is "One Hundred Years of International Cooperation in Hydrography". The theme is intended to show the progress in knowledge and technology over the past 100 years, and at the same time to highlight the most important achievements in that period, advances in technology and state-of-the-art technology. Although at the IHO level an eventful programme was planned to mark the 100<sup>th</sup> anniversary, this had to be significantly reduced due to the COVID-19 pandemic. However, a few events that will take place in Monaco will be available to member states and the wider public via video streaming and virtual panel discussions.



On the 100<sup>th</sup> anniversary of international cooperation in hydrography, it should be recalled that hydrographic activities in the Eastern Adriatic have been carried out continuously for nearly 200 years. Based on the first hydrographic surveys, conducted between 1806 and 1809, numerous charts and harbour plans were produced. Since 1944 the hydrographic service has been based in Split. Nowadays, the HHI is a modern institution with top experts, whose work ensures achievement of hydrography objectives as defined in international and national regulations. The Republic of Croatia, together with its national hydrographic office, is a proactive member of the IHO.

In the last “hydrographic year” the Hydrographic Institute of the Republic of Croatia (HHI) made a significant contribution towards achieving the planned objectives and promoting the Croatian hydrographic service through realization of the following planned activities:

1. Carrying out of the new bathymetric survey in priority areas on the waterways of the internal waters: Splitski Kanal, Brački Kanal, Srednji Kanal, and Zadarski Kanal, covering a total area of 212 km<sup>2</sup>.
2. Publication of four new general charts (Figure 1), new edition of the plan of Rijeka port (Figure 2), and the new thematic chart showing boundaries of the Republic of Croatia in the Adriatic Sea (Figure 3).



Figure 1. New general charts at 1 : 350 000 scale

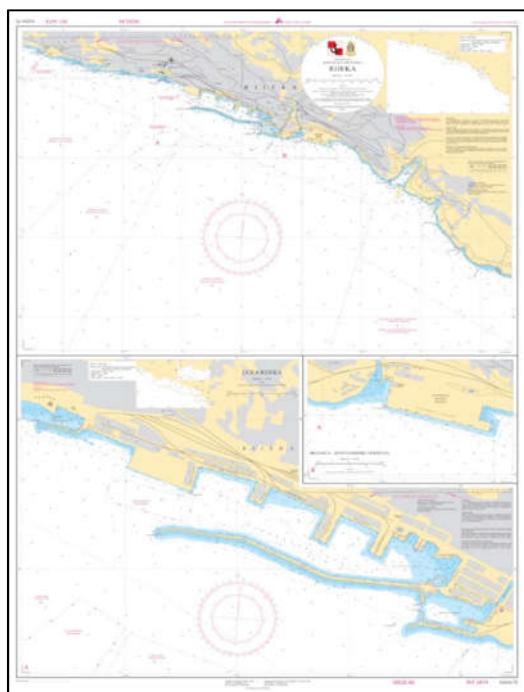


Figure 2. Plan 15 – Rijeka



Figure 3. Thematic chart 101G

3. Release of four new electronic navigational charts (ENC) of 350 series and their paper editions in parallel; release of 33 new ENCs and nine new editions of ENCs.
4. Publication of new editions of navigational publications, as follows: Adriatic Sea Pilot (Volumes I and II) in English, List of Lights and Fog Signals, Nautical Almanac, Radio Navigation Service, and Tide Tables (Figure 4).



Figure 4. New editions of navigational publications

5. Continuous performance 24/7 of the navigational warning service, as an urgent part of the informative segment of navigational safety, ensuring availability of navigational safety information to users at four-hour intervals (Figure 5).



Figure 5. Equipment for the monitoring of accuracy of navigational warning broadcasts

Numbers of the prepared and broadcast navigational warnings are shown in the table below.

LOCAL	COASTAL/NAVTEX	NAVAREA	TOTAL
351	142	11	504

6. Continuous measurements of physical, chemical, and geological processes in the sea, with measurements of basic meteorological parameters. HHI has a long tradition of measuring sea level heights at the permanent tide gauge stations in Rovinj, Zadar, Split, Ploče, and Dubrovnik. It should be noted that the HHI has set up a new permanent tide gauge station in Rijeka, fitted with a radar sensor for measuring sea level heights (Figure 6).



Figure 6. New tide gauge station in Rijeka

Measurements of current direction and speed, and thermohaline properties, as well as geological sampling with geological profile survey, and seawater sampling for chemical analysis are carried out in the priority areas at seasonal intervals.

With the aim to improve the safety of navigation, HHI will continue to develop the web application (Figure 7) that enables the real-time monitoring of all relevant parameters – sea level height, wind generated surface waves (height, direction, period), surface sea temperature, and wind (direction and speed)

<https://adriaticsea.hhi.hr>.

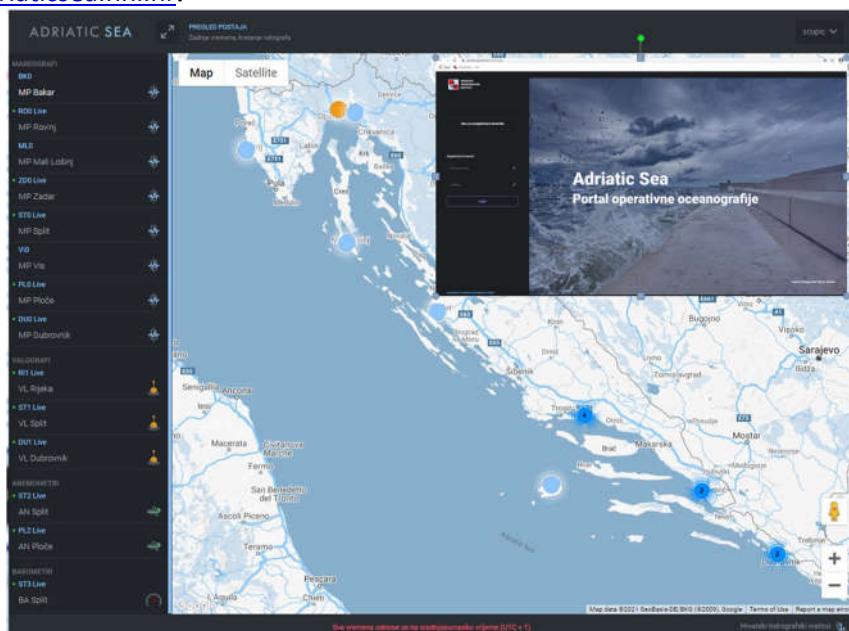


Figure 7. Operational Oceanography Portal – Adriatic Sea Online

- Under applicable resolutions of the International Hydrographic Organization and national legislation, the Croatian Marine Spatial Data Portal – GeoAdriatic is in place, offering search and view of the marine spatial data as well as e-services that fall within the competence of the HHI (Figure 8). The data is continually updated with new thematic units [GeoAdriatic - HHI](#).

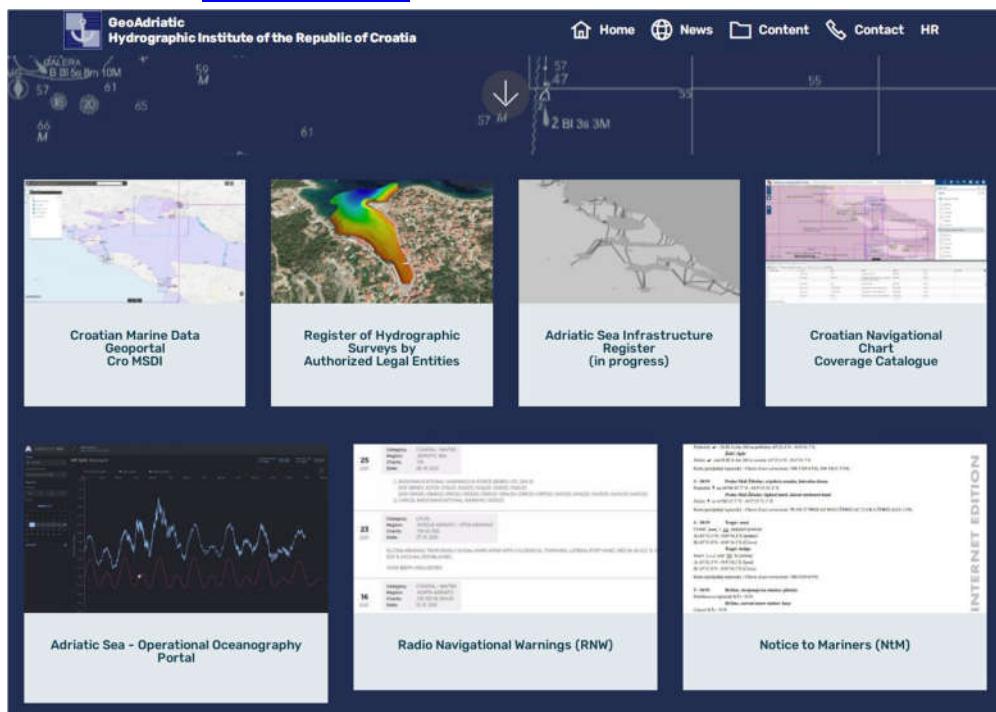


Figure 8. Croatian Marine Spatial Data Portal – GeoAdriatic

The portal is available in Croatian and English. It was presented at the ESRI Webinar “Transforming an MSDI into a Modern Hydrospatial Infrastructure“ as a successful example of the MSDI implementation

(<https://www.youtube.com/watch?v=1rVU377Osgw&t=2518s>).

- Through participation in several IHO and PRIMAR RENC bodies and working groups, the HHI continues its proactive role and contributes towards achieving the targets set by these organizations. Currently, it chairs the PRIMAR RENC Advisory Committee, and will assume the function of Vice-Chairman of the Mediterranean and Black Sea Hydrographic Commission (MBSHC).
- Comprehensive documentation has been prepared for launching the new project “Improving the hydrographic service and increasing the availability of hydrographic data”, which is intended to be financed by EU funds from the new operational period. The project main goal is to improve the hydrographic service in organizational, technical-technological, and functional terms, as permanent activity 24/7, of specific interest to the Republic of Croatia. This will directly contribute towards improving the hydrographic-navigational element in the informative segment of navigational safety in accordance with new requirements and regulations. The second important goal is to ensure availability of hydrographic data, products and services to a wider community of users in other segments of human activities, such as implementation and development of the marine spatial data infrastructure as a special segment of the Croatian NSDI.

10. This year, due to the pandemic and inability to open its doors to visitors, the HHI marks the World Hydrography Day by releasing a new video about hydrographic activities <https://youtu.be/SV6qxLjHfxQ>.