How to Use the Term Hydrospatial?

Mathias Jonas, Secretary-General of the International Hydrographic Organization (IHO), was forced to ponder on the term ‘hydrospatial’ and its place in the language of the hydrographic community.

During a panel discussion at the Canadian Hydrographic Conference in Québec City in February 2020, I was confronted with the question whether the term ‘hydrospatial’ should be formally introduced into everyday language. The first part of my answer was rather bureaucratic: “...To adopt a new word and official definition in the IHO Hydrographic Dictionary S-32, a formal proposal must be submitted to the relevant experts of the IHO’s Hydrographic Dictionary Working Group.”

While this statement was correct, it did not actually answer the essence of the question. More diplomatically, I therefore continued with a ‘maybe’ statement: “Hydrography is clearly going through major changes that require an expanded role to serve an increasing number of stakeholders interested in the blue economy... If this requires a new word to express this expanded scope and to address the full description of the physical features of oceans and the prediction of their change over time, ‘hydrospatial’ will find its way into our spoken and written language.”

This reply was accepted by the conference audience and seemed to address the point for the time being. However, for me, the question was not fully answered. I asked myself: What does hydrospatial actually mean, and is it not covered by an already existing hydrographic term? Searching for answers, I tried to figure out who had coined the term and who actually uses ‘hydrospatial’.

The answer to the first part was somewhat surprising. Gyula Kosice, a Slovak-Argentinian artist created a work of art named The Hydrospatial City between 1946 and 1972, which consisted of 19 three-dimensional space habitats and 7 two-dimensional light boxes coming together in an immersive, single-room installation.

I am not sure if those using the term today were inspired by Kosice’s impressive masterpiece. I am inclined to think that they were more inspired by the term ‘geospatial infrastructure’, which they applied to the hydro sphere. ‘Geospatial infrastructure’ was first introduced by Jack Dangermond, founder of Esri, in 2011. According to him, geospatial infrastructure consisted of data, data models, workflows, positioning, GIS and maps – all the elements relating to geospatial information. The proponents of ‘hydrospatial infrastructure’ expanded this term further for the maritime domain. According to them, it covers all the building blocks that are required to distribute marine data in order to interconnect the individuals, teams, departments, organizations and communities that need this data. This is supported technically by complex GIS projects, mapping and charting and data visualization, which in turn facilitate field operations. In doing so, it incorporates specialized workflows and applications on automated nautical charting, coastal planning, emergency management and ocean analytics. It revolutionizes spatial analysis and data sciences through the application of artificial intelligence and machine learning to marine geodata.

The term ‘hydrographic’, which we usually use to refer to these disciplines, clearly does not adequately convey their full scope. I am now in a better position to answer the question about ‘hydrospatial’. In my view, this term should not be used alone, but in combinations to attribute common georeferenced terms. This leads to pairs like ‘hydrospatial information’, ‘hydrospatial data’ and ‘hydrospatial infrastructure’. These combinations evoke the full range of disciplines that handle hydrographic information today, transforming it into data in order to generate, evaluate, correlate and present hydrographic knowledge to visualize the oceans in a new way.


https://www.hydro-international.com/content/article/how-to-use-the-term-hydrospatial