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Q1

There have been incredible changes to the way we collect and present our information throughout hydrographic history, but there have also been massive changes to the way we manage our workforces, data, and products. NOAA found its origins in coastal exploration during a time when it needed to acquire modern scientific tools from across the Atlantic. In my opinion, the recognition of the importance of hydrographic and geospatial science, from a national perspective, to support marine navigation is the most important milestone in US hydrographic history. This commitment to science and exploration has lasted for over 200 years and we recognize it as foundational to our program and work. The transition to a digital world encompasses a large number of significant independent milestones – lead line to multibeam sonar data collection, celestial to satellite positioning, copper plate engraving to database driven chart production, paper to electronic navigation systems, and many more. These have had profound impacts on the way the US manages its hydrographic programs, the skill sets that makeup our workforces, the types of information we manage, and the tools that we use for our daily work.

Q2

Moving to S-100 based navigation is the hydrographic milestone of our era. This impactful transition will allow us to visualize a wide variety of data for mariners to use in a single system. With S-101 underpinning a wider array of high resolution bathymetry, surface currents, weather and more, we will be supporting safer, more efficient, sustainable marine transportation. The way data is managed will be fundamentally different as we progress through the transition to S-100. We will need to build partnerships within our countries, internationally, and with the private sector. Some S-100 products will likely overlap and may be available from multiple sources. We can expect to see non-hydrographic offices as the responsible producers for information that is intended for use in an ECDIS. We will have to consider both technological and administrative measures to manage these new arrangements, including system based solutions in the ECDIS, new methods of data delivery, and increased attention to sharing data through a federated approach. I imagine a distribution system that delivers data from the producer to the user with a thin system in the middle to manage product usage and currency.

Q3

Singapore's National Marine Spatial Data Infrastructure 'GEOSPACE-SEA': Enabling Hydrosatial Context and Applications in a Changing Ocean and Seascape by P. Y. Pang, P. Oei. I really enjoyed this article because it highlights the benefits of MSDI and more importantly the values of making data available and how our data is imperative for uses beyond navigation including coral reef management, coastal planning, and many more. I also really appreciated the discussion on partnerships and operational sustainability for ensuring MSDI success. Link to the article: https://iho.int/uploads/user/pubs/ihreview_P1/IHR_November2020.pdf
