

The Economic Benefits of Hydrography

The International Federation of Surveyors (FIG), through the efforts of the Commission 4 workgroup 4.4 on Capacity Building and the Economic Benefits of Hydrography, has sought to raise awareness of and promote the role of hydrography as an essential investment in economic development. What tends to be obvious to hydrographers and end-users of hydrographic information is not always apparent to those who benefit indirectly from hydrography - the general public. So in view of this, I will re-state the obvious!

Hydrography involves the surveying and mapping of rivers, lakes and oceans which gives us information about what the seafloor and movement of water above that seafloor looks like. Hydrographic information in its most public form is published as nautical charts and sailing directions both digitally and in hardcopy. In a strictly navigational context, these publications are critical for providing mariners with the information they need to navigate ships safely and efficiently. Used in conjunction with meteorological information, nautical publications provide a basis for decision making on where and when a ship can be taken. High resolution hydrographic information in the form of seabed imagery provides a basis for engineering decisions on matters such as where to locate subsea installations such as pipelines or communications cables. It also provides useful base mapping for the support of scientific research.

Much like cities and communities that have prospered over time because of their close proximity to railroads and in modern times, superhighways and airports, access to harbours and navigable waters has been the earliest cornerstone for discovery and economic development the world over. But what makes waters navigable? Knowledge of water depth, hazards, tides and current is vital. Hydrographic information provides the basis for this knowledge, in whatever way it may be communicated. Furthermore, that what makes waters navigable also makes waters safe. Thus, the safety of life at sea (SOLAS, Chapter V), the "sea room" to run from a storm, or finding an alternate, ice-free course to steer are all supported by sound hydrographic information.

Bringing goods to and from market by sea; access to fisheries, sources of energy and rich natural resources at sea all depend on sound hydrographic information. When "just-in-time" service is not critical, the economic efficiencies and reduced carbon footprint associated with marine transportation will surpass all other modes of transportation. Frontier exploration, resource development, harvesting and extraction; the transportation of people and cargo; aquatic science, national sovereignty and defence; all of which support economic development, are enabled by hydrographic information. To sum it up, access to and an understanding of land, including submerged lands, are essential to claiming one's territory and then developing and realising a nation's economic sustainability. Through surveys and mapping (charting), surveyors have always played a role in supporting land tenure and land development and thus provide an essential connection between hydrography and the basis for a sustainable economy.