

General Information

OBITUARY



IN MEMORIAM

Richard Michael (Mike) Eaton, C.M, B.Sc.
1928-2014

by Mathias Jonas

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The hydrographic community learned, with sadness and respect, of the passing of Richard Michael Eaton, always known as Mike to his hydrographic colleagues, on 9 October 2014 at his home in Cole Harbour, Nova Scotia, Canada at the age of 86. Coincidentally, he passed away as the International Hydrographic Organization was meeting in Monaco for its 5th Extraordinary Conference, where it agreed new conditions for the award of the Prince Albert 1st Medal for Hydrography. In future, the medal will be awarded to recognize the “heroes of hydrography”. Undoubtedly Mike Eaton was one of those “heroes of hydrography”.

Mike Eaton, born in 1928 near Hull, United Kingdom, migrated to Canada and joined the Canadian Hydrographic Service in Ottawa in 1957 after serving in the UK Royal Navy as a hydrographic surveying officer.

As he explained in an interview with the magazine *Hydro International* in 2005, there were three major overlapping phases in his Canadian hydrographic career: Arctic developments in the Canadian Hydrographic Service, positioning systems development while at the Bedford Institute and electronic chart development after his retirement. In the Arctic he found ways to acoustically measure the depth beneath the ice and he also developed a somewhat precarious technique that involved towing an echo sounder transducer from a low-flying helicopter over broken ice and open water to measure water depths. At the Bedford Institute he worked on the propagation of the radio ground waves used by Decca, Loran-C etc. From 1988 he became deeply involved in the specifications for the Electronic Chart Display and Information System (ECDIS), and was keen to listen to the users’ voice which led him to guide the development of the display standards for ECDIS as the Chair of the IHO Working Group on Colours and Symbols.

He began his ground-breaking work on the standardization of the display of chart information in ECDIS; at an age when others start to think about retirement. Digital charts were in their infancy at that time: personal computers were not yet powerful enough to process mass data; monitors were mostly black and white and with only low resolution and the idea of relying upon software driven devices on board ships sounded like science fiction. Inspired by the early attempts to

visualize digital charts based on vector data, Mike Eaton began to design and specify the core of digital charting: the digital symbolization of the information contained in the chart. Logically, he started to adapt paper chart symbology to the technical capabilities and in many ways at the time, the limitations of a computer screen. But he went way beyond this because he realized at an early stage the potential additional capabilities available through a computerized display of charts of the oceans and waterways. We must credit him with breakthrough concepts such as a range of standardised colour tables to enable the chart display to be adapted for ambient light conditions (day, night or dusk) and conditional procedures that enabled the presentation of features on the bridge display to be adjusted automatically according to the situation at hand. Mike Eaton experimented at length and with characteristic thoroughness, for example, on how closely two shades of blue could be displayed on a screen before the eye could not distinguish between them. The development of IHO Publication S-52 - *Specifications for Chart Content and Display Aspects of ECDIS*, one of the two governing standards for ECDIS, benefited hugely from his personal input for more than a decade. Much of his original input remains as a foundation and fundamental principle of the standard today. His work was key in making ECDIS a reality and his legacy endures in current ECDIS units to this day.



Mike Eaton was a courtly and modest man who always retained his British reserve. Humble and reluctant to acknowledge his outstanding contribution, it was most pleasing that his efforts and lasting legacy was recognized by Canada when he was awarded the Canada Marine Safety Award in 2000 and appointed to the Order of Canada in 2004. The citation for his award read:

With vision, innovation and ingenuity, Michael Eaton has made outstanding contributions to the advancement of hydrography in Canada. Scientist Emeritus with the Canadian Hydrographic Service, he developed techniques to accurately map frozen bodies of water and combined various positioning systems to more precisely survey ocean waters. Renowned nationally and internationally as the “father of the electronic chart”, he envisaged a computerized version of the traditional marine chart. This electronic chart has become a common navigation tool for many shipping and recreational vessels, contributing to greater marine safety around the world.

If there will ever be a Hall of Fame for digital nautical cartography, Mike Eaton’s commemorating plaque will occupy a prominent place.