

Developments and benefits of marine geospatial data derived from remotelysensed satellite imagery

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This paper reviews the methodology and real world case studies related to deriving marine geospatial data, including bathymetric survey, seabed classification, and water quality monitoring from commonly available georeferenced imagery. The recent and planned launches of enhanced high resolution imagery satellites by government agencies and commercial operators is enabling broad area coverage with increased refresh frequency. Combined with a new approach and methodology for imagery analysis and processing called Modular Inversion Program (MIPS), these systems now enable rapid and cost-effective global marine geospatial data creation without the need to deploy equipment and resources.

These data services enable a wide range of evolving applications including dredging monitoring, environmental monitoring of offshore construction, ecological status monitoring coastal zones, natural disaster risk analysis, algae bloom tracking, and fresh water quality monitoring.

These new techniques and the impact on hydrographic surveying will be reviewed through a number of case studies including samples of project work delivered to the United Kingdom Hydrographic Office (UKHO), Geological Survey of Ireland (GSI), and GMES FRESHMON. In addition, the current and planned state of appropriate satellite imagery platforms and detailed review of the processing system components will be explored by this paper.

Biography

Robert Carroll represents Proteus FTC and its EOMAP marine geospatial services in North America. He has worked with federal and local government agencies to improve work flow efficiencies through remote sensed information. With 25 years of experience in the geomatic and remote sensing industry, he has worked globally with industry leading companies including pictometry, Hitachi, and Esri. He has been widely published in many geomatic and industry specific journals and has spoken around the world at numerous conferences.

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