

LINZ New Zealand Hydrography Risk Assessment

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SUMMARY

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Land Information New Zealand (LINZ), the New Zealand Hydrographic Authority (NZHA), is undertaking an evidenced based risk assessment of maritime traffic within New Zealand waters to identify areas of risk. The risk assessment is based on the novel methodology developed during the South-West Pacific Regional Hydrography Programme (SWPRHP) with the Ministry of Foreign Affairs & Trade (MFAT). The methodology uses a GIS based risk model of 30 layers with a level of risk assigned to each cell within the layer. The cell resolution varies from ports & harbours, to the Territorial Sea limit, to the EEZ, with greater granularity in the ports & harbours where vessel movement becomes more critical. The layers include environmental, cultural and economic factors, as well as chart quality information and seabed characteristics.

The GIS is used to analyse each layer against actual vessel track information taken from vessel Automatic Identification System (AIS) data along with other geospatial data sets to produce a simple heat map based on comparative risk level. The risk criteria, used to build the model, were developed to reflect the NZ maritime environment in terms of traffic profile as well as environmental, cultural and economic consequences, which are considerably different to those represented in the SWPRHP risk model.

The result will enable LINZ and key stakeholders, notably Maritime New Zealand the national maritime regulator, to prioritise a long term survey and chart improvement programme. This presentation will describe the process and present preliminary results.