A digital tool for visualising integrated environmental, economic and sociocultural models for Gladstone Harbour

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In a data rich world, extracting and visualising a meaningful signal from the noise is becoming increasingly difficult but nonetheless remains important. Triple and quadruple bottom line analyses are driving integration of environmental health, social, cultural and economic metrics for whole-of-system understanding. Tools that enable immediate and on-demand connectivity are also becoming commonplace, escalating community expectations regarding information access. Together, these two trends are driving development of tools that enable transparency of our understanding of the world around us. This phenomenon has been pronounced in and around the industrial harbour city of Gladstone, a region of intense coastal development among prized environmental locations. It is also home to a community that value coastal activities which is expressed as intense community ownership of the health of “their” harbour. The Gladstone Healthy Harbour Partnership has built a Data and Information Management System by combining modified open source and bespoke software that integrates environmental, economic and sociocultural data for presentation to stakeholders and community in an understandable form without losing the detailed data from which the summaries are derived. This system ingests raw field data from disparate organisations and in the process, enables both manual and automated quality checks. Once data gathering is complete, it is then integrated by a master model to produce a summary “report card”. Annual repetition of these report cards is starting to build a time series of whole-of-harbour assessments. The system also tracks the provenance of data and data treatments, as well as algorithm versions for the various models and treatments.