

Published on *Marine Ecosystems and Management (MEAM)* (<https://meam.openchannels.org>)

EBM Toolbox: Six Field-tested Tools for Comprehensive Marine Spatial Planning and MPAs

By Sarah Carr

Editor's note: The goal of The EBM Toolbox is to promote awareness of tools for facilitating EBM processes. It is brought to you by the EBM Tools Network, an alliance of tool users, developers, and training providers

There are dozens of software-based tools that can be used to support comprehensive marine spatial planning projects and the planning of marine protected areas. Such tools can help stakeholders to:

- Define their social, economic, and ecological objectives;
- Develop geographically explicit plans, policies, and regulations;
- Estimate the degree to which plans, policies, and regulations will meet defined objectives; and
- Monitor performance of protected areas and zones at meeting defined objectives.

Not all tools will fit all projects, though. Some tools have been applied more widely and successfully than others over time. These field-tested, useful tools for MPAs and comprehensive marine spatial planning include, in alphabetical order:

Cumulative Impacts Model

A method for mapping the impact of human activities on marine ecosystems. Steps in the mapping process include gathering or creating maps of human activities that impact marine ecosystems, estimating the ecological consequences of these activities, creating a cumulative impact map, and ground-truthing impact scores. The resulting cumulative impact map helps users evaluate where best to site activities and focus conservation efforts.

Integrated Valuation of Ecosystem Services, or InVEST

A suite of spatially-explicit ecosystem service models. InVEST allows users to map and model ecosystem service flows and their changes under alternative management scenarios, and can be applied at multiple scales in coastal and marine regions.

MarineMap

A web-based decision-support tool that allows users to visualize the social, economic, and ecological attributes of coastal areas; spatially locate uses and activities; assess the application of uses relative to guidelines, ecological conditions and socio-economic factors; and share information and analytical results with others. Note: MarineMap is currently being replaced by second-generation tools including SeaSketch and Madrona.

Marxan with Zones

An extension of the popular Marxan conservation planning software. It allows users to allocate land and sea parcels to multiple zones, each with their own targets, planning unit costs, and biodiversity benefits. This allows users to create zoning plans that meet a variety of conservation and human-use objectives while minimizing total cost of implementation.

Multipurpose Marine Cadastre

An integrated marine information system that provides authoritative and up-to-date ocean information, including offshore boundaries, infrastructure, human use, and energy potential. It allows users to assess suitability of sites or zones for ocean uses such as wind energy facilities.

Links to case studies on each of these tools are available at <http://openchannels.org/tools/field-tested-tools>.

[Sarah Carr is coordinator for the EBM Tools Network. Learn more about EBM tools and the EBM Tools Network at www.ebmtools.org.]

Source URL: <https://meam.openchannels.org/news/meam/ebm-toolbox-six-field-tested-tools-comprehensive-marine-spatial-planning-and-mpas>