This thesis is about the use of map-based decision support tools in policy workshops to support planning processes with conflicting objectives of stakeholders. It proposes a methodology that includes tools to facilitate collaborative work around digital maps and that can be applied in stages of a planning process. The methodology comprises three types of tools, a hardware instrument called ‘the Touch table’ and three types of face-to-face workshops.

The thesis is based on five research articles. The first article describes the development of an analysis tool that supports the integration of stakeholder knowledge for designing and evaluating land use plans. The second article presents a negotiation tool that supports the collaborative allocation of land use amidst conflicting objectives. The third article describes an empirical approach to analyze the effectiveness of map-based tools for collaborative planning. Finally, the fourth and fifth articles demonstrate how the tools can be linked to the Touch table and successfully incorporated through policy workshops in two different planning processes: the fourth article describes a series of land use planning workshops for a peat-meadow polder in the Netherlands; the fifth article describes a series of workshops with stakeholders of the sea-use allocation process for a coastal area in Scotland.

The proposed methodology proves to be a valuable tool for communication, integration of stakeholder knowledge and consensus building at different stages of a planning process.