



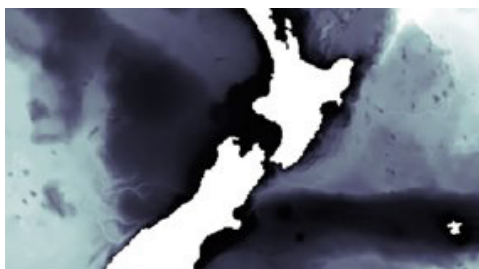
Revolutionising ocean forecasting

Bringing together 54 experts from across 14 national & international organisations, the Moana project is changing the way we see our seas.

With one of the world's largest Exclusive Economic Zones, New Zealand's ocean provides vital social, cultural, economic and environmental benefits.

The Moana Project, spearheaded by MetOcean Solutions, the oceanographic division of the New Zealand MetService, is a five-year ocean research project funded by Ministry of Business, Innovation and Employment. It aims to improve understanding of coastal ocean circulation, connectivity and marine heatwaves to produce information that supports sustainable growth of the seafood industry, iwi initiatives and how we manage our marine environments. The project does this through four project workstreams:

Te Tiro Moana – Eyes on the Sea: Increasing the number of ocean observations available, so that we have better data about our ocean. This includes developing a smart sensor which can be deployed on commercial fishing gear to dramatically increase the number of observations, and quality checking and making available in one easy-to-use database existing data held by NZ organisations.



Ngā Ripo o Te Moana - Whirlpools of the Ocean: Improving ocean models using ocean observations and up-to-date physics, allowing us to predict ocean circulation, temperature and particle transport, including by forecasting marine heatwaves. In addition to our New Zealand-scale model, we are doing high-resolution zoom-in models in the Bay of Plenty, Hauraki Gulf and Kaikoura.

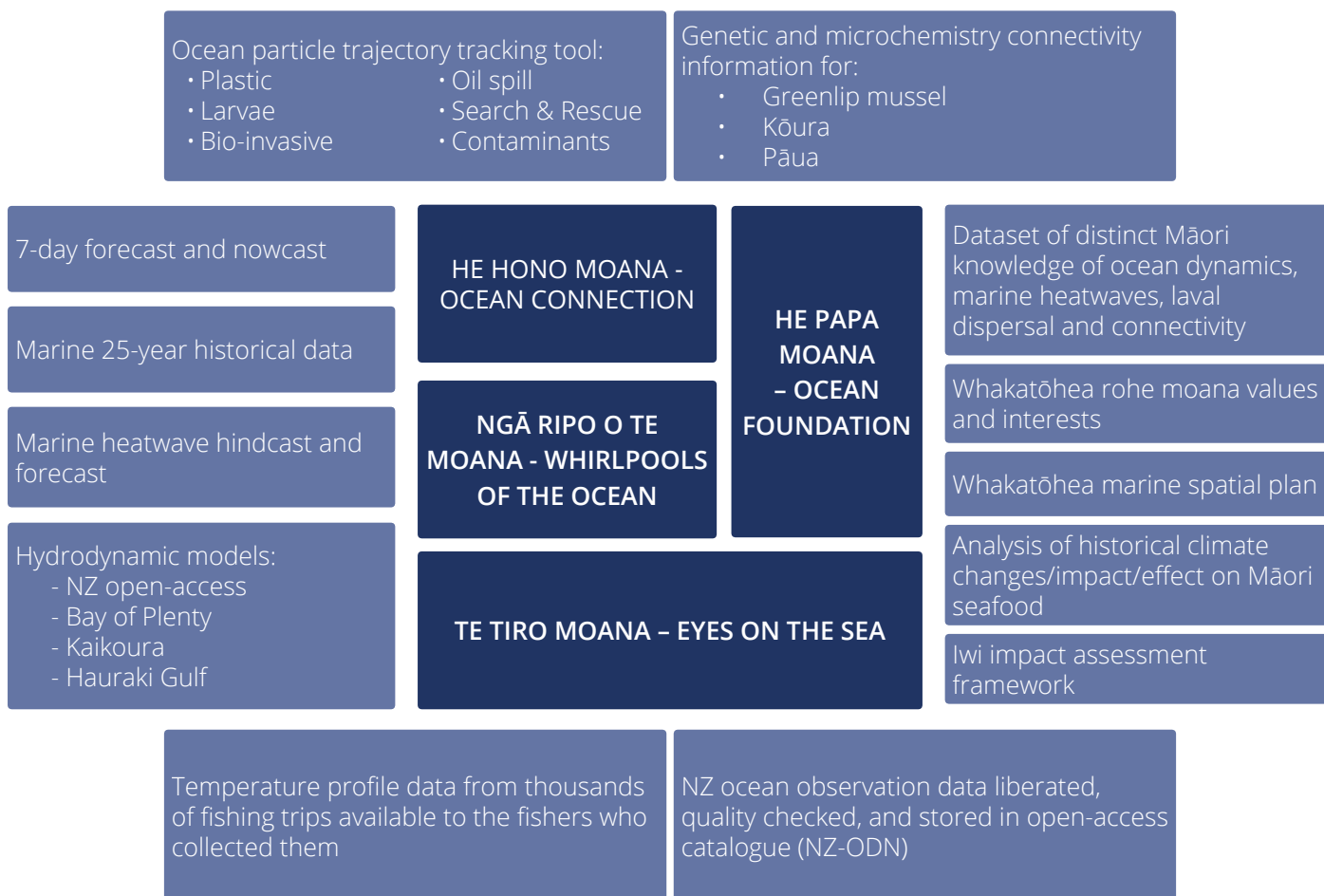
He Hono Moana - Ocean Connection: Determining the connectivity of important kaimoana species through genetics, microchemistry and mātauranga Māori, supported by ocean modelling. We are looking at this nationally and also using the zoom-in models to examine connectivity in the Bay of Plenty, on Ninety Mile Beach, and Kaikoura.



He Papa Moana – Ocean Foundation: Bringing together ocean modelling, kaimoana connectivity and iwi aspirations to help further iwi interests and marine management within a cross-cultural ocean knowledge platform. This research explores traditional waka voyaging and mātauranga relating to changes in ocean temperatures as well as the effects of a changing climate on Māori fisheries.

The Moana Project produces a range of outputs of value to different ocean stakeholders. These include quality checked ocean observations, open-access hydrodynamic models, NZ-wide and regional historical ocean data and forecasts, including for marine heatwaves. Our tools will allow the tracking of kaimoana larvae and other particles within our seas, including in great detail in the Bay of Plenty, Kaikōura and the Hauraki Gulf. And in the Bay of Plenty, our Whakatōhea case study will provide a spatial plan to help secure Whakatōhea interests, as well as a tool to help determine the impacts on iwi from changes in our seas.

Moana Project Outputs:



The Moana Project is led by:

