

# Annex 5 – Prediction of oil movement and behaviour



Chatham Islands Council

## Prediction of oil movement and behaviour



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# TRAJECTORY MODELLING

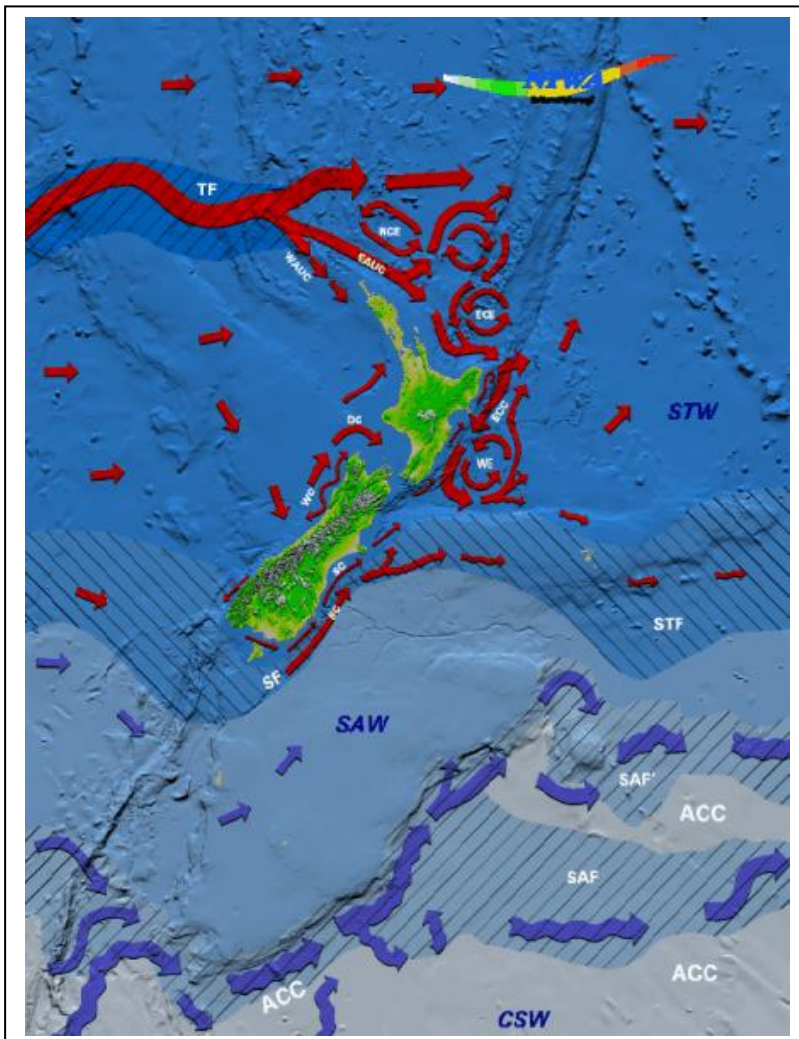
MNZ has the oil spill trajectory modelling software "OilMAP" which has the ability to model the movement of spills around the Chatham Islands. To request an OilMAP trajectory model to be undertaken contact the OSDO ph 04 473 6369.

## 1.1.1 Tidal Flows

### New Zealand Pilot Details

Tidal Streams are felt for a distance of 10 to 15 miles from Chatham Islands. With a rising tide the stream divides at the S extremity of the group and sets N along the E and W sides of the islands to join N of them. With a falling tide the stream divides off the N end and unites off the S extremity. The streams may be strong in the vicinity of the islands.

## 1.1.2 Coastal Currents



Mean ocean circulation legend:

- TF = Tasman Front
- WAUC = West Auckland Current
- EAUC = East Auckland Current
- NCE = North Cape Eddy
- ECE = East Cape Eddy
- ECC = East Cape Current
- WE = Wairarapa Eddy
- DC = D'Urville Current
- WC = Westland Current
- SC = Southland Current
- SF = Southland Front
- STF = Sub-Tropical Front
- SAF = Sub-Antarctic Front
- STW = Sub-Tropical Water
- SAW = Sub-Antarctic Water
- CSW = Circumpolar Surface Water
- ACC = Antarctic Circumpolar Current

The mean ocean circulation diagram above shows that the predominant ocean current around the Chatham Islands flows in a west to east direction.

### 1.1.3 Water Temperature

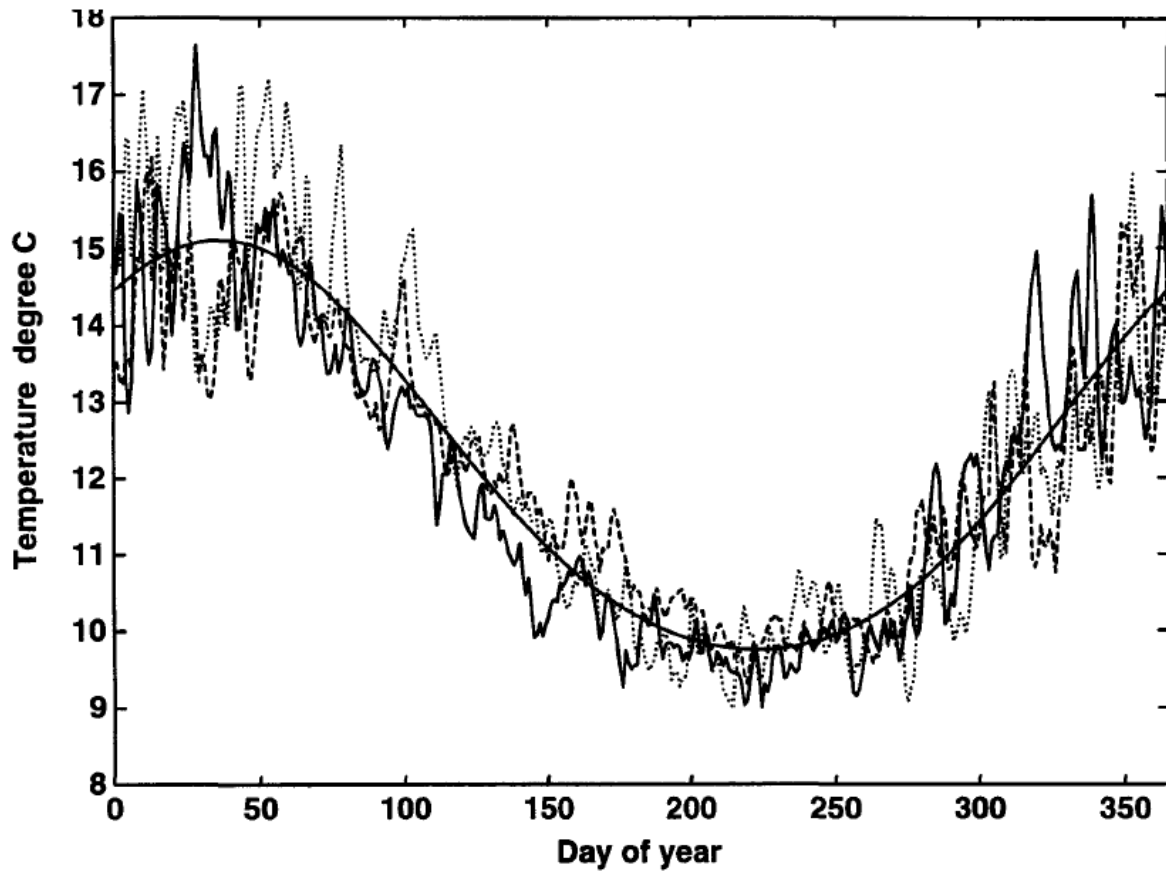


Fig. 1 Chatham Island Sea Surface Temperature (SST) data for 1992–94 and the estimated seasonal cycle. Individual years shown as 1992 (solid line), 1993 (dashed line), and 1994 (dotted line).

### 1.1.4 Weather

Up to date coastal weather forecasts can be obtained from the met service

[http://www.metservice.co.nz/default/index.php?alias=chatham\\_islandscoastal](http://www.metservice.co.nz/default/index.php?alias=chatham_islandscoastal)

or

Metphone 0900 999 78 - Chatham Islands