

New Caledonian reefs are surrounded by currents

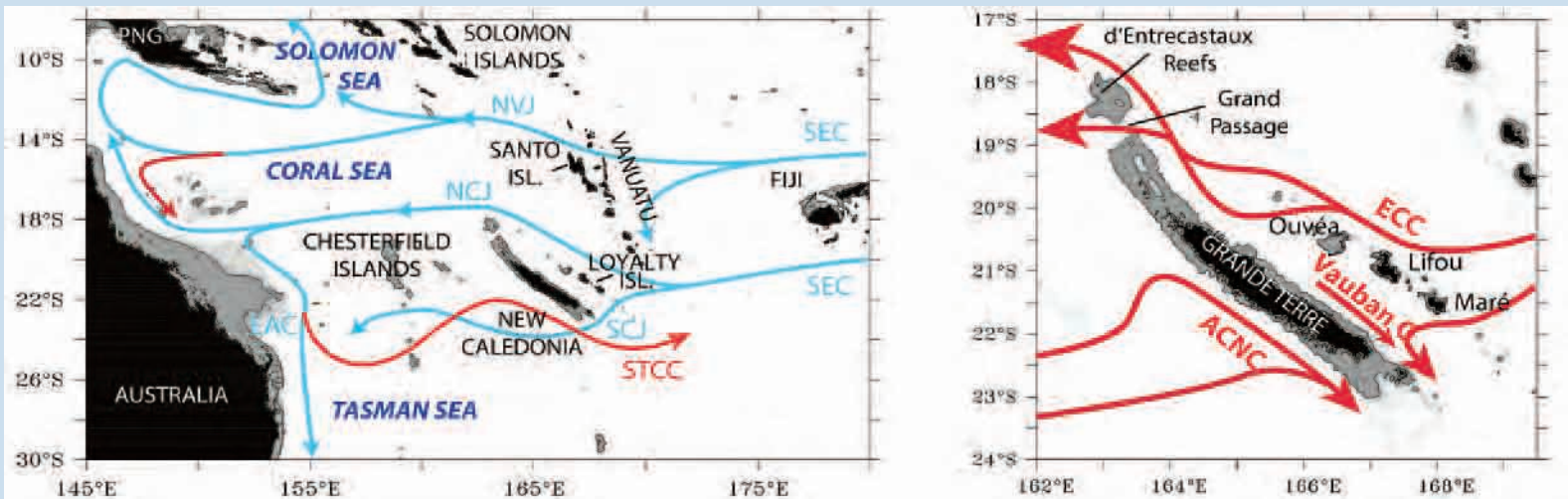
Christophe Menkès

In the southern Pacific region, the main trigger of oceanic circulation is the South Equatorial Current (SEC), which flows westward and redistributes subtropical waters towards the Equator and the Southern Ocean. Like every archipelago, New Caledonia is an obstacle to water transport and this generates coastal currents. When it reaches the Loyalty and New Caledonia ridges, the South Equatorial Current splits into two branches (MARCHESIELLO *et al.*, 2010; CRAVATTE *et al.*, 2015). One branch flows westward around the south of New Caledonia and forms the South Caledonian Jet (SCJ). A weak and variable current, the Vauban Current, generally flows southeastward along the east coast of Grande Terre. To the east of New Caledonia, the main branch of the SEC (the East Caledonian Current - ECC) passes north, around the New Caledonia Ridge, and contributes to the North Caledonian Jet (NCJ) in the Grand Passage and to the north of the d'Entrecasteaux Reefs. This current continues westward, passes north of the Chesterfield Islands and, when it reaches the east coast of Australia, splits into a northern and a southern branch. The East Australian

Current (EAC) also splits and forms the subtropical countercurrent (STCC), which flows eastward, south of New Caledonia. This countercurrent partly feeds the Alis Current (ACNC, Alis Current New Caledonia), which flows southeastward along the western margin of Grande Terre. In addition, during the warm season (November to April), trade winds, blowing from the southeast, induce an upwelling along the west coast of Grande Terre (HÉNIN and CRESSWELL, 2005; MARCHESIELLO *et al.*, 2010).

References

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Oceanic circulation around New Caledonia. Adapted from CRAVATTE *et al.*, 2015

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