



National Environmental Science Programme

Project 2.2.1 & 2.2.2

Impacts of Fly River pollution on Torres Strait environments and communities

Project Summary

This study investigates the impacts of Fly River pollution on the marine resources of the Torres Strait. River discharge from the Fly River in Papua New Guinea, which is severely impacted by mine discharges, periodically enters the Torres Strait region, however the extent and frequency of this influence and the potential ecological impacts are not well understood. Investigations are required to understand how often and to what extent the Fly River plume enters the Torres Strait region, and the characteristics of plume waters, such as sediment and contaminant loadings. The concentrations of mine-derived contaminants will be measured in waters and sediments at locations across the Torres Strait and any hotspots of contamination will be identified. The water quality data generated will allow informed management decisions to be made on how to best address trans-boundary mining related pollution.

Problem

Torres Strait Islanders depend on their marine resources for food, livelihoods and cultural activities. Knowing the status of water quality is important for the health of these systems. Discharges from the Fly River may periodically transport waters and mine-derived sediments to some regions of the Torres Strait. The contaminants they carry threaten the quality of marine resources, however the extent and scale of this threat is unknown, particularly as future climate projections are for more rainfall extremes.

How Research Addresses Problem

A combination of field observations and modelling will further understanding of how discharges from the Fly River might impact the Torres Strait region. Trace metal concentrations in marine waters and sediments will be measured at locations across the Torres Strait and any potential hotspots of contamination identified. The information generated will allow informed management decisions to be made on how to best address trans-boundary mining related pollution.



Sampler deployment and ranger training during June 2015



Photo: Jane Mellors

Preparing samplers for deployment

The project involves scientists from James Cook University, CSIRO, the Australian Institute of Marine Science, the University of New South Wales, the University of Algarve (Portugal) and C₂O Consulting who will contribute expertise in a wide range of areas including hydrodynamic modelling, sediment transport and contaminant biogeochemistry, water quality data analysis and interpretation and marine biology. Logistical support will be provided by the Torres Strait Regional Authority.

A combination of information including satellite images, water quality measurements and models of river discharge, tides and currents will be used to predict the extent of influence of Fly River discharges into the Torres Strait region.

This project will involve the assistance of local communities in providing information on the incidence of plume events. Regular updates on the project will be given to local communities and community leaders through newsletters and presentations.

Further information

See www.nesptropical.edu.au or contact:

Jane Waterhouse – JCU

T: +61 (0)409 053 367

E: jane.waterhouse@jcu.edu.au

Dr Simon Apte – CSIRO Land & Water

T: +61 (0)2 9710 6838 / +61 (0)417 497400

E: simon.apte@csiro.au



This project is supported through funding from the Australian Government's National Environmental Science Programme