



Weekly report 02.08-04.2019 SO269

On August 2, 2019, the German research vessel SONNE set off from Singapore for the SO269-SOCLIS cruise to the South China Sea led by Prof. Joanna Waniek (IOW). At more than 70 sampling stations, 26 German and 12 Chinese scientists will investigate how natural materials and anthropogenic harmful substances are distributed in the shelf area and deeper oceanic regions, which physical processes are responsible for observed patterns, how far the pollution of industrial centres and large conurbations reaches into the sea, and how different climate conditions affect the relevant processes.

Over the past three decades, China, one of the world's most densely populated countries, has experienced a massive increase of industrial and agricultural activity in the catchment areas of large river systems, washing considerable amounts of nutrients, pollutants and other critical substances such as microplastics and pharmaceutical residues into the sea. In particular, rapidly growing megacities, which can have up to 100 million inhabitants, and industrial centres on coasts and river mouths are responsible for this development. How do the immense population numbers and the continuing rapid industrialisation of these conurbations affect the pollution levels in the respective coastal seas? Can changes caused by this already be detected and is climate change likely to intensify the environmental impact? These are the central questions of the Sino-German joint project MEGAPOL (short for "Megacity's fingerprint in Chinese marginal seas: Investigation of pollutant fingerprints and dispersal"), coordinated by the Leibniz Institute for Baltic Sea Research Warnemuende (IOW), that provides the framework for the ship expedition SO269-SOCLIS (short for "South China Sea – natural laboratory under climatic and anthropogenic stress").



The interdisciplinary expedition team on board the R/V SONNE includes, besides researchers from the IOW, scientists from the universities of Hamburg and Cologne, the Helmholtz Zentrum Geesthacht

Centre for Materials and Coastal Research (HZG), the Shanghai Jiao Tong University and the Guangzhou Marine Geological Survey.

The first days on board were busy and time passed by quickly as the laboratories and instruments were prepared for the upcoming tasks, the test station gave us the confidence that we are well prepared for the cruise. Right now we are sailing to our working area, which the R/V SONNE will reach on Tuesday, in the morning of 6th of August.

On behalf of all cruise participants I'm sending our greetings from board,

Joanna Waniek

Leibniz Institute for Baltic Sea Research Warnemuende