

# M154-1

## 4. Weekly report

22.4.-24.4.2019



Mindelo- Pointe a Pitre

After all the problems that we encountered during the first three weeks the last couple of days of M154/1 were smooth. The weather calmed down and we continued to shoot infill lines for the 3D cruise until the last possible moment on Tuesday at 1 pm. Unfortunately time was about two days too short and there were still some gaps in the fold map. Recovery of the 3D seismic system took about 1.5 hours. Afterwards we started to release the ocean bottom seismometers. The first was up on deck at 4:15 pm. As two of the first four OBS came up upside down, we judged that it was too risky to recover the remaining six OBS at night time, because neither the strobe lights nor the radio beacon would work. Therefore, we ran multi-beam and Parasound profiles during the night and postponed recovery of the remaining OBS until Wednesday morning. At break of dawn we released the 5<sup>th</sup> OBS which responded and surfaced. Just as the first and fourth OBS this one surfaced upside down confirming that the new design of the OBS is deficient and justifying our decision not to release more OBS during night time. The remaining OBS were recovered until 10 am. Then we conducted another SVP cast for multibeam calibration and continued surveying with EM122 and Parasound to map the most recent deposits around Montserrat before finishing the science program at 21:00 on Wednesday and steaming towards Point a Pitre where we docked on Thursday morning at 6 am. The short transit was just long enough to pack everything and clean the laboratories. On Thursday we unloaded our equipment and packed the containers. One of the containers and the winch will stay on the ship and in Guadeloupe until M155 while the 40 foot container will be shipped back home. The seismic processing continued until Friday night onboard the vessel to provide the second leg with suitable drill site locations.

Overall the cruise was successful, but much more work than expected because of the inclement weather conditions during the first two weeks. A first the qualitative inspection of the seismic data shows that the debris avalanche had already slowed down considerably when it encountered the Kahouane seamounts and that it was probably mainly consisting of seafloor sediments at this point. The tsunami modelling will ensue once all data have been properly processed which will take at least another six months.

I would like to take the opportunity and thank all cruise participants and in particular captain Rainer Hammacher and his crew for their superb support during the cruise.

Christian Berndt  
(chief scientist)

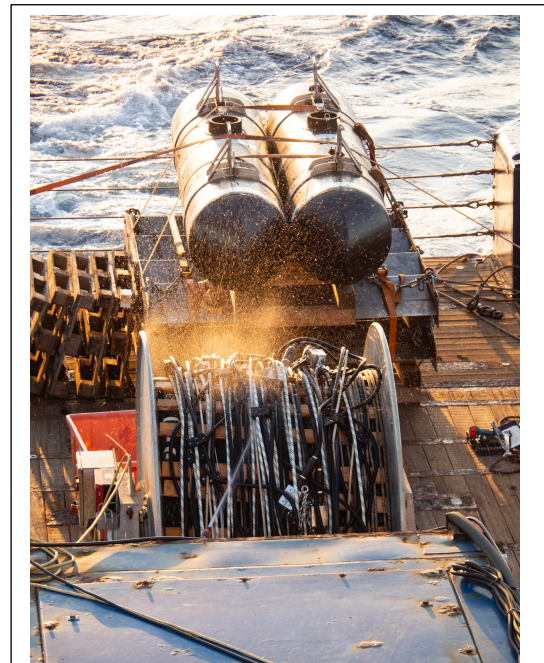


Fig. 1: Disassembled paravanes on the back deck of Sonne on the transit home.

Photograph: Insa Hollenberg.