



SACROSS

M133

(15.12.2016 – 13.01.2017)



5. weekly report from 13. Jan. 2017

The work in the Malvinas Current region and Patagonian Shelf came to a close on 11. January at 21:00 Uhr with the last MultiNet, CTD and final Argo Float deployment.

During the last days we crossed the cold northward flowing

Malvinas Current several

times and measured its dynamics and properties with several systems. In particular the east-west section along 44°39'S was intensively observed. Here the colleagues from Argentina and France have maintained a number of mooring for many years. Our



Die METEOR in Port Stanley, Falklandinseln.

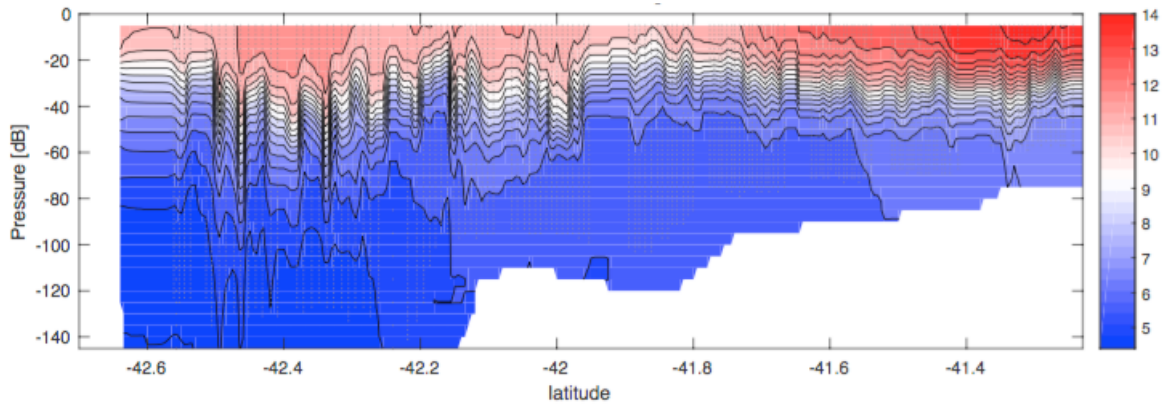
measurements are complementing the excellent time resolution from the moorings with much better horizontal resolution of the ship based systems. In particular we have made use of the relatively new RapidCast system that allowed a underway CTD profile down to 140m depths every 4-6 minutes. The winch at the stern of the ship is computer controlled and repeats the action automatically. The high spatial resolution allows to detect the presence of



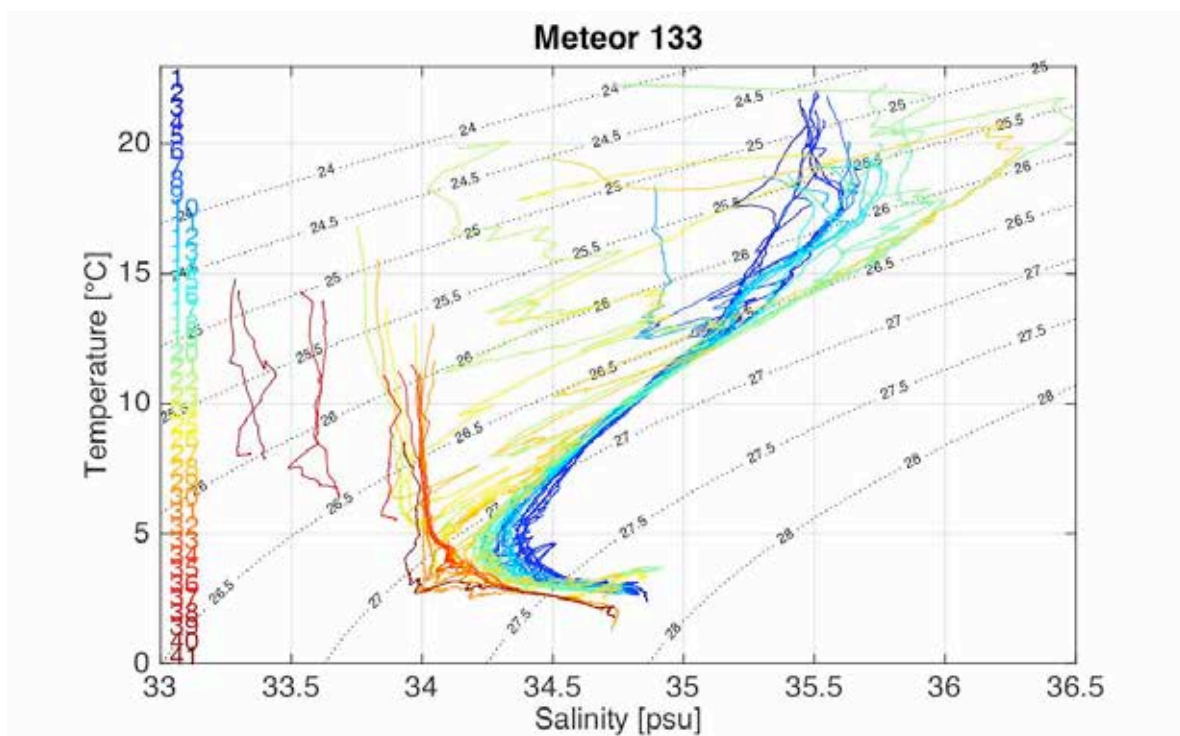
Die RapidCast Winde am Heck der METEOR spult die Leine der U-CTD Sonde ein.

internal waves and give a spectacular data set for later analysis.

The last days at sea are especially busy. The cruise report needs to be written, packing lists assembled and some preliminary analysis of scientific analysis seems in order. Our international students were busy with preparing their final reports on three exiting topics: Agulhas Eddy, Microplastics in the South Atlantic and the confluence of the Brazil and Malvinas currents.



RapidCast Temperaturschnitt vom Malvinasstrom auf das Patagonische Schelf. Man erkennt starke interne Wellen über dem Malvinasstrom, die wahrscheinlich auf den Schelf wandern und dabei starke vertikale Vermischung auslösten.



Wassermassen der M133 Reise in einem T-S Diagramm dargestellt. Man erkennt die warmen und salzreichen Oberflächenwasser am Anfang der Reise mit dem klaren Signal der Agulhas Eddies. Das Südatlantische Zentralwasser darunter und weiter tiefer das salzarme und kühle Antarktische Zwischenwasser. Am Ende der Reise sieht man das Patagonische Schelfwasser mit den geringsten Salzgehalten und dazwischen die unruhigen Mischprofile der Konfluenz Zone.

A key aspect of this expedition was to bring together early career scientist from Germany and international countries. During the cruise they were able to work

together, learn from each other and for many of them it was their first sea going ocean expedition. In the following you find several testimonials for the MyScience cruise:

*I am **Iole Orselli**, a Brazilian PhD student. When I heard about the on board training South Atlantic Research Ocean Observation from sensor to knowledge I got very interested in sending my application. My participation in this on board training was very useful to increase my knowledge regarding physical oceanography of the South Atlantic Ocean, equipment operation and to develop my skills in data analyzing. It was a great opportunity for my not only by the large experience that we can acquire on ship-base fieldwork, but also because the program and the track of the cruise fits well with my scientific interests.*

*I am **Gaston Manta**, a master in Geoscience student from Uruguay. This was an amazing and unique experience I could never had in my country. The practical and also theoretical learning was as valuable for me as the encouragement I gained to continue in the Oceanography way, hopefully with a PhD in the near future. I am pleased to have met so many nice people, friends to visit around the world now: Danke for the opportunity!*

*I am **Gabriela Bonelli**, a PhD student from Argentina: This has been one of the best experiences of my life. My first cruise! I have learned a lot about how to handle instruments and how to work with the data. Made great friends and not only sailed across my beloved Atlantic Ocean, also had the chance to enjoy a little bit of Cape Town and a little bit of the Malvinas Islands. Just loved being part of the M133.*



All international participants of M133 including six MyScienceCruise student: (Lea, Heather, Iole, Jaqueline, Anna, Gaston, Gerome, Gabriela, Daniela)

*I am **Léa Olivier**, a master student from Paris: First, I have to say that I feel really lucky to be part of this cruise. It was an incredible experience, where I learn a lot about oceanography, instruments, and people. Feeling a little bit unsure about my future as a young master student at the beginning of this cruise, I discovered the practical part of oceanography that confirmed my interest in this field. I really loved what we did on this cruise, and I can say that for once I am sure of something: I want to do it again in the future.*

*My name is **Jaqui Trassierra** and I am a Marine Biologist from South Africa. Being on the RV Meteor M133 cruise was one of the greatest experiences I have ever had. I feel so privileged to have been a part of such an exciting adventure. Not only did I learn so much more on ocean science I made amazing connections to scientists around the world. I thank everyone who contributed to my participation in the cruise. I will be eternally grateful.*



Die untergehende Sonne strahlt den Heckgalgen an bei der Ansteuerung der Falkland Inseln.

We reached the Falkland islands in cool weather with temperature below 10°C. The wind was strong but the sun still warm as she appeared between clouds.

A few exemplary statistics for the whole M133 expedition: 41 CTD stations, 19 Multinet stations, 343 U-CTD profiles, 38 RapidCast deployments with 427 profiles, 205 XBT profiles and deployed 25 Argo floats.

The positive mood remained stayed until the end of the cruise. We will miss the good food and the friendly METEOR crew. The collaboration with the captain and crew was excellent throughout the expedition.

Greetings from the Falkland Islands,

Martin Visbeck und die participants of the M133 cruise.

More information about the cruise can be found in the blog:

<http://www.oceanblogs.org/mysciencecruise>