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**Short Cruise Report**  
- **RV Maria S. Merian, cruise MSM60-2** –  
**Montevideo/Uruguay – Mindelo/Cape Verde**  
**03. Feb – 17. Feb**  
**Chief Scientist: Anja Schneeorst**  
**Captain: Ralf Schmidt**

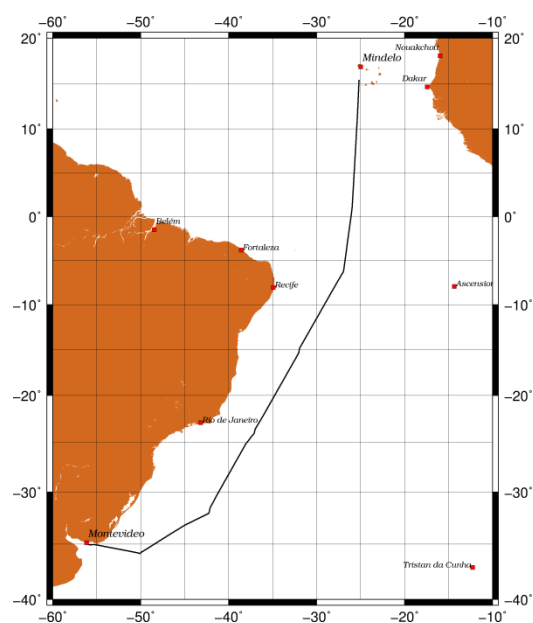


Figure 1. Track of RV Maria S. Merian, cruise MSM60-2

## 1. Objectives

During the transit, five profiling floats equipped with Argo satellite telemetry were deployed. ARGO Germany constitutes the German contribution to the global network of profiling floats which was initiated in 2000. The target of the international ARGO program is a data coverage of 1 float per  $3 \times 3^\circ$  grid cell and month over the global ocean. The aim on this transit cruise was to fill existing gaps in the global Argo array. To maintain the Argo array, national programs need to provide about 800 floats per year. At present 156 German floats contribute to the international program. At present 156 German floats contribute to the international program. To verify the first Argo profile, a CTD cast was made at each station to a depth of 2000 m. The meteorological measurements were done during the entire cruise by Max-Planck-Institute for Meteorology, Hamburg. On the atmospheric side, cloud structure and cloud base altitude were continuously monitored with two sets of visible and far-infrared cameras and a (laser based) ceilometer. This capability was used to compare and validate spaceborne laser observations with the CALIPSO satellite with track underpasses during four nights for around 2 hours. In addition, during daytime at cloud-free conditions aerosol properties and trace-gases were monitored with 6 different instruments.

## 2. Narrative of cruise MSM60-2

Maria S. Merian left the port of Montevideo on February 3<sup>rd</sup> in the morning via Northwest. After one day of transit, the first float was deployed. Due to little problems with the winch, the first verification CTD profile for this float could not be taken. Two days later, we arrived at our first Calipso satellite track. During the night, we drove exactly along the Calipso satellite track for 2.5 hours. On February 6<sup>th</sup> we arrived at our second float deployment position. After deploying the float, a CTD profile was taken. As the CTD profiles are for the floats CTD profile verifications the profiles were done to a depth of only 2000 m. On February 7<sup>th</sup> we arrived at our third float deployment position at 18:00 UTC. After deploying the float a CTD profile was taken. During the night of February 8<sup>th</sup>, the second Calipso satellite track was measured for two hours. Two days of transit led us to the fourth deployment position and after deploying, the CTD profile was made. During that night, the third Calipso satellite track was done for 2.5 hours. On February 12<sup>th</sup> the last Calipso satellite track was done during the night. The last float deployment was done on February 14<sup>th</sup>, for verification of the float profile, a CTD profile was done at that position. In total, 13 stations were carried out during cruise *MSM-60-2*.

## Acknowledgements

We would like to thank the master of the vessel, Ralf Schmidt, and his entire crew for the assistance and great support granted to us during cruise *MSM-60-2*. The close cooperation between the scientific team and the ship's team is always a key to our scientific success. Over the course of two weeks, the crew made our stay aboard RV Maria S. Merian very comfortable. Further thanks goes to the *Senatskommission für Ozeanographie*, the *German Science Foundation* (DFG) and the *Control Station German Research Vessels (Leitstelle Deutsche Forschungsschiffe)* that provided the necessary ship time, funding, and support to pursue all scientific work.

Table 1. Participants of cruise MSM60-2

<b>Name</b>	<b>Discipline</b>	<b>Institution</b>
Schneehorst, Anja	Chief scientist	BSH
Ehrhardt, Sophie	Meteorology, data analysis	MPI
Kinne, Stefan, Dr.	Meteorology, data analysis	MPI
Küster, Ulrich	Meteorology, data analysis	FUB
Mieslinger, Theresa	Meteorology, data analysis	MPI
Wang, Ping	Meteorology, data analysis	KNMI

BSH Federal Maritime and Hydrographic Agency, Hamburg, Germany

MPI Max-Planck-Institute for Meteorology, Hamburg, Germany

FUB Freie Universität Berlin - Institute for Space Sciences, Berlin, Germany

KNMI Royal Netherlands Meteorological Institute, De Bilt, Netherlands

Table 2. Stations and activities

<b>Station</b>	<b>Date</b>	<b>Time [UTC]</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Float deploy ment</b>	<b>CTD profile</b>	<b>Calipso track</b>	<b>Comments</b>
MSM-457	04/02/2017	13:07	35°43.34'S	49°52.51'W	x			
MSM-458	06/02/2017	02:30	32°03.04'S	42°15.12'W			x	Start profile
MSM-459	06/02/2017	11:25	30°21.88'S	41°23.75'W	x			
MSM-460	06/02/2017	11:35	30°21.75'S	41°23.70'W		x		
MSM-461	07/02/2017	18:31	25°03.70'S	38°01.87'W	x			
MSM-462	07/02/2017	18:38	25°03.68'S	38°01.88'W		x		
MSM-463	08/02/2017	02:49	23°59.21'S	37°05.72'W			x	Start profile
MSM-464	10/02/2017	00:08	15°23.43'S	32°03.21'W	x			
MSM-465	10/02/2017	00:18	15°23.35'S	32°02.90'W		x		
MSM-466	10/02/2017	02:09	15°18.79'S	32°02.06'W			x	Start profile
MSM-467	12/02/2017	03:01	06°15.48'S	26°58.12'W			x	Start profile
MSM-468	14/02/2017	15:17	06°08.33'N	25°39.91'W		x		
MSM-469	14/02/2016	17:38	06°08.33'N	25°39.91'W	x			