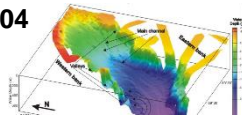
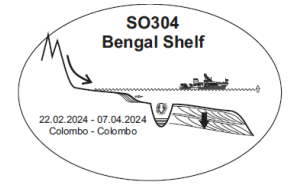
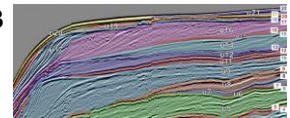


FS Sonne Cruise **SO304**
Bengal Shelf & Fan
Colombo - Colombo



Weekly Report No. **3**
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At the end of the last working week, we were actually prepared to leave our last working area at 16°30'N to steam towards Bangladesh, which was to be our focus for 4 weeks.

The program included process studies on particle transport from the Ganges-Brahmaputra river system into the deep sea, but also tracing anthropogenic input of microplastics, among other things, measuring the changes in the Ganges Delta in the last decades, especially since our last expedition SO188 in 2006, investigating processes of sediment mobilization due to earthquakes, cyclones, landslides and last but not least to quantify the reconstruction of the subsidence history of the shelf and delta over the last million years. An extensive sampling and surveying program is planned, including the deployment of a mooring in the shelf canyon 'Swatch of No Ground'.

Unfortunately, this has not happened so far, because the confirmation of our notification was still missing or was so unclear in mid-February that we could not plan and travel safely on this basis. And, the following Cruise SO305 is also affected by this, in some cases there was confusion between the two expeditions and specifications that had nothing to do with our application. This caused us to change the research program in consultation with our home country, much to the disappointment of many shipboard scientists.

But we have achieved many research results in the northern part of the Bengal Fan in the last decades, on which we could build an alternative program on. A key question was to better understand the recent delivery into the fan, which was sampled at 16°30'N, but not found in the IODP drilling transect of Expedition 354 at 8°N.

Since it is more common on geological time scales for active channels to be abandoned by lateral breaches and then the sediment is washed into the open areas, the lower part of the sediment fan is then completely or partially cut off from the supply. On our transit from the South, we were able to find such a site, and the area between 15°N and 16°N offers a unique opportunity to study the consequences of such a breach in space and time. Instead of a 1000 km long strip parallel to the channel, the entire sediment load is now deposited in a limited area, including both the coarse and fine-grained parts.

During this working week, we therefore set ourselves the task of seismically and acoustically investigating an area of approx. 8000 km² and sampling at numerous points with multicorer and gravity corer. This program was extremely successful, excellent sandy surface samples were collected, and in some cases the turbidite events in the area could be traced. Parasound and seismics were used to identify individual episodes, so that we will be able to develop a detailed picture of the evolution of such a system at home. Seismoacoustic surveys from March 3 to 6 were followed by multicorer deployments on March 6 and 7, preferably in the active transport path, in order to obtain the youngest possible material - also for microplastic studies. This was followed by further seismoacoustic mapping in order to find suitable positions for gravity corers. Coring is difficult due to the coarse-grained material, core lengths are less than 4 meters, and therefore we did spend some time on acoustic characterization in order to obtain sufficient core lengths for a reconstruction of the several thousand years of depositional history. This was

also successful on March 9 and 11, so that we can set off for Bangladesh with extensive sample and data material.

What awaits us there with regard to the interpretation of the notification documents is still completely unclear at this point, but we will probably be able to carry out a very basic program there.

Volkhard Spieß & Tilmann Schwenk