



## **Thermochronological constrain of the Nicobar Fan**

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The Bengal-Nicobar Fan is the largest submarine fan in the Earth. To constrain the thermochronological history of the Nicobar Fan, sediments from IODP Expedition 362 Site U1480 and Site U1481 were analyzed by apatite fission track thermochronology. The apatites are partially annealed, and the central ages does not provide precise information on exhumation and thermotectonic events that occurred in the source terrain. All samples failed the  $\chi^2$ -test, indicating that more than one age component is present in the obtained single grain age distribution. The best-fit solution for the combined single grain apatite fission track ages results in four age components at ca. 5, 16, 42 and 126 Ma, that record the major climatic events of the Himalayan Mountains. Subunit IIA shows a maximum depositional age of  $2.44 \pm 0.4$  Ma and Subunit IIC shows a maximum depositional age of  $10.8 \pm 3.8$  Ma. The thermal models indicate that the samples experienced paleotemperatures above  $90^\circ\text{C}$  in response to burial, which is supported by petrography observations of McNeill et al. (2017) that described a quartz cementation at high temperatures ( $>80^\circ\text{C}$ ) in the Unit II.