



ICMGP 2024
CAPE TOWN • SOUTH AFRICA • 21 - 26 JULY

**Susanne Fietz, Lynwill Martin,
Lars-Eric B. Heimbürger et al.**

**Knowledge and technology transfer to investigate
marine mercury dynamics:
SA-France collaboration**



Where the collaboration started

The project emerged from a joint interest in the international GEOTRACES programme
(International Study of the Marine Biogeochemical Cycles of Trace Elements)



Where the collaboration started

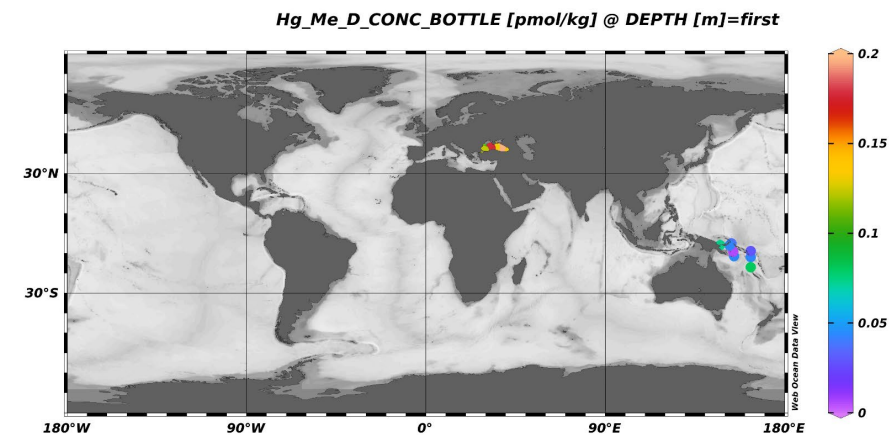
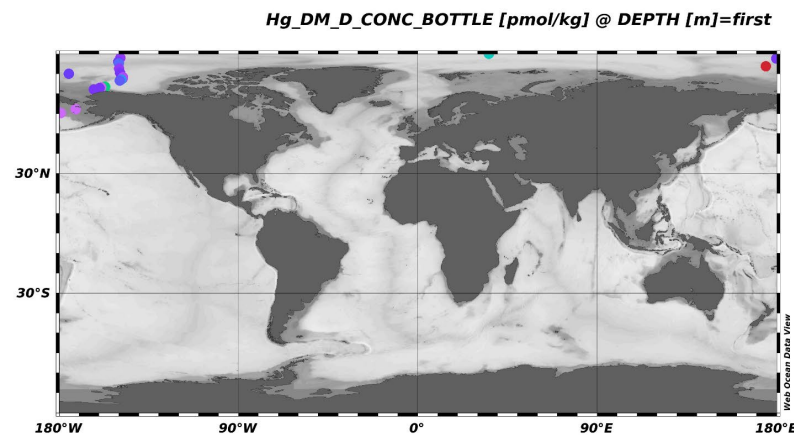
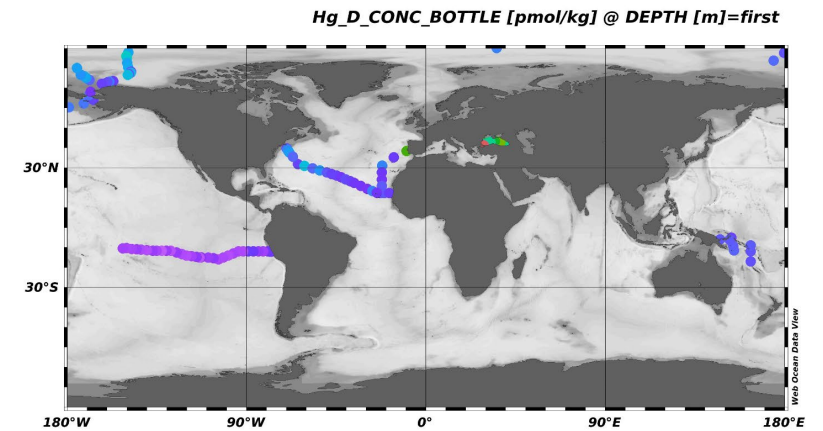
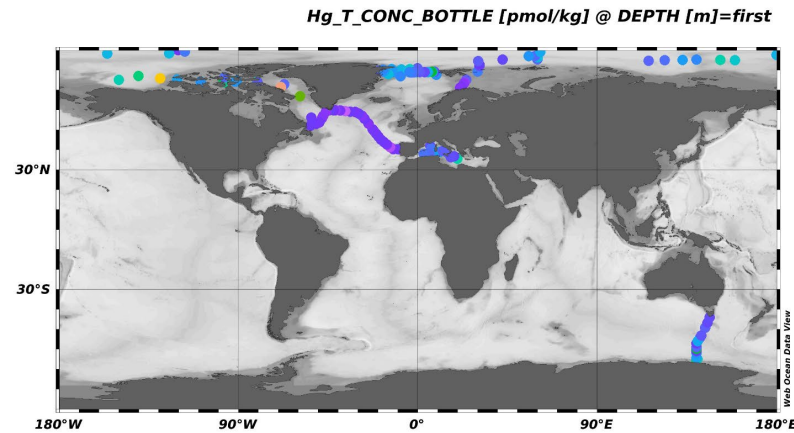
Lack of data

<https://explore.webodv.awi.de/>

GEOTRACES IDP 2021v2

Surface ocean mercury

Southern Ocean a
source or sink for
“mercury”



Where the collaboration started

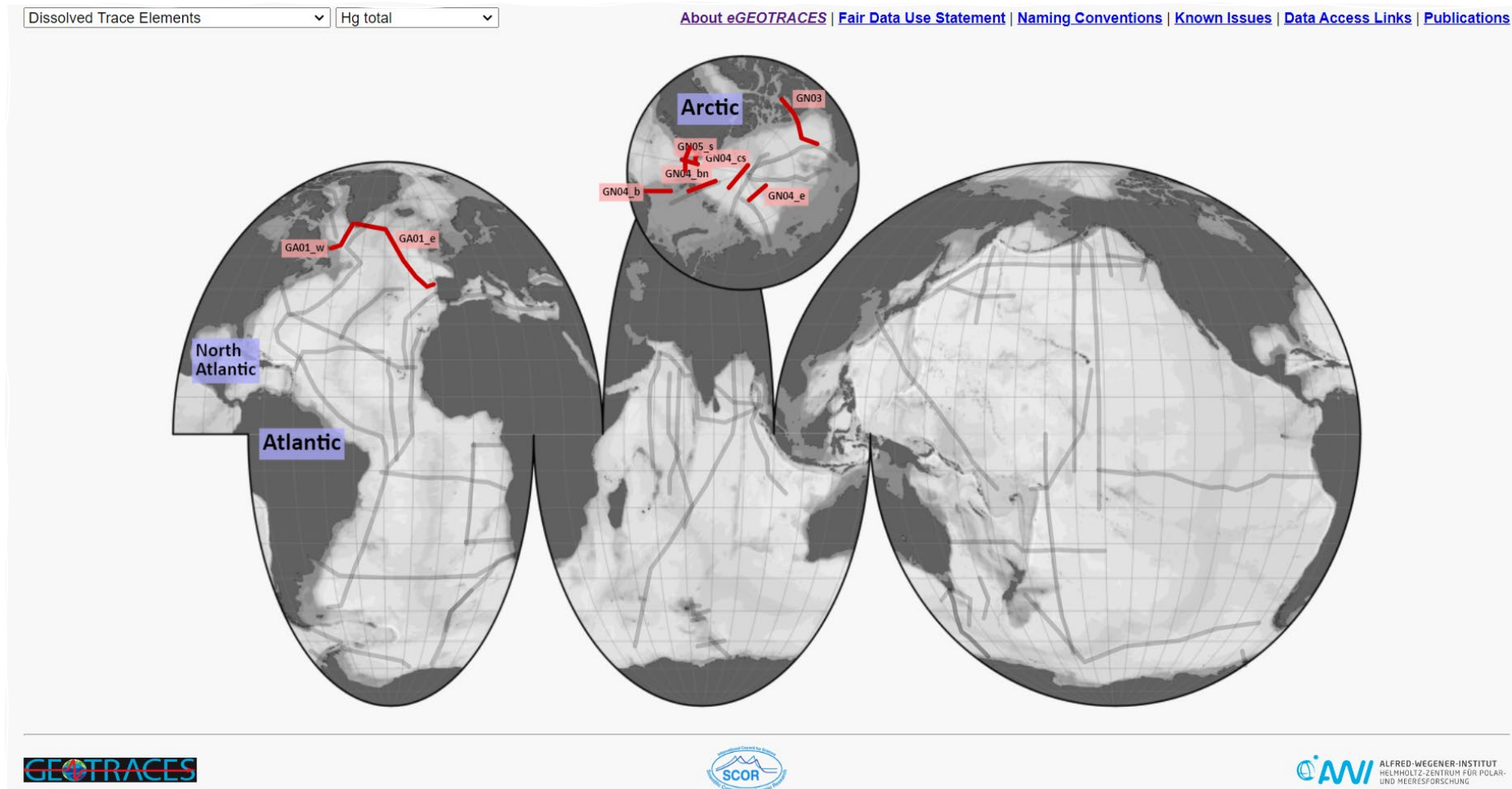
Lack of data

eGEOTRACES Electronic Atlas

GEOTRACES IDP 2021v2

Surface ocean mercury

Southern Ocean a source or sink for "mercury"



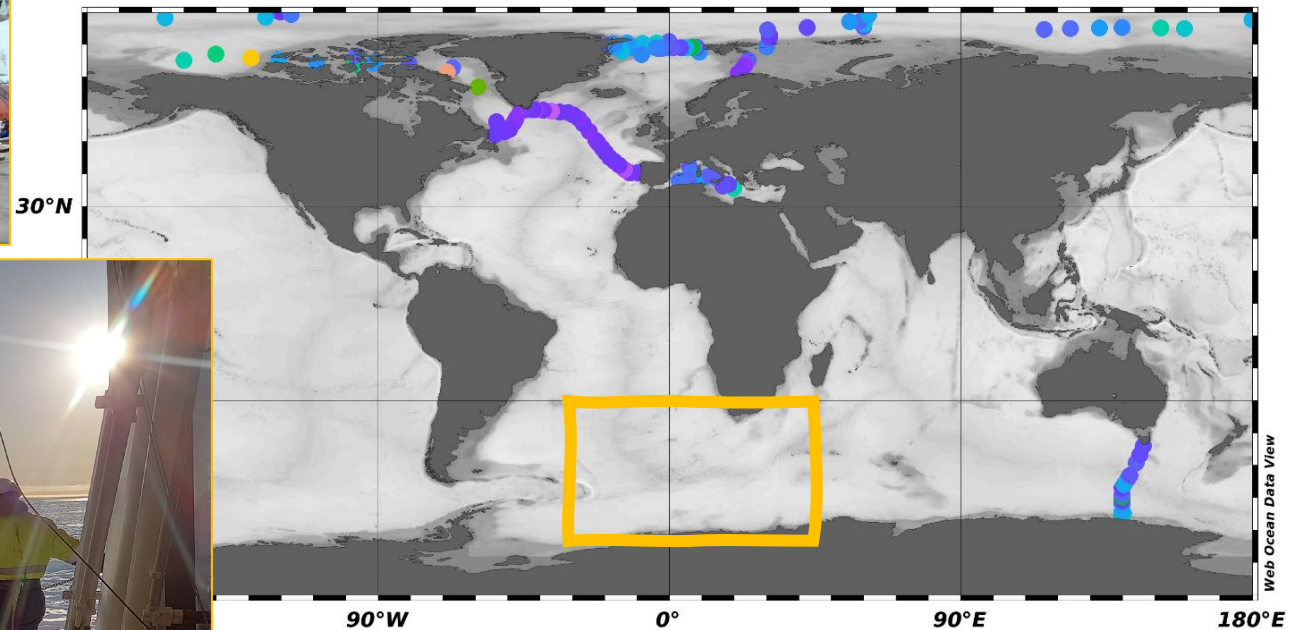
South Africa has sampling and technical skills and a gateway to Antarctica



But needs to improve the analytical skills set for (sub-)picomolar concentrations



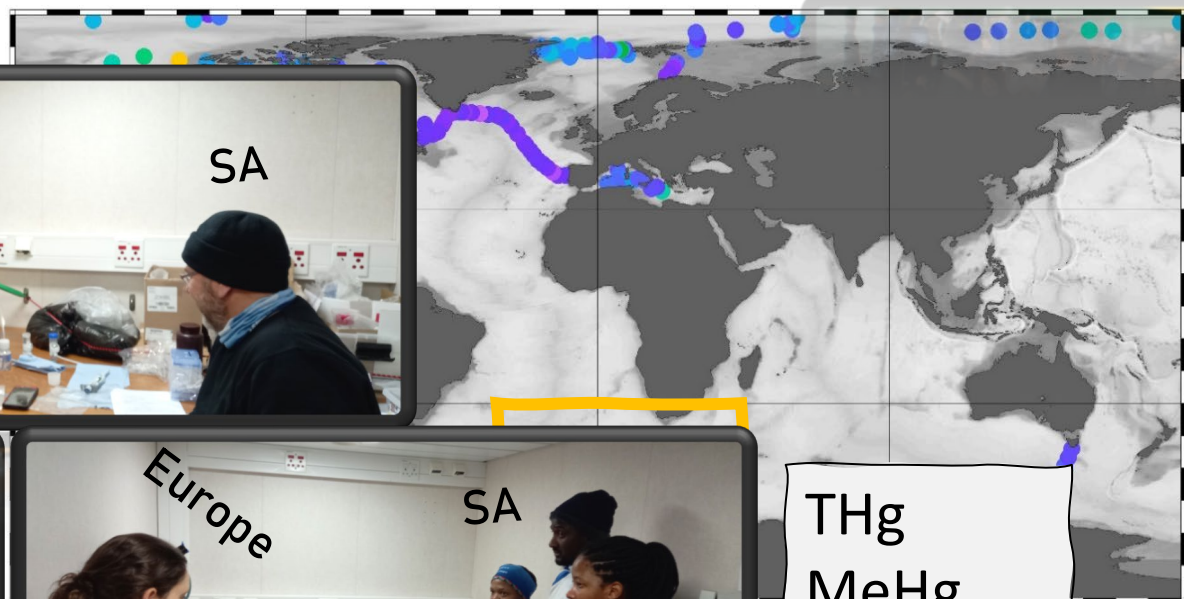
Hg_T CONC_BOTTLE [pmol/kg] @ DEPTH [m]=first





1st sample and training cruise Winter 2022

South Africa/France PROTEA Programme,
Joint expedition



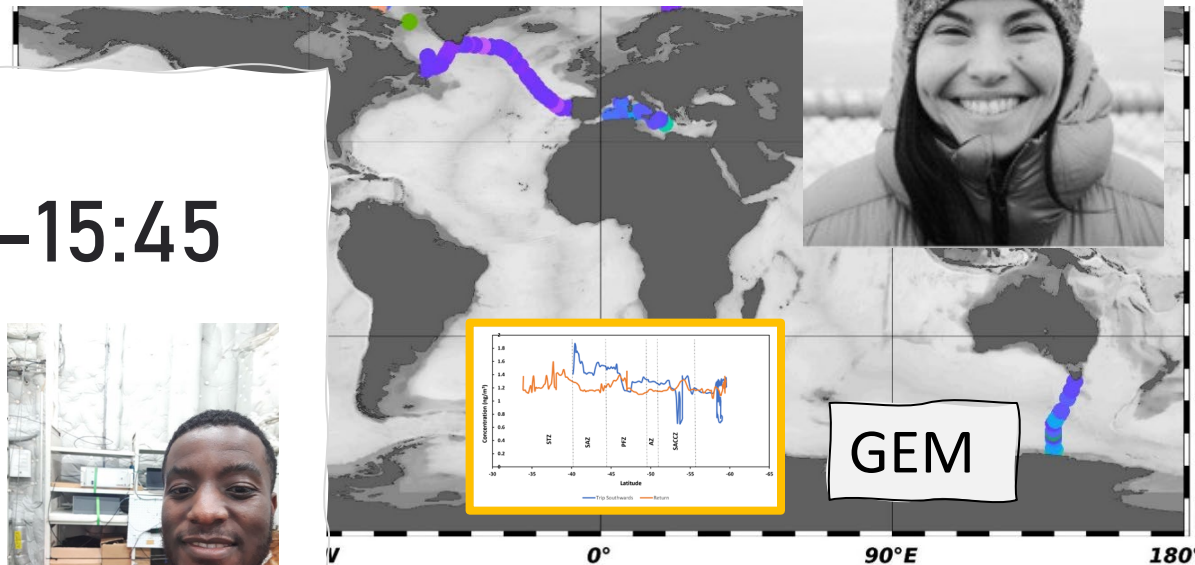
THg
MeHg
MMHg



Extended the seawater-focussed study to **atm. mercury**



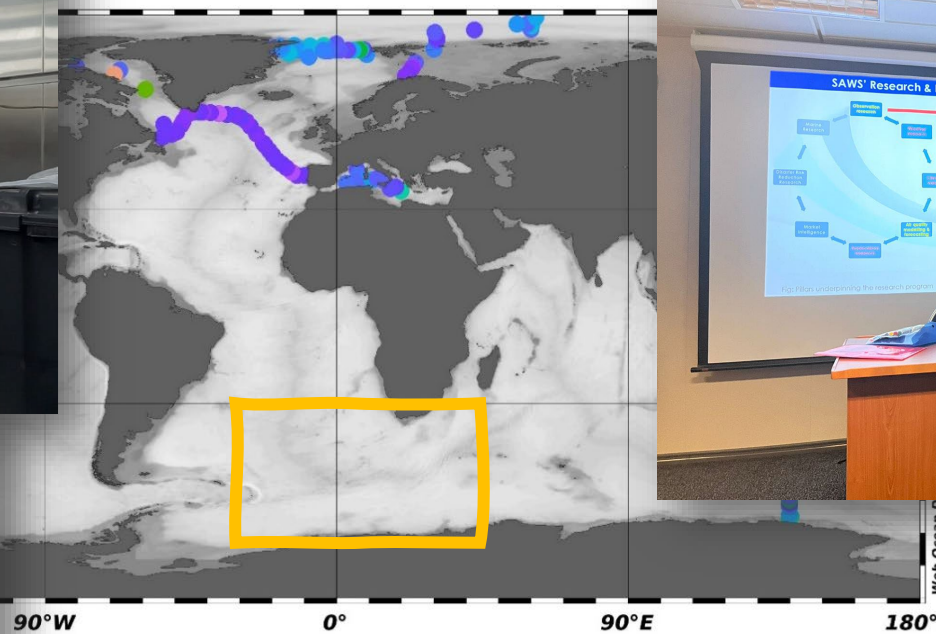
Victor Mugabe
Tue, 23 July, 15:30–15:45
Session 15:
Mercury in Polar
Ecosystems





2nd sample and training cruise Winter 2023

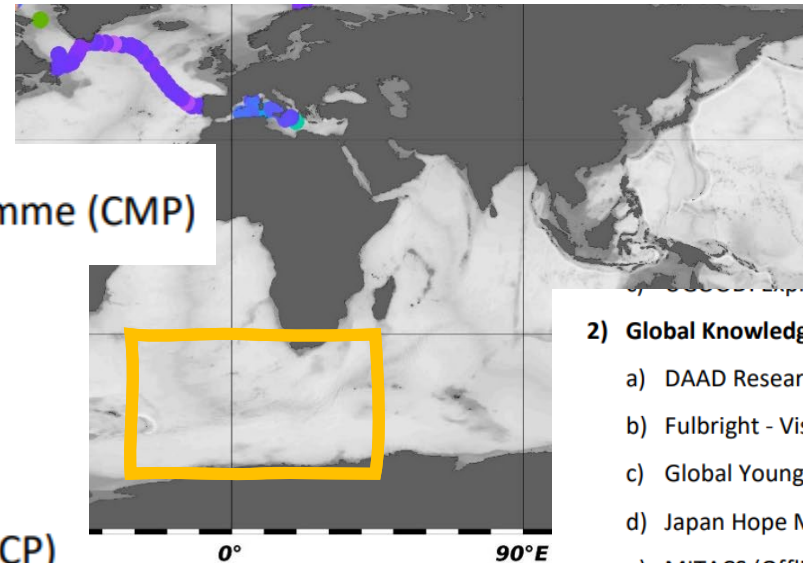
Agulhas System Climate Array ([ASCA](#)) – Southwest Indian Ocean



Future bilateral programmes

Examples 2024:

- aa) SA-Brazil (FAPESP) Scientific Seminars on HSS
- bb) SA-China YSEP Programme
- cc) SA-India STI Bilateral Research Programme
- dd) SA-Iran STI Bilateral Research Programme
- ee) SA-Switzerland Lead Agency Funding Opportunity
- o) South Africa-France PROTEA+ Cross Mobility Programme (CMP)
- w) SA - China (MOST) Joint Research Programme (JRP)
- x) SA - France (PROTEA) Call for Joint Proposals
- y) SA - Japan (JSPS) Joint Research Proposals
- z) SA - USA (NSF) Biodiversity on a Changing Planet (BoCP)



**South African
Weather Service**

2) Global Knowledge Partnerships

- a) DAAD Research Mobility Grants Programme
- b) Fulbright - Visiting Student Research (Offline) Not processed by NRF
- c) Global Young Scientists Summit (Offline)
- d) Japan Hope Meeting (Offline)
- e) MITACS (Offline) Not processed by NRF
- f) NRF-DAAD Mobility Programme
- g) YSSP (Offline)