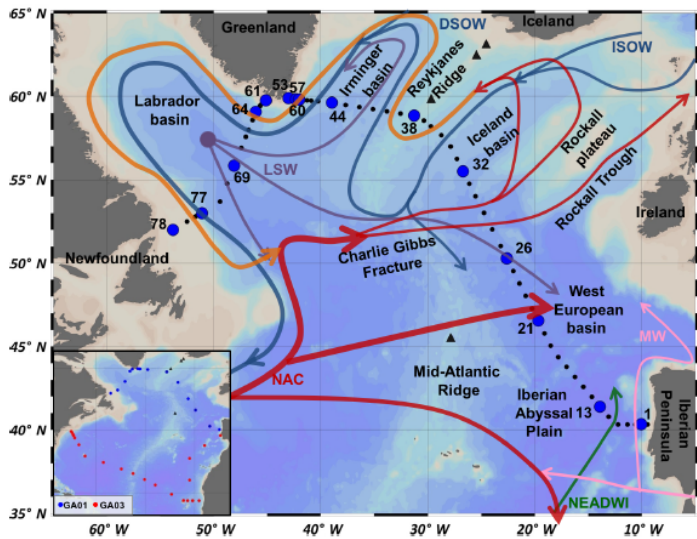


GEOTRACES: French contribution (2017-2018)

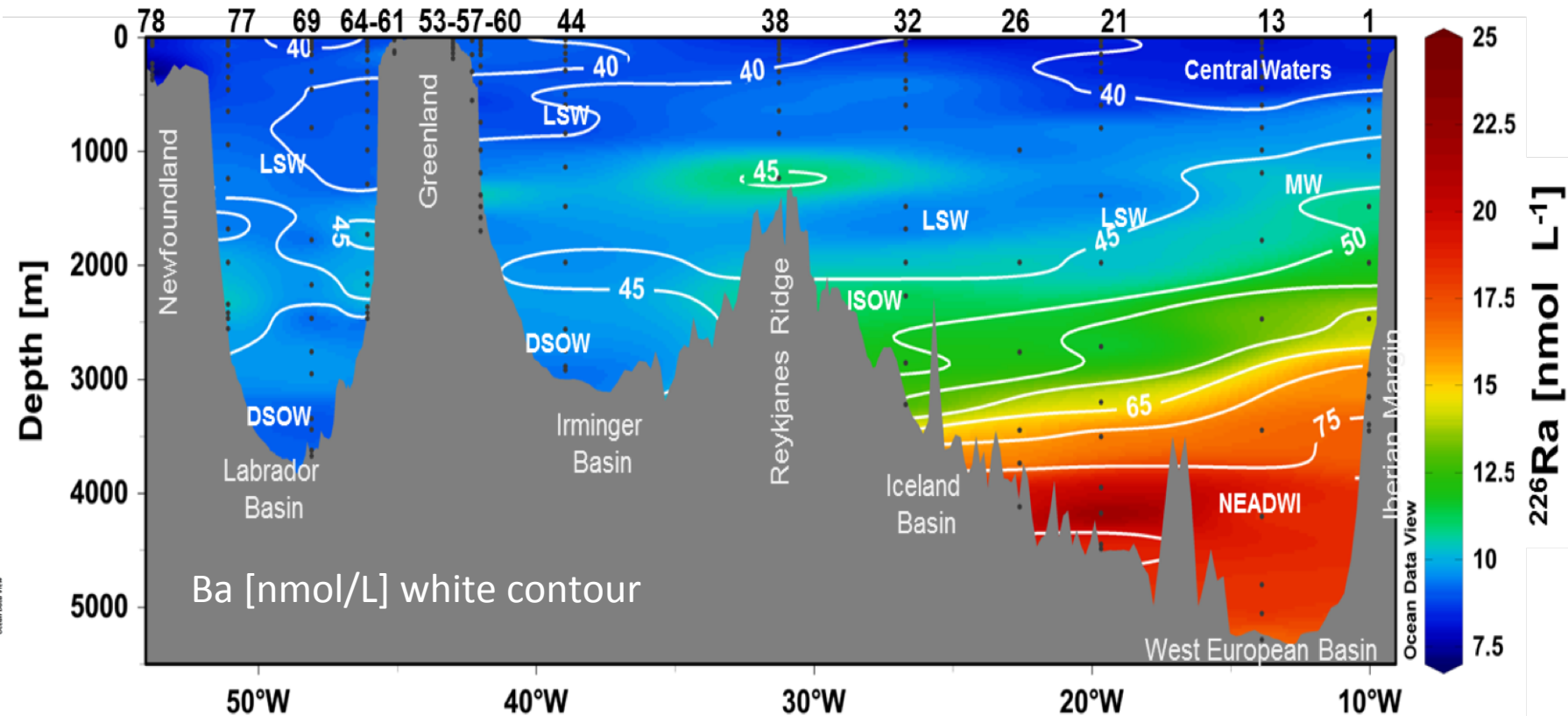
1/3. Dissolved element distribution along [GEOVIDE](#) section (GA01) in the North Atlantic : ^{226}Ra -Ba



North Atlantic & Labrador Sea



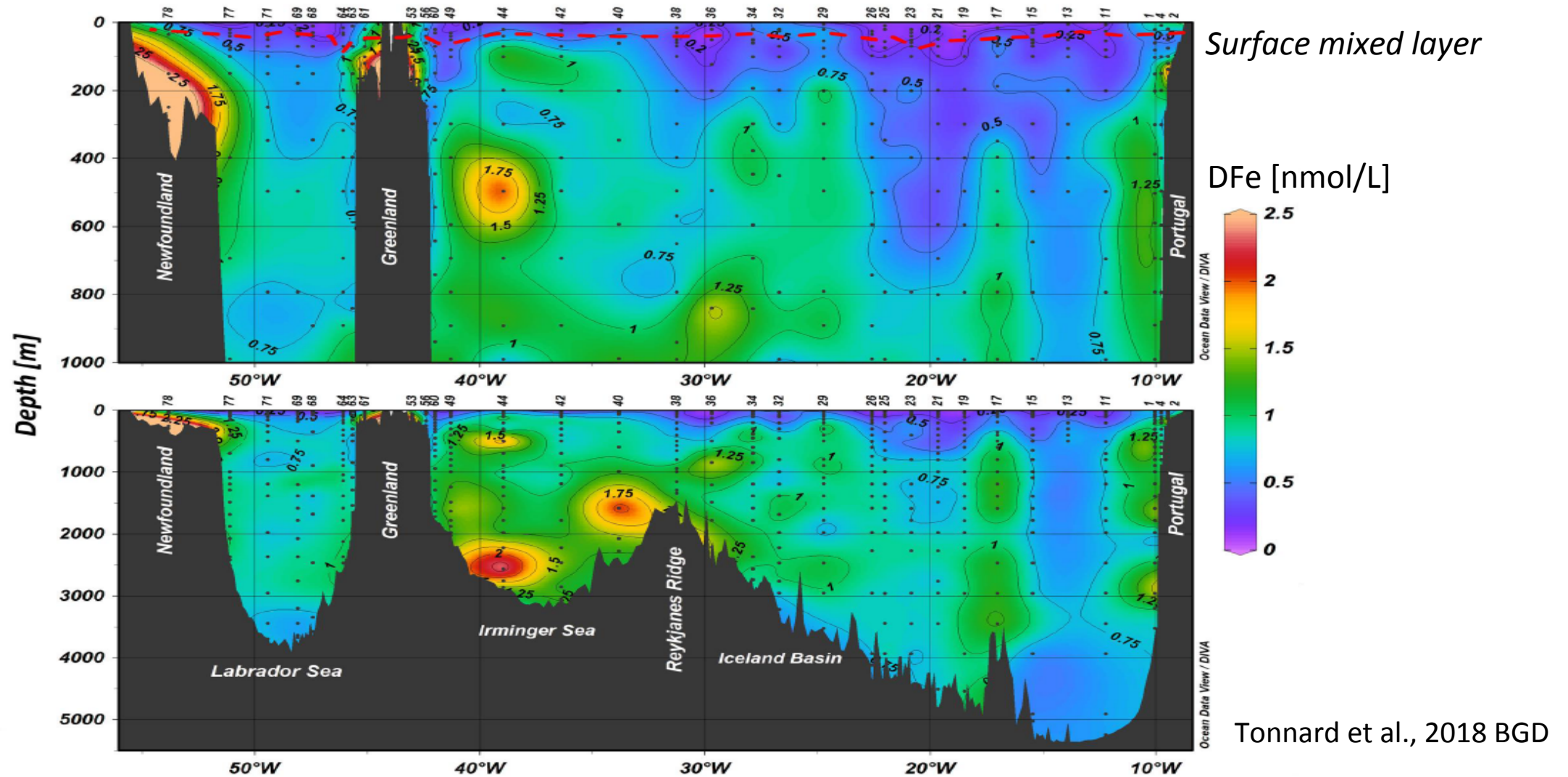
..... GA01



Le Roy et al., 2018 BGS

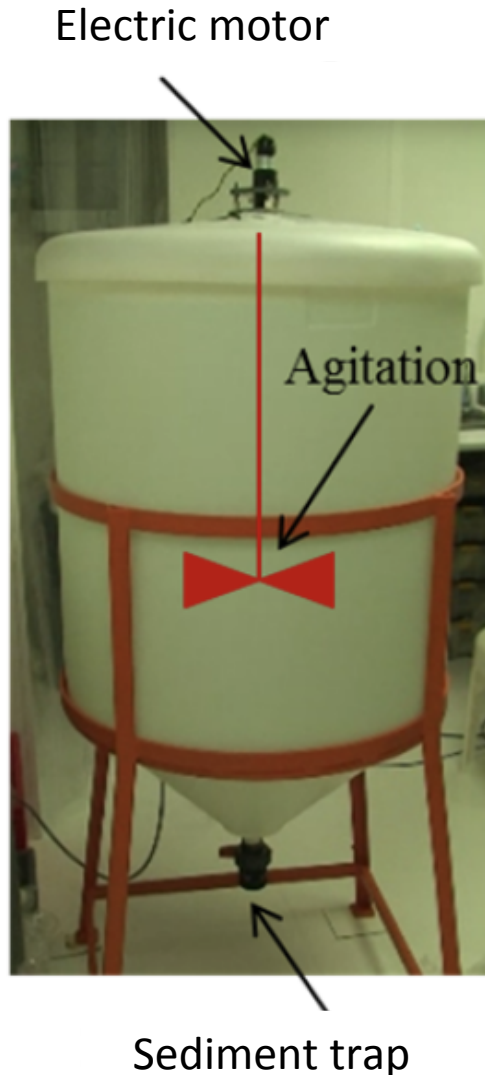
- Generally similar spatial distribution of ^{226}Ra activity and dissolved Ba concentration => conservative mixing
- High ^{226}Ra and Ba concentrations in NEADW: diffusion from sediment and/or particle dissolution

2/3. Dissolved element distribution along [GEOVIDE](#) section (GA01) in the North Atlantic: **Fe**



- High DFe at Iberian, Greenland and Newfoundland Margins => Fe inputs from riverine particles and sediment
- High DFe in bottom Irminger Sea => dissolution of Fe-rich particles from Denmark Strait Overflow water and the Polar Intermediate water

3/3. Atmospheric inputs to Mediterranean Sea water: influence of acidification?

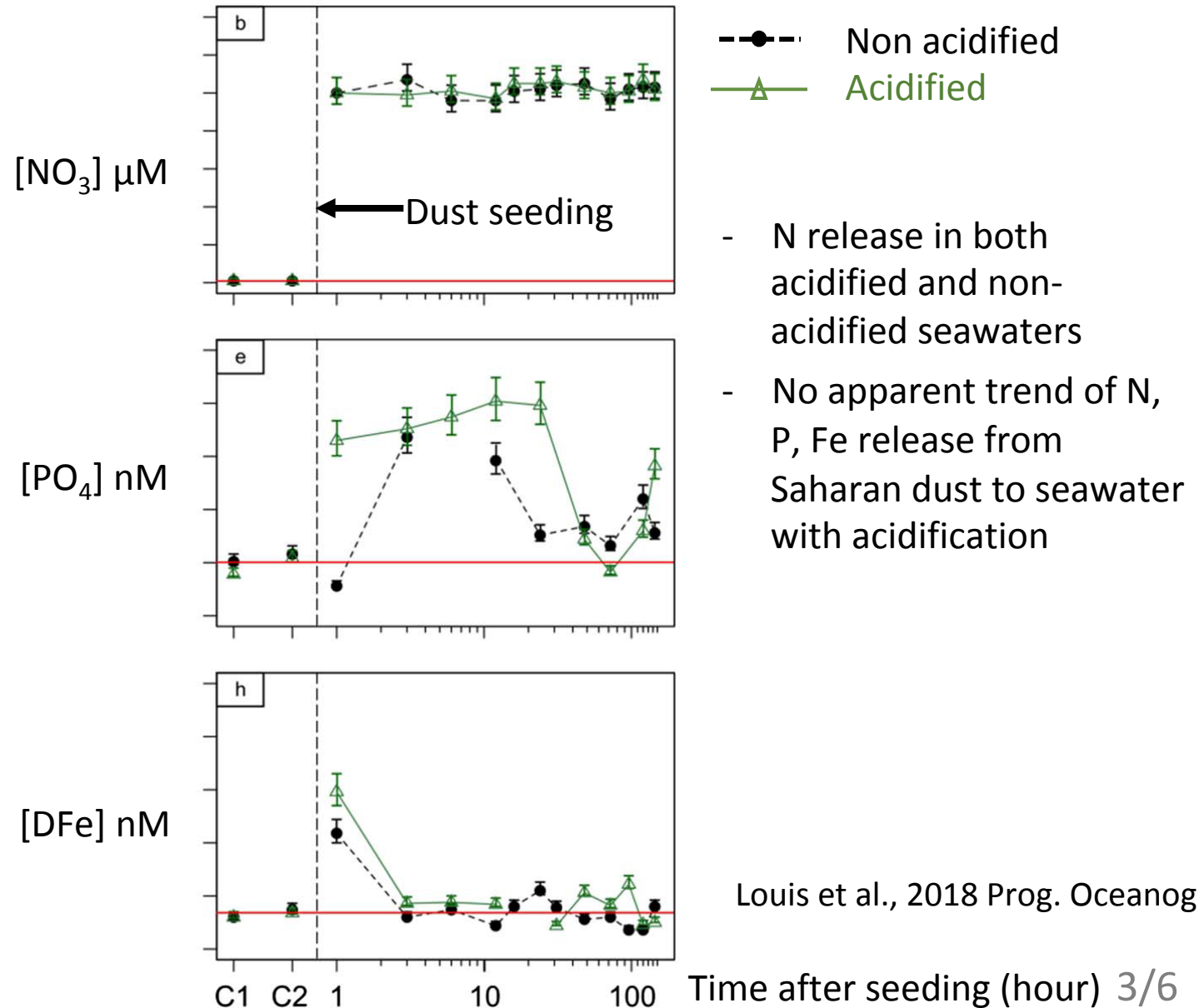


25L filtered
seawater (0.2 μ m)

Acidification by
adding CO₂
saturated seawater

Dust seeding (wet
deposit of Saharan
dust 10g/m²)

=> Monitoring



Publications & conferences (French investigators are leading or co-authors)

19 publications (70% leading author)

- 1) Abadie et al., 2017. *PNAS*, **114**, 858-863.
- 2) Bejannin et al., 2017. *Journal of Hydrology: Regional Studies* **13**, 72-90.
- 3) Benetti et al., 2017. *Journal of Geophysical Research: Oceans* **122**, 1102-1121.
- 4) Cossa et al., 2018a. *Biogeosciences (Geovide Special Issue)* **15**, 2309-2323.
- 5) Cossa et al., 2018b. *Marine Chemistry* **198**, 64-69.
- 6) Ganachaud et al., 2017. *Elementa Science of the Anthropocene* doi.org/10.1525/elementa.221.
- 7) Kipp et al., 2018. *Marine Chemistry GEOTRACES Special Issue* **201**, 51-65.
- 8) Le Gland et al., 2017. *Biogeosciences* **14**, 3171-3189.
- 9) Le Roy et al., 2017. *Biogeosciences Discuss (Geovide Special Issue)*. 2017, 1-36.
- 10) Lemaitre et al., 2018. *Biogeosciences (Geovide Special Issue)* **15**, 2289-2307.
- 11) Louis et al., 2017a. *Prog. Oceanogr.* <https://doi.org/10.1016/j.pocean.2017.10.011>
- 12) Louis et al., 2017b. *Estuar. Coast. Shelf Sci.* **186**, 30-44.
- 13) Menzel et al., 2018. *Biogeosciences Discuss (Geovide Special Issue)*. 2018, 1-28.
- 14) Prestes et al., in press. *Estuarine & Continental Shelf Research*.
- 15) Sanial et al., 2018. *Marine Chemistry GEOTRACES Special Issue* **201**, 20-34.
- 16) Shelley et al., 2018. *Biogeosciences Discuss (Geovide Special Issue)*. **15**, 2271-2288.
- 17) Shelley et al., 2017. *Deep Sea Research Part I* **119**, 34-49.
- 18) Tonnard et al., 2018. *Biogeosciences Discuss (Geovide Special Issue)*, 1-53.
- 19) Zurbrick et al., 2018. *Biogeosciences Discuss (Geovide Special Issue)*, 1-34.

32 presentations

- 15 contribution to **Goldschmidt conference** (KEOPS, PANDORA, GEOVIDE) etc.
- 8 contributions to **EGU**
- 6 contributions to **OSM**

Special issue

GEOVIDE project in Biogeosciences. https://www.biogeosciences.net/special_issue900.html.

Guest editor: G. Henderson, M. Lohan, L. Bopp, C. Jeandel, and G. Reverdin. Totally 17 papers (6 French contribution).

PhD theses (9 students)

- Viet Pham (2017-2020) REE and Nd isotopes collected as part of PANDORA (GP12), LEGOS.
- Lise Artigue (2016-2019): Biogeochemical cycles in the Austral and Southern Ocean, iron isotopes, LEGOS
- Emilie Le Roy (2016-2018) The distribution of natural radionuclides (GEOVIDE), LEGOS.
- Simon Bejannin (2016-2018) Submarine Groundwater Discharge and transferred to the coastal seas, LEGOS.
- Houda Beghoura (2016-2019) Modelling the role of sedimentary particulate Fe, LOPS and LEMAR.
- Guillaume Le Gland (2014-2018) Geotraces North Atlantic Modeling ^{228}Ra and ^{234}Th , LEMAR and LOCEAN, Defended Feb. 2018.
- Manon Tonnard (2015-2018), Iron biogeochemical cycle, LEMAR/UBO (Brest) and UTAS (Tasmania, Australia)
- David Gonzalez Santana (2017-2020) Impact of hydrothermal source, LEMAR
- Natasha Van Horsten (2017-2020) Seasonal characterization of Fe speciation in the Southern Ocean, LEMAR and Stellenbosch University.

GEOTRACES meeting

GEOVIDE meeting 2017: 17 oral presentations.

<http://www.geovide.obs-vlfr.fr/post-cruise-meeting-18-19-december-2017/>



Outreach and other activities

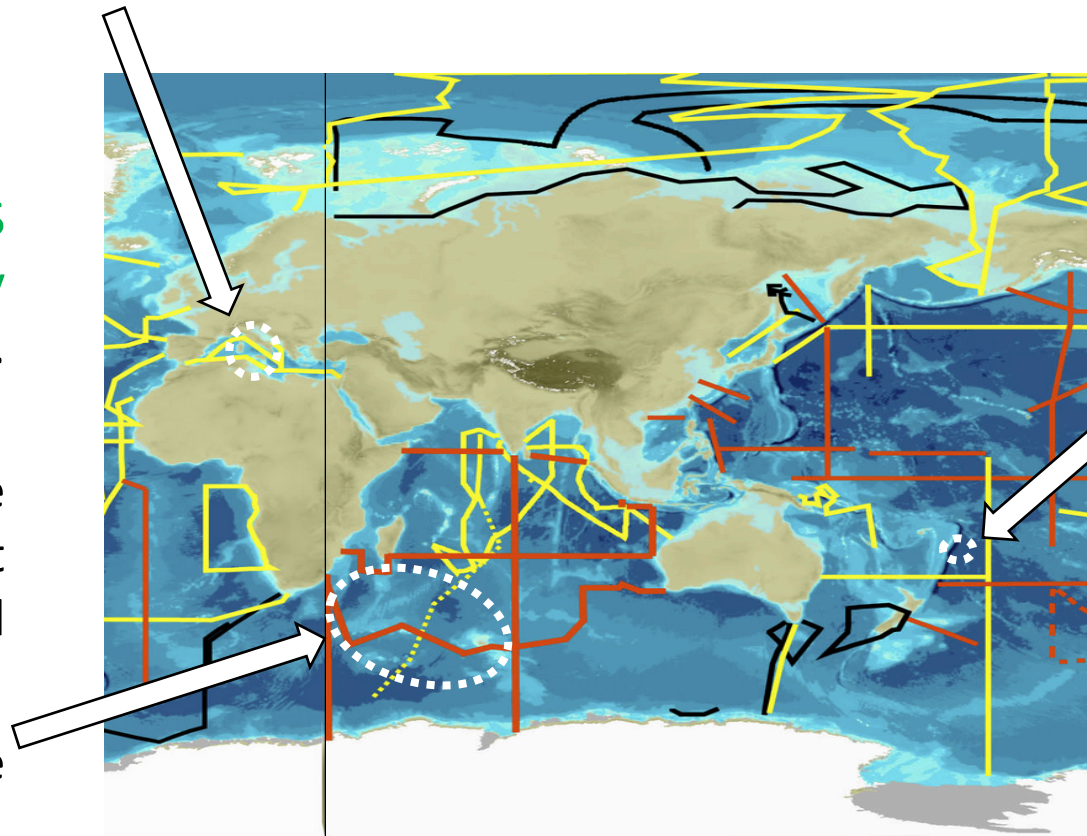
- Contribution to **GEOTRACES video** “21 questions and answers about GEOTRACES”
<http://www.geotraces.org/outreach/other-outreach-materials/videos/1468-21-questions-and-answers>
- Organization of **the first GEOTRACES Summer School** in Brest, France with support of SCOR and LabexMer. 60 participants from 18 countries. <https://geotraceschool.sciencesconf.org/>

Cruise: GEOTRACES PEACETIME process study in the Western/Central Mediterranean Sea (May 10–June 11, 2017) R/V 'Pourquoi Pas?' (C. Guieu & K. Desboeufs).

<http://peacetime-project.org/>

Project: GEOTRACES SWINGS section study labelled in 2017 (C. Jeandel & H. Planquette).

- R/V Marion-Dufresne for 2019-2020 (highest priority by National Fleet Commission)
- Funds to be determined.



Project: GEOTRACES TONGA process study labelled in 2017 (S. Bonnet & C. Guieu).

- R/V L'Atalante for Nov-Dec 2019 (Highest priority by National Fleet Commission)
- ANR TONGA financed in July 2018. Letters of intent were submitted to the French programs LEFE (INSU OA) and TELLUS (INSU ST)