Atmospheric Measurements of Hg : French contribution

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An heterogenous effort

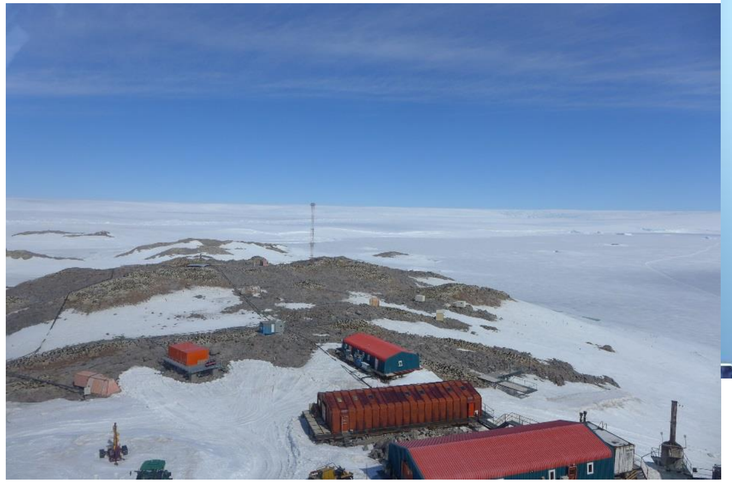
- *Some sites are no longer operational*
- *Some sites are no longer operational with active method but with passive (cf GAPS)*
- *Some sites are operational with active and/or passive methods*

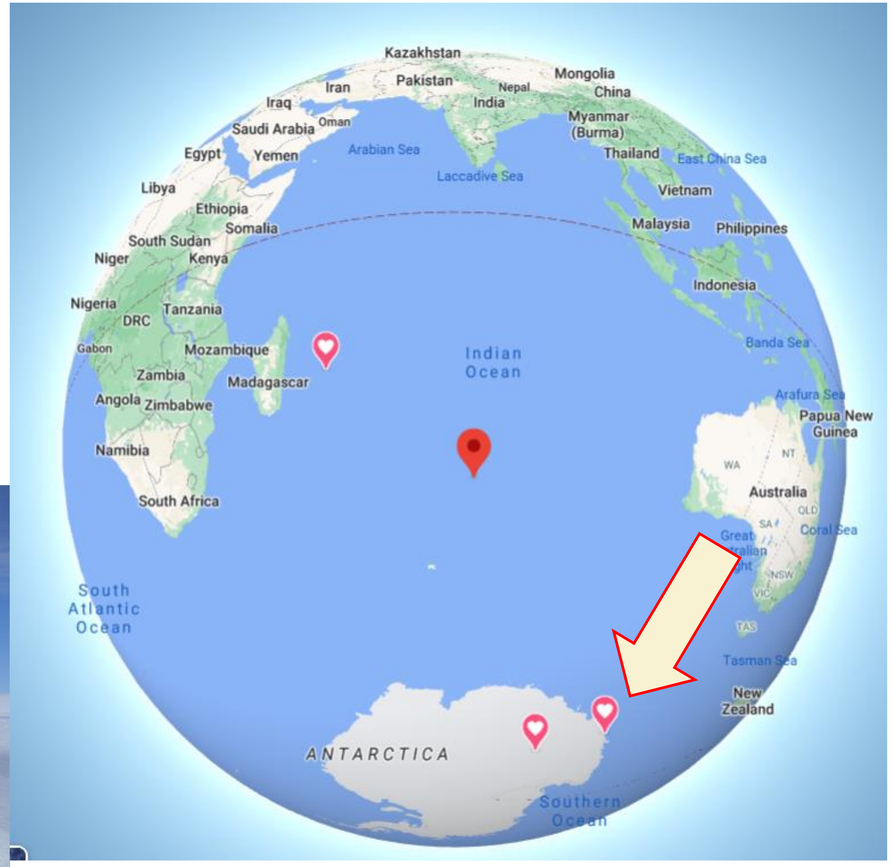
Dumont d'Urville in Antarctica

Coastal and polar site, extreme wind (katabatic winds)

2011-2015 - GEM measurements (Tekran 2537)

No longer operational





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Chacaltaya Station, Bolivia

Regional GAW station, High altitude 5340 m, Tropics (16°S)

Established in the frame of an international consortium of atmos observations

Strong collaboration with UMSA (La Paz University)

2014 - 2016 GEM measurements (Tekran 2537)

No longer operational

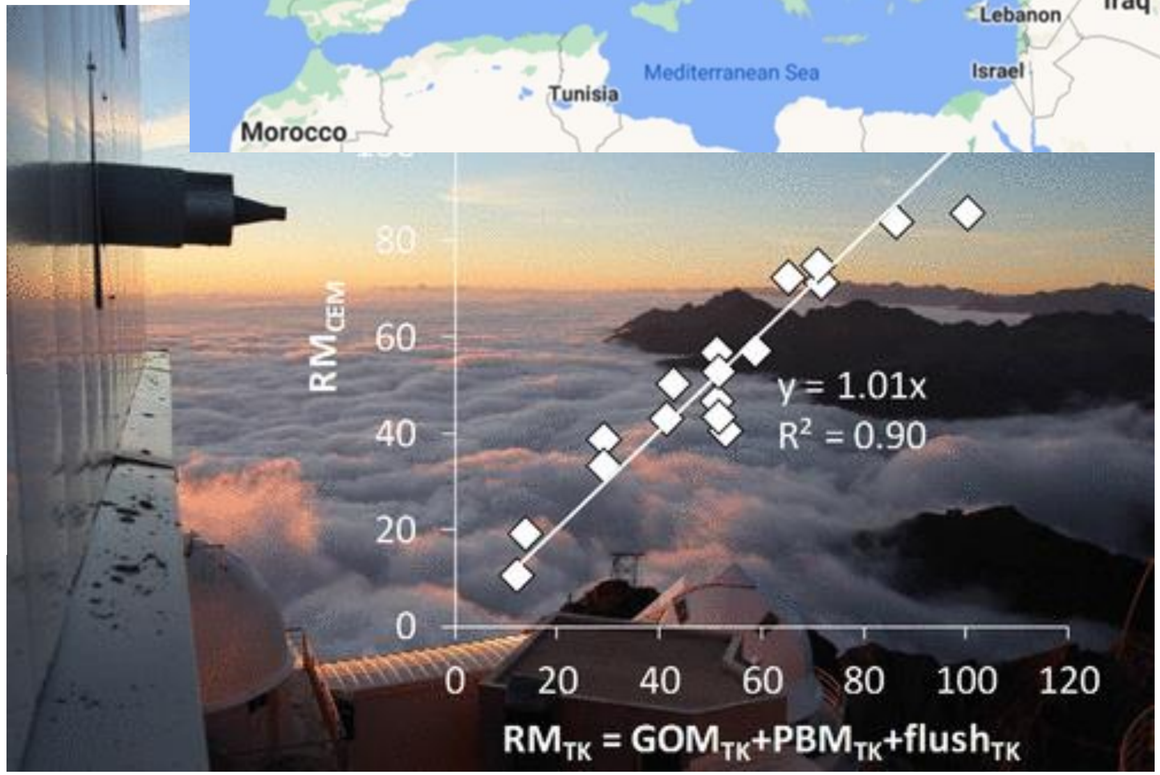
Observatoire du Pic du Midi

2877 m, operated by GET Toulouse

2011 to 2014 : Mercury Speciation Data (Tekran)

Since 2019 – MerPas with GAPS

European Research Council
Established by the European Commission



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Tropospheric GOM at the Pic du Midi Observatory—Correcting Bias in Denuder Based Observations

Nicolas Marusczak, Jeroen E. Sonke*, Xuewu Fu†, and Martin Jiskra

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MAIDO, La Réunion Island

Regional station, 2160 m, mountain top, tropics 21°S

Operated with LACY and OPAR partners

GEM data (Tekran) from 2017 to 2018 and manual GOM collection

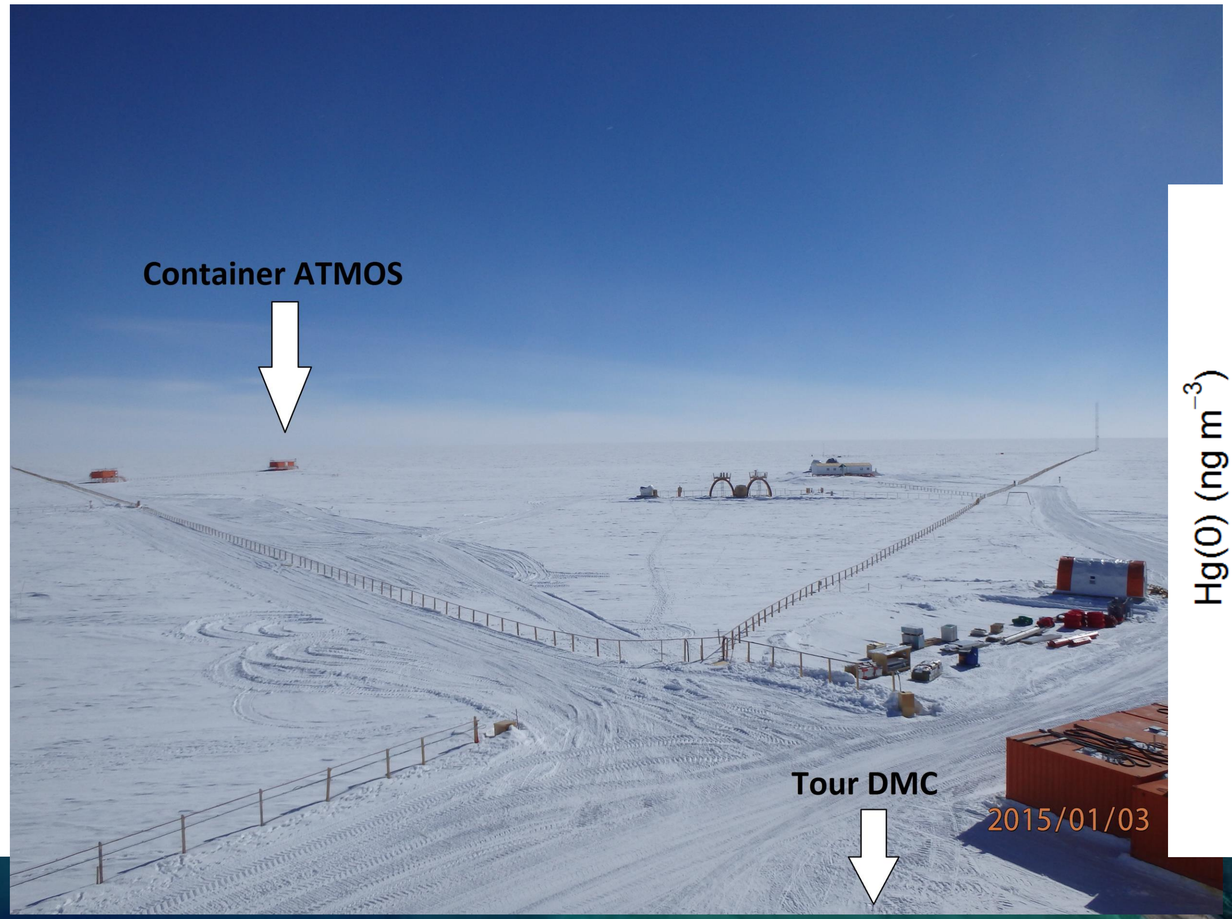
Passive sampling since 2019 (comparison in 2017-2018)

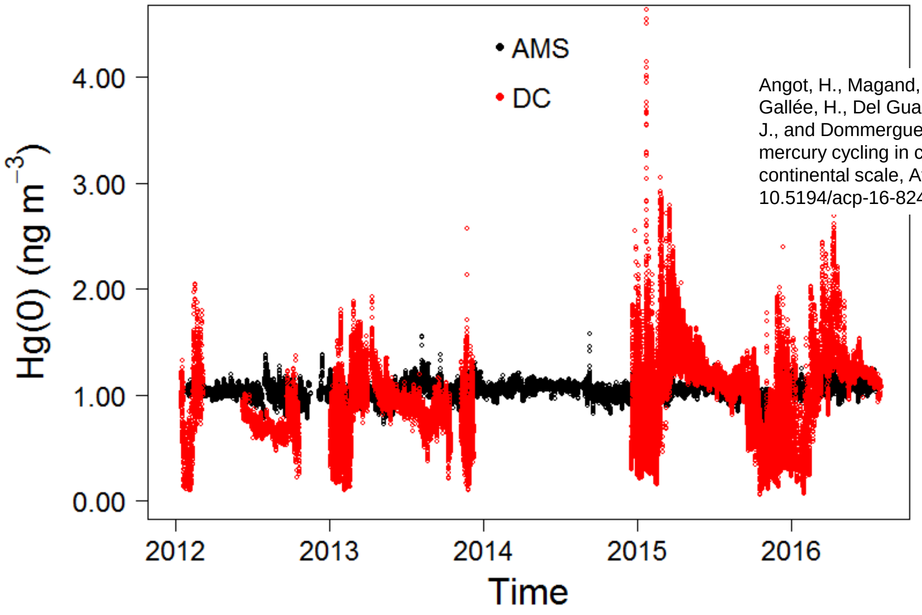
Concordia station in Antarctica

Polar, 75°S, average T of -50°C, extreme cold (-80°C) and high altitude (3230m)

Jointly operated with CNR (Francesca Sprovieri, Nicola Pirrone)

GEM data (Tekran) since 2012





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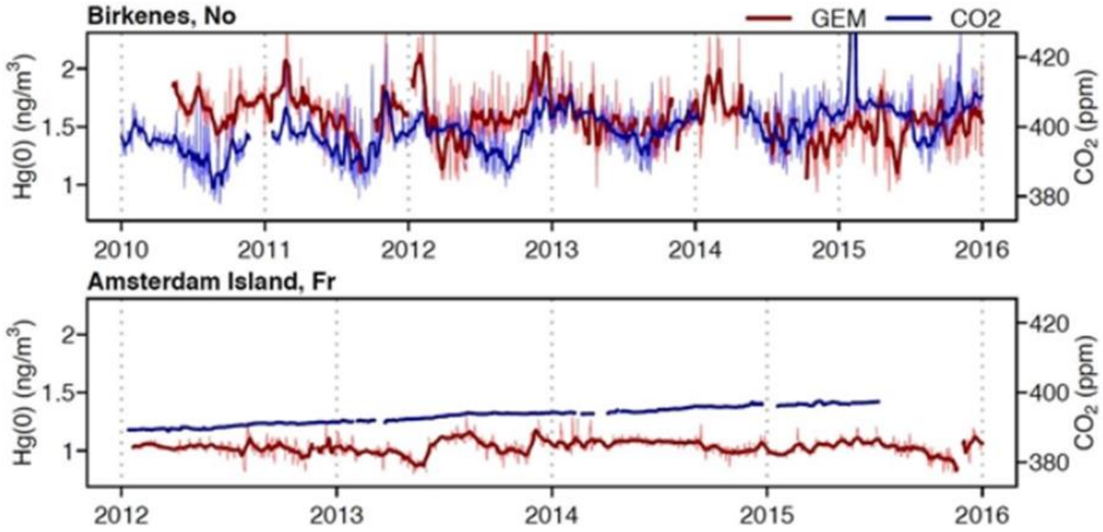
Amsterdam Island - AMS

37°S, remote, Speciation data 2012-2015

GEM data (Tekran) since 2012 and THg wet-only deposition (with CNR)



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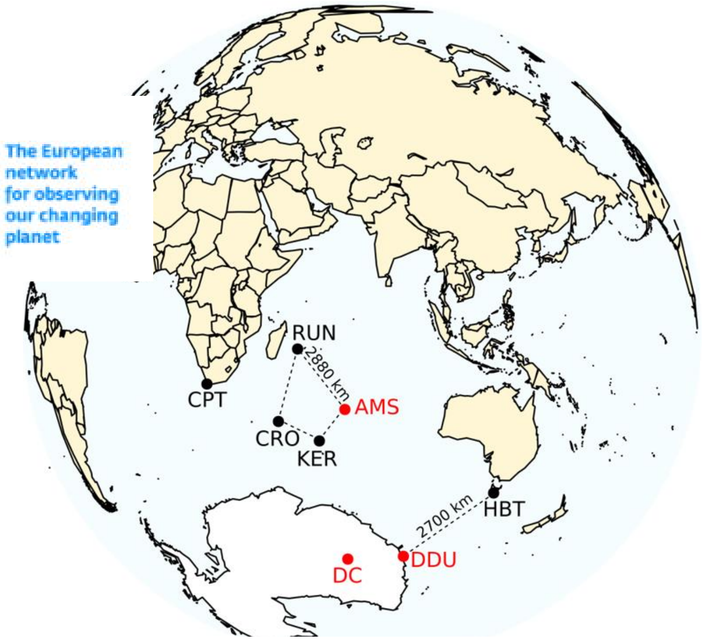
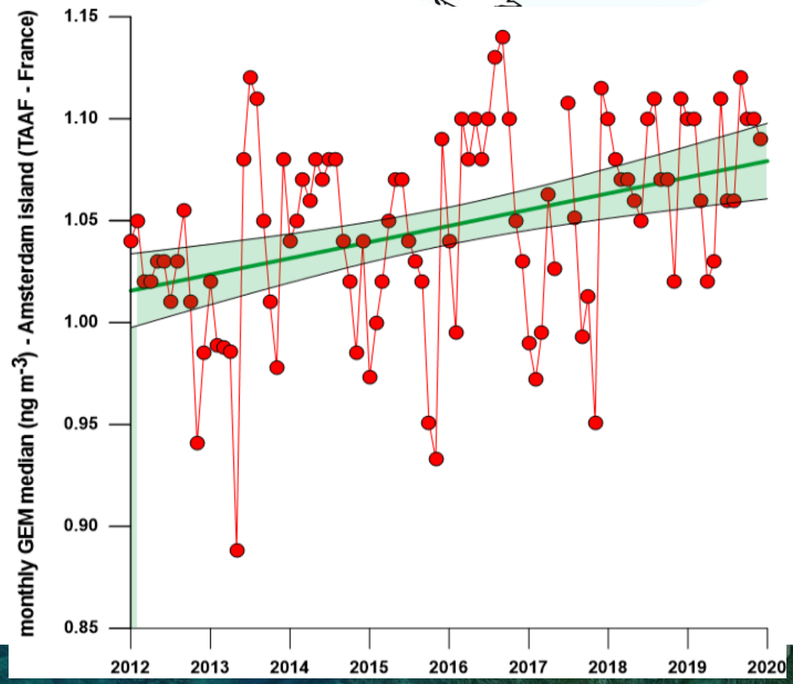
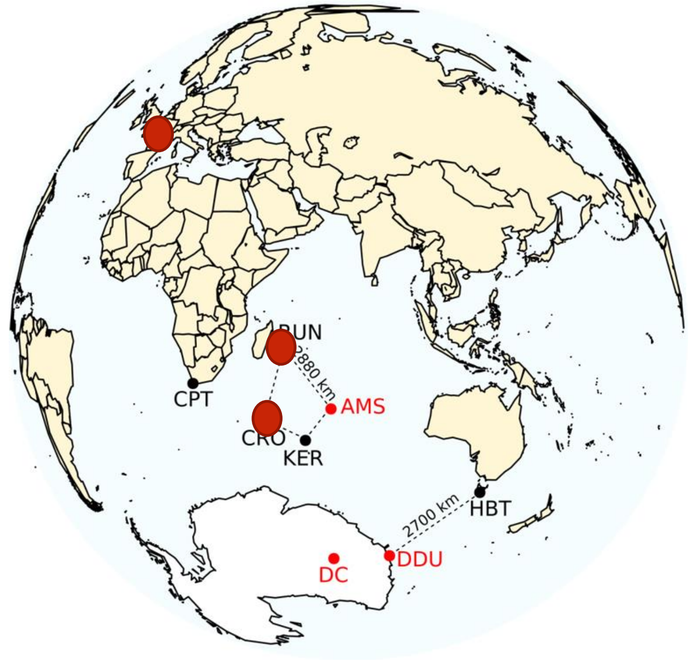




New sites – passive sampling GAPS

- *Pic du Midi, France*
- *Puy de Dôme, France (45°N),*
- *Crozet Island , French Austral Territories (45°S)*
- *Maido, La Réunion, 21°S*
- *Several other options can be studied in the Indian Ocean*



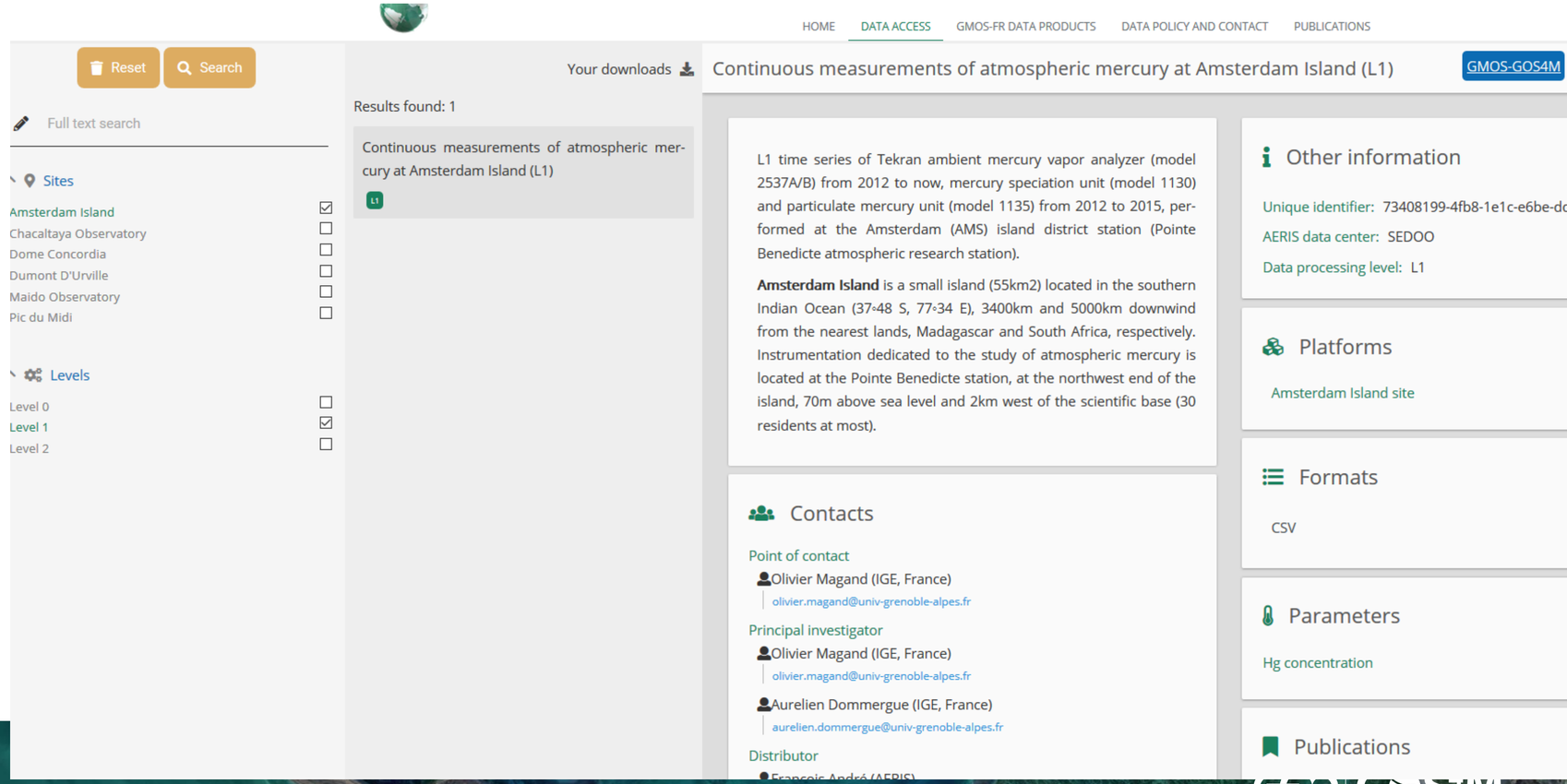
QA/QC, Data Policy and availability

All data shown here (collected with active methods) are freely available on the French data portal : https://gmos.aeris-data.fr/
(A mirror version of DMC-Concordia station data is also stored on G-DQM)

GMOS-FR data and metadata are Findable, Accessible, Interoperable, and Reusable
GMOS-FR follows International Standard Operation Procedures as described in AMNET and GMOS international networks.

*We provide **Level 0 data** upon request - After data acquisition, raw data sets are processed for quality assurance using a workflow and associated software developed in IGE in 2012. The workflow applied, albeit with some different peculiarities, is closed to the one used in the framework of GMOS FP7 program with G-DQM (see D'Amore et al., 2015).*

*We provide **Level 1 and Level 2 data for direct download***



Future

- *Hg measurements are made by air quality network with no other concern than the survey of certain factories – no real need for a monitoring network in France and French territories*

- *National support for observations is given by the CNRS: no (easy) support if we are not entering a national research infrastructure and the mirroring European Research Infrastructure*

- *Become an essential part of the national community through "flagship" sites: e.g. promote the Amsterdam Island site as an atmospheric platform including aerosol measurements, trace gases (CO2 measured since 1980), and Hg*

- *Design a coordinated GOS4M-France initiative to structure the French community ?*