



NA4 Data Assurance Halocarbon Measurements Aims and Progress (month 36)



Overview WP4/NA4

- To Establish a calibration matrix that relates the calibration scales of each laboratory to one another. This will enable the creation of an integrated, European halocarbon database
- To Establish a quality assurance system for European halocarbons measurements with a calibration standard center and a system of routinely comparing secondary(tertiary) and working(quaternary) standards with the primary AGAGE calibration scales maintained by Scripps Institution of Oceanography (SIO).
- To integrate and harmonise trace gas measurements in Europe, with the result of having a sustainable and reliable observation network for highly time-resolved data across Europe.



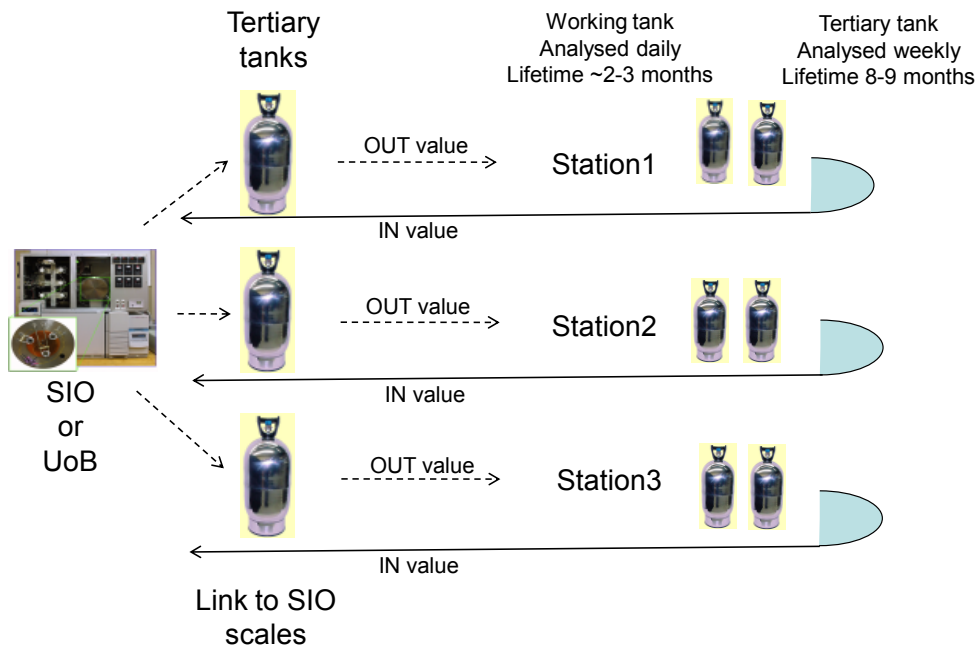
Progress and outlook WP4/ NA4

- Calibration standards with a common calibration scale are in use at a number of halocarbon measurement facilities
University of Bristol (UK), Mace Head (Ireland), Empa (Switzerland), NILU (Norway), University of Urbino (Italy), University of Frankfurt (Germany), University of Krakow (Poland), NUIG (Ireland), Zugspitze (Germany).
- A round-robin set of calibration standards is currently in progress ...
problems ☹️
- Halocarbon Data are present on EBAS (Mace Head, Mt. Cimone, Zeppelin, Jungfrauoch). Data through to October 2013.

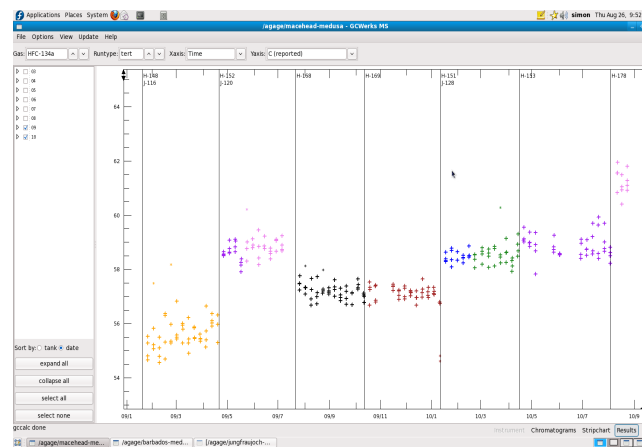


Scientific highlights WP4/NA4

Halocarbon Calibration



SF ₆	SIO-05	CFC-11	SIO-05
CF ₄	SIO-05	CFC-12	SIO-05
C ₂ F ₆	SIO-07	CFC-13	SIO-UB-p
C ₃ F ₈	SIO-07	CFC-113	SIO-05
c-C ₄ F ₈	SIO-10-p	CFC-114	SIO-05
HFC-23	SIO-07	CFC-115	SIO-05
HFC-32	SIO-07	H-1211	SIO-05
HFC-134a	SIO-05	H-1301	SIO-05
HFC-152a	SIO-05	H-2402	NOAA-1992-p
HFC-125	UB-98	CH ₃ Cl	SIO-05
HFC-143a	SIO-07	CH ₃ Br	SIO-05
HFC-227ea	Empa-2005	CH ₃ I	NOAA-Dec09
HFC-236fa	Empa-2009-p	CH ₂ Cl ₂	UB-98
HFC-43-10mee	SIO-10-p	CH ₂ Br ₂	NOAA-Jul10-p
HFC-365mfc	Empa-2003	CHCl ₃	SIO-98
HFC-245fa	Empa-2005	CHBr ₃	NOAA-Dec09-p
HCFC-22	SIO-05	CCl ₄	SIO-05
HCFC-141b	SIO-05	CH ₂ CCl ₃	SIO-05
HCFC-142b	SIO-05	CHCl=CCl ₂	UB-98
HCFC-124	NOAA-2003B	CCl ₂ =CCl ₂	NOAA-2003B
HCFC-123	-		



Deliverables & Milestones (M36)

- **D4.4 Round-robin intercomparison** with an ensemble of 4 standards with different concentrations (month 12, **failed**)
- **D4.7 Round-robin intercomparison** with an ensemble of 4 standards with different concentrations (month 27, **in-progress**)
- **D4.8 Internally consistent data set of halocarbon measurements** (month 27, **completed**)
- **D4.9 Stainless steel canister** as tertiary calibration standards for halocarbons (month 41)
- **D4.10** same as 4.7 (month 42)
- **D4.11** same as D4.8 (month 44)
- **D4.12** same as D4.8 (month 48)
- **MS16** Analysis of calibration standards (month 12)
- **MS17 & 20** Completion of round-robin comparisons (month 12, **failed & 27 in-progress**)
- **MS19 & 21:** Calibration results posted to central database (month 12 & 27, **completed**)
- **MS22** Analysis of calibration standards (month 41)
- **MS23** Completion of round-robin comparison (month 42)
- **MS24:** Calibration results posted to central database (month 44)