Data policies for ATTREX/CAST/CONTRAST coordinated campaigns

1. **Policies regarding archival of preliminary data during the campaign (24–48 hours after each flight)**

- Specific requirements for each program?
- Which instruments can rapidly produce preliminary data in the field?
- Access to all data by all three science teams?
- Archive access and data formats

- ATTREX: preliminary data 24–48 hours post-flight for all instruments *except* GWAS and DOAS

- CONTRAST: GV core data (winds, aerosols, state parameters, humidity, etc.) available within 6-12 hours post-flight. Chemistry data TBD

- CAST: FAAM core data (met parameters, aircrdaft position, CO, O_3, and H_2O) and many of the chemistry measurements

CAST measurement availability

Parameter	Instrument	Performance	Person (Institute) responsible in Guam	Prelim Data	Final data
Ozone	TEI 49C	4s integration time, 1ppb dl	Stephane Bauguitte (FAAM)	Data contained in the core faam netcdf file, available a few hours post flight. See attached document example for all parameters included in the file.	Core netcdf file 24 hours after flight (probably won't change from prelim file)
Carbon Monoxide	Aerolaser 5002	1s integration time, 2ppb dl	Stephane Bauguitte (FAAM)		
Water vapour	General Eastern 1011 & Buck CR2	Measurement range: -75°C - +50°C	Charlie Chan / Axel Wellpott / Alan Wooley (FAAM)		
Standard met parameters	Turbulence probe				
Aircraft data (position, speed, altitude etc)	GIN / GPS / radar altitude				
NOx	Air Quality Design, CL / BLC analyser	1 Hz: dl ~10 pptv for NO and 20 pptv for NO2	Stephane Bauguitte (FAAM) / Adam Vaughan (York)	Preliminary data (50ppt DL) a few hours post flight	10ppt DL data ~1month post campaign
VSL Halocarbons: CHBr3, CH2Br2, CHBr2Cl, CH3I, CH2BrCl, CHBrCl2, C2H5I, CH2ICl, CH2IBr, CH2I2, CH2Cl2, CHCl3	*In-Situ:* Agilent GCMS with Markes dual TD *WAS:* Agilent GCMS	*in situ:* 3-4 min sampling *WAS:* 2-3 min sampling < 0.01-0.05 ppt dl.	Steve Andrews (York)	Some preliminary in situ data can be made available the day after a flight (species specific)	In situ and WAS data available ~3month post campaign

CAST measurement availability

Parameter	Instrument	Performance	Person (Institute) responsible in Guam	Prelim Data	Final data
NMHC (C1-C6), small OVOCs, DMS	*WAS:* Perkin Elmer GCFID	*WAS:* 2-3 min sampling 2.5, 1 pptv dl for C2-C4 and >C4 respectively	Jim Hopkins (York)	Some preliminary data can be made available 2-3 days after a flight (species specific)	Data available ~3 month post campaign
CO2, CH4	Los Gatos	5 sec integration precision ±σ CH4, 1.0 ppb; CO2, 200 ppb. Max rate 10 Hz.	Stephane Bauguitte (FAAM)	Un-calibrated data available the day after a flight	Calibrated data ~4 weeks post campaign
N2O, H2O	Aerodyne QCLAS	N2O precision @ 1 Hz ±1σ, 0.2 ppbv. Max sampling rate 20 Hz.	Mike Lebreton (Manchester)	Un-calibrated data available the day after a flight	Calibrated data 4 weeks post campaign
BrO	CIMS	2.6 pptv ± 3σ @ 4 s integration	Mike Lebreton (Manchester)	Un-calibrated data (peak areas) available the day after a flight	Calibrated data 4 weeks post campaign
Black Carbon	SP2	Black carbon mass size distribution, 1 Hz		Not available	1-2 months post campaign.
IO, I_2, OIO	BBCEAS	*In situ:* 1 s, precision ~ 1 ppt for IO, ~ 10 ppt for I_2 and ~2 ppt for OIO.	Bin Ouyang, Ray Freshwater, Matthew McLeod (Cambridge)	Preliminary data available 1 to 2 days after flight	Data available ~3 months after campaign

CONTRAST measurements available near real time

Chemistry		**24HR /RT**	
NO_x	NO, NO_2	YES+RT	Weinheimer/NCAR ACD
Fast Ozone	O_3	YES+RT	Weinheimer/NCAR ACD
VUV Carbon Monoxide	CO	YES+RT	Campos/NCAR ACD
Picarro	CO_2, CH_4	YES+RT	Flocke/NCAR ACD
TOGA	NMHCs, OVOCs	SELECTED+NRT	Apel/NCAR ACD & Riemer / U Miami
GT-CIMS	BrO, BrCl, HOBr, ClO	TBD	Huey/GT
AMAX	BrO, IO, H_2CO (remote)	NO	Volkamer/CU
HAIS Advanced Whole Air Sampler (AWAS)	Trace gases	NO	Atlas/U.Miami
In Situ Airborne Formaldehyde (ISAF)	H_2CO	YES+RT?	Hanisco/ NASA GSFC
Inorganic Br	*Br* (Σ BrO + Br)*	*NO*	*Atlas/U.Miami & Flocke/ACD*
Radiation			
HARP	Spectral Actinic Flux	TBD	Hall /NCAR ACD

2. Policies regarding archival of and access to final data

- Deadline for submission of final data (12 months after end of campaign?)
- Deadline for public release of final data (same as above?)

- ATTREX: data becomes public as soon as it is final (12 months post-campaign) [NASA policy]
- CAST: ??
- CONTRAST: 6 months final data, 12 months public release

3. Policies regarding use of data by outside investigators

- Suggestion: data users must discuss quality issues with instrument PI and must offer co-authorship on any resulting publications