

### Attachment 3

## Work Plan for Establishing Tiksi as a Global GAW Station

The GAW site states “The Global Atmosphere Watch (GAW) programme of WMO is a partnership involving 80 countries, which provides reliable scientific data and information on the chemical composition of the atmosphere, its natural and anthropogenic change, and helps to improve the understanding of interactions between the atmosphere, the oceans and the biosphere.”

NOAA, Roshydromet and FMI have clearly identified the mutual agency advantages of establishing Tiksi as a GAW station. There are 2 classes of GAW station; regional and global. It is the intention of the science team to establish Tiksi as full global station. This is the work plan for to fulfill this goal:

January 1 2013 - December 31 2013 will be designated the official “Global Atmosphere Watch Year” for Tiksi during which criteria will be met to qualify Tiksi as official Global GAW station.

The work plan is based on the Global GAW station requirements a identified at:  
[http://www.wmo.int/pages/prog/arep/gaw/join\\_GAW.html](http://www.wmo.int/pages/prog/arep/gaw/join_GAW.html)

	Requirement	Issues	Solution	Target Date
1	The station location is chosen such that, for the variables measured, it is regionally representative and is normally free of the influence of significant local pollution sources UTTAL AND MAKSHITAS	Local sources of contaminants need to be minimized	Assess level of local contamination with Aethelometer and develop requirements for electric autos and snow mobiles and increased inlet height requirements	December 2012
2	There are adequate power, air conditioning, communication and building facilities to sustain long term observations with greater than 90% data capture (i.e. <10% missing data). KUZMICH	Overheating of CAF in summer and poor interior air quality	Air conditioning needs to be installed in CAF. Air filtration needs to be installed in CAF. Additional infrastructure repairs and improvements are in Attachment 3	May 2012
3	The technical support provided is trained in the operation of the equipment MAKSHITAS AND UTTAL	Current on-site operators cannot provide sufficient technical support	AARI-NOAA specialist trips will be increased to 4 regular visits/year. AARI will add technical specialist available for emergency repair trips. Salary for on-site	November 2012

			operator and exact responsibilities will be established	
4	There is a commitment by the responsible agency to long term observations of at least one of the GAW variables in the GAW focal areas	Ozone – Investigate possibility of ozone sondes	NOAA/YGMS/MGO	IN PROGRESS
		Aerosols	FMI/NOAA	IN PROGRESS
		GHG – Flask sampling shipping problems	MGO/NOAA	IN PROGRESS
		Reactive Gases- Needs to be implemented	TBD	TBD
		UV radiation – Measurement program needs to be enhanced	MGO/NOAA	January 2013
		Precipitation Chemistry – Program needs to be improved	MGO/U.S. Partner TBD	TBD
5	The GAW observation made is of known quality and linked to the GAW Primary Standard	No know issues	Quality assessment will be made	December 2013
6	The data and associated metadata are submitted to one of the GAW World Data Centres no later than one year after the observation is made. Changes of metadata including instrumentation, traceability, observation procedures, are reported to the responsible WDC in a timely manner	No know issues	Timely submissions will be made	Continuous monthly starting in January 2013
7	If required, data are submitted to a designated data distribution system in near-real-time.	No know issues	Tiksi data transmission infrastructure allows real time submission	Continuous monthly starting in January 2013
8	Standard meteorological in situ observations, necessary for the accurate determination and interpretation of the GAW	No know issues	Station meteorology, ancillary tower measurements and CAF tower meteorology	IN PROGRESS

	variables, are made with known accuracy and precision.		available for interpretation	
9	9. The station characteristics and observational programme are updated in the GAW Station Information System (GAWSIS) on a regular basis.	No known issues	NOAA/MGO	To be submitted prior to January 2013
10	10. A station logbook (i.e. record of observations made and activities that may affect observations) is maintained and is used in the data validation process.	Procedure will be established based on NOAA/Barrow GAW station		Continuous monthly starting in January 2013
<b>Additional Essential Characteristics Needed for a GAW Global Station</b>				
11	Measure variables in at least three of the six GAW focal areas	No known issues	(1) aerosols (2) GHG (3) Ozone	IN PROGRESS
12	Have a strong scientific supporting programme with appropriate data analysis and interpretation within the country and, if possible, the support of more than one agency	No known issues	Programme of science analysis is in progress	IN PROGRESS
13	Make measurements of other atmospheric variables important to weather and climate including upper air radio sondes at the site or in the region	No known issues		IN PROGRESS
14	Provide a facility at which intensive campaign research can augment the long term routine GAW observations and where testing and development of new GAW methods can be undertaken	No known issues	Investigation of feasibility with Russian border control and YGMS-Tiksi branch	Before December 2013