

**WORLD METEOROLOGICAL ORGANIZATION**

**COMMISSION FOR INSTRUMENT AND  
METHODS OF OBSERVATION  
*OPAG-SURFACE***

**EXPERT TEAM ON REMOTE SENSING UPPER-AIR  
TECHNOLOGY AND TECHNIQUES  
*First Session***

Geneva, Switzerland, 14-17 March 2005

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## **WORK PLAN**

*(Submitted by the Secretariat)*

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### **Summary and purpose of document**

This document contains a draft Work Plan of ET on RSUAT&T.

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### **Action proposed**

The meeting is invited to examine the draft Work Plan for ET on RSUAT&T and to decide on the final Work Plan.

**The Work Plan of the Expert Team on Remote Sensing Upper-Air Technology and Techniques (ET on RSUAT&T)**

1. Based on the CIMO-XIII decisions, the CIMO Management Group (CIMO-MG) decided on the Milestone Plan to provide a basic guidance for planning of CIMO activities. The Milestone Plan is based on CIMO OPAGs' structure and their respective TOR. The Plan should assist co-chairpersons of OPAGs and leaders of ETs in preparing their Work Plans.
2. Draft Work Plan of the Expert Team, as presented in the Annex, takes into account the Tasks to be undertaken by the CIMO OPAGs, the TOR of Expert Teams and the CIMO-MG Milestone Plan.

## ANNEX

## Draft WORK PLAN

Expert team on Remote Sensing Upper-Air Technology and Techniques  
(2003-2006)

No.	Task description	Person responsible	Action	Deadline	Deliverables	Deadline
<b>1</b>	<b>Investigate error characteristics of water vapour measurements and explore compatibility between the different types of measurement:</b>					
1 a)	Develop operational procedures of GPS water vapour networks	Masahito ISHIHARA & Sin-Ho KIM	<ol style="list-style-type: none"> <li>1. Study the national/regional operational procedures of GPS water vapour networks</li> <li>2. Develop and agree on the international operational procedures of GPS water vapour network</li> </ol>	Nov.04  Dec.05	<ul style="list-style-type: none"> <li>• IOM Report on the national/regional operational procedures of GPS water vapour networks and agreed international procedures</li> </ul>	Dec.04
<b>2</b>	<b>Complementary use of modern Doppler radars and profilers in the U/A network:</b>					
2 a)	Improve quality and availability of remotely sensed upper wind measurements	Paul JOE & Guan HONG	<ol style="list-style-type: none"> <li>1. Review the status of the quality and availability of remotely sensed upper wind measurements</li> <li>2. Make suggestions to improve quality and availability of remotely sensed upper wind measurements</li> <li>3. In cooperation with the HMEI develop links between manufacturers and regional projects aimed at system integration</li> </ol>	Jun.04  Jan.05  May.04	<ul style="list-style-type: none"> <li>• IOM Report on the Status of QM and availability of remotely sensed upper wind measurements in regional projects and on their improvements</li> <li>• Developed links between manufacturers and regional projects aimed at system integration</li> </ul>	Mar.05  Dec.04
2 b)	Report on the suitability of modern radars and wind profilers for deployment in NMHS	Dirk ENGELBART & Alexei IVANOV	<ol style="list-style-type: none"> <li>1. Review the suitability of modern radars for deployment in NMHS and on Weather Radars used by Members</li> </ol>	Sep.04	<ul style="list-style-type: none"> <li>• IOM Report on the suitability of modern radars for deployment in NMHS</li> </ul>	Dec.04

No.	Task description	Person responsible	Action	Deadline	Deliverables	Deadline
			2. Review the Weather Radars used by Members	Sep.04	<ul style="list-style-type: none"> <li>Updated IOM Report No. 69 "Weather Radars used by members"</li> </ul>	Dec.04
			3. Review the suitability of wind profilers for deployment in NMHS	Oct.04	<ul style="list-style-type: none"> <li>IOM Report on the suitability of wind profilers for deployment in NMHS</li> </ul>	Jan.05
2 c)	Prepare and publish a guidance material on operational aspects of wind profiler radars in Europe, United States and Japan	Masahito ISHIHARA & Paul JOE	1. Review operational aspects of wind profiler radars in Europe, United States and Japan	May.04	<ul style="list-style-type: none"> <li>IOM Report on the operational aspects of wind profiler radars</li> </ul>	Sep.04
<b>3</b>	<b>Monitor and report on calibration of satellite remote sensing instrumentation</b>	Alexei IVANOV	1. Request to CBS to report on calibration of satellite remote sensing instrumentation	Dec.03	<ul style="list-style-type: none"> <li>Report provided to CIMO MG</li> </ul>	Sep.04
<b>4</b>	<b>In consultation with HMEI, determine the operational use of lightning detection methods</b>					
4 a)	Review the progress in the compatibility of lightning detection remote-sensing and conventional in-situ observations	Siebren de HAAN & Reinaldo SILVEIRA	1. Review the status in the compatibility of lightning detection remote-sensing and conventional in-situ observation	Feb.04	<ul style="list-style-type: none"> <li>IOM Report on the system characteristics including current accuracy standards and QA being used</li> </ul>	May.04
4 b)	Propose evaluation methods for operational lightning detection systems	Siebren de HAAN & Reinaldo SILVEIRA	1. Review existing evaluation methods for operational lightning detection systems and propose the standard evaluation method	May.04	<ul style="list-style-type: none"> <li>IOM Report on Evaluation methods for operational lightning detection systems</li> </ul>	Dec.04
4 c)	Monitor and report on national and regional lightning detection projects and networks	Siebren de HAAN & Reinaldo SILVEIRA	1. Review national and regional lightning detection projects and networks	May.04	<ul style="list-style-type: none"> <li>IOM Report on the progress in the compatibility of lightning detection remote-sensing and conventional in-situ observations</li> </ul>	Sep.04
<b>5</b>	<b>Promote, facilitate and assist with developments in integrated profiling systems and report on other upper-air measurement techniques (by rapporteur from Météo Swiss)</b>					
5 a)	Monitor the progress of projects set up to integrate different ground-based observing techniques together to provide	Bertrand CALPINI, Eugeny KADYGROV	1. Review the operational aspects of different ground-based observing techniques, such as lidar, microwave	Dec.04	<ul style="list-style-type: none"> <li>IOM Report on the operational aspects of different ground-based remote sensing observing</li> </ul>	Jan.05

No.	Task description	Person responsible	Action	Deadline	Deliverables	Deadline
	improved sensing of vertical profiles of temperature, humidity and cloud structure	& Asko HUUSKONEN	radiometer, sodar, RASS, that can provide remote sensing of vertical profiles of temperature, humidity and cloud structure  2. Review the projects set up to integrate different ground-based observing techniques together to provide improved sensing of vertical profiles of temperature, humidity and cloud structure	Dec.04	techniques  • IOM Report on integrated profiling technologies and techniques	Feb.05
<b>6</b>	<b>Development of technical information for support of radio frequency sharing policy for WRC</b>					
6 a)	Frequency allocation for weather and profiler radars	Alexei IVANOV & Ramesh Ch. BHATIA	1. Study the problems related to Frequency allocation for weather and profiler radars and coordinate it with ET B.1	Feb.04	• Recommendations to ITU and Members	Sep.04
<b>7</b>	<b>Improve the global radiosonde network</b>					
7 a)	Organize and evaluate WMO intercomparison of remote and in situ U/A sounding systems	Alexei IVANOV & Ramesh Ch. BHATIA	1. Cooperate with ET B.2 on intercomparison of remote and in situ U/A sounding systems	Dec.05	IOM Report on the Intercomparison	Jun.06