

**PROCEEDINGS OF THE MEETING OF EXPERTS ON
END-USER LIAISON**

(Geneva, Switzerland, 12 –14 May 2004)

**WORLD METEOROLOGICAL ORGANIZATION
May 2004**

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Proceedings of the Meeting of Experts on End-User Liaison

1. Opening of the meeting

1.1 The Meeting of Experts on End-User Liaison was held in Geneva, Switzerland, from 12 to 14 May 2004 at the WMO Secretariat. The Assistant Secretary-General of WMO, Prof Yan Hong, opened the meeting. In his remarks, he noted the objectives of the meeting and the importance of the work of the Expert Team (ET) in building capacity within National Meteorological and Hydrological Services (NMHSs) and Climate Services Programmes on methodologies such as cost-benefit analyses, and for developing strong two-way dialogue with all levels of user groups.

1.2 The key objectives of the meeting were to review and summarize responses to a questionnaire on end-user liaison, issued by the ET earlier in 2004; prepare a work plan for development a final report on the survey results; discuss pilot projects; and establish a project with work plan to revise WMO Technical Note No. 145 'Economic benefits of climatological services', published in 1975. Time permitted some planning, as well, for the Multidisciplinary Conference on Decision process on Climate Applications (2005) under Agenda Item 9, 'Other Business'. The Agenda is attached as ANNEX 1.

1.3 Participants included representatives from the CCI OPAG 3 Expert Team (ET) on End-User Liaison (ET 3.6) and representatives from the World Climate Programme (Dr B. Nyenzi and Mrs L. Malone) and WMO Public Weather Services Programme (Ms H. Kootval). The final list of participants is attached as **ANNEX 2**.

2. Organizational Issues

2.1 Dr B. Nyenzi, Chief, World Climate Applications and CLIPS Division (C/WCAC) welcomed the participants, and proposed the nomination of Mr Jaakko Helminen, the ET lead, as Chairman for the session. The meeting unanimously approved this nomination. The agenda for the meeting was approved with some modifications (ANNEX 1).

2.2 The working arrangements for the session were established (08:30 to 17:30 as best possible, with lunch and other breaks to suit the schedule).

3. Review of the Results of the Survey on End-User Liaison

3.1 The survey questionnaire was based on the Terms of Reference of the Expert Team (attached as **ANNEX 3**), and was meant to assess the state of development and use of, or provision of, monthly-to-interannual climate prediction and related products; use of cost-benefit analyses; activities related to weather derivatives; level of assessment of the needs of user groups; and provision of decision-support consultation to users. As well, the survey assessed actual and potential user groups in the countries. At the time of the meeting, a reasonable number of responses had been received, and analyses of the information were incorporated into tables for each Regional Association. These tables will be in development for some time following the meeting, and therefore are provided in a separate file (an EXCEL file with six spreadsheets for Regional Associations I, II, III, IV, V and VI, respectively).

3.1.1 The preliminary results reveal that countries that run sophisticated national- to global-scale climate prediction programmes and countries with regular Regional Climate Outlook Forums (generally countries that benefit from a predictable ENSO

signal) tend to have better-developed programmes for liaison with users. However, few countries identified use of cost-benefit analyses in their climate services programmes, or any activity with weather derivatives. While some countries have ventured into study of weather derivatives, and related services, they seem to find it difficult to keep clients. One sector that uses weather derivative techniques is energy, but many energy companies do not rely on the NMHSs for support in this regard.

3.1.2 Preliminary results further reveal that many users find it difficult to understand the typical probabilistic prediction products issued by NMHSs, and that, without client-support, they have considerable difficulty in incorporating the information into their decision-making. It is important that the climate services and prediction specialists fully understand the prediction information and products, and can interpret that information to different levels of user-groups. Some user-groups are sophisticated, specialized users (e.g. research groups, large corporations, etc.). However, other end-users are lay-people, unskilled in science and statistics. It is important to use simple, clear language and formats for these end-users, and to demonstrate to them how to get the best out of the available information, and how to deal with uncertainty.

3.2 In discussion, it was noted that some countries use the Internet to make climate information and products available to users, often with no specialized/tailored products for specific sectors. Providers are not always aware of who seeks-out or uses the information, or whether the users find it helpful. Also, the process of conducting the survey revealed some sensitivity to open discussion on the topics covered. NMHSs are sometimes reluctant to describe relationships with clients.

3.2.1 It was noted that proficiency with methodologies such as cost-benefit analyses would be useful to many countries in developing or enhancing their climate services, or in seeking funding for programmes. Countries, however, with strong, viable private sector climate services tend to leave tailored services in the private sector domain, and therefore do not get deeply into costs and benefits of services. It may be primarily developing or smaller countries that have the most need for the Guidance on End-User Liaison. The meeting agreed to make another attempt to urge the remaining countries to respond to the survey so that the final report would be as complete as possible. The CLIPS Focal Points will be asked to help complete the summary tables, if completion of the full survey cannot be managed.

3.2.2 The meeting agreed that current users of monthly-to-interannual climate information and prediction services would clearly be identified as user groups or sectors in the survey results, but recognised that in NMHSs that do not yet have a climate prediction programme, current users of climate data or statistical data analyses would likely become users of climate prediction products and services when available. Therefore the survey results related to user-sectors include both actual and 'potential' clients.

3.3 The work plan developed for completion of the survey and for preparation of the final report on its results is attached as **ANNEX 4**.

4. Pilot Projects

4.1 The meeting discussed the development of pilot projects that would build capacity in countries on techniques such as cost-benefit analyses, and demonstrate the benefits of developing strong two-way relationships with user groups. The CLIPS Food Chain project conducted in the UK was an excellent demonstration Project. The WCP CLIPS office is developing a project to build capacity with respect to cost-benefit

analysis with ICPAC-Nairobi, and another pilot has been proposed for the New Caledonia area.

4.2 It was recommended that the CLIPS Project should support strong, relevant pilot projects related to end-user liaison, through encouraging collaboration with CLIPS Focal Points. The CLIPS office could consider limited support in publishing project reports (subject to the availability of funds).

4.3 The meeting recommended that Mr Oludhe contact ICPAC-Nairobi to discuss the draft cost-benefit project with Prof Ogallo, and perhaps become involved in it as part of the end-user liaison process. It also recommended that Mr Fischer should contact the WMO for endorsement and collaboration, for the New Caledonia pilot project.

5. Technical Note No. 145: 'Economic Benefits of Climatological Services'

5.1 Technical Note No. 145 was published in 1975, but the concepts are pertinent to climatological services today and in the future. The CCI Management Core Group (Toulouse, 2003) requested ET 3.6 to update this document, so the ET established a work plan to carry out the task (attached as **ANNEX 5, parts A and B.**). One of the first challenges will be to gain the support of experts in climate services to various application sectors, to develop the texts. Actions such as this are embedded in the work plan. It was agreed to publish the revised TN under the title 'Socio-economic Benefits of Climatological Services', before CCI-XIV in November 2005.

6. Conference on Climate Variability and Change: Understanding the uncertainty and managing the risk

6.1 Preparations for the WMO conference on 'Climate Variability and Change: Understanding the uncertainty and managing the risk' (tentatively late 2005) were discussed. The meeting agreed that WMO should proceed urgently with preparing the Terms of Reference for, and formally establishing a Scientific Organizing Committee (SOC) for the conference by seeking confirmation from the relevant Permanent Representatives for the participation of their experts in this regard, and selection of the venue and dates for the session. The meeting further agreed that the WMO and the SOC should identify the target participant groups; and discuss promotion and advertising for the conference. The SOC will be responsible for the science programme, including the format and structure of the conference.

6.2 Due to the international profile of, and potential high-level interest in this conference, it is recommended that WMO consider inviting an eminent scientist with a solid reputation in the area of benefits of climate services to head the SOC, to oversee the science objectives, as well as to facilitate high-level participation in the conference.

6.3 The meeting discussed fundraising for the conference. Funding could be sought from WMO Members, and/or from relevant international agencies or the private sector, or could be raised by charging a conference fee, as was done for the WCRP Science Conference in 1997. Costs may arise for such things as ensuring representation at the conference for experts from developing countries, payment for invited speakers, facility rental (if not offered by the host), receptions, advertising and other publicity, publishing the conference proceedings, services for building and maintaining a web site for the conference, and perhaps meetings of the SOC. The scale of the funding to be sought will depend on the scope of the programme.

6.3 The meeting recommended that WMO establish a Trust Fund, to be administered by C/WCAC, to cover the expenses of the Conference. This fund is to exist until the conference proceedings are published and distributed, and all conference bills have been paid (C/WCAC will work with C/FIN to set up the account). The meeting recommended that WMO request financial support for the conference from its Members, focusing on ANNEX I countries, and possibly from relevant International agencies and the private sector as soon as possible. The meeting further requested that WMO (assisted by the SOC) quickly establish a project plan and budget for the conference, based on the available funds.

6.4 The meeting was informed that, to date, two venues have been offered for the conference, at IRI (USA), and in the United Republic of Tanzania. WMO, in discussion with the Commission for Climatology, will explore all options and will select the final venue as soon as possible.

7. Guidelines on Best Practices for End-User Liaison

7.1 The meeting agreed that a one-day workshop would be held in conjunction with the conference on 'Climate Variability and Change: Understanding the uncertainty and managing the risk'. The purpose of the workshop would be to refine the Guidelines on Best Practices for End-User Liaison and to establish a work plan for completion and publishing those Guidelines. ET 3.6 will develop the draft of these Guidelines over the next year. It is not expected that the Guidelines will be finalized before CCI-XIV, November 2005. It was proposed that ET 3.6 develop a draft Outline for the Guidelines on Best Practices for End-User Liaison. Martin Fischer, a team Member of the ET 3.6, agreed to ensure that the draft guidelines are ready for discussion at the proposed workshop in September 2005.

8. Interaction with other OPAG 3 Expert Teams

8.1 The meeting agreed that there would be a benefit to interaction with the Expert Team on Verification, including attendance by one member of the ET on End-User Liaison at the meeting of the ET for Verification in Japan in October 2004. In this regard the meeting recommended that one member of ET 3.6 on End-User Liaison be invited to attend the meeting of Experts on Verification (ET 3.4) in October 2004. The C/WCAC and the ET 3.6 Chair were requested to follow-up on this matter with the Chair of ET 3.4 on Verification.

9. Closure of the Meeting

9.1 The meeting chair, Mr Helminen, thanked the participants for a successful and productive session, in which a preliminary assessment of the survey was completed, and the work of the Expert Team was structured and planned for the period up until the meeting of the CCI in November 2005. Dr Nyenzi, C/WCAC, in turn thanked the chair for his excellent leadership during the session, and wished all participants success in accomplishing their assigned tasks. The meeting was closed at 5 PM on 14 May 2004.

AGENDA

1. OPENING OF THE MEETING
 2. ORGANIZATION OF THE MEETING
 - 2.1 Approval of the Agenda
 - 2.2 Other organizational matters
 3. REVIEW OF PRE-EDITED DRAFTS OF THE SURVEY RESULTS
 - 3.1 Presentations on the pre-edited and circulated regional drafts with particular emphasis on the coherence of the various texts
 - 3.2 Discussions
 - 3.3 Working on the drafts and completion of a first draft report
 4. CONSIDERATION OF PILOT PROJECTS
 5. DIVISION OF WORK ON THE “SOCIO-ECONOMIC BENEFITS OF CLIMATOLOGICAL SERVICES”, AS AN UPDATE OF THE TN. 145/1975
 6. CONFERENCE ON CLIMATE VARIABILITY AND CHANGE: UNDERSTANDING THE UNCERTAINTY AND MANAGING THE RISK
 7. GUIDELINES ON BEST PRACTICES FOR END-USER LIAISON
 8. INTERACTION WITH OTHER OPAG 3 EXPERT TEAMS
 9. CLOSURE OF THE MEETING
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**Terms of Reference for CCI OPAG 3
Expert Team on End-User Liaison (ET 3.6)**

- a) To provide guidance on, and make recommendations for using a probabilistic approach to design and conduct demonstration and pilot projects regarding cost/benefit and value estimation of seasonal forecasts and weather derivatives from the end-user point of view;
- b) To give guidance on the assessment of end-user needs;
- c) To review the current impacts of climate services on end-user decision processes, including those relating to monthly to seasonal predictions and quality-checked minimum delay data sets;
- d) To examine how decisions are taken, and to recommend how best to advise on improving approaches to decision making.
- e) To draft a guide on best practices in end-user liaison, in consultation with end-users;
- f) To advise the Implementation/Co-ordination Group and to submit reports in accordance with timetables established by the C-OPAG and/or the Management Group.

**Workplan to develop and publish the survey results for
End-User Liaison**

Task	Description	By	Due date
1	Finalize tables and summary text for each RA	All ET members	17 May 2004
2	Send results for each RA to the CLIPS Focal Points in each region for completion of tables (give clear instruction)	All ET members	Responses by mid-June
3	Update the tables and summary texts and prepare recommendations	All ET Members	Send to JH by 30 June
4	Compile and revise into a draft report, and send to ET for input/comment	JH	July 9 2004
5	Revise/comment, results to JH	All ET Members	July 16 2004
6	Final editing, result to BN /WCAC; LM. Include example(s) where feasible of known economic benefits of climate Services within national economies	JH	July 23 2004
7	WCAC to finalize, edit and publish (in English); translate summary into F, S, R	BN; LM	September 2004
8	Additional translation into F, S, R if possible	BN; LM	Fall 2004

A. Workplan to revise TN 145 and republish

Task	Description	By	Due date
1.	Assign draft chapter/sectors	ET	14.05.04
2.	Define general chapter structure	ET	14.05.04
3.	Informal consultations	All	
4.	Send formal request letters authors	ET6/WCAC	15 June
5.	Response		
6.	Second round if necessary		
7.	Final contents page review	ET, external	
8.	Author contributions		30 October
9.	Review, assess (correspondence or meeting)	ET, external	Jan 2005
10.	Back to authors - instruction to fill gaps		Jan 2005
11.	Author rewrite		Apr 2005
12.	Review, edit Final version	ET	01.07.05
13.	WMO review, edit	WCAC/PUB	15.07.05
14.	WMO approvals	WCAC	01.08.05
15.	Publication (summary translated if possible)	WCAC/PUB	10.09.05
16.	Distribution	WCAC	ET6Conf

B. Division of Work on the “Socio-economic Benefits of Climatological Services”

Sectors	TN145	Possible authors	Region	Action
Agriculture	X			S. Walker
Food Security		Isaac Eligah Nukhala		S. Walker
Animal Husbandry	X			S. Walker
Land Use Planning	X			S. Walker
Urban/Town Planning	X	Sue Grimmond (ET3.9)		L. Malone
Energy		Sandra Robles-Gil (ET3.13)		L. Malone
Water resource management	X	Wolfgang Grabs (HWR)		L. Malone
Fisheries/Marine				M. Fischer
Forestry	X			J. Helminen
Health (disease; atm. Pollution)	X	B.Menne/ C. Corvalan (WHO)		L. Malone
Disaster Management		P. Bessemoulin; Santos; IFRC	RAVI; III	J. Helminen
Policy		Mark Mwandiyosa or R Pielke Jr	RA I, IV	L. Malone
Construction		Sue Grimmond (ET3.9)		L. Malone
Engineering	X	Sue Grimmond (ET3.9)		L. Malone
Building Design	X	Sue Grimmond (ET3.9)		L. Malone
Transportation (air, land, water)	X	J. Thornes (U. Birmingham); J. Santos (CIIFEN)		R. Vilfand (ice); J. Helminen
Mining				S. Walker
Industry/manufacturing			RAII	L. Malone
Retail (commerce)	X	Richard Graham (UK)	RAVI	J. Helminen
Tourism/sports/leisure	X	WT(ourism)Org; Boodhoo: Luganda		L. Malone
Finance		WorldBank; IRI (Dilley)		L. Malone
Insurance & Reinsurance	X	SwissRe		M. Fischer
Legal				
Weather Modification	X	R. Bojkov		L. Malone
Social services		L. Kalkstein; G. Jendritzky		J. Helminen
Education		Peter Haymen; Luganda		J. Helminen
Other sectors				
Note there are research and policy aspects for each sector				JH to assign as needed