

VOS CLIMATE PROJECT SECOND PROJECT MEETING

Asheville, NC, USA, 30 October - 1 November 2000

FINAL REPORT

JCOMM Meeting Report No. 7

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NOTE

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariats of the Intergovernmental Oceanographic Commission (of UNESCO), and the World Meteorological Organization concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

GENERAL SUMMARY OF THE MEETING

1. OPENING

1.1 Opening of the meeting

1.1.1 The second Project Meeting for the VOSclim Project was opened by the Project Leader, Capt. Gordon Mackie, at 0930 hours on Monday, 30 October 2000, in the conference room of the National Climatic Data Center (NCDC), Asheville, NC, USA. Capt. Mackie welcomed participants to the meeting, and expressed his appreciation to NCDC, and especially to Mr Joe Elms, for hosting the meeting and providing such excellent facilities and support. He stressed to participants the importance of this project to global climate studies and eventually to VOS operations and management, operational meteorology and oceanography and maritime safety services in general. The present meeting was crucial to the future of the project, in refining its management structures, agreeing data and metadata return and exchange details and initiating the implementation phase.

1.1.2 On behalf of the Secretary-General of WMO and the Executive Secretary IOC, the WMO Secretariat representative also welcomed participants to the meeting and expressed the sincere appreciation of both Organizations to NCDC for hosting and supporting the meeting so admirably. He noted that the VOSclim Project was very much a part of the work of the Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM), and as such was sponsored by both WMO and IOC. This was particularly appropriate since the project directly addressed the air-sea interface and supported the common programmes of GCOS and GOOS. He then noted with satisfaction that substantial progress in the project had been made since its concept was agreed in November 1999, and expressed the belief that the present meeting would serve to finalize various essential details and initiate the implementation phase. He concluded by assuring the meeting of the continuing full support of the Secretariat and wishing everyone a successful meeting and enjoyable stay in Asheville.

1.1.3 The list of participants in the meeting is given in *Annex I*.

1.2 Adoption of the agenda

1.2.1 The meeting adopted its agenda for the session, which is given in *Annex II*.

1.3 Working arrangements

1.3.1 The meeting agreed its working hours and other practical arrangements. The documentation for the meeting was introduced by the Secretariat.

2. REVIEW OF ACTION ITEMS FROM VOSCLIM-I

2.1 Project Document

2.1.1 The meeting recalled that the VOSclim Project Document was reviewed and largely approved at VOSclim-I (Southampton, November 1999). It had subsequently been finalized by the Secretariat and Project Leader, published by WMO as JCOMM Technical Report No. 5 (WMO/TD-No. 1010), and distributed to all project focal points and other potential participants. The document contained, as Attachment 6, a preliminary action plan, containing actions to be implemented prior to the second project meeting.

2.1.2. This action plan is reproduced in *Annex III*, together with an indication of the status of implementation of each action item. The meeting recognized that a number of substantive action items were the subject of continuing work, with their present status and/or the final result of the action to be reviewed in detail at the meeting, under relevant agenda items. It further recognized that the results of the present meeting would most likely require some revisions to the project

document. These revisions are addressed under agenda item 5, where a new action plan is also considered.

2.2 Codes and formats

2.2.1 The meeting recalled that the first project planning meeting had proposed certain changes to both real time and delayed mode data exchange codes for the project, as well as associated changes to log books. With regard to the real time (SHIP) code, it was expected that CBS could be persuaded to modify this code to carry the additional elements required by the project which were so essential to the project's success.

2.2.2. It was noted that CBS had reviewed the proposal from the VOSCLim project during their April 2000 meeting. However, because of their goal of converting all the alphanumeric codes to table driven codes (i.e. CREX, BUFR, and GRIB) they had not approved the modification to the FM 13-X SHIP code. They instead suggested that the BUFR or CREX codes be used to transmit the ship observations with the expanded elements, pointing out at the same time that it was now a principle within CBS to no longer approve modifications to the alphanumeric codes. Instead, a concerted move was underway to convert entirely to BUFR or CREX for GTS data distribution within a fixed time period. The meeting recognized that the CREX code was a table driven alphanumeric version of BUFR that could be manually encoded, with some difficulty, but was visually readable. However, it was noted that it would be virtually impossible to train all the VOS observers to code weather observations in CREX. The meeting recognized that it was not absolutely essential for the additional information to be provided in real time, neither for the real time monitoring nor for climate end-users, provided that the expected delay in the non-real time data delivery was not greater than 6-12 months. In view of these considerations, the meeting therefore agreed to retain the existing (unmodified) ship code for the real time reports from VOSCLim ships. The additional information required with each observation would be recorded in the logbook/IMMT report, for eventual processing, archival and delivery to users through the DAC.

2.2.3 With regard to the modification required to the IMMT, to enable exchange of the full reports required by the project in delayed mode, the meeting noted with appreciation a draft revised version of IMMT which had been prepared by the JCOMM Subgroup on Marine Climatology in support of the VOSCLim project. This new version (IMMT-2) is given in *Annex IV*. The meeting agreed that this version should be proposed to JCOMM-I for eventual inclusion in the appropriate WMO publications, but that in the meantime it should be implemented immediately within the project, in particular in electronic logbooks such as TurboWIN, SEAS, etc. In addition, appropriate modifications were required to be made by all participants to their paper logbooks to allow for the recording of this additional information.

2.3 Metadata catalogue

2.3.1 The meeting recalled that the first project planning meeting had agreed that a supplement to the main WMO ship metadata catalogue (WMO-No. 47) should be implemented for project ships. This supplement should expand on the new version of the ship metadata catalogue previously agreed by CMM (and being implemented by the WMO Secretariat within its new ship metadata base) to include specific additional information required for the project, including digital ship imagery. In this context, the meeting noted with appreciation the revised version of the catalogue format prepared for the project by the JCOMM Subgroup on Marine Climatology. This is reproduced in *Annex V*. The meeting reviewed and agreed this as the appropriate format for the project catalogue supplement, and requested the Secretariat and the DAC to implement it as soon as possible. The catalogue and supplement can be found at: <http://www.wmo.ch/>.

2.4 Project promotion

2.4.1 The meeting recalled that project promotional material included a distinctive project name and logo and a small explanatory brochure for shipping companies and crews. In this context, it noted with appreciation the drafts of the logo, prepared by Mr Vince Zegowitz, and of the brochure,

prepared by Dr Peter Taylor. Some proposed modifications to both were made at the meeting, and it was agreed that final revised versions should be made available to the Secretariat and participants by early December 2000. WMO would then prepare a multi-lingual format for the brochure, as well as text versions in French, Russian and Spanish. These would then be sent to Canada (Mr Ron Fordyce), which had kindly agreed to print the brochure as a contribution to the project. It was agreed that an initial print run of 2000 English, 200 French and 200 Spanish brochures would be required. WMO would also make available to participants the basic brochure format and English text, for translation into additional languages, if so required. Finally, the meeting accepted with appreciation the offer by NOAA to prepare wall plaques, to include the project logo and a short text, for distribution to all project ships.

2.5 Ship survey report

2.5.1 The first project planning meeting had agreed that a special ship survey/ship inspection report format should be designed for the project. The meeting noted with appreciation the drafts of both formats provided to the meeting by Mr David Evans, based on the existing formats in use by the Australian Bureau of Meteorology. A number of modifications to these formats were proposed at the meeting, and participants were also asked to pass copies of their own national formats to Mr Evans, for use in preparing revised versions of both, for use in the project. These revised drafts should be available, in both paper and electronic forms, by December 2000, for one further review by participants. Once finalized, both forms, together with simple instructions for completion, should then be passed to the Secretariat, for preparation of French, Russian and Spanish versions. All four versions would then be sent, again in both paper and electronic forms, to participants and the DAC, if possible by the end of February 2001. The DAC would, in turn, make both forms (with instructions), in all these languages, available for use by participants via the project web site in read only/download form.

2.5.2 The meeting agreed that it would be highly advantageous if the ship survey report were to be adopted for use by all VOS operators as a unique WMO standard, which would, *inter alia*, greatly facilitate the collection of ship metadata for inclusion in WMO-No. 47. To this end, the Secretariat was requested to present the format to JCOMM-I, for adoption and eventual inclusion in the *Guide to Marine Meteorological Services*.

2.5.3 The meeting agreed that the initial ship survey report should be completed by PMOs immediately following ship recruitment to the project, with the completed forms to be submitted to the DAC (in electronic form via email) for maintenance and access via the web site as a primary project metadata base. Follow-up ship inspection visits should be made every time project ships visited their home ports, and in any case at least quarterly. The completed inspection reports should then also be submitted to the DAC, for maintenance with the survey reports as a complete metadata history for each ship.

3. DATA MANAGEMENT

3.1 Project Data Assembly Centre

3.1.1 The meeting noted with appreciation that the National Climatic Data Center, NOAA, had formally agreed to assume the role of Data Assembly Centre (DAC) for the project. It further noted and approved both the global data flow structure for the project, which is given schematically in *Annex VI*, and also the proposed data management structure within the DAC, which is given in *Annex VII*. It was agreed in particular that the delayed mode data (in IMMT format) would be routed to the DAC via the existing Global Collecting Centres for the Marine Climatological Summaries Scheme. This would greatly simplify such data submissions for both participants and the DAC, while not introducing any additional time delays.

3.2 Real Time Monitoring Centre

3.2.1 The meeting noted with appreciation that The Met. Office (U.K.) had formally agreed to act as Real Time Monitoring Centre (RTMC) for the project, as an extension of its existing CBS responsibilities. In this context, the meeting reviewed a report from the RTMC, including in particular a number of proposals concerning its operations. An extract from this report is given in *Annex VIII*. With regard to these proposals, the meeting:

- (i) agreed the proposed ship monitoring process and the format for distributing monthly monitoring statistics;
- (ii) agreed that email should be used for the distribution of both the monthly and additional weekly "suspect" ship lists;
- (iii) urged the recruiting PMOs of identified "suspect" ships to follow-up such notification as quickly as possible, including by forward notification of ship arrival in the ports of other participating PMOs, with a request for action; the results of this action should eventually be notified to the DAC through the project focal point of the action PMO, with copy to the recruiting country PMO;
- (iv) advised the RTMC to regularly check the project web site for changes to call signs of participating ships;
- (v) proposed that the DAC and RTMC should immediately establish an expert group to resolve possible problems regarding the formats for transfer of data and associated model fields from the RTMC to the DAC;
- (vi) agreed minor modifications to the TOR for the RTMC, which are included in the revised project document.

3.3 Information exchange

3.3.1 The meeting recognized that the primary means of information exchange for the project would be via a project web site, which was being implemented and maintained by the DAC. In this connection, it noted with interest a brief report on this web site, presented by the DAC. The meeting noted and agreed that the web site would be housed on the NCDC server, but with a direct access URL, and should, at least initially, be fully open. However, it was recognized that it might be necessary to provide the site with some password protection in the future, to protect it against abuse or to safeguard potentially sensitive information. Further decisions on this matter would be addressed as the project evolved.

3.3.2 The meeting reconfirmed that the web site should include at least the basic project support information, data and metadata as given in Section 9 of the project document. The primary access to the ship metadata catalogue should be via the ship name, call sign or IMO number, which would then allow selection of any required subsets of ships, instruments, etc. This catalogue should also allow access to ship status reports, with links to the observational data and monitoring reports. The project data (observations, metadata, real time monitoring data and the additional observational data) should also have a direct access through the web site for ftp download. As noted above, the ship survey and inspection forms (including instructions for completion) should be available from the web site for download for completion and return by participating PMOs to the DAC by email. Unique observational data reports delivered to the DAC through all three data streams should be archived for access by users.

3.3.3 The meeting agreed that a skeleton version of the web site, including sample data and metadata, should be prepared by the DAC and made available for review by participants by the beginning of January 2001. Following this review and possible modifications, the site could then be progressively populated, to be effectively operational, to receive real data and metadata input and for use by the project, by April 2001.

3.3.4 The meeting recognized that a newsletter would be an essential component of the project, to provide a means of informing and communicating with participating ships as well as among meteorological services, data centres, users and other participants. As noted in the project document, the newsletter should contain information, reports, results and statistics from participating ships and PMOs, the RTMC and DAC, and users. It would be edited by the

Secretariat, made available via the web site, and published if possible at least every six months. The meeting agreed that an outline format and list of contents for the newsletter should be prepared by the Project Leader, with assistance from the Secretariat, Ms Sarah North and Dr Peter Taylor, with this outline circulated to participants for review by late December 2000. If possible, a first newsletter should be prepared for submission to the DAC by the end of July 2001.

4. SHIP RECRUITMENT

4.1 The meeting recognized that ship recruitment was clearly a critical component of project implementation, and recalled that some criteria for ship selection were given in the project document. It agreed that, in addition to these criteria, it was important that, within the context of the JCOMM objective of developing integrated marine observing systems and as recognized at the first project planning meeting, VOSClm ships should, to the extent possible, also be supporting SOOP and/or ASAP. As an aid in developing an initial list of potential VOSClm ships, the meeting noted the full lists of ASAP and SOOP ships, which had been prepared by the Secretariat. While being very conscious of the importance of not overburdening cooperating ships officers with substantive additional observational requirements, the meeting nevertheless agreed that the additional burden for the ships officers which were required by VOSClm were relatively minor. In contrast, a proportion of the additional work required in the project would fall on the participating PMOs, while the project itself would actually assist the participating VOS in generating extra PMO support for all their observational work. This latter point might be used as a further enticement to ships to participate. It was therefore agreed that, where feasible, VOSClm ships would be recruited from among existing SOOP and ASAP ships.

4.2 Participants provided the meeting with preliminary lists of potential participating ships from among their national VOS. These lists were restricted to basic operational information, as an aid in making the initial global selection, and were regarded as very much provisional, since no recruitment actions had yet been taken. Such lists were provided by Australia, Canada, France, Germany, India, Japan, Poland, UK and USA. They included many existing SOOP and ASAP ships, and together amounted to an initial potential total close to the ideal project minimum of 200 ships. In addition, it was recognized that there were several countries not represented at the presented meeting which were also potential project participants, and thus with ships to contribute. The Project Leader and Secretariat were requested to follow-up with these countries as soon as possible.

4.3 The meeting was very encouraged by this first estimate, which it agreed augured well for the future of the project. The meeting accepted the kind offer of Dr Liz Kent (SOC) to merge these individual national lists into an initial integrated list of potential project ships, with any duplicates eliminated, and also to prepare a map showing the potential global route coverage of these ships. This list and map should then be distributed to all participants, the DAC, RTMC and Secretariat, to serve as an aid in planning national recruitment. It would also allow the selective targeting of obvious data sparse areas as recruitment proceeded. The meeting requested the DAC to make the list and map available on the web site, to be eventually replaced by the actual list of project ships as recruitment progressed.

4.4 Finally on this topic, the meeting agreed that direct recruitment should begin around March/April 2001, once all preliminary documentation was available and the DAC and RTMC were in a position to accept and process data and metadata.

5. REVISED ACTION PLAN

5.1 Based on decisions taken under preceding agenda items, the meeting reviewed the Project Document, and identified a number of small revisions which would be necessary (e.g. regarding the proposed SHIP code modifications, revised RTMC TOR, updated focal points and new action plan). The Secretariat was requested to incorporate these revisions into the document and to publish a fully revised version. This revised project document should then be made available to participants through the WMO and project web sites, as well as in paper form. Again based on

decisions taken under preceding agenda items, the meeting also prepared an updated action plan for the second year of project development/implementation. This action plan is given in *Annex IX*.

6. DATE AND PLACE OF THE NEXT MEETING

6.1 The meeting agreed that a third project meeting, at least, would be required, to review progress in implementation, consider possible modifications to structure and operations in the light of initial experience, and also to review some preliminary results from users. It therefore proposed that this meeting should take place around mid-November 2001, at the WMO headquarters in Geneva. The project leader and Secretariat were requested to make the necessary arrangements and to inform participants of these, if possible well in advance.

6.2 The meeting further agreed that the project would require the ongoing services of a Project Leader, and nominated Capt. Gordon Mackie to continue in this role, subject to the availability of the necessary funding support from WMO.

7. CLOSURE OF THE MEETING

7.1 In closing the meeting the Project Leader, Gordon Mackie, expressed his appreciation once more on behalf of all participants, to NCDC and in particular Joe Elms, for hosting the meeting and providing such excellent support and facilities. He also thanked participants for their valuable input to what had been a very successful meeting. Finally he wished everyone a successful implementation of the project, and expressed the hope of seeing all focal points at the next project meeting in Geneva.

7.2 The second project planning meeting for the VOSCLim Project closed at 1030 hours on Wednesday, 1 November 2000.

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