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| **WORLD METEOROLOGICAL ORGANIZATION**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **COMMISSION FOR INSTRUMENTS AND**  **METHODS OF OBSERVATION**  **CIMO MANAGEMENT GROUP**  **Fourteenth Session**  Offenbach, Germany 5 – 8 April 2016 |  | CIMO/MG-14/Doc. 5.3(4)  (XX.II.2016)  \_\_\_\_\_\_\_  ITEM: 5.3  Original: ENGLISH |

**OPAG Capacity Development and Operational Metrology**

**REPORT ON PROGRESS AND RECOMMENDATIONS FROM THE CIMO TASK TEAM INTERNATIONAL CLOUD ATLAS**

(Submitted by Steve Cohn and Mario Garcia)

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| **Summary and purpose of document**  This document provides information on progress of the revision of the International Cloud Atlas WMO No. 407 |

**Action proposed**

The Meeting is invited to take note of progress and status, and provide any recommendations going forward.

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**Appendices:** I Updated Workplan 2014-2018

**REPORT ON PROGRESS AND RECOMMENDATIONS FROM**

**THE CIMO TASK TEAM INTERNATIONAL CLOUD ATLAS**

1. **INTRODUCTION**
   1. The CIMO Task Team on the International Cloud Atlas (TT-ICA) was formed during August 2014, consisting of members with diverse experience in cloud observations, and Secretariat participation and support. The committee is building on the work of the 2013 task team that evaluated the need for a revision and proposed specific steps and changes. The TT-ICA works though individual and small subgroup efforts, with frequent meetings via WebEx, and approximately annual in-person meetings.
   2. Revision of the International Cloud Atlas received strong support at Cg-17. Congress was pleased that CIMO has taken steps in developing a new web-based edition of the International Cloud Atlas (ICA) – Manual on the Observation of Clouds and Other Meteors (WMO No. 407, Volumes I and II) as a WIGOS-related document needed for the operation of NMHSs, particularly in developing countries. Congress acknowledged that the update of the International Cloud Atlas would need to be made by correspondence and delegated EC to approve the Atlas and ensure its prompt publication.
   3. This summary covers the period since the last MG meeting in December 2014. Over this period TT-ICA met about 30 times through WebEx for group discussions, decisions, and updates. The most recent in-person meeting took place September 2015 in Pretoria, South Africa. The team is indebted to Dr. Linda Makuleni, the Permanent Representative of South Africa with WMO, for hosting that meeting, and to TT-ICA member Ms. Colleen Rae for her excellent and thoughtful local planning.
   4. Since December 2014 TT-ICA has advanced its work on Work Plan Tasks 1 through 8. Progress and status of the tasks is reported below. TT-ICA continues to benefit from invaluable efforts and large time commitments from all members. The dedication shown by all Task Team members is greatly appreciated.
2. **ACHIEVEMENTS WITH RESPECT TO WORKPLANS**

* 1. The TT completed building, and in July 2015 opened, a website for submission of new images. The website has been built and is hosted by the Hong Kong Observatory, and the task team is indebted to Mr Shun Chi Ming, the Permanent Representative of Hong Kong (China) and his staff for their collaboration on this task. In July 2015, WMO released a circular to all Permanent Representatives requesting that they advertise the image submission opportunity within each country.
  2. As of 10 March 2016, 692 users had registered with the site and 1186 candidate images had been submitted. The number of images submitted, number of high quality images, and geographic diversity of the submissions, are all lower than the TT had expected. This is despite additional efforts to advertise this opportunity through various social media and association meetings. The impact of this will be the need for the TT to directly contact and request images from persons and groups known to have images of specific types needed. Images will be used for Volume II, but also to illustrate information in Volume I. With the modest pace of submissions through the website, Task 6, image evaluation has kept up with submissions, but with few final selections yet made. (Workplan Tasks 5 and 6)
  3. Revision of the Volume 1 text and creation of a new Glossary are underway and are progressing well. Text has been added to define and describe the new cloud classifications and features proposed by the task team, and the overall text has been modernized both in scientific content and writing style. This task has largely occupied the team since September 2015. The aim remains to submit the proposed new text toEC-68, for approval by correspondence soon after then. The level of required effort on the text has been greater than anticipated, but is understandable with hindsight because of the age and history of the ICA. Further, in anticipation of a Web format, the text must be considered in quanta that are small and bounded, but also potentially interconnected. A final updated Cloud Coding Decision Aid, and a simplified version for some uses, have been completed. (Workplan Tasks 4 and 7)
  4. Glossary entries have been created for approximately 150 terms. This task is largely complete, although a few additional terms may be added now that work on updating the text is drawing to a close. Many entries have been drawn from outside sources, and permission for their use is being obtained. (Workplan Task 3)
  5. Some further progress has been made toward the final website design. As a step toward this, the task team has developed a set of User Stories that will be used to test the usability of the website design for a variety of purposes. In addition, an internal discussion document was created with a preliminary website design. (Workplan Task 8)
  6. Workplan task 2, identifying needs for new imagery, was complete as of CIMO MG-13. Workplan task 1 is an ongoing task that is essentially project management of task team activities.
  7. In addition to the above activities, the task team organized a side-event at Cg-17 to provide background on WMO’s International Cloud Atlas and the benefits of its revision.

1. **PROBLEMS ENCOUNTERED, RISKS IDENTIFIED**
   1. A number of problems has been encountered during the development of the new version of the ICA, each with its associated risks. While some of these have been resolved, others remain. They are as follows:

* The timeline for completion of the text revision is tight. The entire task team has been working hard to complete this task in time for EC-68 but the date by which it needed to be sent to Members for their approval during EC-68 has passed. Instead, it is proposed to submit the text closer to EC-68 (15 April), and to request the Council to agree to it being approved by their President by correspondence on their behalf once the 90 day response period (since submission) has expired, subject to the receipt of no major objections to the new text in that time. Approval of the new text in this way should then enable the task team to turn its attention to sourcing the remaining images required, and to the ICA website design, which in turn should enable the finished product to go operational in time for the coming WMD (23 March 2017)
* Image submission has been slower than anticipated and the quality of images received has been lower than anticipated, despite several additional calls for submissions since the original request to PRs. The task team plans to overcome this image shortage by personally approaching a number of known cloud photographers and requesting them to send the particular images still being sought.
* It is still not known with certainty who will design, build and host the ICA website. It seems most likely that this will be HKO, but there is some risk that HKO will not ultimately do this work. This risk is seen as small at this stage.
* The workload on the individual members of the task team has been large and sustained over a long period of time. There is a risk that one or more members of the team may find themselves unable to continue until the end of the task, in which case additional team members may need to be recruited.
* The Task Team is now approaching completion of Tasks 1 to 8 of the Work Plan. This is the point at which external review of the website design is required. In view of the tight timeline that the task team will face for the remainder of 2016, there is a risk that unless the external review can be completed quickly, the finished product may not be ready for publication in time for WMD 2017.

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1. **RECOMMENDATION**
   1. That CIMO MG provides assistance to TT-ICA by enabling a speedy external review of the ICA website design, once the design has been completed.

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**APPENDIX I: Workplan of the Task Team on the International Cloud Atlas (2014-2018)**(Version: as approved by CIMO-MG-13 in Dec. 2014, updated 25 September 2015)

| **No.** | **Task description** | **Person responsible** | **Action** | **Deliverable** | **Deadline for deliv.** | **Status**  **[%]** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1. | Establish sub-groups as required (text experts, image experts, decision aid) and prepare detailed plan of action | All, **Cohn, Bruhn** | 1. Develop project plan  2. Continuous review. | 1. Detailed Project Plan  2. Refinement of plan. | 1.Sep 2014,  then  2. ongoing | 100  75 | CIMO-16 4.35-36 |
| 2. | Identify needs for new/ replacement imagery and metadata. Generate a list of images and metadata required | Image Expert Sub-Group: **Bruhn (lead),** Anderson, Trice (may need others) | 1. Review imagery  2. Prepare list of required images and metadata | 1. List of the needs for new/replacements imagery and metadata | 1. Oct 2014  2. Oct 2014 | 100  100 |  |
| 3. | Draft the new Glossary | Text Expert Sub-Group - Glossary: **Lovell (lead Glossary),** Rae, Cohn (eg NSSL liaison), others | 1. Prepare List 2. Add definitions 3. Finalise glossary | 1. List  2. Glossary of terms  3. Final version | 1. 80% Dec 2014  2. 100% Apr 2015  3 Feb 2016 | 100  95  95 | Finalisation now awaits finalization of text and submission to EC-68 with text |
| 4. | Review, revise and update text | Text Expert Sub-Group: **Rae (lead),** Anderson, Lovell, Cohn, need others | 1. Review   1. Revise/update 2. Finalise text | 3. Completed text | 1. Oct 2014  2. 80% Mar 2015  3. Feb 2016 | 100  90  65 | Must be completed in time for submission to EC-68 in May/Jun 2016 |
| 4a | Describe changes in revised ICA | **Cohn** | Prepare a short document describing the main changes from the 1987 version, for inclusion in a new preface to the 2016/7 version. | Draft document | Feb 2016 | 50 |  |
| 5. | Acquire and sort candidate imagery | Secretariat, **Tam,** Trice | 1. Build and test web portal  2. Request submissions  3. Sort/Assess Images/Metadata | 1. Test portal ready for testing.  2. Live portal built, debugged.  3. Letter to PRs etc  4. Full set of candidate images and metadata online | 1. Dec 2014  2. Feb 2015  3. July 2015  4. 95% Feb 2016  100% May 2016 | 100  100  100  15 | This is the triage step. |
| 6. | Select Imagery | Image Expert Sub-Group | 1. Select prov image set  2. Assemble associated metadata, Compose descriptions/captions. Check permissions, etc. If issues, reject, go back and select new prov image and process.  3. Get second opinion on final image and metadata. | 1. Prov Imagery Set  2. Associated metadata completed  3. Completed and posted imagery set | 1. Jan-Jul 2016  2. Oct 2016  3. Dec 2016 | 5  0  0 | 1. Reduce no of images to final number (prov images) 2. Final image selection is made (1 x final number) |
| 7. | Create an updated Cloud Coding Decision Aid and develop a simplified Cloud Classification Decision Aid (limited to identifying genera) for Volume I | Decision Aid Sub-Group: **Thurig-Jenzer (lead),** Rae, Campos, Lovell | 1. Develop Decision/Coding Aid  2. Develop simplified Identification Aid | 1. Updated Cloud Coding Decision Aid and Cloud  2. Classification Decision Aid | 1. 80% Dec 2014  2. 80% Feb 2015 | 100  100 | Do more cartoons need to be developed? |
| 8. | Determine functional requirements for website and design all aspects of the web-based ICA, including the Image Template, all desired functionality, the final formats needed (e.g. various printable subsets), and search requirements | **Trice (lead),** Tam | 1. Document the functional requirements  2. Document the text flow structure  3. Seek approval to continue from CIMO MG.  3. Build test website. | 1. Specification of functional requirement  2. Text flow diagram  4. Test Website | 1. Oct 2015  2. Oct 2015  4. May 2016 | 70  0  0 | Need to allow for testing and debugging here, and it may take considerable time. A review process is required. |
| EXTERNAL REVIEW POINT | | | | | | | |
| 9. | Build the website | **Tam (lead)**, Trice | 1. Do it  2. Quantify the cost of operating/maintaining the website once operational. | 2. Fully functional (offline,) website | 1. Aug 2016 | 0 |  |
| 11. | Complete web site functionality | TBD |  | 1. Fully functional website | Nov 2016 | 0 |  |
| 11a | ´´Blind user´´ Test |  | Test every page, link and combination of button clicks | 1. List of bugs | Jan 2016 | 0 | Probably 2 stage. First stage internal, second stage extensive external betatesting. |
| 12. | Final proof-read, error correction, and approval | TBD |  | 1. Errors/bugs removed | 23 Mar 2017 | 0 |  |
| 13. | Publication | TBD |  | ICA published on web ICA hard copy available | 23 Mar 2017 | 0 | Re hard copy, need to research this further. |

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