

AOPC-VI: CONSOLIDATED LIST OF CONCLUSIONS, RECOMMENDATIONS AND ACTION ITEMS

(Geneva, Switzerland, 10-13 April 2000)

Item 6 – UNFCCC and Intergovernmental Issues

1. GCOS Secretariat to produce a draft framework for the synthesis/analysis report to be developed from the national reports on systematic observation which are to be submitted by UNFCCC Parties to the COP by November 2001. Draft framework to be available for review by AOPC by January 2001.

Item 7 - Database Issues

2. GCOS Secretariat to contact GOSIC (Ron Wilson) to thank him for the GOSIC Web site, to request that he add a source reference and date to all GCOS information on the site, and to suggest that he may wish do so for other pages as well. Where possible, information should be accessible via links to/from formal GCOS pages.
3. AOPC Members to review the GCOS pages currently on the GOSIC Web site (<http://www.gos.udel.edu>) with a view to endorsement of the information relevant to AOPC. Comments to be passed to the AOPC Chairman by 28 April. The Chairman will consolidate comments and provide AOPC input and endorsement to GOSIC.
4. AOPC Members to review the CEOS/WMO database of observation needs to verify their validity (note that the database represents needs which can be fulfilled by both satellites and in-situ measurements or any combination thereof). Comments to Chairman by 14 May for consolidation and feedback to WWW/SSO (D. Hinsman).
5. AOPC Members to review current Statements of Guidance (SOG) for satellite operators which have been produced by the CBS OPAG/IOS Expert Team on Observational Data Requirements and Redesign of the GOS (chaired by P. Menzel). Comments to AOPC Chairman by 14 May. (Refs: Doc. 19 from AOPC-VI and WMO/TD No. 913/SAT-21)
6. AOPC noted with concern that at present there is no SOG in the OPAG/IOS process related to climate monitoring. It requested the GCOS Secretariat to liaise with CBS to ensure that the full range of climate issues are included on the OPAG/IOS agenda.
7. AOPC will continue to liaise with the CLIVAR Data Task Team through attendance by members (D. Parker, P. Jones or others) at their meetings, as feasible. Monitoring of their activities will also be provided by NCDC personnel on the Task Team, the objective being to maintain a watching brief on that group's activities and plans which might relate to AOPC interests.

Item 8 - Marine Issues

8. Formal response from AOPC to the draft Conference Statement from OceanObs99 to be provided to the OceanObs99 organisers by end April, 2000. Draft letter to be provided by 21 April by E. Harrison to the AOPC Chairman, for appropriate forwarding by 28 April.
9. AOPC expressed its appreciation to the SST-SI Working Group and its Chairman for their productive efforts to date, and to PMEL for hosting the Web distribution site for real-time and historical SST data sets. (Letter of thanks to Baker, to be provided by E. Harrison)

10. AOPC requested the SST-SI Task Group to ensure that the assessment of sea-ice and SST analyses includes products from centres working on sea-ice concentration and extent (e.g. Roger Barry group).
11. AOPC (E. Harrison) to draft a statement expressing the strong support of AOPC for continuation of measurement of SLP on drifting buoys.
12. AOPC recognized the importance of high-quality analyses of SLP, both continuing and historical, and encouraged the undertaking of this activity by qualified groups. This work should include assessment of the amplitudes of the major climate variability patterns and trends and a summary of event extremes.
13. AOPC endorsed the efforts underway through JCOMM to establish a reference network of roughly 200 Voluntary Observing Ships, through the VOSclim Project. AOPC considered that these data will make a significant contribution to enhancing the quality of oceanic analyses, including air-sea fluxes.
14. AOPC endorsed the strategy to make quantitative assessments of data coverage of climate observations and looks forward to the completion of the report on drifting buoys.
15. AOPC (E. Harrison) will provide a statement of support for the establishment and maintenance of ocean reference sites, for delivery to the CLIVAR SSG.
16. In response to a request from CLIVAR, the AOPC reviewed the current distribution of GSN and GUAN sites in the Indian and Pacific Ocean regions. AOPC concluded that no additional sites can feasibly be added at this time, but it will make every effort to ensure the continuing operation of existing sites in these regions. E. Harrison, T. Peterson and D. Parker to draft recommendations on observation enhancements in the Indian-Pacific for P-BECS.
17. AOPC recognized the ASAP programme as a valuable contribution to GCOS in the provision of upper-air data over the data-sparse ocean regions. It noted in particular the importance of the ASAP/WRAP initiative in contributing to observations in the southern hemisphere oceans.

Item 9 – GSN (and GUAN as appropriate)

18. AOPC reiterated its appreciation to the DWD and JMA for hosting the GSN Monitoring Centres and applauded them for the excellent progress in implementing the centres and reporting the monitoring results.
19. AOPC endorsed the efforts of the GSN Monitoring Centres and CBS to establish a contact in each national agency at the data management level to provide real-time liaison on operational issues on GSN and GUAN performance.
20. AOPC expressed its appreciation of the work of H. Daan, and the support of CBS, for the very informative analysis of GSN and GUAN data availability. AOPC recommends that such analyses and reports be continued and that, through CBS and the Monitoring Centres, the results be used to improve the operation of GSN and GUAN.
21. AOPC supported the proposal to establish Regional Basic Climatological Networks (RBCNs) in each of the WMO regions, noting that these would serve as regional enhancements to the GSN. The RBCNs were to be established by the WMO Regional Associations and would include existing GSN stations in each region.

22. AOPC confirmed the need for, and membership of, its ad-hoc Advisory Group for the GSN and GUAN (AGG). This group (H. Daan, P. Jones, D. Parker, T. Peterson and E. Sarukhanian) is tasked, *inter alia*, with the review of any proposed changes to the official list of GSN and GUAN stations, prior to their formal approval by AOPC and CBS.
23. AOPC noted that the current 'official' lists of GSN and GUAN stations are those given in Documents 26 (989 GSN stations) and 27 (150 GUAN stations) at this meeting (AOPC-VI). These lists were currently available on the GCOS Web site and would be updated there if and when appropriate.
24. AOPC requested that the GSN/GUAN Advisory Group (AGG) review the published terms of reference and selection criteria for GSN stations with a view to reaffirming their validity. It further requested the group, in consultation with CBS and WCRP, to review the current list of GSN stations and make recommendations on possible refinements where absolutely necessary to meet the GSN criteria.
25. AOPC requested CBS and the Monitoring Centres to continue to ensure that GSN and GUAN operators make routine CLIMAT and CLIMAT TEMP reports.
26. AOPC requested that all GSN monitoring and assessment reports be published on the Monitoring Centre Web sites as soon as possible after distribution (semi-annually) of the results to WMO Members.
27. AOPC requested that a list of key performance indicators for availability and quality of GSN and GUAN data be prepared for review by all AOPC members (action by T. Peterson, D. Parker, H. Daan and S. Roesner).
28. AOPC requested that action be taken to identify GSN stations explicitly in Monthly Climate Data of the World (MCDW) reports. (T. Peterson)
29. AOPC thanked the Secretary-General of the WMO for having distributed to WMO Members the desired circular letter regarding submission of GSN data.
30. AOPC requested that the GSN/GUAN Advisory Group (AGG) work with the GCOS and WMO Secretariats to draft follow-up letters to relevant WMO Members, with appropriate comments concerning the receipt of CLIMAT and other data from GSN stations in response to the letter sent by the WMO Secretary-General in September 1999.
31. AOPC reaffirmed its interpretation that all daily data from GSN stations, both real-time and historical, are essential data under the terms of WMO Resolution 40. It requested that a letter be prepared for transmission of this reaffirmation to all relevant parties (action by H. Daan and S. Roesner).
32. AOPC requested the GSN and GUAN Monitoring Centres (DWD, JMA, Hadley Centre, WMO WDC-A) to aim to have products and data sets available by the end of 2000.
33. The Panel requested that P. Jones represent AOPC at the meeting on a Global Hydrological Network for Climate (GHNC) to be held at DWD from 26-30 June 2000.

Item 10 - Analysis of land surface data

34. P. Arkin to draft a statement on GPCP-type activities, noting the supplementary role of GPCP to GSN. (DONE)

35. P. Jones to draft a statement on the status and benefits of the global high-resolution precipitation analysis, especially relating to studies of representativeness. (DONE)
36. The Panel expressed its thanks to the Asia-Pacific Network (APN) for sponsoring the two recent (1998, 1999) workshops on indicators of climate extremes, held at the BMRC in Melbourne, Australia. It noted that the workshops had generated valuable analyses of climate indicators for the Asia-Pacific region and had contributed significantly to the building of regional interest and capacity. The Panel encouraged the continuation of such initiatives in the region and endorsed them as a model for other regions.
37. AOPC expressed its endorsement of the progress made by the CLIVAR/CCI Working Group on Climate Change Detection (WG-CCD) as presented by the Chairman of that group (T. Peterson) and encouraged the group to continue its efforts while bearing in mind the interests of AOPC.
38. In view of the importance of in-situ snow-depth data for climate research, the AOPC recommended that all WMO Members be asked to disseminate their snow-depth reports via the GTS at least once per day, if they are not already doing so.
39. The Panel expressed its endorsement of the recommendations regarding the observation of climate data from automatic weather stations (AWSs) which had been drafted by the recent meeting of the CLIVAR-CCI WG-CCD, and encouraged their presentation to the forthcoming meeting of the CBS Expert Team on Requirements and Representations of Data from AWSs.

Item 11 - GUAN

40. The Panel requested that the GSN/GUAN Advisory Group (AGG) review the terms of reference and selection criteria for GUAN stations with a view to reaffirming their validity and making them generally available. It further requested that the group, in consultation with CBS and WCRP, review the current list of GUAN stations and make recommendations on possible refinements where absolutely necessary to meet the GUAN criteria.
41. AOPC requested that the WMO Secretariat be asked, in cooperation with GCOS and WCP Secretariats, to send a letter to all Members to confirm their commitment to GUAN stations and to encourage their support for a network of contacts for assuring its successful operation. The letter will also seek the submission of historical daily upper-air data. Details of the letter are to be finalized by the GSN/GUAN Advisory Group (AGG) following an assessment of the responses to the GSN letter and should reflect the findings of the performance report by H. Daan.
42. The Panel expressed its appreciation to the Hadley Centre of the UK Met Office and the NOAA/NCDC for agreeing to act as the Analysis Centres for GUAN and requested the GCOS Secretariat to formally acknowledge the establishment of Hadley and NCDC in this role.
43. GCOS Secretariat to update the GCOS Web site to link into the relevant GSN and GUAN monitoring centres (NCDC, Hadley, DWD and JMA).

Item 12 - Analysis of upper air data

44. D. Kley to provide statement on water vapour observations.
45. The AOPC endorsed its strategy for water vapour (WV) measurements as requiring: GPS-based measurements for total water; sondes for Lower Troposphere WV; aircraft

measurements for LT and UT WV; satellite measurements (Microwave Limb Sounder, MLS) for UT and LS WV; and (possibly) GPS-based measurements for UT and LS WV. There remain issues of data availability for real-time use.

46. The AOPC expressed its support for ongoing work on the improvement of temperature data for the troposphere and stratosphere and on the reconciliation of temperature trends at different levels as obtained from observations and models. In particular, it strongly supported plans for the independent processing of Microwave Sounding Unit (MSU) data. The Panel also encouraged ongoing efforts to identify and explore strategies to remove inhomogeneities in the radiosonde temperature record and expressed its strong support for continuing efforts to compare satellite (MSU), radiosonde, and surface temperature data.
47. AOPC noted with concern that there is no guarantee at present that there will be continuity in measurement of MSU radiances from future satellites. The Panel requested D/GCOS to write to the relevant agencies urging this continuity on the NPOESS program. (E. Bretherton to provide draft letter)

Item 13 - Atmospheric constituents and radiation

48. AOPC expressed its appreciation to the WMO and GAW for publishing the CEOS report on ozone and looked forward to the implementation of its recommendations.
49. AOPC commended the progress in the GAW programme in establishing a formal international process for intercomparing CO₂ measurements at GAW sites.
50. AOPC requested that GAW keep the Panel informed on the international mechanisms for monitoring halocarbons.
51. AOPC noted the growing activity to combine CO₂ data, potentially through assimilation, in order to monitor the global CO₂ distribution. The Panel will seek to be represented at the IGBP meeting in October to consider relevant issues, such as the link between GSN and FluxNet.
52. AOPC noted the importance of developing a systematic process for monitoring climate forcing due to aerosols, solar radiation, and land use/land surface changes. These issues will be considered at the next AOPC meeting. (Action: M. Manton will discuss radiation and aerosol monitoring with G. Stephens. P. Jones to look into land use change.)

Item 15 - Future activities

53. AOPC members briefly reviewed the latest version (24/05/98) of the draft GCOS Plan for Atmospheric Climate Observations. It was agreed that this draft required no fundamental changes in structure or content and could be completed directly from the current version. The Chairman agreed to take on this task with a view to completing it as soon as possible.
54. AOPC requested that a watching brief be maintained on global model reanalysis issues (P. Arkin). It also recommended that there should be more than one organization conducting regular global reanalyses.
55. The Panel requested the development of a set of key global climate indicators for GCOS, which are to be calculated routinely and regularly. T. Peterson and P. Jones agreed to develop such a set of about 10 indicators for daily data and 10 for monthly data, which would be discussed at the next meeting of AOPC. The indicators would be calculated from all available data as well as from GSN and GUAN data alone.

56. AOPC decided that planning should commence for a GCOS 'Atmospheric Observations Conference', along the lines of the recent OceanObs99 conference, in the 2002 timeframe. M. Manton agreed to circulate a draft proposal on the aims, scope, time, sponsors, and organising committee by the end of May.
57. F. Bretherton to provide a report on public and private roles in data issues.
58. E. Harrison to provide report (and forecast) on current state of ENSO.
59. Next meeting to be in Geneva, Switzerland, 30 April-3 May 2001.