



*Workshop  
on  
the  
Year  
2000  
Problem*

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*Implications  
for  
Meteorological  
Services*

*Meeting Report*

*Honolulu, Hawaii  
8 – 10 November 1998*

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## Executive summary and recommendations

*Having met in Honolulu, Hawaii, from 8 to 10 November 1998, participants of the Workshop on the Year 2000 Problem have agreed to the following summary and recommendations which are directed towards government decision makers and relevant organisations.*

There are slightly over 400 days left before the date change to the year 2000 (Y2K). Therefore, there has been a realisation within the World Meteorological Organization, the South Pacific Regional Environment Programme (SPREP), and many other organisations that, given the widespread use of computers that support meteorological operations, it is imperative that computer systems affected by the Y2K problem (e.g. hardware, software, communications, infrastructure) be Y2K compliant. The problem is not restricted to the meteorological equipment for any one nation. Given the interconnectivity of today's networks and systems, it is vital that any National Meteorological and Hydrological Service (NMHS) coordinate with vendors of expendable items and services, the infrastructure of the state (e.g. telecommunications, power and water) and with neighbouring countries to ensure that there is a sharing of information on Y2K to ensure compliance, in a timely manner, from all these sectors.

In summary, the Y2K problem stems from an old practice in computer systems architecture that was used to save memory space in the days when computer memory was a very scarce and expensive resource. In order to save memory, only the last two digits of a year were used to depict and process that information (e.g. 1998 was processed as 98). The problem with the year 2000 is that, if not fixed, the two-digit value of '00' could be interpreted as the year 1900 rather than the year 2000. This presents a number of problems that range from computers shutting down to data being inadvertently purged due to automated archiving. Although the full extent of the Y2K problem may never be fully known, good management practice dictates that measures be taken to ensure that the impact on operations is minimised by having a Y2K programme in place that stresses an inventory of computer-based systems, renovation, testing, and constant diligence to ensure that the problems are known and are solved effectively. As in any good management practice, con-

tingency plans must also be in place to take care of any problems that are somehow overlooked or undetected.

The recognition of the Y2K problem and its possible effects on meteorological operations, along with recommendations to help mitigate the problem, were the centrepiece of this workshop. A number of presentations were made that focused on the Y2K problem itself. Various organisations such as the US National Weather Service, World Meteorological Organization (WMO), Meteorological Service of New Zealand, Federal Aviation Administration, and Hawaii State Civil Defense presented what they were doing about the problem. Following that, three working groups were established — (1) observing systems, (2) telecommunications and (3) data processing — in order to come up with practical recommendations that could be used by the members of SPREP to help mitigate the Y2K problem in each member's NMHS.

The following recommendations and actions were generated and adopted by the workshop participants:

1. Explore opportunities with the WMO, SPREP and the European Union Cyclone Warning System Upgrade Project (EU CWSUP) for securing funds to assist NMHSs in mitigation efforts for the Y2K problem.
2. Form a task team consisting of members from or arranged by the WMO, US National Weather Service, New Zealand Meteorological Service and the SPREP Secretariat to provide special assistance to SPREP members requiring assistance in mitigating the Y2K problem.
3. Encourage members to exchange information with other parts of their government and with other NMHSs to raise awareness and maintain diligence in tackling and solving the Y2K problem.
4. Members are encouraged to perform a detailed inventory of their hardware, software and communications interfaces and provide it to the SPREP Secretariat as well as the new WMO sub-regional office based at SPREP headquarters in Samoa. This inventory will not only focus the members

on the required actions for Y2K, but will also provide an inventory of telecommunications capabilities that will assist the SPREP Y2K task team noted in action No. 2. This would also be useful in deciding where scarce resources should be applied in order to ensure at least minimal Y2K compliance after 31 December 1999.

5. Although it is not a low-cost solution, a recommendation was made that one Y2K contingency to be considered in the Pacific would be to upgrade some key World Area Forecasting System (WAFS) sites from one-way receive to two-way receive/transmit stations to allow for the uninterrupted transmission of raw meteorological data. In order to start this process, a formal recommendation from SPREP should be forwarded to WMO stating that the upgrade of the WAFS Pacific Ocean Region satellite facility in Yacoult, Washington, to two-way capability would be a good Y2K contingency. From that, the WMO would have to make a formal request to the United States for such an upgrade. Details (e.g. costs, procedures) will need to be worked out to determine if such an upgrade is feasible.
6. The survey of Y2K status (see Annex 7) accomplished just prior to (and during) the Honolulu Y2K Workshop needs to be kept up to date as work progresses towards full Y2K compliance in the SPREP member countries. SPREP member countries are urged to keep their status under review and provide frequent updates of the information and data to the SPREP Secretariat. WMO members are reminded that the WMO Secretariat needs to be kept informed as to their Y2K status.
7. SPREP member countries should check and evaluate not only their meteorological systems, but consult with their providers of

power, water, telecommunications (PTT); providers of consumables, expendables and spare parts; providers of fuel; and customers to ensure they are Y2K compliant. This will help ensure uninterrupted service within the NMHSs and to those served.

8. SPREP member countries are urged to consult the WMO website (<http://www.wmo.ch> and its Y2K pages) to see what the latest information and guidance is.
9. Because there could be a disruption of supplies in early 2000, it may be prudent to ensure that a full allowance of consumables, expendables and spare parts are on hand by mid-December 1999.
10. Tests of systems, consultation with manufacturers, etc. should be completed as high-priority actions. For example, in Annex 1, the telecommunications group identified a number of systems and has listed a number of recommendations and actions that SPREP members should accomplish. SPREP members are urged to complete these items by early 1999 — at the latest, by 31 March 1999.
11. As a result of discussions during the Y2K Workshop in Honolulu, it became apparent that it would be useful (in deciding where scarce resources should be applied in order to ensure at least minimal critical Y2K compliant telecommunications services after 31 December 1999 as well as working out alternative or contingency routing of data and products) to have a condensed inventory of available telecommunications systems in each SPREP country. It is recommended that the SPREP Secretariat, as a priority action, compile the information necessary to complete the table shown in Annex 5, including systems which are not listed.