Automation of weather observation –Electronic meteorological logbook

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Ship weather reports taken by Hong Kong Voluntary Observing Ship (HKVOS) are distributed globally on the Global Telecommunication System (GTS) for use by all National Meteorological Services (NMS). After taking weather observations, ship officers on board have to manually code the observations and then key in the codes for transmission to the Hong Kong Observatory (HKO) or other meteorological centres via Inmarsat C for subsequent distribution through GTS. They are also required to record down the coded observations on a paper-based meteorological logbook for collection by the Port Meteorological Officer (PMO) during their VOS visits.

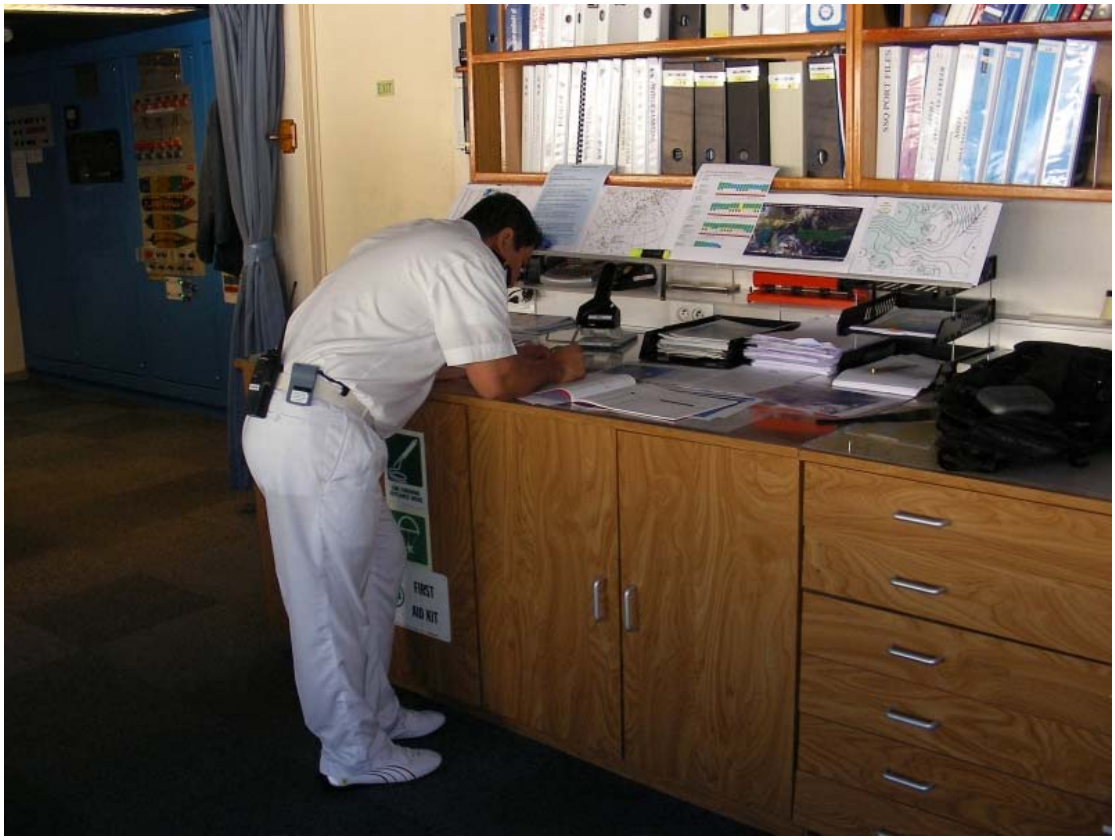

Figure 1 Ship officer is writing down weather observation on meteorological logbook provided by HKO

With the development of the TurboWin[Note] software in recent years, ship officers can now input the weather observations into the computer for automatic coding. During the data entry process, the software can also perform automatic quality control check

to minimize input errors and to ensure consistency among the weather elements of the observations. On completion of data entry, TurboWin then automatically saves the observations into the computer's hard disk for retrieval electronically by PMO during their VOS visits.

As the use of electronic logbook can eliminate the need for paper-based records and enhance the effectiveness of data quality check, 38 out of 57 HKVOS have already installed the TurboWin onboard. It is expected that the number of HKVOS with TurboWin installed on board will continue to increase.

Figure 2 Installation of TurboWin software on a HKVOS

Note : TurboWin is a computer-based meteorological logbook. It is developed by the Royal Netherlands Meteorological Institute (KNMI) and endorsed by the World Meteorological Organization (WMO) for use on voluntary observing ships.