

E1-11: Automation of wind finding technique and wind analysis in Sri Lanka: pilot and radar wind observations

P Dewundege

(Dept of Meteorology, Colombo 7)

The conventional method of calculation of upper winds by PILOT balloon observation was automated by developing an algorithm plus a user friendly computer programme written in Quick Basic which can be run on an IBM or IBM compatible personal computer.

Accuracy of the performance of the programme was verified by comparing the manual conventional computations and the computer output of wind computations.

The same algorithm was modified to compute wind vectors by inputting radar data output (range, azimuth and elevation) of balloon trajectory. Performance of this programme was agreeable with the WINDPROC System connected to the Wind Finding Radar WF33.

Data validation was added to trap errors which occurred in key entry.

Raw radar data of May 10, 1993 taken from the wind finding radar observation at 0600 UTC (11.30 a.m.) were used to demonstrate the performance of the programme.

A separate programme was developed for the frequency analysis of wind data together with basic statistics.

Performance was illustrated by using upper wind data for the month May 1993 at Colombo Observatory.

A computer package designed by compiling the above mentioned user friendly programmes is ready for operational use.

The replacement of conventional method of PILOT wind computation with this package additionally provides digitized archiving of real time data for further analysis.

Furthermore this package serves as an alternate backup system to the AMSTRAD Computer System connected to the WF-33 wind finding radar at Colombo.