

December 2013

AMVs vs Radiosonde (0000 & 1200 UTC)

Indian Region (20E-130E ; 50S-50N)	No of Collocation	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level CMV	477	6.0	6.5	2.2	4.4	21.4	-0.4	10.4	10.8
Mid level CMV	1520	7.8	9.1	4.5	6.1	17.6	-0.4	15.5	15.9
High level CMV	4828	6.4	7.7	4.2	4.7	17.6	-0.4	14.0	14.4
High level WVWV	4736	7.0	8.4	4.7	5.0	16.6	0.3	16.5	16.2

Northern hemisphere (20E-130E ; 20N-50N)	No of Collocation	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level CMV	403	5.9	6.4	2.1	4.3	19.4	-1.3	10.6	11.9
Mid level CMV	1115	8.4	9.7	4.6	6.7	15.0	-1.8	16.8	18.6
High level CMV	1039	10.3	11.6	4.9	7.9	12.9	-4.0	26.0	30.0
High level WVWV	1629	8.9	8.9	5.4	6.6	13.5	-1.0	24.1	25.1

Tropics (20E-130E ; 20S-20N)	No of Collocation	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level CMV	71	6.0	6.1	0.5	4.3	32.4	2.7	8.7	5.9
Mid level CMV	399	6.7	7.1	1.8	4.6	26.1	3.5	11.7	8.2
High level CMV	3700	5.6	6.4	3.0	3.9	19.0	0.3	11.0	10.7
High level WVWV	2956	5.7	6.5	3.1	3.9	17.9	1.0	12.4	11.4

Southern hemisphere (20E-130E ; 50S-20S)	No of Collocation	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level CMV	3	8.4	8.4	0.0	6.7	29.5	4.7	10.4	5.7
Mid level CMV	6	12.1	12.1	0.8	4.5	52.2	2.6	14.1	11.5
High level CMV	89	11.1	11.4	2.1	9.0	19.0	-0.8	16.6	17.4
High level WVWV	151	9.6	9.9	1.7	7.2	24.9	-1.1	14.1	15.2

MVD: Mean vector difference

RMSVD: Root mean square vector difference

SD: Standard Deviation

Mean Speed Dif (ABS): Absolute mean wind speed difference

Mean Dir Dif (ABS): Absolute mean wind direction difference

High level: 100-400hPa

Mid level: 401-700hPa

Low level: 701-975hPa

MVD, RMSVD, SD, Mean Speed Dif, Mean Speed AMV, Mean Speed RS are in ms^{-1} , Mean Dir Dif is in degree.

Collocation Criteria:

- All AMVs within 150km of each radiosonde location and pressure difference $\pm 20\text{hPa}$ are considered for validation.
- Collocation pairs with speed difference greater than 30ms^{-1} and direction difference greater than 60° are screened out.
- Quality indicator is not used for the current validation.