

October 2013

AMV vs Radiosonde (00 & 12 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	254	5.6	5.9	1.6	3.8	25.5	2.5	9.8	7.3
Mid level CMV	640	6.7	7.5	2.9	4.8	21.8	0.8	12.6	11.8
High level CMV	5032	6.4	7.6	4.1	4.6	17.7	-0.8	12.7	13.6
High level WVVV	5980	6.6	7.9	4.3	4.8	17.6	0.2	14.3	14.2

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	163	5.4	5.6	1.2	3.4	27.2	2.0	9.6	7.6
Mid level CMV	453	6.7	7.6	3.2	5.1	18.6	0.3	13.9	13.6
High level CMV	841	7.9	8.8	3.8	5.8	13.8	-1.4	19.0	20.3
High level WVVV	1904	7.6	7.6	4.6	5.6	15.6	0.1	18.7	18.6

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	85	6.2	6.3	0.6	4.5	24.7	3.1	10.1	7.0
Mid level CMV	154	5.4	5.5	0.5	3.3	28.1	2.7	9.3	6.6
High level CMV	4169	6.0	6.9	3.5	4.3	18.3	-0.6	11.3	11.9
High level WVVV	3977	6.0	7.0	3.5	4.3	18.7	0.5	12.0	11.6

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	6	5.3	5.7	1.6	3.2	22.0	-1.7	10.0	11.7
Mid level CMV	33	10.3	10.5	1.4	6.2	25.7	-2.8	15.7	18.5
High level CMV	22	13.6	13.6	0.6	9.8	23.5	-0.9	25.7	26.6
High level WVVV	99	12.8	13.1	1.6	8.7	27.8	-3.9	17.9	21.7

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.