

June 2013

AMV vs Radiosonde (00 & 12 UTC)

Indian Region (20E-130E ; 50S-50N)	No of Collocati on	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level CMV	52	5.8	6.1	1.1	4.7	22.3	3.4	9.7	6.3
Mid level CMV	320	5.8	6.6	3.0	4.2	18.0	1.5	12.3	10.9
High level CMV	3440	6.4	7.7	4.1	4.6	16.7	-0.7	14.6	15.2
High level WVVV	3663	6.9	8.2	4.5	4.7	16.7	-0.2	16.0	16.3

Northern hemisphere (20E-130E ; 20N-50N)	No of Collocatio n	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level CMV	38	6.0	6.2	0.8	4.9	23.2	3.7	9.5	5.8
Mid level CMV	235	5.8	6.4	2.5	4.3	17.1	0.7	12.3	11.6
High level CMV	1246	7.0	8.4	4.4	5.1	17.0	-1.2	16.8	18.0
High level WVVV	1587	7.5	7.5	4.6	5.1	17.7	-0.5	17.0	17.5

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	12	5.6	5.7	0.7	4.2	19.7	3.1	10.2	7.1
Mid level CMV	81	5.9	6.2	1.4	4.2	22.8	2.8	10.6	7.9
High level CMV	2192	6.1	7.2	3.7	4.3	16.5	-0.4	13.2	13.6
High level WVVV	2038	6.3	7.4	3.8	4.2	15.5	-0.2	15.1	15.2

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	2	3.8	3.8	0.1	1.0	37.6	1.0	6.2	5.1
Mid level CMV	4	6.2	6.2	0.3	5.4	9.3	5.0	21.7	16.8
High level CMV	2	25.7	25.7	0.2	20.5	30.8	-20.5	19.6	40.1
High level WVVV	38	12.7	13.3	2.9	9.3	24.8	5.5	20.9	15.5

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.
- AMVs considered for the validation are not screened out according to the Quality Indicator (QI) values.