

January 2015

AMVs vs Radiosonde (0000 & 1200 UTC)

Northern hemisphere	No of Collocation	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level CMV	269	8.6	9.3	2.9	6.4	26.6	0.7	11.1	10.4
Mid level CMV	2044	9.0	10.7	5.6	7.0	17.0	-1.3	16.9	18.3
High level CMV	1220	9.9	11.3	5.2	7.7	13.1	-4.9	23.3	28.2
High level WVWV	1192	9.5	9.5	5.6	7.0	14.5	0.4	24.2	23.9

Tropics	No of Collocation	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level CMV	154	6.0	6.5	1.9	4.1	27.2	3.5	9.8	6.4
Mid level CMV	669	7.0	7.6	2.6	4.6	25.2	3.3	12.6	9.3
High level CMV	3249	8.0	9.4	4.8	5.8	19.9	-1.6	13.4	15.0
High level WVWV	2247	7.3	8.5	4.1	4.8	20.2	0.6	14.4	13.8

Southern hemisphere	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	6.6	6.6	0.0	5.0	27.5	3.6	10.5	6.9
Mid level CMV	26	5.4	5.5	0.8	2.6	25.3	-0.3	11.6	11.9
High level CMV	19	7.8	8.0	0.9	5.8	27.5	-3.2	10.4	13.6
High level WVWV	23	7.4	7.8	1.3	6.3	19.5	0.0	15.5	15.5

Global	No of Collocation	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level CMV	471	7.8	8.6	3.2	5.8	25.9	1.8	10.7	8.9
Mid level CMV	2932	8.7	10.3	5.4	6.5	19.2	-0.8	15.7	16.5
High level CMV	4750	8.6	10.1	5.3	6.3	18.5	-2.5	15.7	18.2
High level WVWV	3897	8.3	9.8	5.1	5.7	18.2	0.3	17.8	17.5

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.
- Quality indicator is not used for the current validation.