

August 2014

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	71	5.2	5.5	1.0	3.7	25.9	2.0	9.2	7.2
Mid level CMV	167	6.8	7.7	3.0	4.8	21.1	2.6	13.6	11.0
High level CMV	844	8.1	9.3	4.4	5.9	15.1	-0.1	20.3	20.3
High level WVWV	1507	7.9	7.9	4.9	5.8	17.1	-0.7	17.9	18.5

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	45	5.3	5.4	0.6	4.1	25.9	3.1	8.8	5.7
Mid level CMV	141	5.7	6.2	1.9	4.2	21.4	3.7	10.9	7.2
High level CMV	2505	6.7	7.9	4.2	5.1	15.1	-1.5	13.7	15.2
High level WVWV	2090	6.5	7.8	4.1	4.9	14.7	-0.8	14.4	15.2

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	12	3.4	3.5	0.7	2.8	6.4	-2.5	9.3	11.8
Mid level CMV	13	2.7	2.9	0.9	0.5	19.3	-0.4	8.4	8.8
High level CMV									
High level WVWV	33	9.7	10.8	1.0	8.7	26.8	-0.9	18.8	17.9

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	128	5.2	5.4	1.0	3.8	25.8	2.4	9.0	6.5
Mid level CMV	321	6.4	7.4	3.3	4.6	20.3	3.1	12.9	9.8
High level CMV	3349	6.9	8.3	4.4	5.2	14.9	-0.8	15.5	16.4
High level WVWV	3630	7.1	8.6	4.8	5.2	15.3	-0.9	15.8	16.6

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.