

July 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	526	4.1	4.5	1.6	2.8	22.8	-0.3	6.8	7.1
Mid level CMV	433	5.6	6.1	2.1	4.0	17.1	-1.4	12.2	13.6
High level CMV	1824	7.7	8.5	3.5	6.0	16.5	-0.5	17.4	17.9
High level WVWV	3830	7.3	7.3	4.5	5.4	15.5	1.5	19.3	17.9

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	150	4.2	4.5	1.2	3.1	21.4	0.7	7.8	7.1
Mid level CMV	114	4.0	4.1	0.6	2.6	20.5	0.7	7.8	7.1
High level CMV	3061	6.1	7.0	3.4	4.6	17.6	0.3	12.7	12.3
High level WVWV	4181	6.7	7.7	3.9	4.9	17.4	2.4	15.0	12.6

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	36	3.9	4.0	0.5	1.6	24.3	-0.2	7.1	7.3
Mid level CMV	8	7.2	7.3	0.6	4.9	14.2	1.8	20.7	18.9
High level CMV	8	6.4	6.4	0.4	3.9	7.1	-1.9	29.7	31.7
High level WVWV	35	9.8	9.9	0.7	5.2	11.9	3.2	32.5	29.3

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	712	4.1	4.5	1.8	2.7	22.1	0.3	7.4	7.1
Mid level CMV	555	5.4	5.9	2.1	3.8	16.9	-0.8	12.0	12.8
High level CMV	4893	6.7	7.7	3.7	5.1	17.1	0.1	14.4	14.3
High level WVWV	8046	7.0	8.3	4.4	5.1	16.4	1.9	17.2	15.3

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.