

September 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	216	6.1	6.4	1.4	4.6	25.2	1.9	9.1	7.2
Mid level CMV	672	7.4	8.5	3.9	5.5	19.6	2.2	14.8	12.6
High level CMV	1321	7.8	8.9	4.2	5.7	15.8	-0.7	19.3	19.9
High level WVWV	2204	8.5	8.5	5.1	6.6	16.1	-0.2	19.5	19.7

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	105	7.1	7.5	1.6	5.0	30.6	2.7	9.9	7.2
Mid level CMV	427	7.4	8.2	2.9	5.6	25.8	4.4	12.2	7.7
High level CMV	4324	7.3	8.7	4.5	5.5	16.8	-2.0	14.0	16.0
High level WVWV	4042	7.3	8.4	4.2	5.3	16.4	-0.1	15.7	15.7

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	4	6.8	7.0	1.3	4.5	18.3	0.1	12.2	12.1
Mid level CMV	2	10.8	10.8	0.9	11.8	11.9	-1.7	21.4	21.0
High level CMV	6	6.8	7.8	3.8	5.3	4.5	-2.5	36.5	39.0
High level WVWV	24	7.5	7.6	0.9	4.2	24.7	0.1	16.0	15.9

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	325	6.6	7.1	2.5	4.8	26.4	2.4	9.7	7.4
Mid level CMV	1101	7.5	8.7	4.2	5.7	21.0	3.0	14.4	11.4
High level CMV	5651	7.5	8.8	4.7	5.6	16.5	-1.7	15.4	17.0
High level WVWV	6270	7.6	9.0	4.7	5.6	16.3	-0.2	16.9	17.2

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.