

September 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	436	4.3	4.6	1.6	2.7	26.9	0.6	7.0	6.4
Mid level CMV	428	5.2	5.6	1.8	3.6	17.9	-1.2	11.5	12.6
High level CMV	2263	6.9	7.7	3.5	4.8	18.7	-1.1	15.5	16.5
High level WVWV	4633	6.7	6.7	3.9	4.7	16.9	1.0	16.6	15.6

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	146	4.3	4.5	0.9	2.8	27.0	0.6	6.5	5.9
Mid level CMV	60	4.2	4.3	0.4	2.4	22.7	1.2	8.7	7.5
High level CMV	3556	5.7	6.6	3.3	4.0	17.3	0.0	12.1	12.1
High level WVWV	5574	6.2	7.2	3.7	4.3	17.2	1.8	14.2	12.4

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	15	4.4	4.4	0.2	3.0	22.9	0.3	6.4	6.1
Mid level CMV	3	5.2	5.2	0.0	1.6	17.5	-1.6	15.2	16.8
High level CMV	58	10.2	10.5	2.0	8.2	16.3	-5.5	18.5	24.0
High level WVWV	95	7.9	8.3	1.7	5.4	15.9	-0.8	21.9	22.7

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	597	4.4	4.8	1.6	2.8	27.5	0.5	7.0	6.5
Mid level CMV	491	5.1	5.5	1.9	3.4	19.0	-0.8	11.2	12.0
High level CMV	5877	6.3	7.3	3.7	4.5	17.8	-0.4	13.6	14.0
High level WVWV	10302	6.5	7.7	4.0	4.6	17.0	1.6	15.5	14.0

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.