June 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	395	4.0	4.4	1.7	2.7	24.9	-0.2	6.3	6.5
Mid level CMV	503	5.1	5.5	2.0	3.6	20.9	-1.2	8.8	10.0
High level CMV	2662	6.8	7.8	3.7	5.0	16.6	-1.7	17.4	19.1
High level WVWV	4306	6.9	6.9	4.2	4.8	17.2	0.1	17.7	17.6

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	140	4.6	4.8	0.8	3.4	27.1	1.6	7.1	5.4
Mid level CMV	77	4.0	4.2	0.7	2.4	26.0	-0.2	6.8	7.0
High level CMV	3779	5.1	5.9	2.9	3.6	19.5	-0.4	10.1	10.6
High level WVWV	4797	5.5	6.4	3.3	3.9	18.6	1.3	12.1	10.8

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	28	5.7	5.8	0.6	3.5	30.6	-0.4	7.6	8.0
Mid level CMV	2	5.2	5.2	0.0	4.9	4.2	4.9	18.1	13.2
High level CMV	18	10.0	10.1	1.1	8.7	8.8	4.5	28.2	23.7
High level WVWV	62	11.5	11.9	2.4	7.8	13.5	2.8	32.3	29.5

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	563	4.3	4.7	1.9	2.9	25.6	0.2	6.7	6.4
Mid level CMV	582	5.0	5.5	2.1	3.6	21.5	-1.2	8.6	9.8
High level CMV	6459	5.8	6.8	3.6	4.2	18.3	-0.9	12.7	13.6
High level WVWV	9571	6.2	7.3	4.0	4.4	17.8	0.7	14.7	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 ±20hPa 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.