

# July 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	152	6.0	6.4	1.6	4.1	25.0	2.8	10.1	7.4
Mid level CMV	479	6.4	7.1	2.6	4.4	20.9	0.4	11.2	10.8
High level CMV	1682	7.6	8.8	4.2	5.6	18.6	-0.8	15.3	16.2
High level WVWV	2296	9.0	9.0	5.3	6.6	19.9	0.5	16.8	16.4

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	58	6.2	6.3	0.7	4.2	27.4	2.9	10.3	7.3
Mid level CMV	266	8.0	8.6	2.5	5.7	27.9	5.0	12.3	7.3
High level CMV	4923	7.6	8.9	4.7	5.8	16.4	-1.9	14.1	16.0
High level WVWV	4486	8.2	9.5	4.7	6.1	17.0	-0.5	16.0	16.5

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	13	7.0	7.0	0.3	4.4	30.0	0.4	9.2	8.8
Mid level CMV									
High level CMV									
High level WVWV	19	13.9	13.9	0.4	8.2	35.3	-1.7	16.8	18.4

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	223	6.3	6.6	1.6	4.3	25.7	2.9	10.6	7.6
Mid level CMV	745	7.2	8.2	3.4	5.1	23.5	2.5	11.9	9.4
High level CMV	6605	7.7	9.1	4.8	5.8	16.6	-1.6	14.7	16.4
High level WVWV	6801	8.5	9.9	5.2	6.2	17.9	-0.3	16.3	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  $\text{ms}^{-1}$ , 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  $30\text{ms}^{-1}$  and direction difference greater than  $60^\circ$  are screened out.
- Quality indicator is not used for the current validation.