

# March 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	514	5.7	6.3	2.2	3.7	25.5	0.1	9.2	9.1
Mid level CMV	1920	7.1	8.2	4.1	5.2	17.4	-0.4	15.0	15.5
High level CMV	2044	8.4	9.8	4.8	6.2	12.9	-1.8	25.1	26.8
High level WVWV	2729	8.8	8.8	5.4	6.7	12.5	1.3	25.8	24.5

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	379	5.6	5.9	1.6	3.9	27.1	2.1	8.6	6.5
Mid level CMV	568	6.7	7.4	2.7	4.3	28.9	2.9	10.5	7.6
High level CMV	2765	6.5	7.4	3.5	4.5	22.5	-0.4	10.8	11.2
High level WVWV	3011	5.9	6.7	3.0	3.9	22.8	1.5	11.4	9.9

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	23	7.7	7.8	0.4	4.9	29.2	3.4	12.1	8.6
Mid level CMV	59	6.7	6.9	1.0	5.0	19.8	1.2	11.9	10.7
High level CMV	142	7.4	7.8	1.9	5.2	20.5	1.5	15.8	14.3
High level WVWV	236	7.8	8.3	2.2	5.7	21.3	3.9	16.7	12.8

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	916	5.8	6.6	2.9	3.9	25.9	0.7	9.1	8.3
Mid level CMV	2547	7.0	8.2	4.1	5.0	19.5	0.2	14.3	14.1
High level CMV	4951	7.3	8.6	4.5	5.2	18.5	-0.9	17.0	17.8
High level WVWV	5976	7.3	8.7	4.6	5.3	18.3	1.6	18.3	16.7

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.

**Note: During this month, the errors viz. RMSVD, Bias etc are higher due to changes in vertical levels of NCEP GFS forecast and while the corresponding retrieval algorithm were not updated.**