

# May 2013

## AMV vs Radiosonde (00 & 12 UTC)

<b>Indian Region (20E-130E ; 50S-50N)</b>	No of Collocation	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level CMV	74	5.8	5.9	0.7	4.1	26.6	1.5	9.1	7.6
Mid level CMV	553	6.1	6.8	2.9	4.3	19.0	2.2	12.7	10.6
High level CMV	3659	6.1	7.3	4.0	4.3	16.7	-0.2	14.5	14.7
High level WVVV	4373	6.6	8.0	4.5	4.6	15.6	-0.3	16.6	16.8

<b>Northern hemisphere (20E-130E ; 20N-50N)</b>	No of Collocation	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level CMV	52	6.3	6.4	0.7	4.6	26.6	1.2	9.3	8.0
Mid level CMV	435	6.4	7.2	3.0	4.6	18.3	1.5	13.9	12.3
High level CMV	1305	8.0	9.1	4.4	5.7	15.0	-0.5	20.6	21.1
High level WVVV	2231	7.9	7.9	5.1	5.6	14.5	-0.4	20.7	21.1

<b>Tropics (20E-130E ; 20S-20N)</b>	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	5.6	5.7	0.7	3.9	29.7	3.8	8.8	5.0
Mid level CMV	118	4.9	5.1	1.2	3.4	22.2	2.9	9.2	6.2
High level CMV	2341	5.1	5.9	2.9	3.6	17.3	-0.2	10.9	11.0
High level WVVV	2089	5.1	5.7	2.7	3.4	16.6	-0.1	11.7	11.8

<b>Southern hemisphere (20E-130E ; 50S-20S)</b>	No of Collocation	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level CMV	9	3.9	3.9	0.2	2.0	25.0	2.0	9.8	7.7
Mid level CMV	-	-	-	-	-	-	-	-	-
High level CMV	13	13.7	15.0	4.0	6.8	21.7	3.8	28.2	24.4
High level WVVV	53	15.3	15.5	1.8	7.2	27.5	6.2	29.0	22.8

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.
- AMVs considered for the validation are not screened out according to the Quality Indicator (QI) values.