

Kalpana-1 AMV: JULY 2016

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	480	4.0	4.3	1.5	2.8	22.4	0.7	7.0	6.3
Mid level CMV	424	5.5	5.8	1.6	3.9	17.1	-1.5	10.8	12.2
High level CMV	3101	6.5	7.5	3.7	4.9	16.1	-1.1	14.2	15.2
High level WWV	5743	6.8	6.8	4.2	4.8	16.2	1.4	16.8	15.3

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	193	4.7	4.9	1.2	3.3	26.8	1.7	7.5	5.8
Mid level CMV	195	4.0	4.2	0.9	2.5	19.8	1.3	8.8	7.5
High level CMV	6151	5.4	6.2	3.1	3.8	16.8	-0.4	11.8	12.2
High level WWV	8164	5.7	6.7	3.4	4.1	15.6	1.7	14.1	12.5

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	5.7	6.0	1.0	3.9	19.6	-1.7	9.9	11.6
Mid level CMV	20	4.9	5.0	0.6	2.3	16.8	-1.3	15.8	17.1
High level CMV	8	7.2	7.3	1.5	3.1	11.2	2.7	27.7	25.1
High level WWV	36	10.6	10.7	1.3	6.3	13.0	0.3	36.0	35.6

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	686	4.2	4.6	1.8	2.9	22.9	1.1	7.4	6.3
Mid level CMV	639	5.1	5.5	1.8	3.5	18.3	-0.5	10.6	11.1
High level CMV	9260	5.8	6.7	3.5	4.1	16.5	-0.6	12.6	13.2
High level WWV	13943	6.2	7.3	3.9	4.4	15.9	1.6	15.2	13.7

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 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.**