

Kalpana-1 AMV: October 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	886	4.5	4.9	1.9	3.0	21.7	0.1	8.1	8.0
Mid level CMV	896	5.5	6.0	2.3	3.8	15.9	-0.4	13.6	14.0
High level CMV	3885	7.0	8.1	4.0	5.1	12.3	-1.2	20.2	21.3
High level WVVV	6410	7.1	7.1	4.2	5.1	12.4	0.7	21.9	21.2

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	304	4.5	4.7	1.2	3.0	26.4	1.1	6.8	5.7
Mid level CMV	111	3.8	4.0	0.8	2.0	24.7	1.5	7.8	6.3
High level CMV	3851	5.1	5.8	2.8	3.4	19.9	0.2	10.3	10.1
High level WVVV	6122	5.6	6.6	3.4	3.9	19.1	1.9	12.1	10.2

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	21	5.4	5.5	0.6	2.9	23.0	-1.6	8.3	9.9
Mid level CMV	22	6.9	7.0	0.3	5.8	16.6	-4.3	10.0	14.3
High level CMV	32	6.7	6.9	1.3	5.3	15.2	-2.4	16.6	19.0
High level WVVV	59	7.3	7.5	1.0	5.3	13.5	-0.3	21.2	21.5

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	1211	4.6	5.1	2.1	3.0	23.7	0.5	7.8	7.3
Mid level CMV	1029	5.3	5.9	2.3	3.5	16.8	-0.1	13.0	13.1
High level CMV	7768	6.1	7.1	3.7	4.2	16.1	-0.3	15.5	15.8
High level WVVV	12591	6.4	7.5	4.0	4.6	15.5	1.5	17.2	15.7

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.