

Kalpana-1 AMV: September 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	353	4.1	4.5	1.6	2.7	22.7	0.4	7.1	6.7
Mid level CMV	295	5.4	5.8	1.6	3.9	18.4	-1.4	10.6	12.0
High level CMV	1654	6.1	7.1	3.6	4.3	15.5	-0.4	16.6	17.1
High level WVWV	3208	6.6	6.6	4.2	4.6	15.5	1.5	19.0	17.5

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	112	5.0	5.3	1.3	3.6	23.9	2.0	8.2	6.1
Mid level CMV	64	3.9	4.0	0.5	2.6	19.7	0.7	8.1	7.4
High level CMV	4969	6.0	7.0	3.5	4.3	15.3	-0.8	13.8	14.6
High level WVWV	6404	6.4	7.5	3.9	4.8	14.1	2.0	16.5	14.5

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	38	4.4	4.4	0.5	2.9	19.7	-0.9	8.4	9.3
Mid level CMV									
High level CMV	4	2.3	2.4	0.6	1.6	18.6	1.6	5.7	4.1
High level WVWV	17	8.3	8.4	0.5	4.5	17.4	1.0	24.1	23.1

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	503	4.3	4.8	2.0	2.8	23.3	0.7	7.5	6.8
Mid level CMV	359	5.3	5.7	1.7	3.8	18.6	-1.4	10.3	11.7
High level CMV	6627	6.0	7.0	3.6	4.2	15.2	-0.6	14.6	15.2
High level WVWV	9629	6.5	7.7	4.1	4.8	14.6	1.8	17.4	15.6

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 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.