

Kalpana-1 AMV: JUNE 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	584	4.1	4.6	1.7	2.9	23.8	0.4	6.7	6.3
Mid level CMV	614	4.9	5.3	1.7	3.5	14.7	-0.4	11.8	12.2
High level CMV	3216	6.7	7.7	3.8	4.8	16.1	-0.1	16.6	16.7
High level WWV	5943	6.7	6.7	3.9	4.6	15.9	1.0	17.6	16.7

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	115	4.4	4.5	0.6	3.3	25.0	1.9	7.4	5.4
Mid level CMV	165	3.9	4.0	0.7	2.0	23.1	0.7	8.1	7.5
High level CMV	6187	5.3	6.1	3.0	3.8	16.1	-0.7	11.9	12.5
High level WWV	8195	5.8	6.7	3.4	4.1	16.0	1.6	14.4	12.8

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	4.6	4.7	0.2	2.0	27.6	-0.8	7.7	8.4
Mid level CMV	10	5.7	5.8	1.1	5.5	3.5	-0.7	19.1	19.9
High level CMV	14	7.9	8.1	1.3	4.1	9.1	-2.2	31.4	33.7
High level WWV	41	9.5	9.9	1.8	8.0	12.6	7.1	29.2	22.1

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	712	4.2	4.7	1.9	3.0	23.4	0.8	6.9	6.1
Mid level CMV	789	4.7	5.2	1.9	3.2	15.7	-0.3	11.2	11.5
High level CMV	9417	5.8	6.8	3.5	4.2	15.9	-0.5	13.6	14.1
High level WWV	14179	6.1	7.2	3.8	4.3	15.8	1.3	15.8	14.5

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.**