

Kalpana-1 AMV: APRIL 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	600	5.2	5.8	2.3	3.4	23.9	-0.1	8.8	8.9
Mid level CMV	903	5.5	6.1	2.5	3.6	16.2	-0.5	14.6	15.1
High level CMV	3661	7.4	8.6	4.3	5.2	11.9	-0.1	23.9	24.0
High level WWV	6162	7.4	7.4	4.4	5.2	12.0	1.1	24.3	23.2

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	233	4.5	4.8	1.1	3.2	27.7	1.6	6.8	5.2
Mid level CMV	115	4.9	5.0	0.8	2.8	25.6	1.8	8.8	7.0
High level CMV	4168	4.8	5.4	2.5	2.9	22.5	0.5	9.9	9.4
High level WWV	6037	5.3	6.0	2.8	3.3	21.7	1.4	11.5	10.1

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	25	4.9	5.0	0.3	2.5	21.3	1.9	10.8	8.9
Mid level CMV	17	4.9	4.9	0.2	2.9	20.5	1.6	12.9	11.4
High level CMV	25	9.9	10.1	1.2	7.0	18.8	-5.9	18.4	24.3
High level WWV	72	12.1	12.5	2.5	8.9	13.6	3.1	27.5	24.4

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	858	5.0	5.7	2.5	3.4	24.5	0.6	8.4	7.8
Mid level CMV	1035	5.5	6.2	2.5	3.4	17.7	-0.1	14.1	14.2
High level CMV	7854	6.1	7.2	3.9	4.0	16.9	0.2	16.8	16.6
High level WWV	12271	6.4	7.6	4.0	4.3	16.7	1.3	18.1	16.8

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 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.**