

INSAT-3D AMVs: October 2017

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 IRW	2583	3.5	4.0	1.9	2.5	19.0	0.2	7.4	7.2
Mid level IRW	2257	4.5	5.2	2.4	3.1	12.5	-1.1	15.6	16.7
High level IRW	3231	5.0	5.8	3.0	3.2	11.0	-0.3	21.2	21.5
High level WVV	8114	5.0	5.8	3.0	3.3	11.4	0.2	21.0	20.8

Tropics	No of Collocation	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level IRW	397	3.6	3.8	1.2	2.3	24.9	0.2	5.8	5.6
Mid level IRW	510	3.1	3.4	1.1	1.9	21.8	0.0	6.2	6.3
High level IRW	10987	4.0	4.6	2.3	2.7	15.9	-0.1	10.2	10.2
High level WVV	12955	4.5	5.1	2.4	3.1	16.3	0.8	11.4	10.6

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 IRW	72	4.4	4.6	1.1	3.3	14.1	0.2	10.6	10.4
Mid level IRW	14	3.8	4.3	2.0	3.0	13.2	0.8	7.8	7.0
High level IRW	8	8.3	8.3	0.6	3.7	23.7	3.7	18.2	14.6
High level WVV	75	5.2	5.4	1.2	3.8	10.3	2.0	20.6	18.6

Global	No of Collocation	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level IRW	3052	3.5	4.0	1.9	2.5	19.6	0.3	7.2	6.9
Mid level IRW	2781	4.2	4.9	2.4	2.8	13.7	-0.9	13.9	14.8
High level IRW	14226	4.2	4.9	2.6	2.9	14.7	-0.1	12.8	12.9
High level WVV	21144	4.6	5.4	2.7	3.1	14.2	0.5	15.2	14.7

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 as a criteria for collocation.