

INSAT-3D AMVs: December 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 IRW	4196	3.7	4.3	2.2	2.4	18.3	-0.2	8.4	8.6
Mid level IRW	3589	4.7	5.5	2.8	3.2	11.6	-0.8	17.4	18.2
High level IRW	2266	5.4	6.1	2.7	3.8	7.8	0.2	27.5	27.4
High level WVW	10091	5.3	6.2	3.1	3.6	8.8	0.0	25.7	25.7

Tropics	No of Collocation	MVD	RMSVD	SD	Mean Speed Dif (ABS)	Mean Dir Dif (ABS)	Bias	Mean Speed AMV	Mean Speed RS
Low level IRW	974	3.4	3.7	1.5	2.3	20.7	-0.5	6.2	6.8
Mid level IRW	512	3.8	4.0	1.0	2.3	18.7	-0.1	8.8	8.9
High level IRW	7483	4.0	4.6	2.2	2.6	18.0	0.4	9.5	9.1
High level WVW	11384	4.3	4.9	2.2	2.8	18.7	1.1	10.4	9.3

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	18	4.0	4.1	0.4	2.9	21.5	-1.0	6.0	7.1
Mid level IRW	2	4.6	4.6	0.0	1.6	32.5	1.6	8.1	6.5
High level IRW	20	5.0	5.0	0.5	2.8	13.2	2.4	17.9	15.5
High level WVW	82	6.5	6.7	1.1	4.1	13.2	1.8	20.4	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	5188	3.6	4.2	2.1	2.4	18.9	-0.3	8.0	8.2
Mid level IRW	4103	4.6	5.4	2.8	3.1	12.3	-0.7	16.4	17.0
High level IRW	9769	4.3	5.0	2.6	2.9	14.7	0.3	14.7	14.5
High level WVW	21557	4.8	5.6	2.8	3.2	13.7	0.5	17.9	17.4

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.