

INSAT-3D AMVs: December 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 IRW	3261	4.0	4.7	2.4	2.8	18.5	-0.4	8.5	8.9
Mid level IRW	3070	4.6	5.4	2.7	3.2	10.7	-1.2	18.1	19.2
High level IRW	1644	5.5	6.1	2.6	3.7	7.4	-0.2	30.6	30.8
High level WVV	4068	5.2	6.0	3.0	3.5	7.2	0.5	30.1	29.6

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	1240	3.3	3.7	1.4	2.3	21.0	-0.6	5.8	6.4
Mid level IRW	731	3.9	4.3	1.7	2.7	16.3	-0.9	10.0	10.9
High level IRW	10629	4.1	4.7	2.4	2.8	15.7	-0.2	11.3	11.5
High level WVV	13157	4.6	5.2	2.5	3.2	15.3	0.7	14.0	13.3

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	80	5.6	5.8	1.4	3.8	20.5	0.7	9.4	8.7
Mid level IRW	13	5.0	5.1	0.7	3.0	17.2	2.1	16.2	14.1
High level IRW	2	2.4	2.5	0.6	2.2	1.4	2.2	35.3	33.1
High level WVV	47	4.3	4.4	0.5	3.0	7.1	0.2	21.7	21.5

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	4581	3.9	4.5	2.3	2.7	18.9	-0.5	7.8	8.2
Mid level IRW	3814	4.5	5.3	2.7	3.1	11.9	-1.1	16.5	17.7
High level IRW	12275	4.3	5.0	2.5	3.0	14.4	-0.1	13.9	14.0
High level WVV	17272	4.8	5.5	2.7	3.2	13.3	0.6	17.8	17.2

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.