

INSAT-3D AMVs: April 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	1672	4.0	4.6	2.1	2.7	21.7	-0.7	7.2	7.9
Mid level IRW	1730	5.1	6.0	2.9	3.5	13.6	-1.1	15.3	16.4
High level IRW	2673	6.3	7.2	3.4	4.1	11.0	0.2	23.9	23.8
High level WVV	7688	6.5	7.5	3.8	4.4	12.0	0.4	23.4	23.1

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	589	3.4	3.7	1.3	2.3	24.5	0.2	5.5	5.3
Mid level IRW	212	3.6	3.7	0.5	2.1	21.4	0.4	7.4	7.0
High level IRW	5258	3.8	4.4	2.1	2.5	16.6	0.2	9.3	9.1
High level WVV	8023	4.0	4.6	2.1	2.6	17.5	0.6	9.7	9.1

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 IRW	12	4.6	4.7	0.6	2.2	28.7	2.1	8.1	6.0
Mid level IRW	28	3.5	3.6	0.9	2.1	9.6	-1.2	14.5	15.7
High level IRW	39	6.8	7.1	1.4	5.0	9.1	0.3	25.0	24.7
High level WVV	186	5.1	5.4	1.3	3.5	10.6	-0.4	18.3	18.7

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	2273	3.8	4.4	2.1	2.6	21.5	-0.4	6.9	7.2
Mid level IRW	1970	4.9	5.7	2.8	3.3	14.2	-1.0	14.4	15.4
High level IRW	7970	4.6	5.5	3.0	3.0	14.7	0.2	14.2	14.0
High level WVV	15897	5.2	6.2	3.4	3.5	14.7	0.5	16.5	16.0

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.