

INSAT-3D AMVs: October 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	3728	3.5	4.0	1.9	2.3	19.6	0.2	7.6	7.5
Mid level IRW	3459	4.2	4.8	2.2	2.9	11.5	-0.8	14.9	15.7
High level IRW	9691	4.9	5.6	2.7	3.3	9.7	-0.1	20.9	21.0
High level WVV	21259	5.1	5.9	2.9	3.4	10.2	0.1	20.8	20.6

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	1566	3.7	4.0	1.5	2.6	21.9	-0.6	5.7	6.3
Mid level IRW	577	3.7	4.0	1.1	2.4	21.5	0.5	7.4	7.0
High level IRW	7685	4.2	4.8	2.3	2.7	17.0	0.2	10.2	10.0
High level WVV	13678	4.4	5.0	2.4	2.9	17.2	1.0	10.7	9.7

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	59	4.4	4.6	0.8	3.0	26.7	-0.9	6.8	7.7
Mid level IRW	51	3.2	3.3	0.6	2.1	8.4	-1.2	12.7	13.9
High level IRW	228	5.1	5.3	1.0	3.6	13.4	-1.6	14.9	16.5
High level WVV	431	4.8	5.0	1.2	3.2	11.9	-0.7	18.2	18.9

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	5353	3.5	4.0	1.9	2.4	20.2	0.0	7.1	7.1
Mid level IRW	4087	4.1	4.7	2.2	2.8	12.6	-0.7	13.8	14.5
High level IRW	17604	4.5	5.2	2.6	3.0	12.4	0.1	16.4	16.3
High level WVV	35368	4.8	5.5	2.8	3.2	12.7	0.5	16.9	16.5

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.