

INSAT-3D AMVs: August 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	1536	3.4	3.8	1.7	2.3	21.5	-0.2	6.1	6.3
Mid level IRW	1717	3.9	4.4	1.9	2.7	18.3	-1.4	8.0	9.4
High level IRW	4903	4.7	5.4	2.6	3.3	15.4	-0.5	12.9	13.5
High level WVV	12996	4.9	5.7	2.9	3.4	15.1	0.0	13.9	13.9

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	507	3.8	4.1	1.4	2.8	18.7	-0.3	7.0	7.3
Mid level IRW	434	3.4	3.6	1.0	2.2	17.7	-0.2	7.6	7.8
High level IRW	8179	4.3	4.9	2.4	3.2	12.7	-0.1	12.0	12.0
High level WVV	9394	4.6	5.3	2.6	3.2	14.0	1.0	13.6	12.6

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	81	3.2	3.4	0.9	2.3	13.4	0.7	10.5	9.8
Mid level IRW	5	6.7	6.7	0.4	5.2	9.7	-5.2	17.1	22.2
High level IRW	0	---	NaN	---	NaN	NaN	---	NaN	NaN
High level WVV	64	4.4	4.6	1.0	3.1	7.1	0.2	24.8	24.6

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	2124	3.4	3.9	1.8	2.4	20.8	-0.1	6.4	6.5
Mid level IRW	2156	3.8	4.3	1.9	2.6	17.6	-1.0	8.1	9.2
High level IRW	13082	4.5	5.2	2.6	3.3	13.5	-0.4	12.3	12.7
High level WVV	22454	4.8	5.5	2.8	3.3	14.6	0.3	13.6	13.4

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.