

INSAT-3D AMVs: August 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	2322	3.5	3.9	1.7	2.2	22.9	-0.1	6.0	6.1
Mid level IRW	1596	4.3	4.8	2.0	2.9	14.9	-0.9	10.7	11.6
High level IRW	6034	4.8	5.6	2.7	3.3	14.0	-0.2	15.7	15.9
High level WVV	18802	4.9	5.7	2.8	3.4	13.4	0.3	16.4	16.1

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	494	3.5	3.8	1.3	2.4	21.6	-0.2	6.4	6.5
Mid level IRW	429	3.3	3.5	0.9	2.0	17.3	0.2	8.0	7.7
High level IRW	6352	4.4	5.0	2.4	3.0	14.6	0.3	12.1	11.8
High level WVV	8625	4.9	5.5	2.5	3.3	15.6	1.3	13.0	11.8

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	34	3.7	3.8	0.4	2.5	22.5	0.8	7.7	6.9
Mid level IRW	8	2.7	2.8	0.5	1.0	18.0	0.9	10.4	9.6
High level IRW	2	4.0	4.0	0.2	2.1	18.8	2.1	11.4	9.2
High level WVV	113	4.7	5.0	1.2	2.6	11.2	-0.1	20.1	20.2

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	2850	3.4	3.9	1.8	2.2	22.5	-0.1	6.1	6.2
Mid level IRW	2033	4.0	4.5	2.0	2.7	15.1	-0.6	10.1	10.7
High level IRW	12388	4.6	5.3	2.7	3.1	14.0	0.0	14.2	14.2
High level WVV	27540	4.9	5.6	2.8	3.3	14.1	0.5	15.2	14.7

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.