

INSAT-3D AMVs: MAY2016

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	917	3.5	3.9	1.8	2.3	19.5	-0.2	6.8	7.0
Mid level IRW	2012	4.2	4.9	2.4	2.7	14.2	-0.3	12.2	12.5
High level IRW	5637	5.2	6.0	3.0	3.5	11.4	0.1	19.0	18.8
High level WWV	12607	5.3	6.2	3.2	3.5	11.9	0.2	19.4	19.2

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	666	3.1	3.4	1.3	2.0	22.7	0.2	5.4	5.2
Mid level IRW	242	3.3	3.4	0.8	1.9	19.6	-0.1	7.7	7.8
High level IRW	5958	3.6	4.1	1.9	2.4	17.3	0.2	8.8	8.5
High level WWV	9091	4.2	4.7	2.1	2.7	18.3	0.6	9.8	9.3

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	85	3.8	4.1	1.1	2.2	28.2	0.8	7.9	7.1
Mid level IRW	40	5.5	5.6	0.9	3.9	8.5	-2.6	20.2	22.8
High level IRW	37	4.6	5.0	1.5	3.5	4.9	2.8	28.0	25.1
High level WWV	72	5.0	5.2	1.1	2.9	15.0	1.0	18.3	17.3

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	1668	3.4	3.8	1.8	2.2	20.6	-0.2	6.5	6.7
Mid level IRW	2294	4.1	4.8	2.4	2.6	14.4	-0.3	12.0	12.3
High level IRW	11632	4.4	5.2	2.7	2.9	14.3	0.2	13.9	13.7
High level WWV	21770	4.8	5.6	2.9	3.1	14.6	0.3	15.3	15.0

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 as a criteria for collocation.