

INSAT-3D AMVs: September 2016

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	1529	3.5	3.9	1.6	2.4	20.0	0.5	7.2	6.7
Mid level IRW	1594	4.0	4.6	2.2	2.8	14.0	-1.2	11.8	12.9
High level IRW	3584	4.6	5.3	2.7	3.2	15.4	-0.1	15.4	15.5
High level WVV	11841	4.8	5.7	2.9	3.3	12.9	0.4	17.8	17.3

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	289	3.6	3.7	0.9	2.5	20.9	0.5	6.7	6.2
Mid level IRW	501	3.1	3.3	1.1	2.0	18.4	-0.4	6.6	7.0
High level IRW	8175	4.1	4.7	2.3	2.9	13.3	-0.1	12.2	12.3
High level WVV	13173	4.5	5.1	2.5	3.2	13.6	0.9	13.4	12.5

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	118	3.5	3.7	0.7	2.1	16.3	0.0	11.7	11.7
Mid level IRW	24	6.4	6.4	0.2	4.6	9.0	-3.4	21.3	24.7
High level IRW	33	6.4	6.5	0.9	4.1	12.9	-0.7	22.8	23.5
High level WVV	125	4.5	4.7	1.1	3.3	6.6	0.2	24.3	24.2

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	1936	3.5	3.9	1.7	2.3	20.2	0.4	7.3	7.0
Mid level IRW	2119	3.9	4.5	2.1	2.7	14.7	-1.1	10.8	11.8
High level IRW	11792	4.3	5.0	2.5	3.0	14.0	-0.1	13.2	13.3
High level WVV	25139	4.6	5.4	2.8	3.2	13.3	0.6	15.4	14.8

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.