

# INSAT-3D AMVs: JULY2016

## 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	1607	3.5	3.9	1.5	2.3	22.8	0.5	6.5	6.0
Mid level IRW	1189	4.2	4.7	1.9	2.9	13.9	-0.6	11.3	11.9
High level IRW	5314	5.0	5.7	2.7	3.5	13.7	0.7	15.0	14.3
High level WVV	15482	5.0	5.9	3.0	3.4	13.5	0.5	15.6	15.2

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	485	3.6	3.9	1.2	2.7	21.1	1.2	6.6	5.4
Mid level IRW	532	3.3	3.5	1.0	1.9	18.7	0.0	7.8	7.7
High level IRW	9328	4.2	4.7	2.3	2.9	14.4	0.3	11.3	11.0
High level WVV	12889	4.4	5.0	2.4	3.0	14.3	0.9	12.3	11.4

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	52	4.7	4.9	1.1	3.7	12.9	0.1	13.4	13.3
Mid level IRW	50	4.0	4.1	0.4	1.8	15.8	-0.7	16.7	17.4
High level IRW	7	5.0	5.4	2.1	4.0	6.1	2.6	26.5	23.9
High level WVV	166	5.9	6.3	1.8	3.4	10.0	1.1	27.8	26.7

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	2144	3.5	3.9	1.6	2.4	22.4	0.5	6.5	6.0
Mid level IRW	1771	3.9	4.4	1.9	2.6	15.0	-0.3	10.8	11.1
High level IRW	14649	4.4	5.1	2.5	3.1	14.0	0.4	12.6	12.2
High level WVV	28537	4.7	5.5	2.8	3.2	13.9	0.6	14.2	13.6

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  $\text{ms}^{-1}$ , 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  $30\text{ms}^{-1}$  and direction difference greater than  $60^\circ$  are screened out.
- Quality indicator is not used as a criteria for collocation.