

# INSAT-3D AMVs: July 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	1701	3.8	4.3	1.8	2.5	23.1	-0.1	6.3	6.5
Mid level IRW	1375	4.7	5.2	2.2	3.1	15.7	-1.2	12.2	13.4
High level IRW	3912	5.7	6.5	3.0	3.9	15.0	-0.6	17.2	17.8
High level WVV	12831	5.8	6.8	3.5	3.8	15.2	0.0	16.7	16.6

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	522	3.5	3.8	1.3	2.4	20.6	-0.4	6.2	6.6
Mid level IRW	388	3.8	4.0	0.9	2.5	19.7	-0.3	7.7	8.0
High level IRW	4427	4.8	5.4	2.4	3.3	15.5	1.0	12.8	11.8
High level WVV	5435	5.1	5.8	2.7	3.5	16.2	1.3	13.2	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	70	4.4	4.5	0.7	2.7	22.5	1.3	10.2	8.9
Mid level IRW	43	5.3	5.3	0.4	3.1	21.7	-1.6	12.1	13.7
High level IRW	33	6.9	7.0	0.6	5.2	8.1	4.8	30.4	25.7
High level WVV	213	6.4	6.7	1.8	4.3	9.0	-0.2	28.5	28.7

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	2293	3.8	4.2	1.8	2.5	22.5	-0.2	6.5	6.6
Mid level IRW	1806	4.4	5.0	2.3	2.9	16.0	-0.9	11.5	12.4
High level IRW	8372	5.3	6.0	2.9	3.6	15.1	0.3	15.2	14.9
High level WVV	18479	5.6	6.5	3.3	3.7	15.5	0.4	15.6	15.2

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 for the current validation.