

# INSAT-3D AMVs: JUNE2016

## 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	1761	3.5	3.9	1.7	2.3	21.8	-0.1	6.3	6.4
Mid level IRW	1948	3.9	4.3	1.8	2.6	13.4	-0.5	11.4	11.8
High level IRW	6986	4.9	5.7	2.8	3.4	12.5	-0.2	16.5	16.7
High level WVV	19462	5.0	5.8	2.9	3.4	12.5	0.2	17.2	17.0

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	469	3.9	4.2	1.3	2.8	22.0	1.4	7.3	5.8
Mid level IRW	619	3.4	3.6	1.1	1.9	18.7	0.3	8.1	7.7
High level IRW	11519	3.9	4.5	2.2	2.7	13.5	0.4	11.6	11.2
High level WVV	14461	4.4	5.0	2.3	3.0	14.2	1.2	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	64	3.9	4.0	0.5	2.8	18.3	-0.2	10.3	10.5
Mid level IRW	73	5.7	5.9	1.1	4.5	10.4	-2.2	20.8	23.0
High level IRW	37	8.7	8.8	0.9	6.4	11.6	3.4	30.8	27.4
High level WVV	162	6.0	6.3	1.5	3.9	11.4	-0.7	21.4	22.0

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	2294	3.6	4.0	1.8	2.4	21.7	0.3	6.7	6.4
Mid level IRW	2640	3.9	4.3	1.9	2.5	14.3	-0.3	11.1	11.5
High level IRW	18542	4.3	5.1	2.6	3.0	13.1	0.2	13.5	13.4
High level WVV	34085	4.7	5.4	2.7	3.2	13.3	0.6	15.3	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  $\text{ms}^{-1}$ , 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.