

# INSAT-3D AMVs: November 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	2908	3.8	4.3	1.9	2.6	21.0	-0.6	6.9	7.5
Mid level IRW	2480	4.5	5.1	2.4	3.2	11.8	-1.0	16.2	17.1
High level IRW	2989	4.9	5.6	2.7	3.3	7.4	0.0	27.3	27.4
High level WVV	5599	5.0	5.7	2.7	3.3	9.5	0.2	25.2	25.0

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	600	3.5	3.8	1.3	2.4	23.1	-0.2	5.9	6.0
Mid level IRW	506	3.5	3.7	1.1	2.2	20.9	-0.5	6.5	7.0
High level IRW	11406	3.5	4.0	1.9	2.3	18.0	0.0	7.9	7.9
High level WVV	15587	4.1	4.6	2.2	2.8	16.9	0.8	10.9	10.1

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	4.4	4.7	1.1	3.0	15.7	0.6	9.9	9.4
Mid level IRW	41	3.4	3.7	1.3	2.0	8.7	0.6	15.4	14.8
High level IRW	122	5.0	5.2	1.0	3.1	11.2	0.7	21.8	21.1
High level WVV	126	4.9	5.1	1.2	2.7	10.5	0.4	25.0	24.6

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	3572	3.8	4.3	2.1	2.6	21.4	-0.4	6.8	7.2
Mid level IRW	3027	4.3	4.9	2.4	3.0	13.0	-0.9	14.6	15.5
High level IRW	14517	3.8	4.4	2.3	2.5	15.8	0.0	11.9	11.8
High level WVV	21312	4.3	5.0	2.5	2.9	14.8	0.6	14.8	14.3

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.