

# INSAT-3D AMVs: October 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	2265	3.6	4.1	2.0	2.4	20.3	0.0	7.2	7.3
Mid level IRW	2217	4.4	5.1	2.4	3.1	12.5	-1.1	14.3	15.5
High level IRW	4087	4.6	5.4	2.8	3.1	11.6	0.1	19.7	19.6
High level WVV	12193	4.8	5.6	2.8	3.3	10.8	0.4	20.5	20.1

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	344	3.2	3.5	1.0	2.2	23.1	0.1	5.7	5.6
Mid level IRW	422	3.1	3.4	1.1	2.0	21.7	-0.7	5.6	6.3
High level IRW	9148	4.1	4.7	2.3	2.8	16.2	-0.2	10.3	10.5
High level WVV	16165	4.6	5.2	2.5	3.1	16.1	1.0	11.8	10.9

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	61	4.1	4.2	0.5	2.8	16.1	0.6	10.6	10.0
Mid level IRW	40	5.9	6.1	0.9	3.8	13.8	-1.2	20.0	21.2
High level IRW	24	6.2	6.3	0.4	3.0	9.9	1.4	32.2	30.8
High level WVV	160	5.3	5.6	1.3	3.7	7.5	1.6	28.8	27.2

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	2670	3.5	4.0	2.0	2.3	20.7	0.0	7.0	7.0
Mid level IRW	2679	4.3	4.9	2.4	3.0	13.8	-1.1	13.0	14.1
High level IRW	13259	4.2	4.9	2.5	2.9	14.9	-0.1	13.1	13.2
High level WVV	28518	4.6	5.4	2.7	3.2	13.8	0.7	15.5	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  $\text{ms}^{-1}$ , 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.