

# INSAT-3D AMVs: FEBRUARY2016

## 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	3164	3.9	4.4	2.1	2.5	20.1	-0.1	7.8	7.9
Mid level IRW	2726	4.6	5.2	2.4	2.9	12.6	-0.8	15.2	16.0
High level IRW	3127	5.2	5.9	2.7	3.3	9.0	-0.4	24.4	24.8
High level WWV	9536	5.4	6.4	3.3	3.6	9.7	0.2	23.9	23.8

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	1205	3.5	3.8	1.6	2.3	20.9	0.0	6.5	6.5
Mid level IRW	683	3.7	4.0	1.3	2.3	17.3	-0.6	8.6	9.2
High level IRW	5773	3.9	4.4	2.1	2.6	15.6	0.3	10.5	10.2
High level WWV	8967	4.4	4.9	2.3	2.8	17.0	0.7	11.0	10.3

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	30	3.2	3.3	0.5	2.3	22.0	0.5	5.6	5.1
Mid level IRW	2	7.0	7.0	0.3	5.4	18.7	-5.4	11.5	16.9
High level IRW	69	4.5	4.8	1.2	3.0	12.8	0.4	15.4	15.1
High level WWV	229	4.8	5.1	1.4	3.2	12.7	0.4	16.1	15.7

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	4399	3.7	4.3	2.0	2.5	20.2	0.0	7.5	7.5
Mid level IRW	3411	4.4	5.0	2.4	2.8	13.3	-0.8	13.9	14.6
High level IRW	8969	4.4	5.1	2.5	2.9	13.1	0.2	15.7	15.5
High level WWV	18732	4.9	5.7	2.9	3.2	13.2	0.4	17.5	17.1

**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.**