

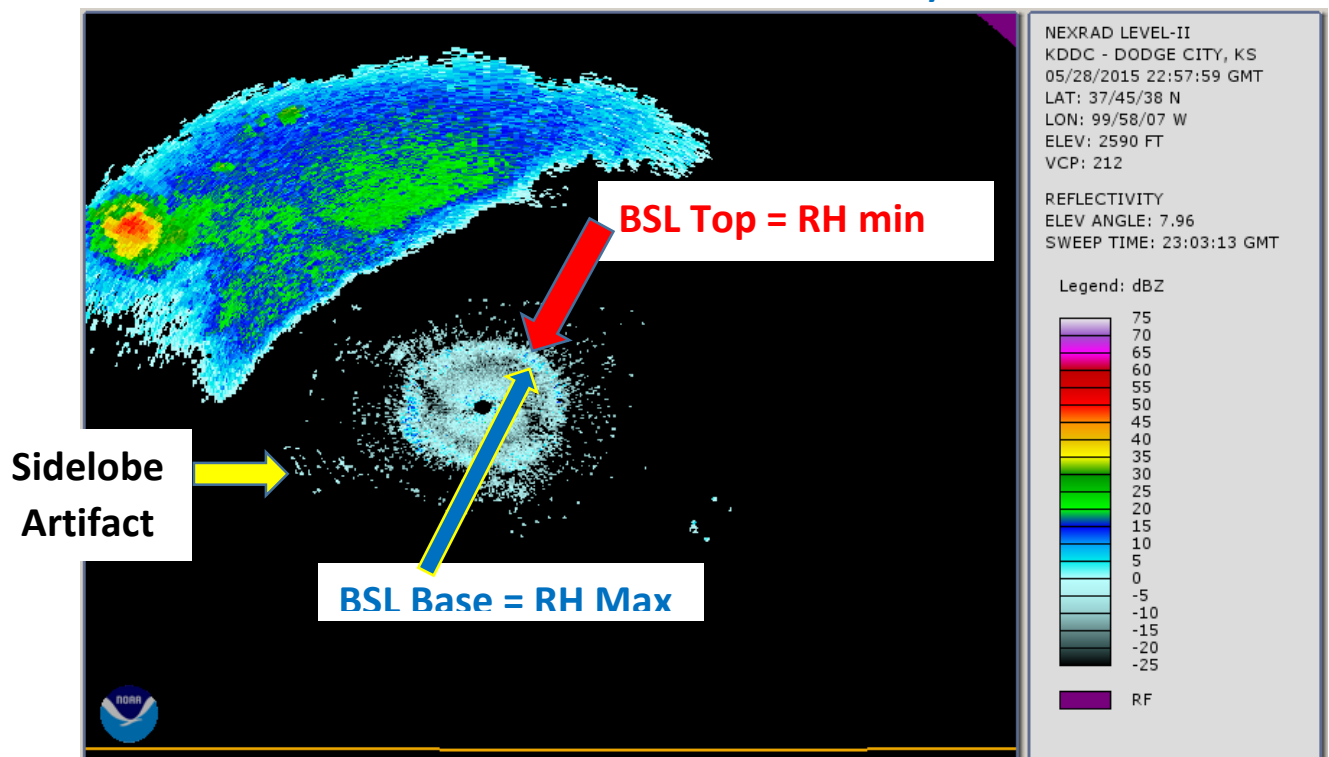
# How to Utilize Bragg Scattering Layer Time Height Diagrams (the short, short explanation)

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1. What are they: **Red = top** of a reflectivity layer in s-band radar data  
**Blue = base** of a reflectivity layer

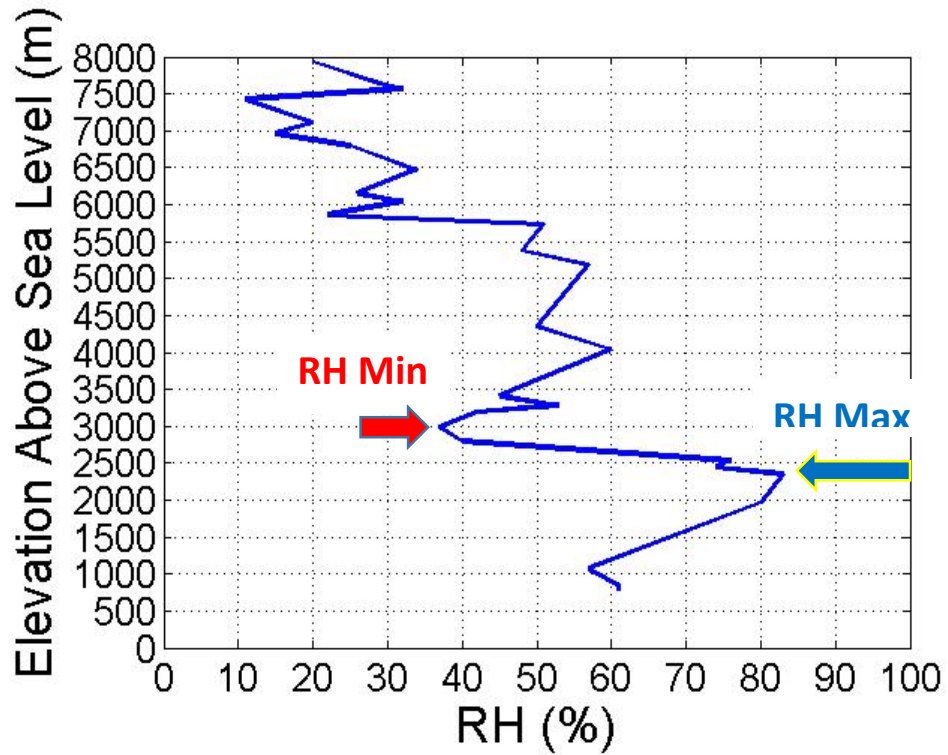
**If the BSL plot looks like garbage, then no coherent layers are present!**

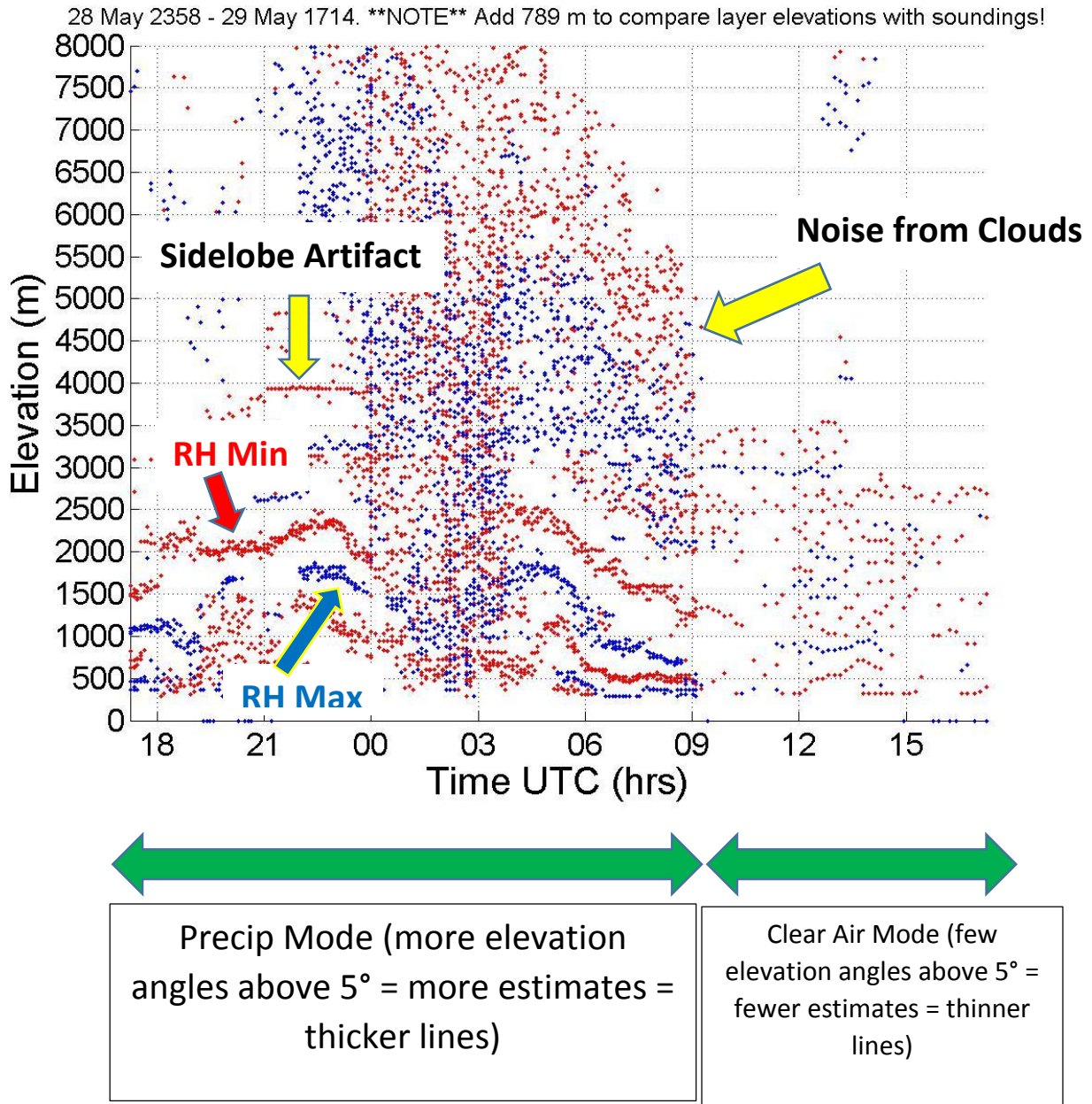
2. How do you interpret them: **Red = Relative Humidity Min**  
**Blue = Relative Humidity Max**



**\*\*\*To compare with soundings, you have to account for the difference between ground level and height above sea level!**

Here's an example from KDDC, the 0Z sounding on 29 May 2015:



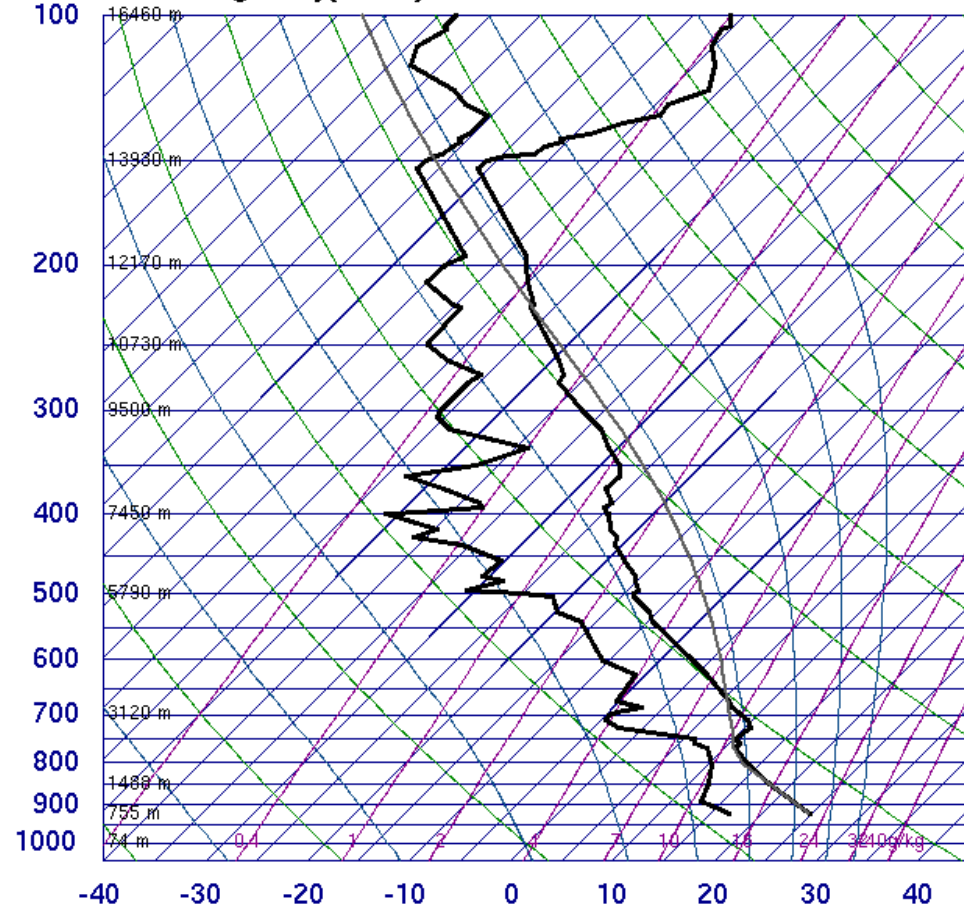


So at 0Z there is an **RH min** at ~2 km above ground level (~2.8 km above sea level) and an **RH max** at ~1.5 km above ground level (~2.3 km above sea level). By pairing up the sounding and the BSL time-height diagrams, you can better track the height evolution of the moisture field (eg, Does the moist layer go up? If so, how high?).

## 72451 DDC Dodge City(Awos) Observations at 00Z 29 May 2015

PRES	HGHT	TEMP	DWPT	RELH	MIXR	DRCT	SKNT	THTA	THTE	THTV
hPa	m	C	C	%	g/kg	deg	knot	K	K	K
921.0	790	24.8	16.8	61	13.24			305.0	344.9	307.5
914.0	857	24.0	16.0	61	12.67			304.9	343.0	307.2
892.0	1070	22.0	13.0	57	10.66			304.9	337.1	306.9
804.0	1960	13.8	10.4	80	9.94			305.4	335.5	307.2
767.0	2356	11.0	8.3	83	9.03			306.5	334.1	308.2
758.0	2455	11.0	6.6	74	8.13			307.6	332.6	309.1
750.0	2543	10.2	6.2	76	7.99			307.6	332.2	309.1
727.0	2803	10.6	-2.4	40	4.43			310.8	325.0	311.6
711.0	2988	9.6	-4.4	37	3.90			311.7	324.3	312.4
694.0	3188	7.8	-4.2	42	4.06			311.9	324.9	312.6
686.0	3284	6.8	-2.2	53	4.77			311.8	327.0	312.7
675.0	3416	5.8	-5.2	45	3.87			312.1	324.6	312.8
625.0	4041	1.0	-6.0	60	3.93			313.6	326.3	314.3
601.0	4354	-1.7	-10.7	50	2.83			314.0	323.3	314.5
540.0	5193	-9.5	-16.5	57	1.96			314.4	321.0	314.8
527.0	5381	-10.7	-19.7	48	1.53			315.2	320.4	315.4
503.0	5738	-13.9	-21.9	51	1.32			315.5	320.1	315.7
495.0	5859	-13.9	-30.9	22	0.59			316.9	319.1	317.1
483.0	6045	-15.1	-28.1	32	0.79			317.7	320.5	317.8
476.0	6155	-15.7	-30.7	26	0.63			318.3	320.6	318.4
456.0	6477	-18.3	-30.3	34	0.68			318.9	321.4	319.1
436.0	6811	-20.7	-35.7	25	0.42			320.0	321.6	320.1
427.0	6965	-21.3	-41.3	15	0.24			321.2	322.1	321.2
418.0	7121	-22.7	-39.7	20	0.29			321.3	322.5	321.4
401.0	7425	-24.3	-46.3	11	0.15			323.1	323.7	323.1
393.0	7571	-25.5	-37.5	32	0.39			323.4	324.9	323.5
389.0	7645	-25.1	-38.1	29	0.37			324.9	326.3	324.9
373.0	7949	-27.1	-43.1	20	0.23			326.1	327.0	326.2

**72451 DDC Dodge City(Awos)**



SLAT	37.76
SLON	-99.97
SELV	790.0
SHOW	-5.77
LIFT	-6.84
LFTV	-7.40
SWET	388.9
KINX	31.10
CTOT	26.10
VTOT	32.10
TOTL	58.20
CAPE	1112.
CAPV	1214.
CINS	-46.5
CINV	-4.55
EQLV	224.4
EQTV	224.3
LFCT	674.5
LFCV	773.1
BRCH	60.23
BRCV	65.78
LCLT	285.2
LCLP	791.7
MLTH	304.9
MLMR	11.38
THCK	5716.
PWAT	27.31

00Z 29 May 2015

University of Wyoming