

ORDA Data Quality Assessment

Lt Col George

Robert R. Lee

ROC Applications Branch

Data Quality Examples

- Problems fixed
 - Incorrect range normalization
 - Noisy data in the range folded region.
 - High reflectivity values caused by incorrect calibration.
 - Bad velocity values caused by initial problems with new hardware.
 - Bad velocity values caused by incorrect processing of VCP 121.
 - Incorrect range folding on upper tilts.

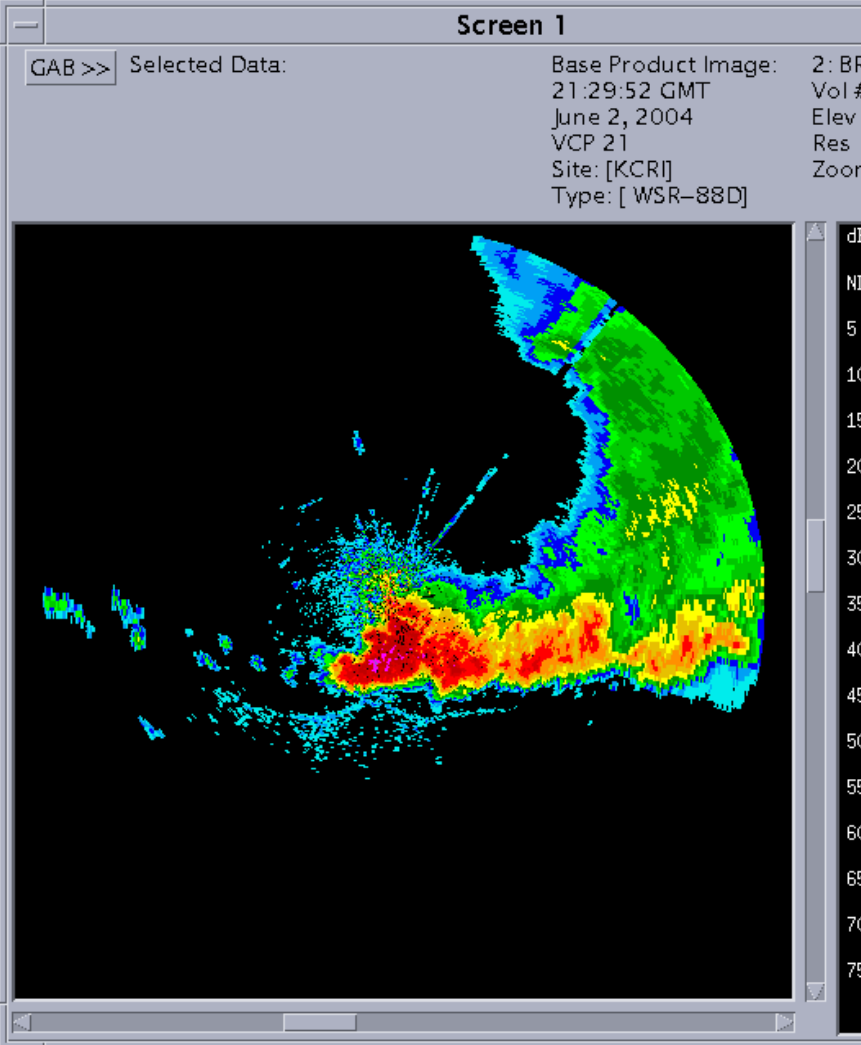
Data Quality Examples (cont)

- Problems remaining
 - Excessively high velocity values at higher tilts.
 - Excessively high spectrum width values at higher tilts.
 - Noise in velocity and spectrum width upper tilts.
 - Bad velocity values on upper tilts in VCP 31.

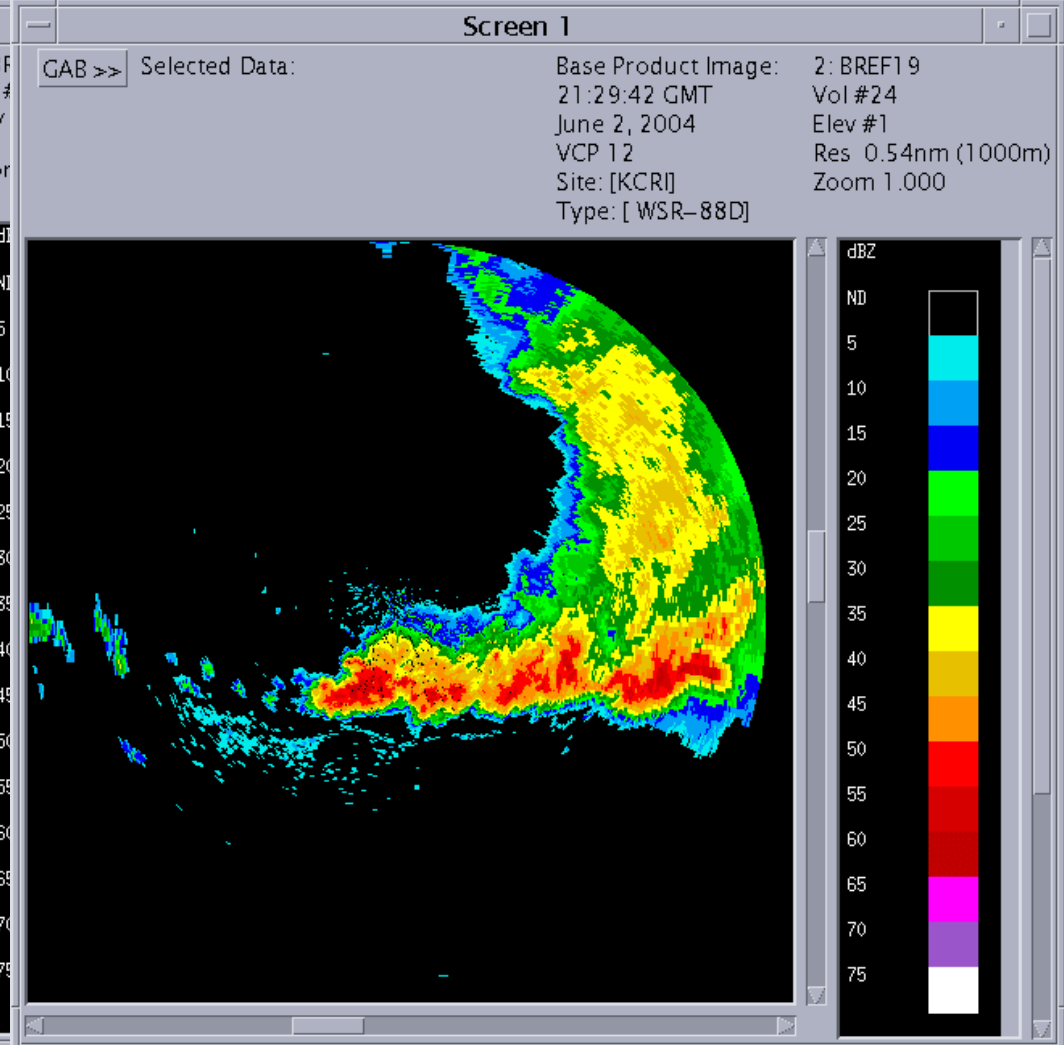
Data Quality Examples (cont)

- Good looking data
 - Reflectivity comparison
 - Velocity comparison
 - GMAP filter example
 - REC example
- Algorithm comparison
 - Max VIL comparison
 - VWP winds at 2,000 ft

Problems Corrected



ORDA / T1
 Reflectivity
 VCP 21
 2 June 2004
 21:29:52 GMT



Incorrect range
 normalization

KTLX / T1
 Reflectivity
 VCP 21
 2 June 2004
 21:29:42 GMT

Screen 1

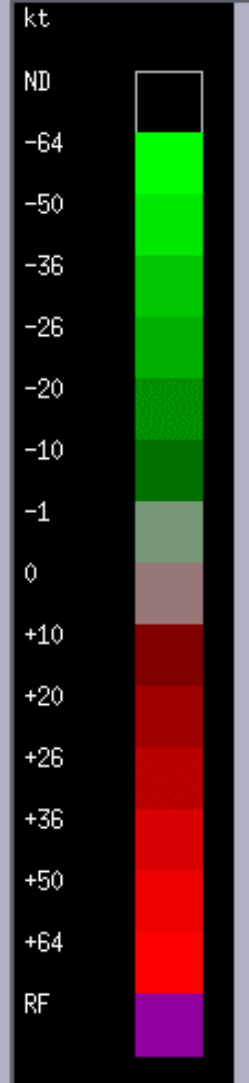
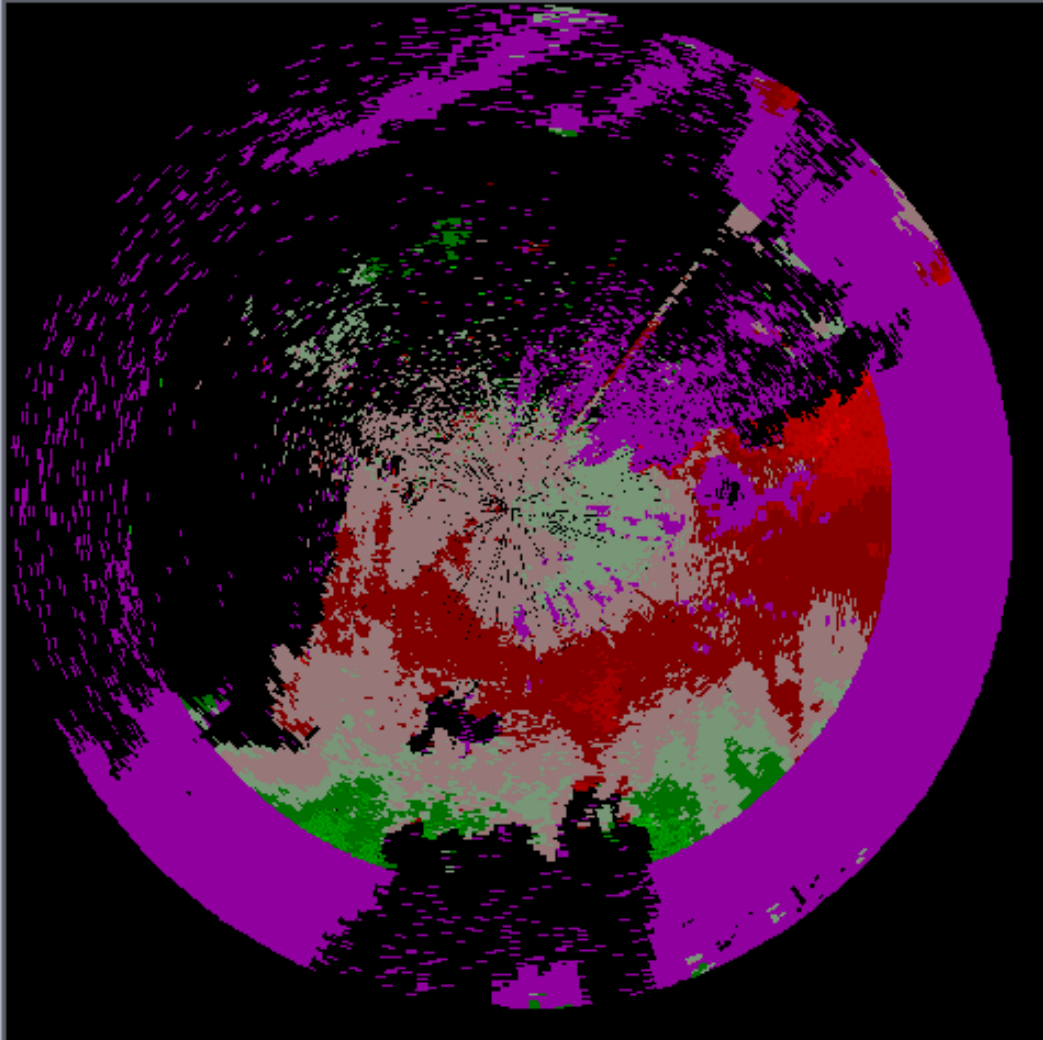
GAB >>

Selected Data:

Base Product Image:
12:30:37 GMT
June 22, 2004
VCP 21
Site: [KCRJ]
Type: [WSR-88D]

15: BVEL27
Vol #193
Elev #1
Res 0.54nm (1000m)
Zoom 1.000

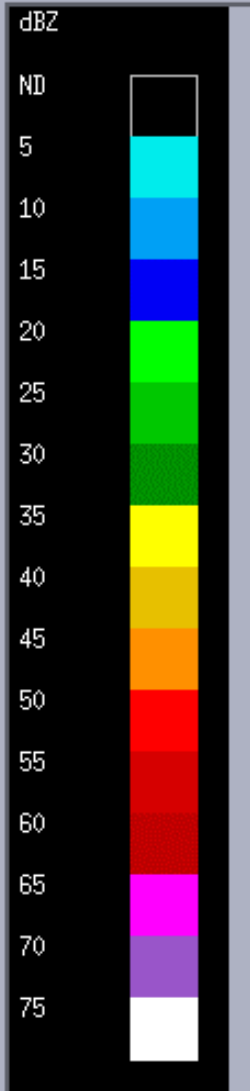
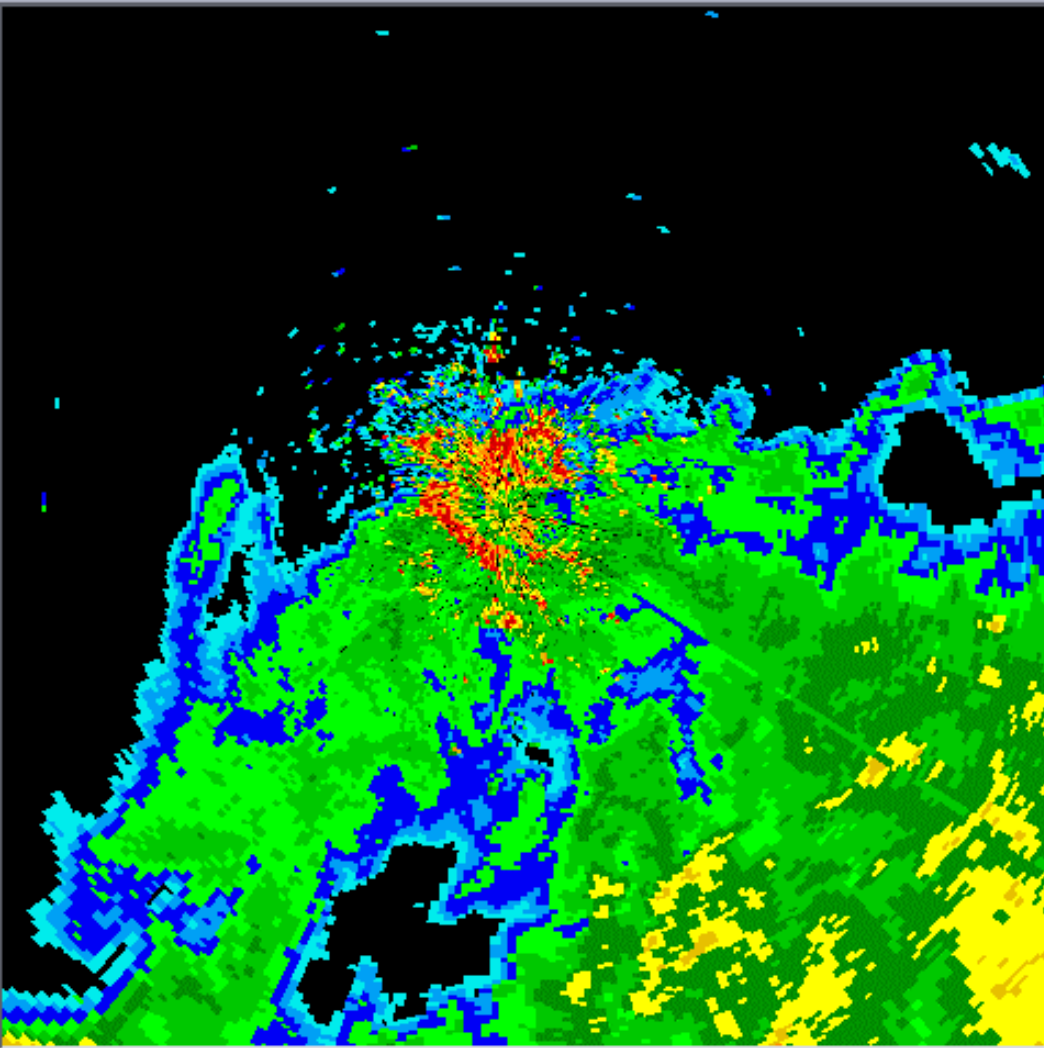
Noisy data in the range folded region caused by incorrect processing.



Screen 1

GAB >> Selected Data: Base Product Image: 2: BREF1 9
12:30:37 GMT Vol #1 93
June 22, 2004 Elev #1
VCP 21 Res 0.54nm (1000m)
Site: [KCR] Zoom 2.000
Type: [WSR-88D]

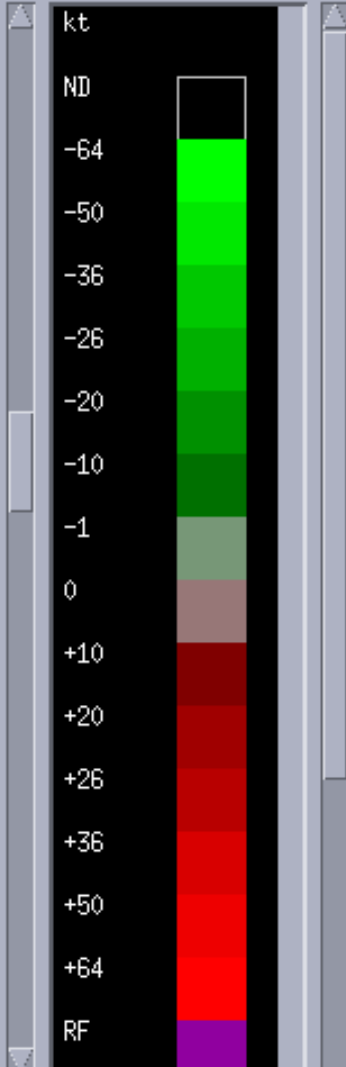
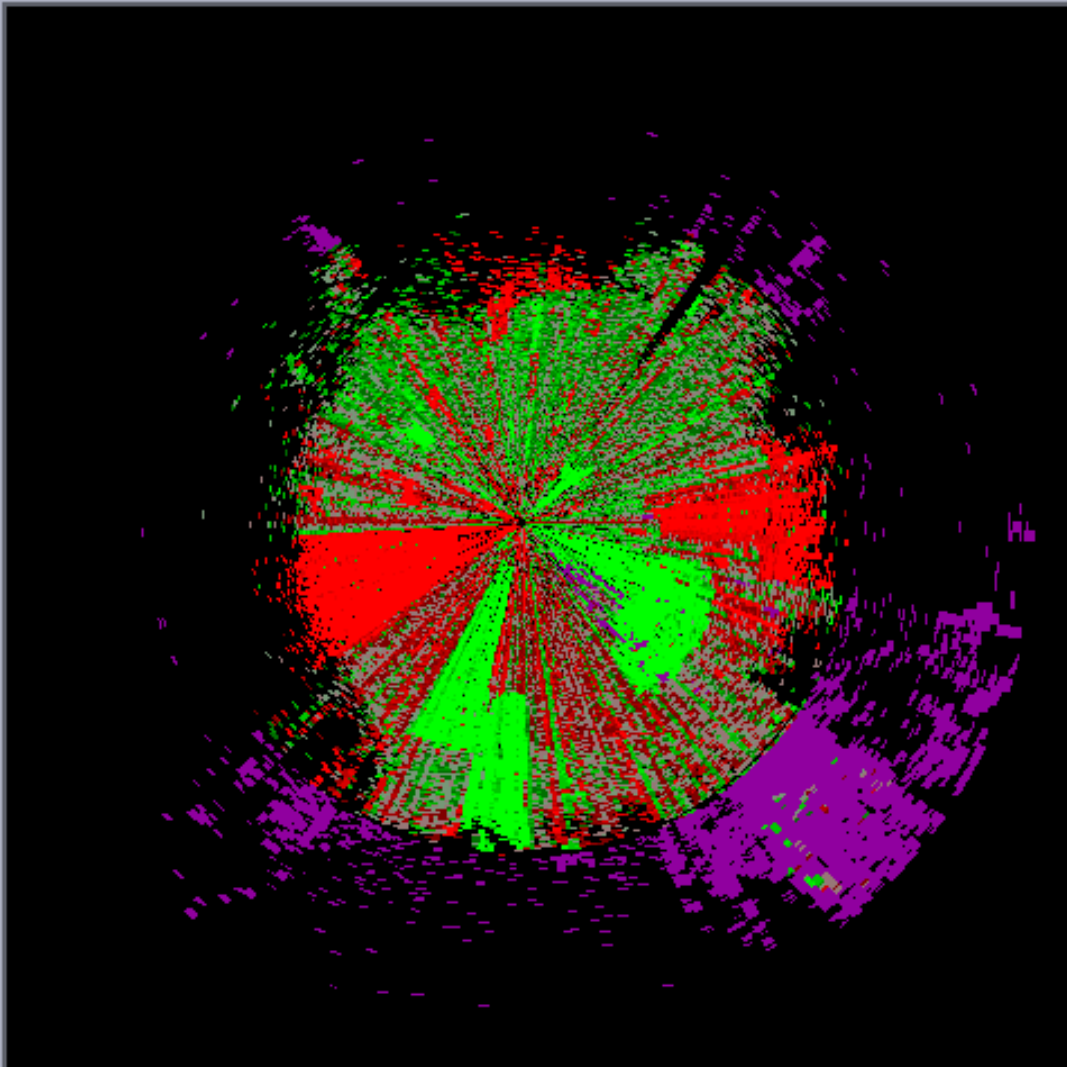
High reflectivity values caused by incorrect calibration.



Screen 1

GAB >> Selected Data: Radial # 89 Base Product Image: 15: BVEL27
X: 1010 Bin # 96 02:47:08 GMT Vol #79
Y: 888 Bin Value: 12 July 17, 2004 Elev #1
Azimuth: 70.00 VCP 11 Res 0.54nm (1000m)
Range: 51.30NM Site: [KCR1] Zoom 1.000
(95.00KM) Type: [WSR-88D]

Bad velocity values caused by initial problems with new hardware.

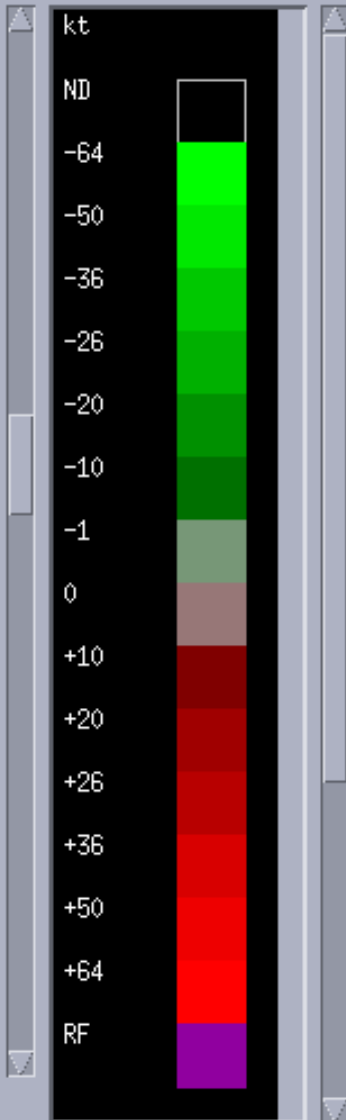
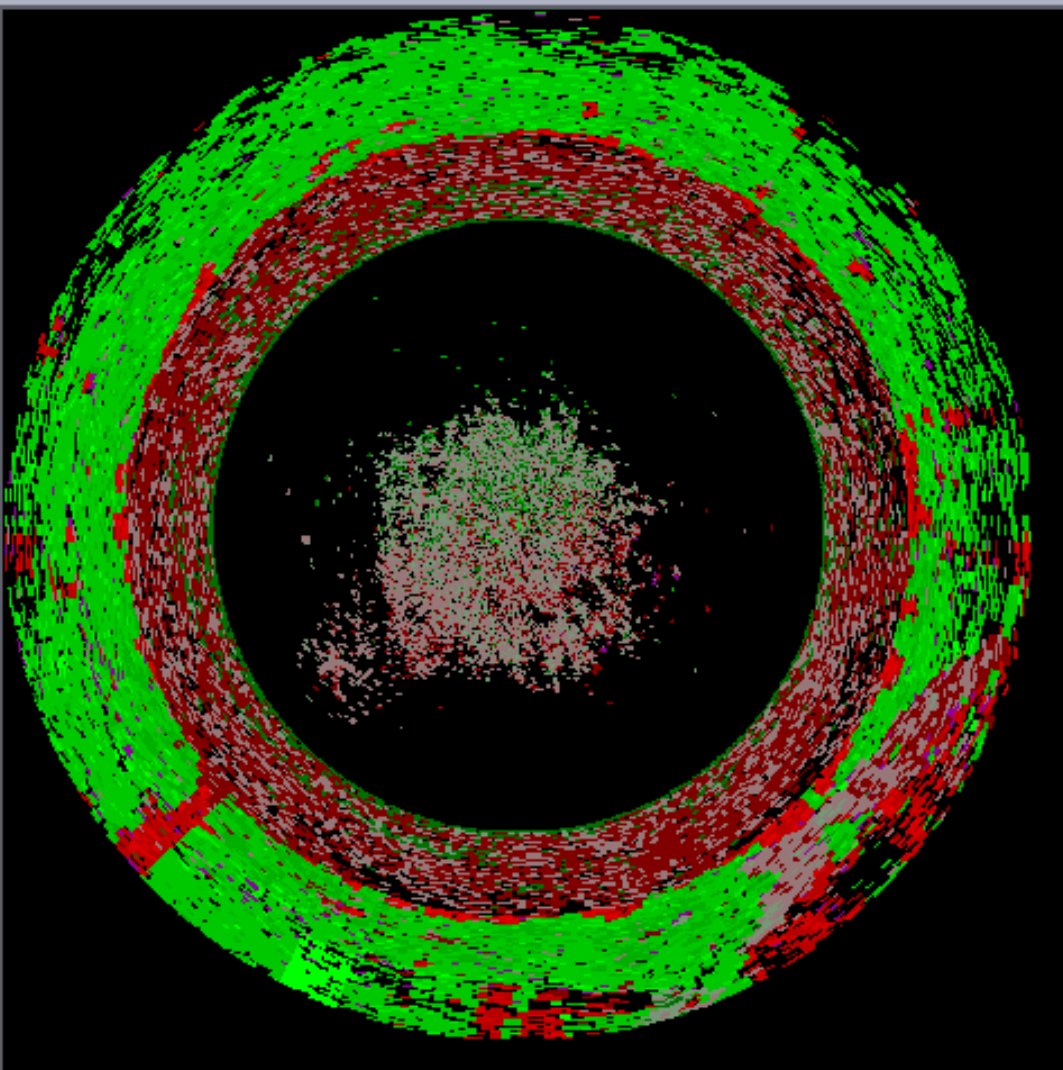


Screen 1

GAB >> Selected Data:

Base Product Image: 15: BVEL27
23:12:47 GMT Vol #576
July 29, 2004 Elev #1
VCP 121 Res 0.54nm (1000m)
Site: [KCR1] Zoom 1.000
Type: [WSR-88D]

Bad velocity values caused by incorrect processing of VCP 121.



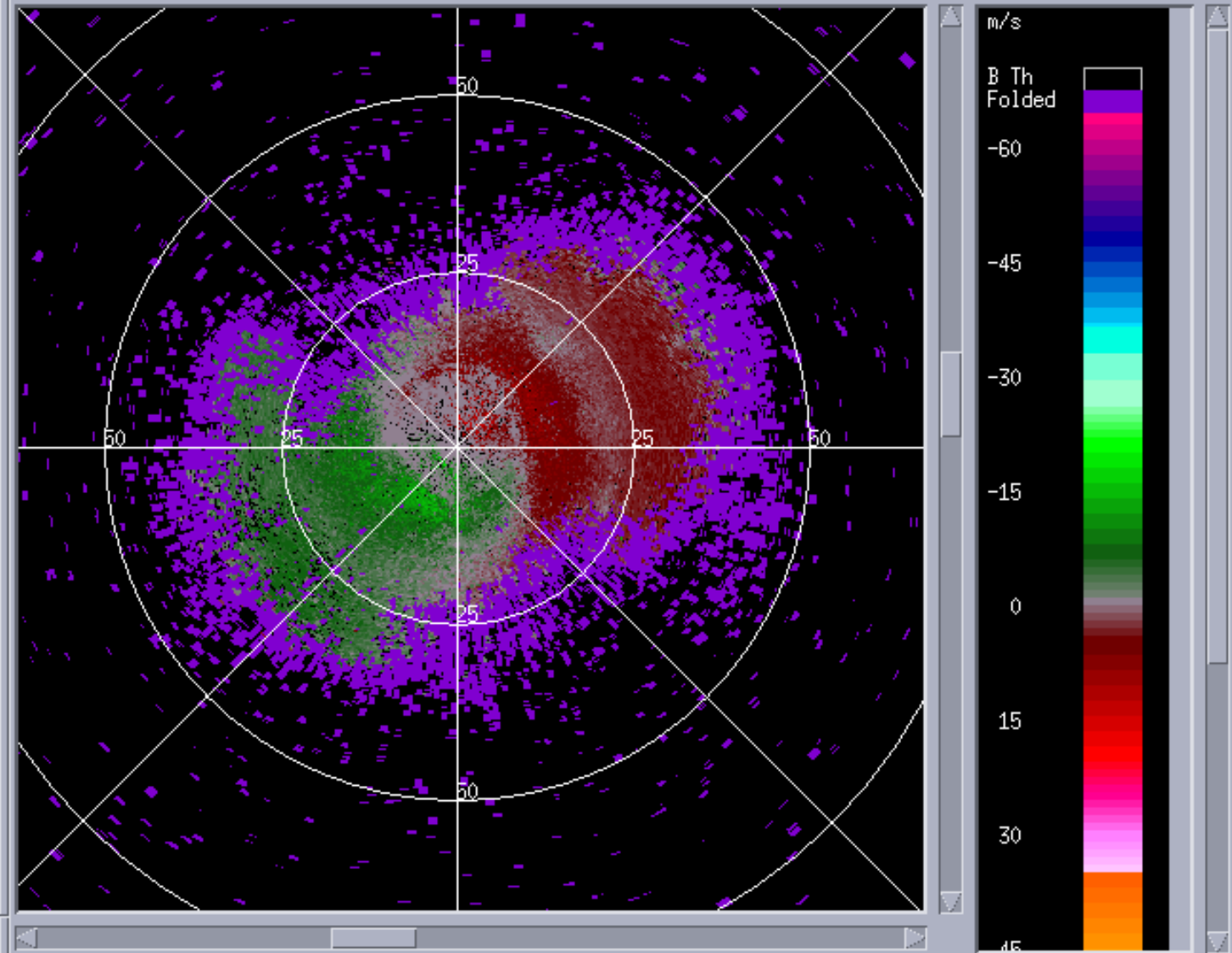
Screen 1

GAB >> Selected Data:

Base Product Image:
12:29:58 GMT
September 13, 2004
VCP 32
Site: [KCRI]
Type: [WSR-88D]

99: BVEL8BIT
Vol #876
Elev #3
Res 0.13nm (250m)
Zoom 0.500

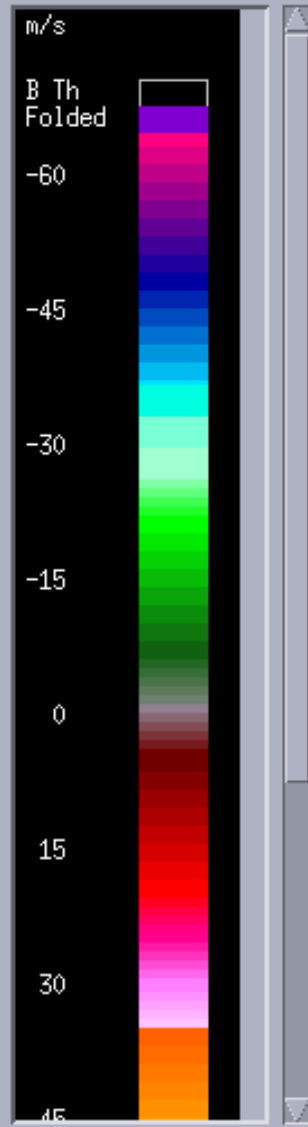
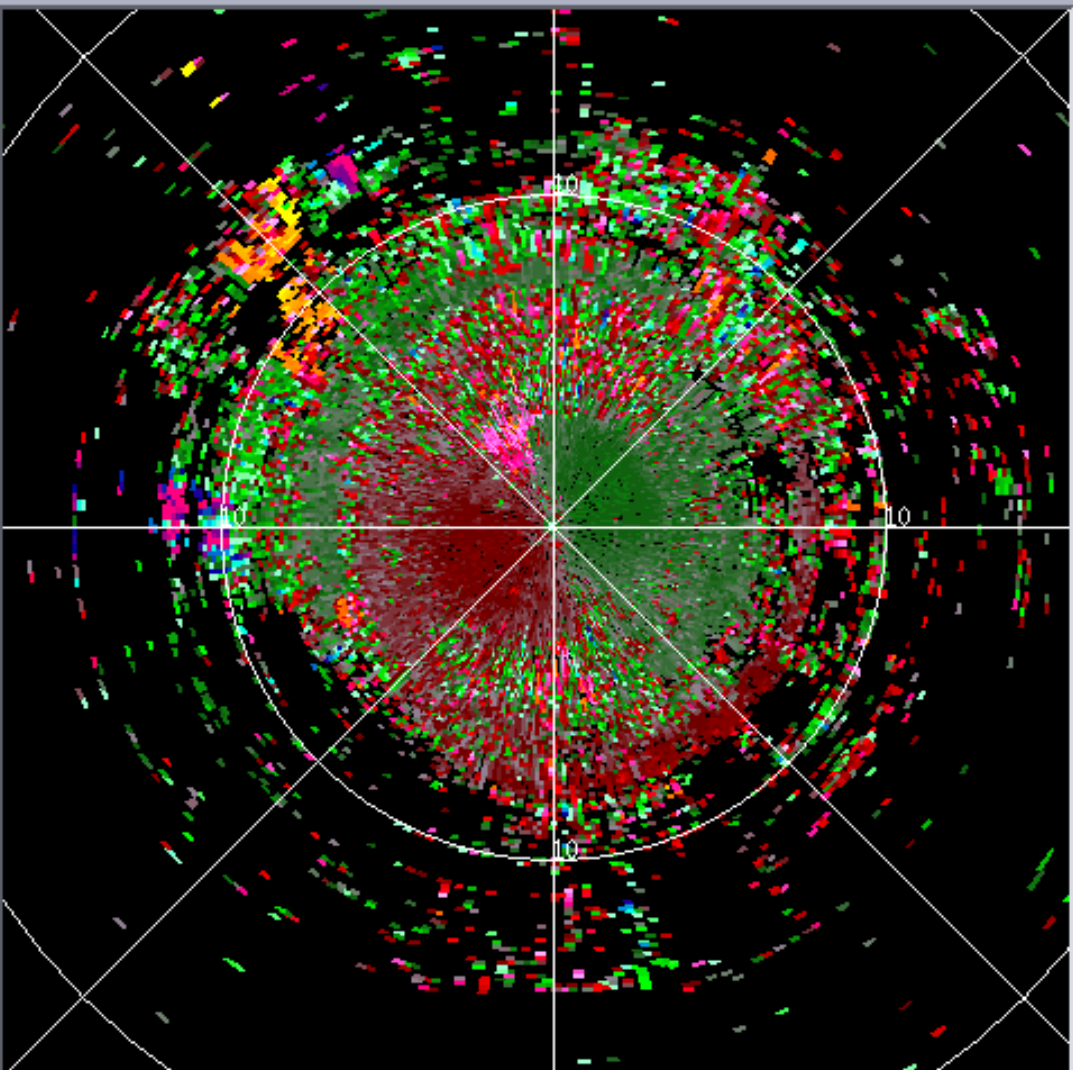
Incorrect
range
folding on
upper tilts.



Problems Remaining

Screen 1

GAB >> Selected Data: Radial # 171 Base Product Image: 99: BVEL8BIT
X: 983 Bin # 43 00:08:00 GMT Vol #504
Y: 978 Bin Value: 123 October 5, 2004 Elev #8
Azimuth: 132.00 VCP 21 Res 0.13nm (250m)
Range: 5.67NM Site: [KCRI] Zoom 2.000
(10.50KM) Type: [WSR-88D]



Excessively high velocity values at higher tilts.

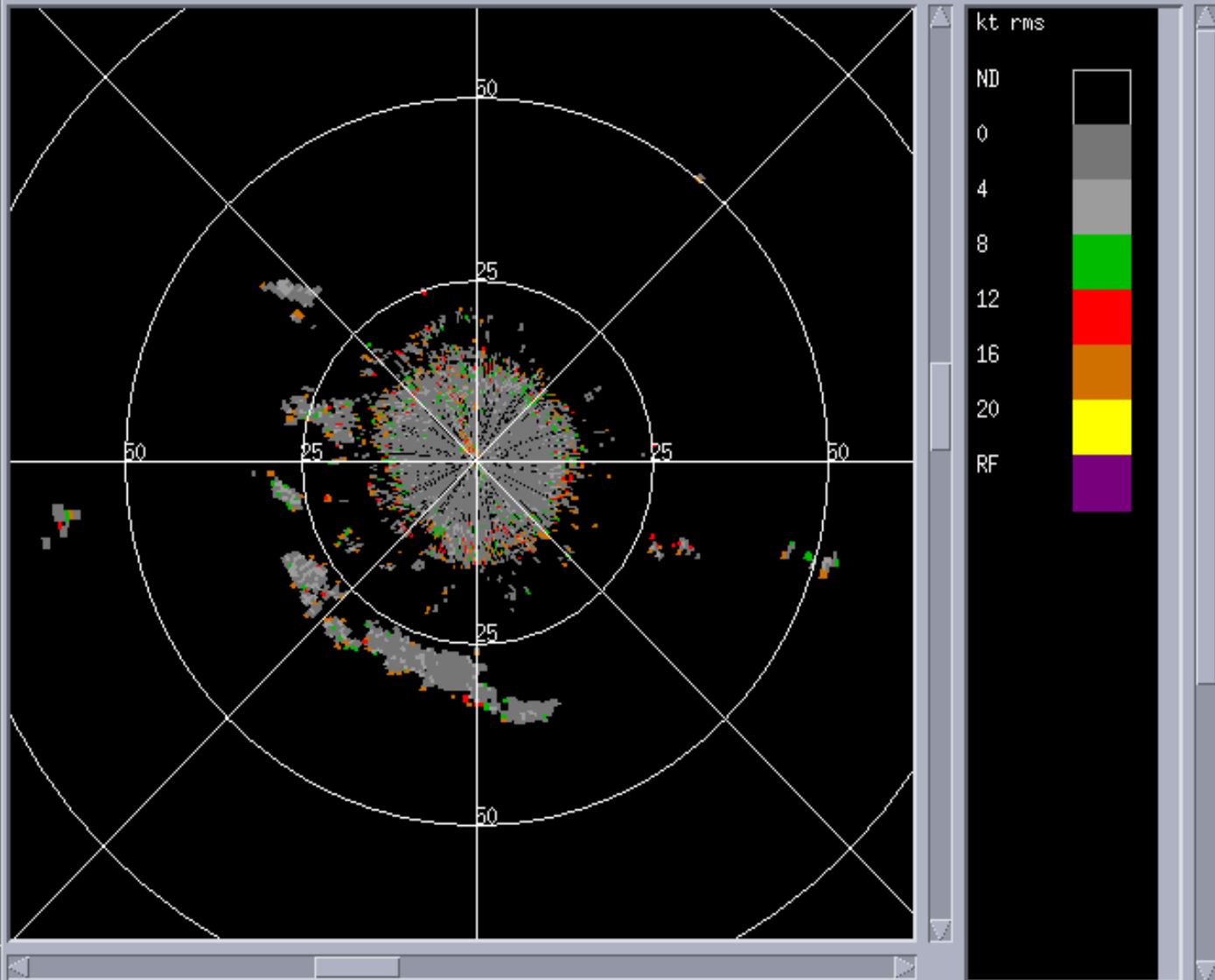
May be related to a threshold problem.

Screen 1

GAB >> Selected Data: Radial # 14 Base Product Image: 10: BSPC30
X: 957 Bin # 38 00:08:00 GMT Vol #504
Y: 986 Bin Value: 0 October 5, 2004 Elev #4
Azimuth: 150.00 VCP 21 Res 0.54nm (1000m)
Range: 19.98NM Site: [KCRI] Zoom 2.000
(37.00KM) Type: [WSR-88D]

Excessively high spectrum width values at higher tilts.

May be related to a threshold problem.

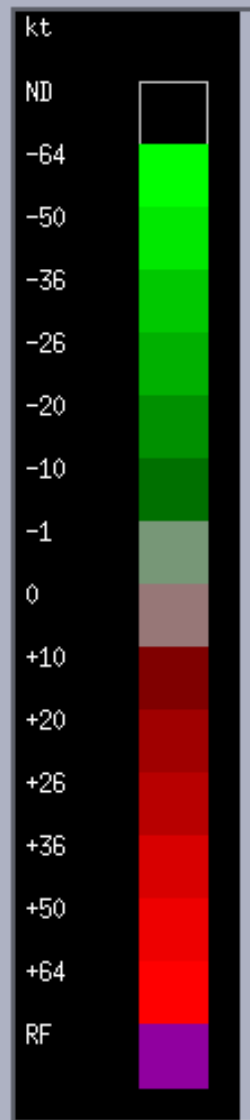
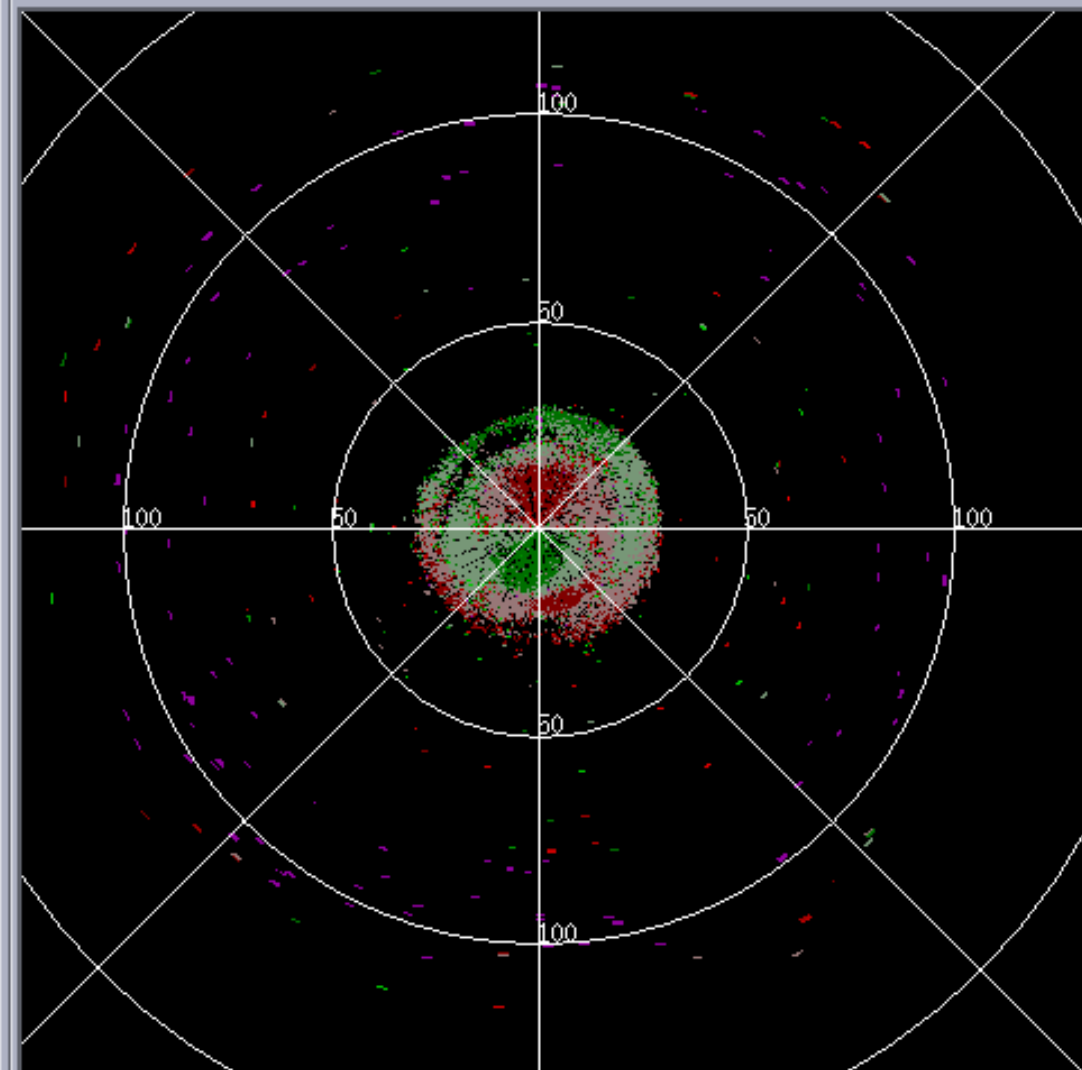


Screen 1

GAB >> Selected Data:

Base Product Image:
23:22:40 GMT
September 17, 2004
VCP 32
Site: [KCRI]
Type: [WSR-88D]

15: BVEL27
Vol #11
Elev #5
Res 0.54nm (1000m)
Zoom 1.000



Noise in velocity and spectrum width upper tilts.

May be related to a threshold problem.

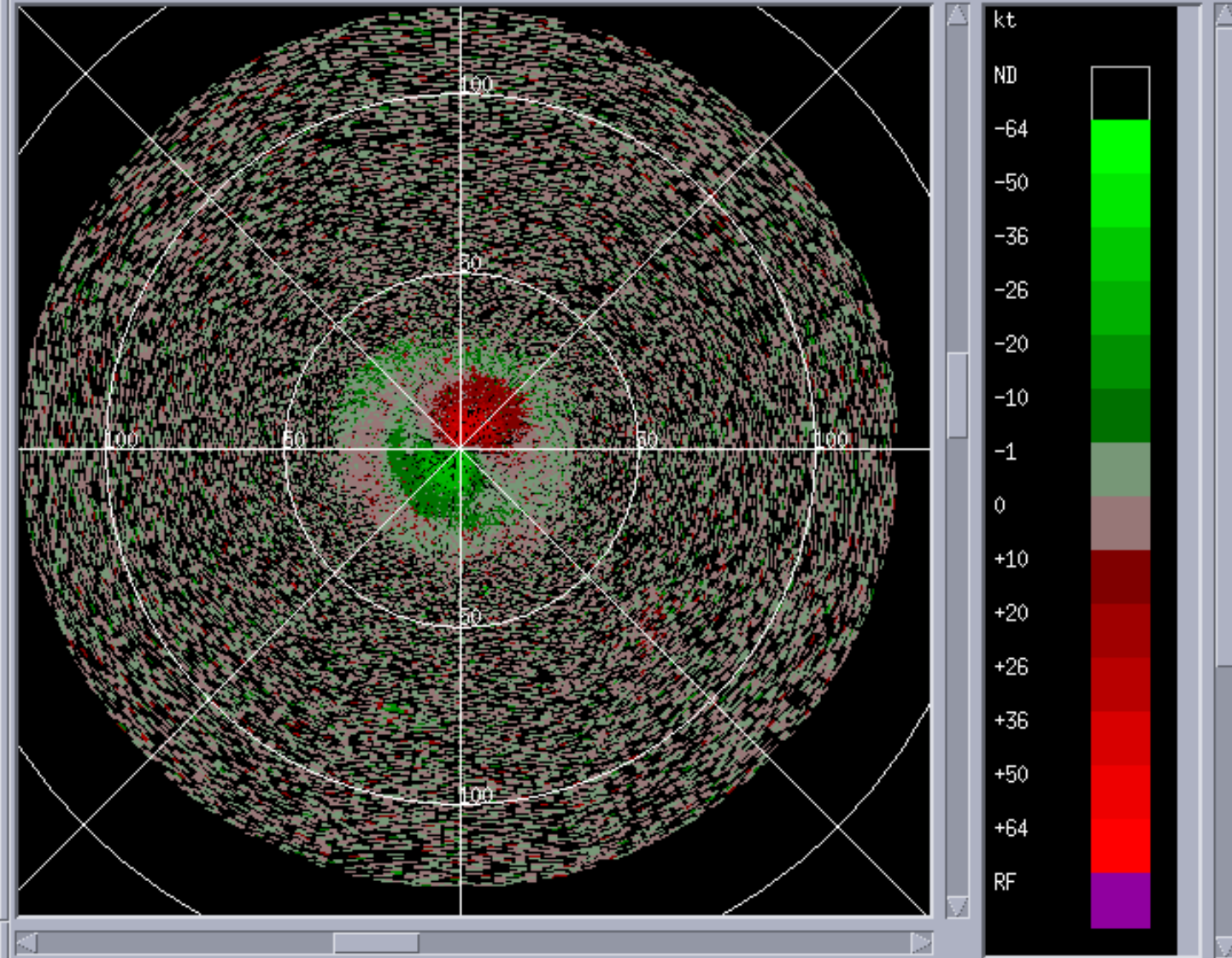
Screen 1

GAB >> Selected Data:

Base Product Image:
06:33:26 GMT
September 14, 2004
VCP 31
Site: [KCR1]
Type: [WSR-88D]

15: BVEL27
Vol #973
Elev #4
Res 0.54nm (1000m)
Zoom 1.000

Bad velocity
values on
upper tilts
in VCP 31.

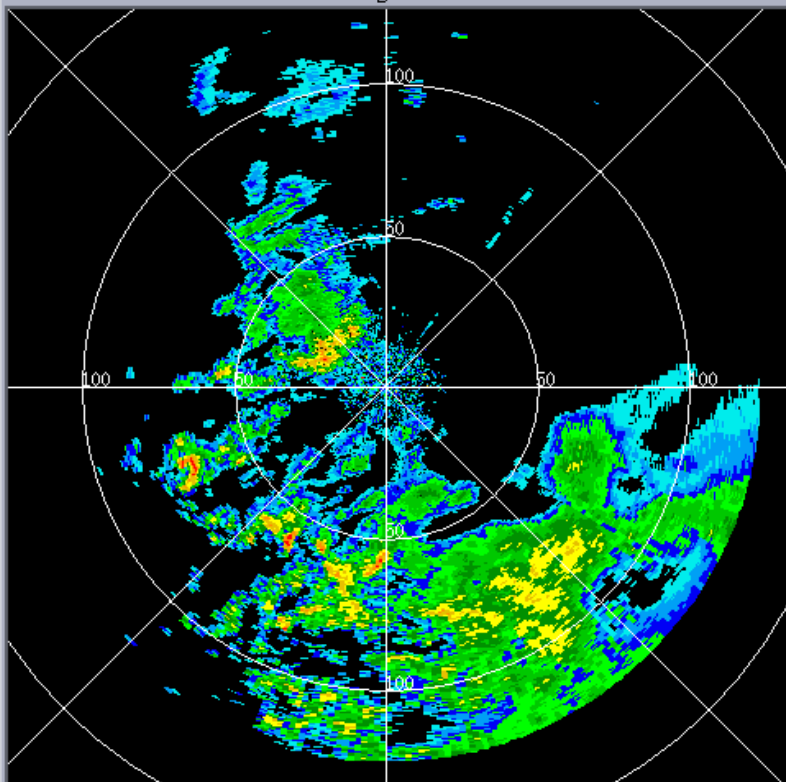


Good Looking Data

Screen 1

GAB >> Selected Data: Base Product Image: 2:1
 X: 699 13:58:42 GMT Vol
 Y: 788 October 4, 2004 Ele
 VCP 11 Re:
 Site: [KCRI] Zo:
 Type: [WSR-88D]

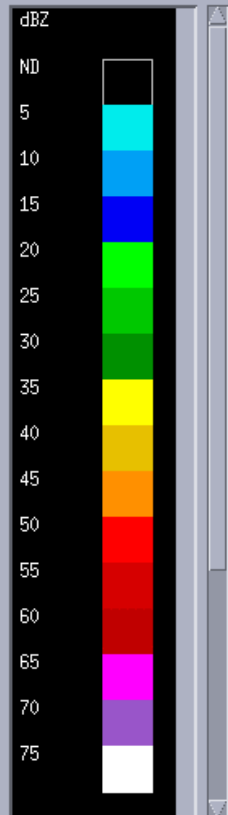
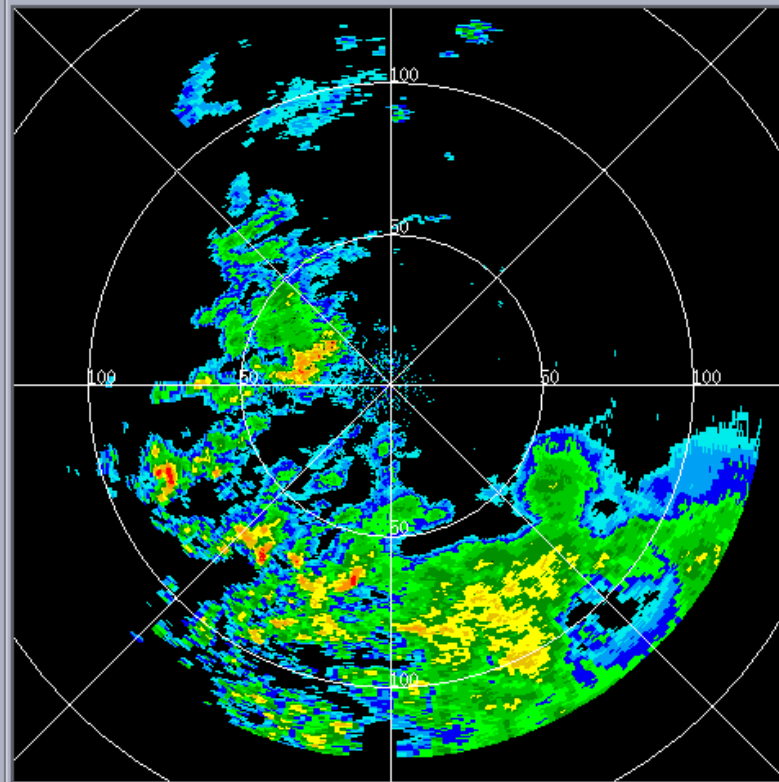
Selected Data Point
 Exceeds Product Range



ORDA / T1
 Reflectivity
 VCP 11
 4 October 2004
 13:58:42 GMT

Screen 1

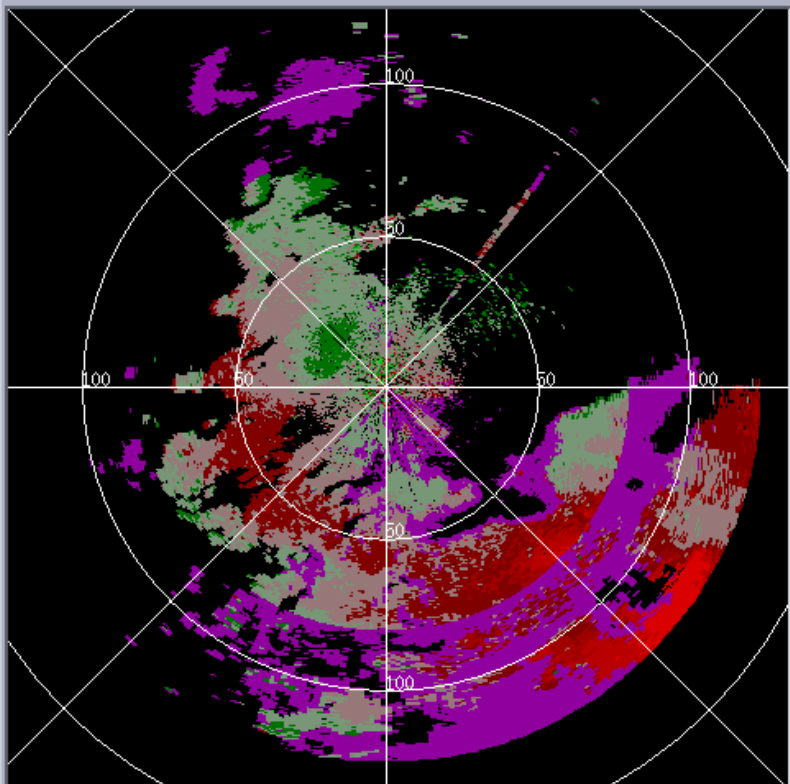
GAB >> Selected Data: Base Product Image: 2: BREF19
 Vol #1204
 October 4, 2004 Elev #1
 VCP 11 Res 0.54nm (1000m)
 Site: [UNK] Zoom 1.000
 Type: [UNK]



KTLX / T1
 Reflectivity
 VCP 11
 4 October 2004
 13:59:22 GMT

Screen 1

GAB >> Selected Data: Base Product Image: 15
 13:58:42 GMT
 October 4, 2004
 VCP 11
 Site: [KCRI]
 Type: [WSR-88D]



NOP4 / T1

Velocity

VCP 11

4 October 2004

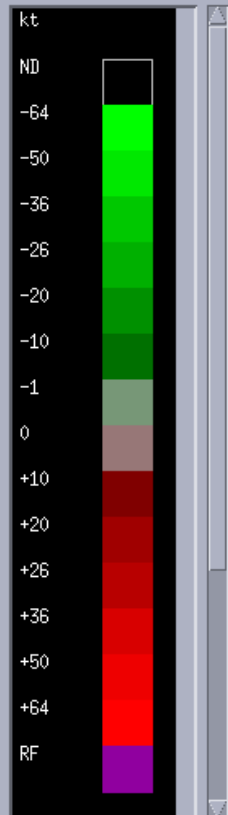
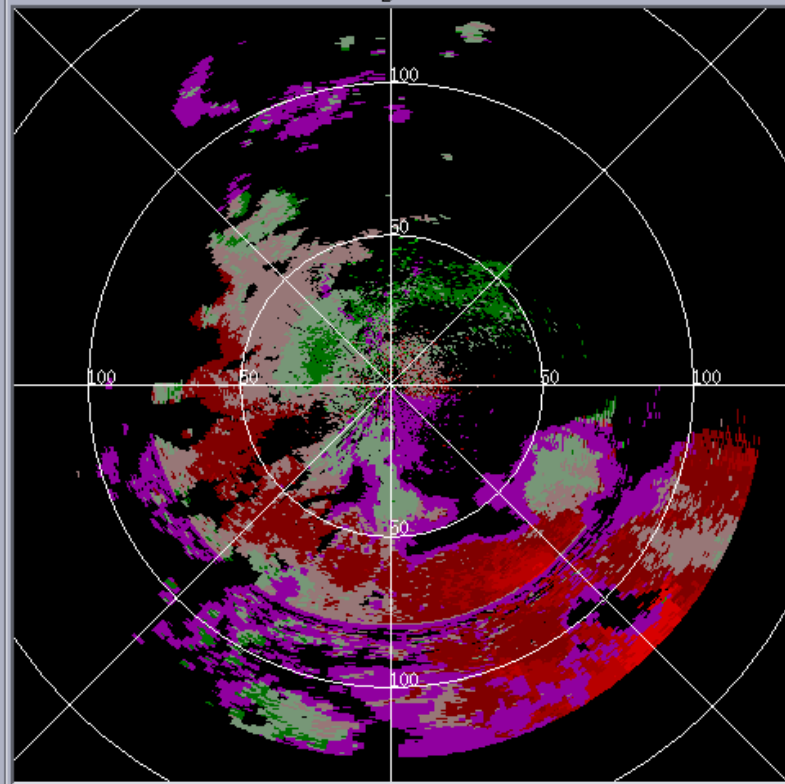
13:58:42 GMT

Screen 1

GAB >> Selected Data: Base Product Image: 15
 13:59:22 GMT
 October 4, 2004
 VCP 11
 Site: [UNK]
 Type: [UNK]

Selected Data Point
 Exceeds Product Range

15: BVEL27
 Vol #1204
 Elev #1
 Res 0.54nm (1000m)
 Zoom 1.000



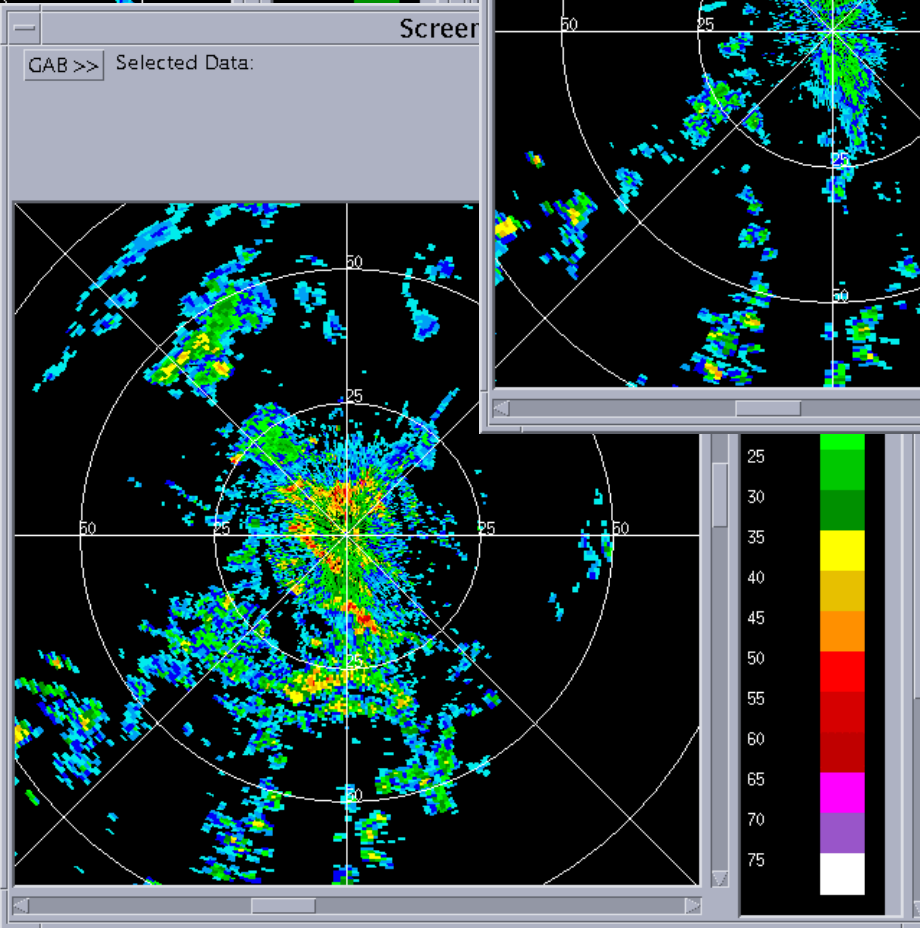
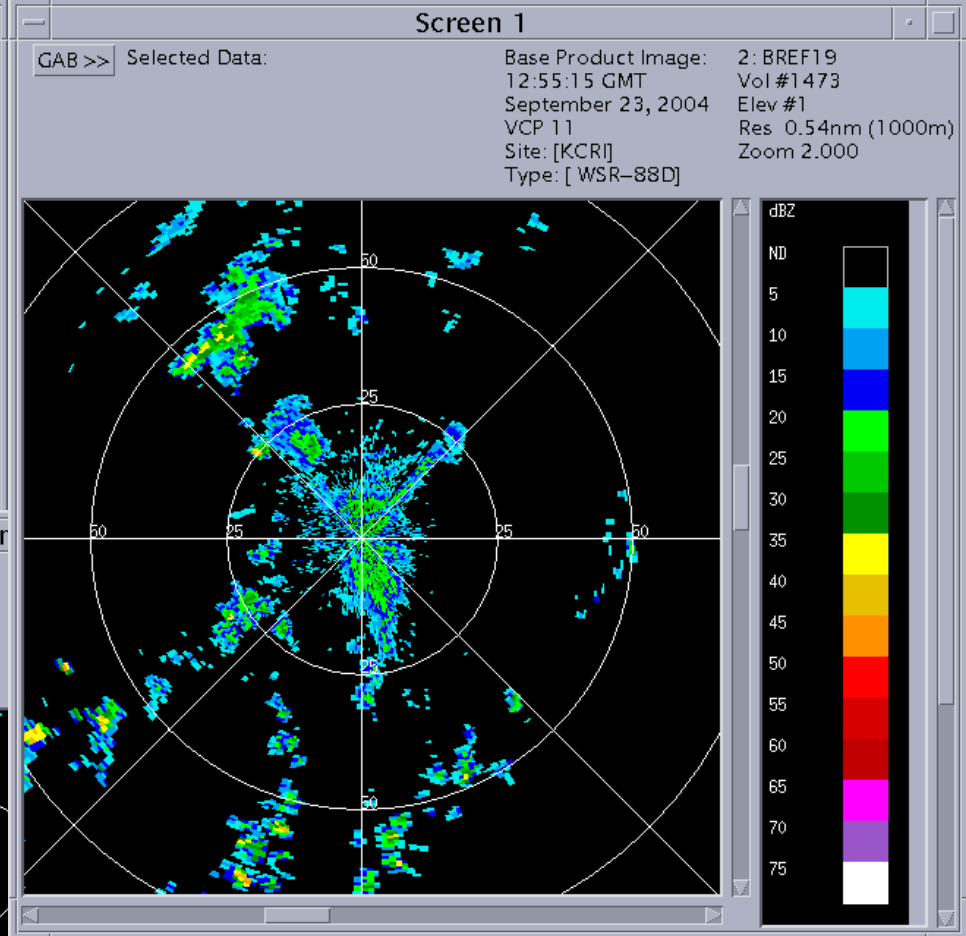
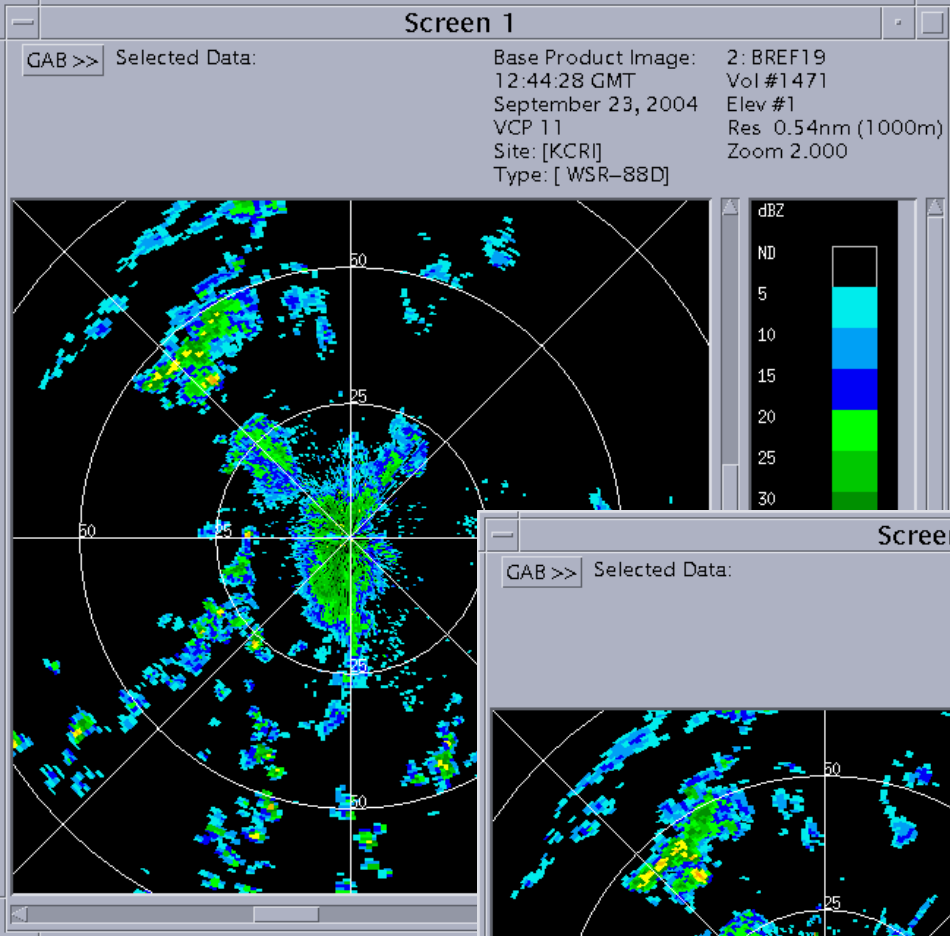
KTLX / T1

Velocity

VCP 11

4 October 2004

13:59:22 GMT

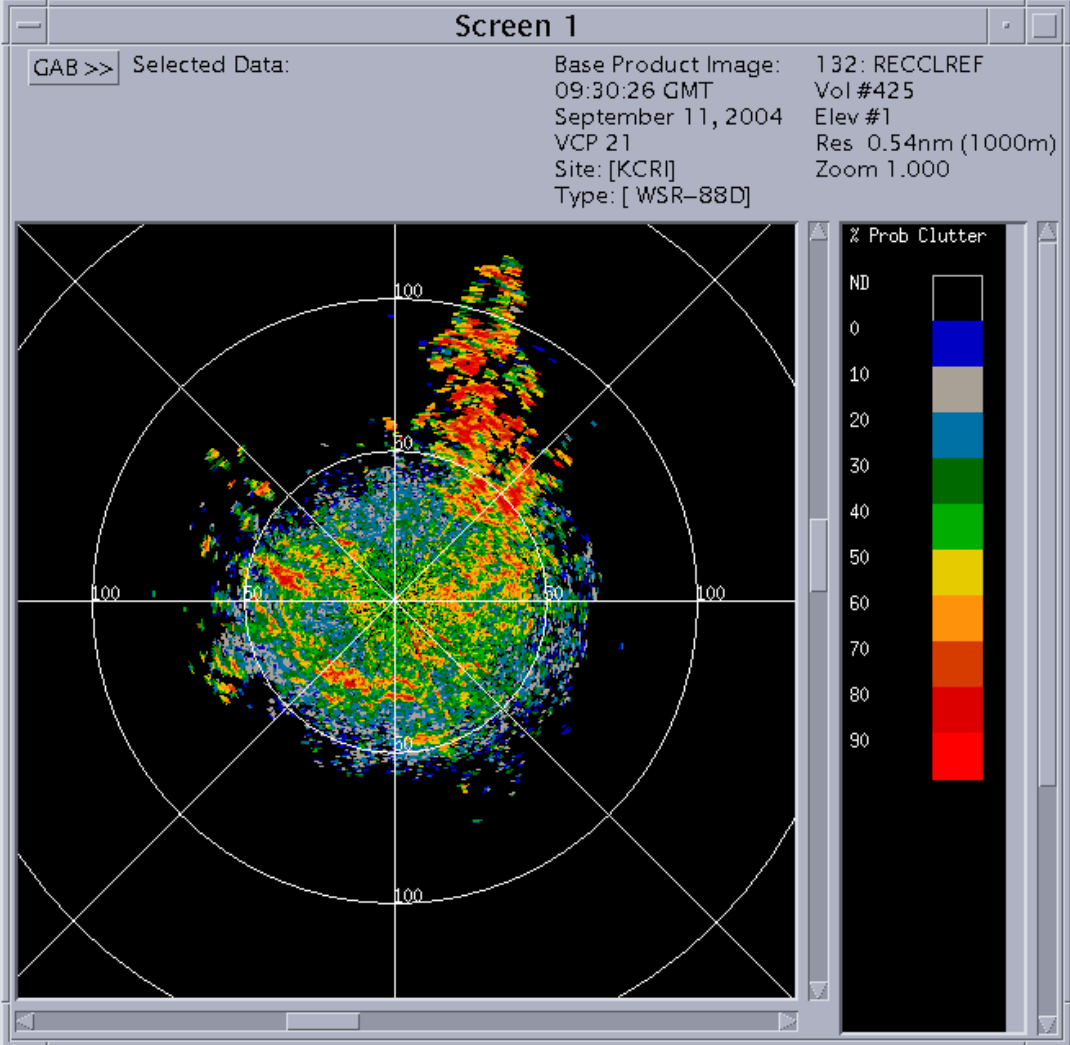
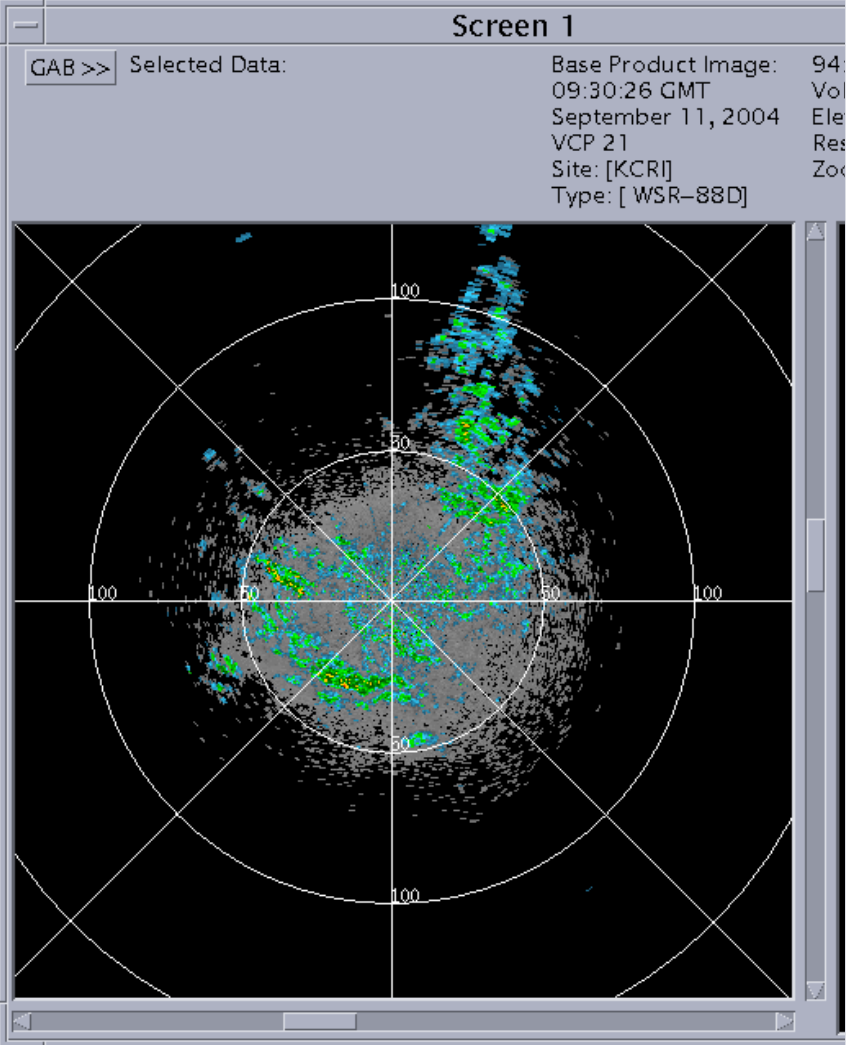


GMAP
Everywhere

Bypass map
generated in
10 to 15
minutes.

Bypass Map

GMAP Off



NOP4

DR

VCP 21

11 September 2004

09:30:26 GMT

NOP4

REC Algorithm CLR

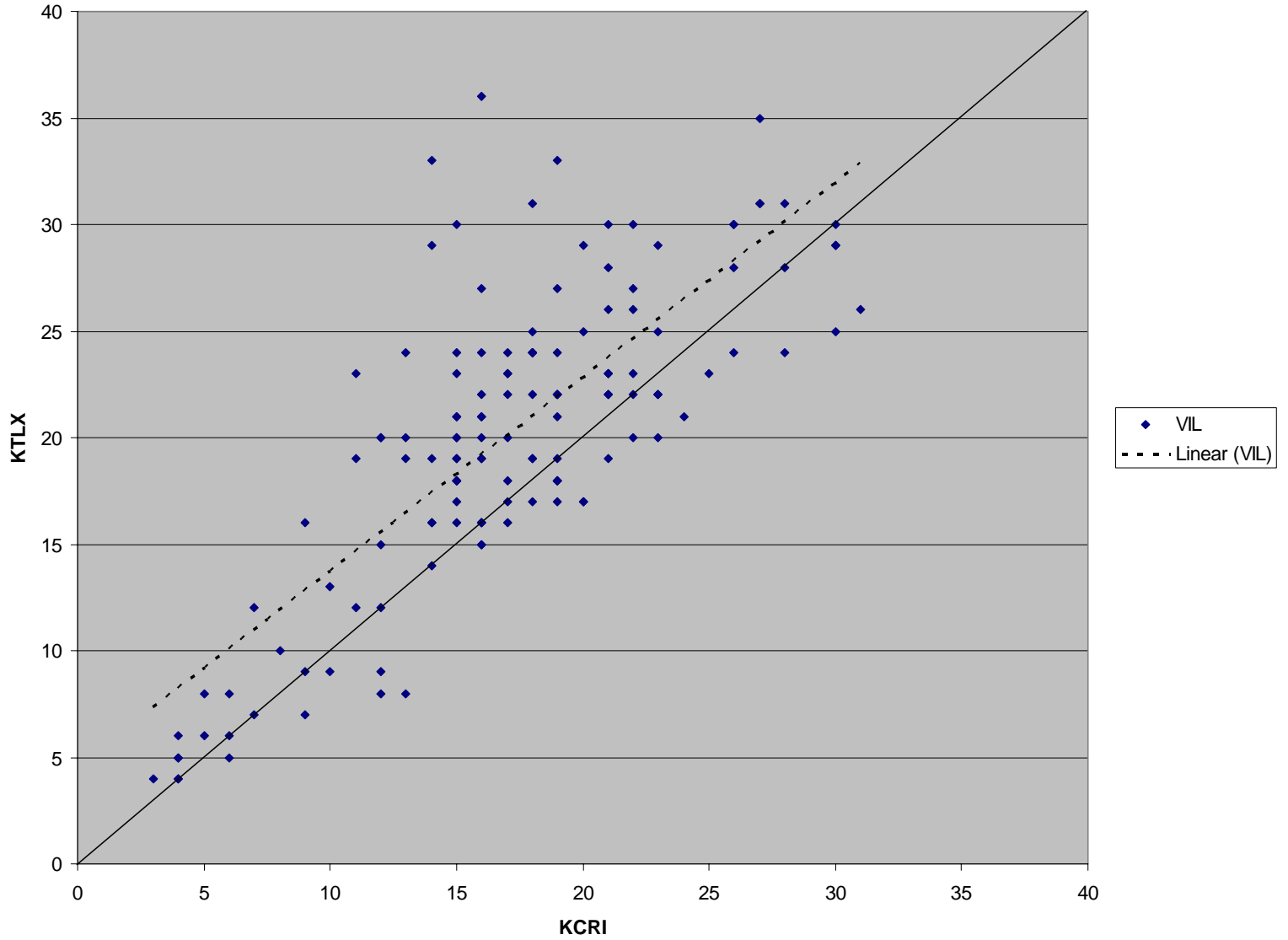
VCP 21

11 September 2004

09:30:26 GMT

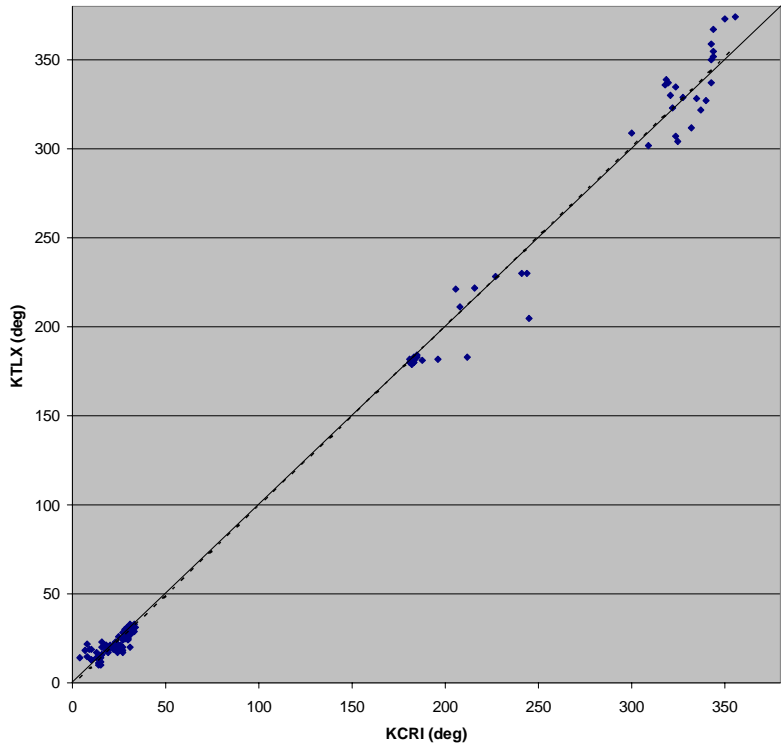
Algorithm Comparison

Vertical Integrated Liquid

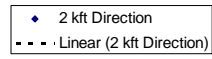


Max VIL Correlation = 0.78

VAD Wind Profiler
2,000 ft. Wind Direction



Wind Direction Correlation = 0.99



Wind Speed Correlation = 0.93

VAD Wind Profiler
2,000 ft Wind Speed

