



Build 5/New VCP Status Update

NEXRAD TAC - Information Brief

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Build 5/New VCP Status Update

- **VCP121**

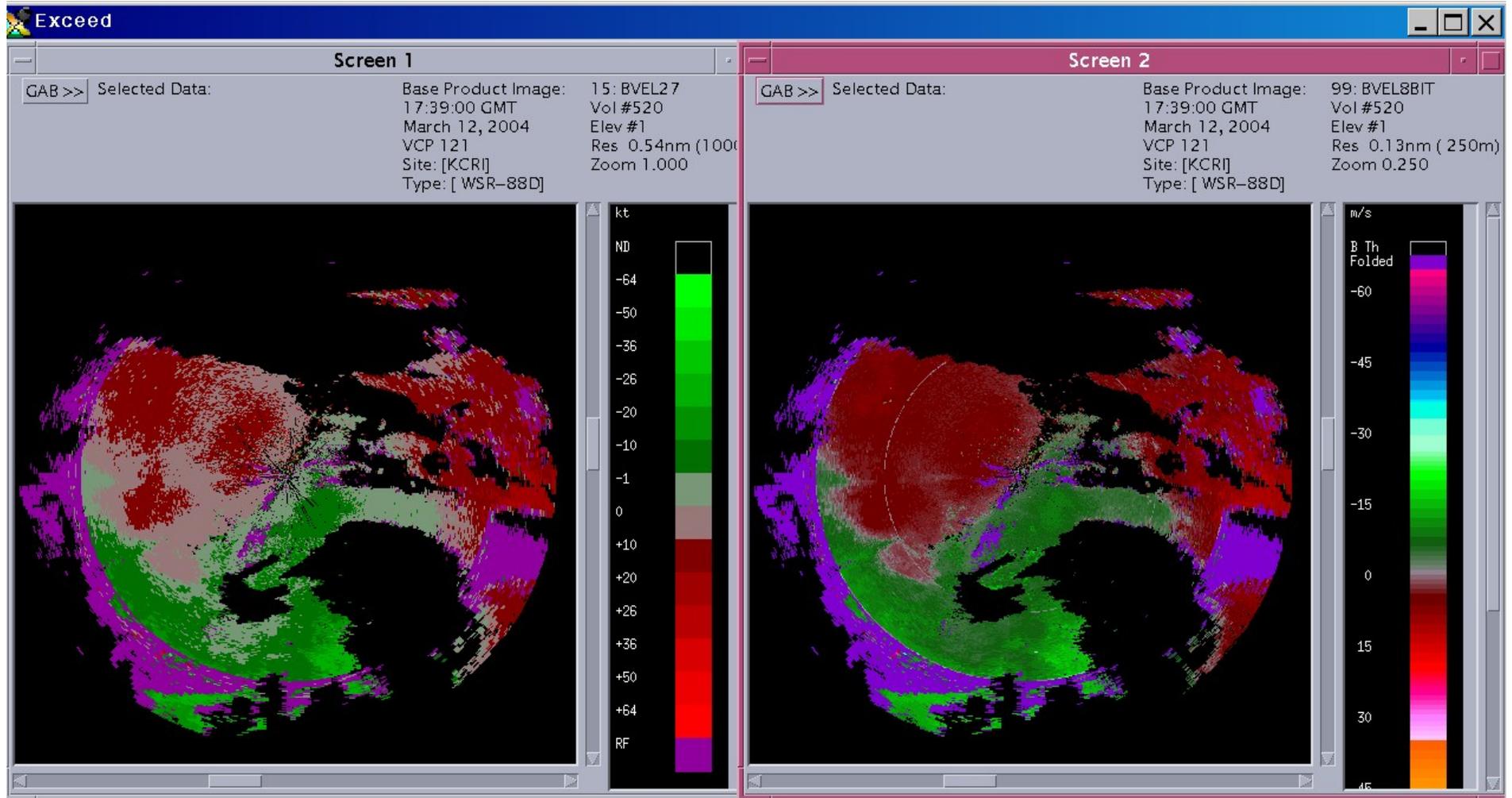
- Issue: AU2 Parity Errors at 5 of 7 test sites
- Frequency of occurrence: Commonly every third scan
 - Twelve seconds into the volume scan (transition point between 0.5 degree CS and first CD w/ Ambiguity using PRF 8)
 - AU Parity Errors are filtered occurrence secondary RDA Alarms
- Solution:
 - None for Build 5.0
 - Build 6.0 will include a redefinition of the RDA Alarms addressing color coding of RDA alarms
 - Build 7.0 or later will provide better RPG Status log filtering method to search for specific categories of RDA and/or RPG Alarms.

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- **VCP121**

- Issue: Rings in the Velocity and Spectrum Width Products
- Frequency of occurrence: At lower elevations scans (0.5 - ~2.4 degree), when weather is present, at approximately 60-80 nm
 - Adjusting adaptable parameters helps, but ranges allowed are too tight to completely remove the rings in all cases
- Solution:
 - Build 5.0: Make adjustments in MPDA adaptable parameters within ranges provided
 - Build 6.0: Ranges in the MPDA algorithm are expanded to completely remove the rings

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- **VCP121**

- Issue: Pedestal Dynamic Faults at Two Locations Following 8 hour Calibrations
- Frequency of occurrence: 8% at Dodge City, KS; Once during three-day Beta Use at Kohola, HI
 - Sensitive to alignment of DCU at RDA
 - Dodge City, KS had replaced an Azimuth Drive motor but had not performed an alignment
- Solution: Using procedures in the tech manual, align the DCU to the ideal value.

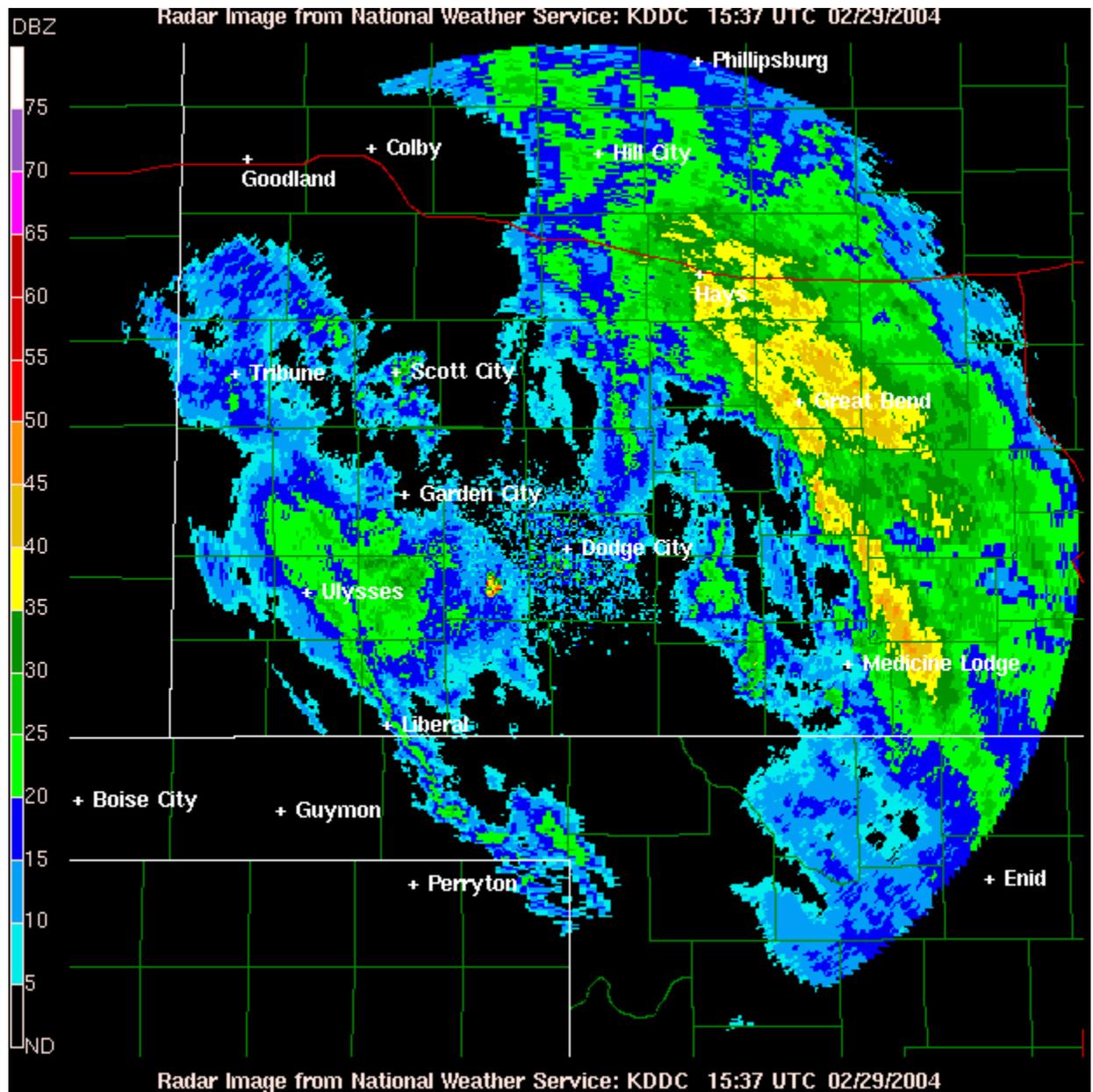
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- **VCP12 and VCP121**

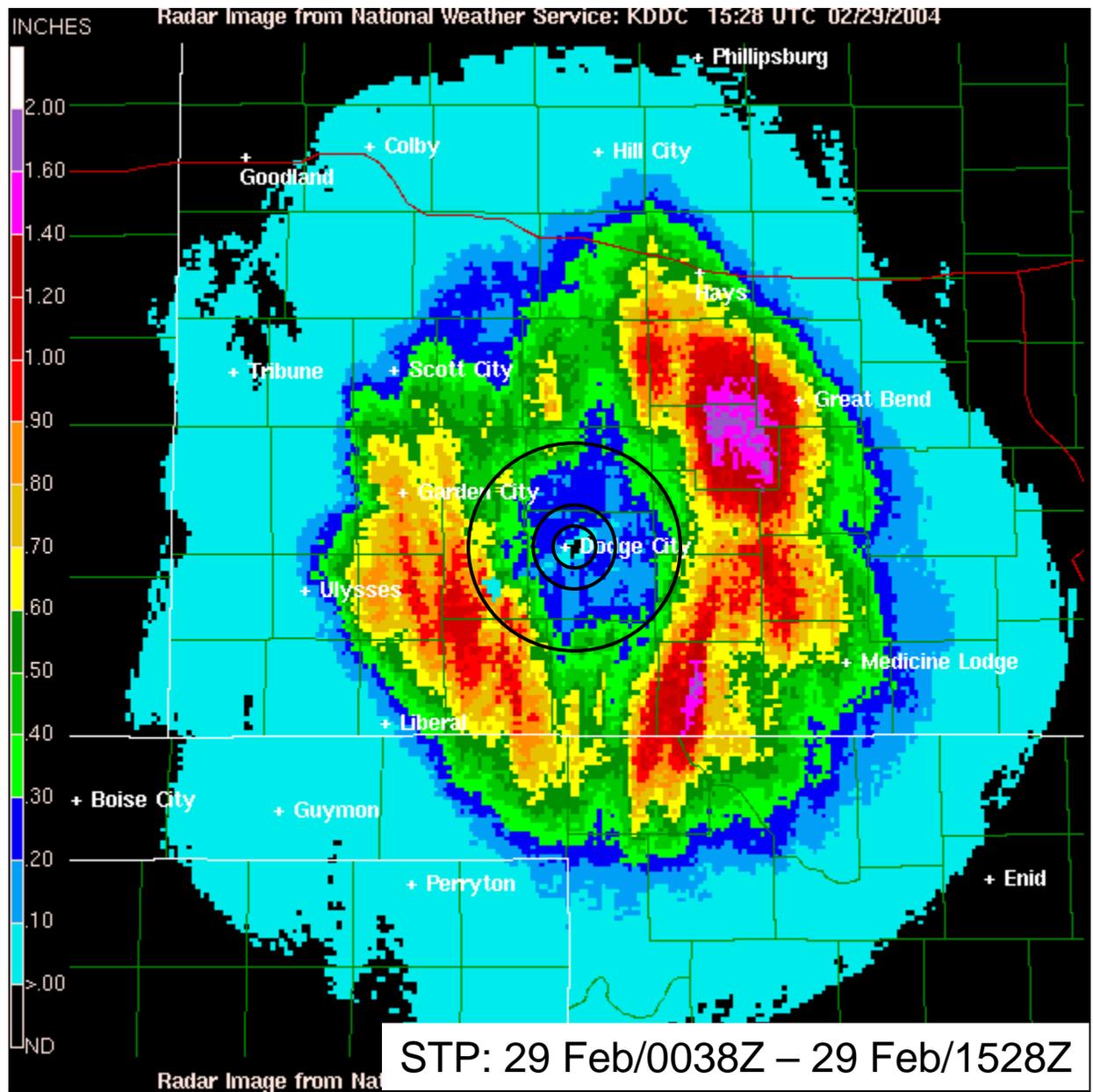
- Issue: Clutter Filtering at Sites with Mountainous Terrain
- Frequency of occurrence: During use of either VCP 12 or 121
 - Medium Suppression used to filter terrain with legacy VCPs
 - High suppression required for new VCPs
 - Faster rotation speeds; broader spectrum widths
 - Even with HIGH suppression, not all mountain returns removed at Kohola
 - Upper segment (abv 1.65 degrees) during Batch cuts of VCP12
- Solution: Training

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- **Data Quality**
 - **Albuquerque B5.0 Beta Test:**
 - Following loading of B5.0
 - EPRE began collecting precipitation from mountainous terrain
 - Exclusion zones created to cover mountains
 - EPRE removed mountains and all real precipitation within the defined exclusion zones
 - ROC team performed a “Full System Calibration”
 - Upon arrival, RDA was within specifications
 - Several parts replaced; system fine-tuned and new clutter zones defined
 - Following “Full System Calibration”
 - Clutter maps identified mountains and removed targets from base products
 - Exclusion zones no longer necessary
 - **B5.0 Deployment:**
 - Exclusion zones may be used to remove precipitation accumulations caused by mountainous terrain as well as wind farms, etc...



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Dodge City Observations

- KDDC 291453Z AUTO 31003KT 10SM -RA OVC038 06/05 A2956 RMK AO2 RAB00E26B52 SLP010 P0000 **60015** T00560050 56030;
- SPECI KDDC 291403Z AUTO 30005KT 10SM -RA FEW006 SCT026 OVC050 06/05 A2958 RMK AO2 RAB00 P0000;
- KDDC 291353Z AUTO 28007KT 10SM FEW006 BKN027 OVC050 06/04 A2958 RMK AO2 RAE37 SLP018 P0001T00560044;
- KDDC 291253Z AUTO 15008KT 4SM RA BR BKN005 BKN009 OVC017 07/07 A2963 RMK AO2 CIG 003V007 SLP034 P0014 T00670067;
- SPECI KDDC 291216Z AUTO 15010KT 4SM RA BR SCT005 BKN008 OVC014 07/07 A2964 RMK AO2 P0007;
- KDDC 291153Z AUTO 16013KT 2SM +RA BR BKN001 BKN006 OVC012 07/07 A2966 RMK AO2 SLP042 P0028 **60030 70034** T00670067 10072 20067 56027;
- KDDC 290553Z AUTO 15013KT 3SM BR OVC002 07/07 A2985 RMK AO2 RAE0456 SLP106 P0000 **60003** T00720067 10072 20072 400890044 58012;

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Questions and comments