

A person wearing a red jacket and light blue shorts is adjusting a weather instrument mounted on a yellow tripod in a grassy field. The instrument includes a white box and a sensor. In the background, a large, dark storm cloud is visible against a cloudy sky.

# STICKNET AND TTUKA OPERATIONS VORTEX2-2009

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VORTEX2 PI Meeting - Nov 2009

# StickNet Deployment Summary

Date	Location	Number of Probes
15 May 2009	NW OK	24
19 May 2009	Lorenzo, NE	9
20 May 2009	Alliance, NE	3
23 May 2009	Paxton, NE	12
27 May 2009	Forestburg, TX	8
29 May 2009	Rose, NE	24
4 June 2009	Burns, WY Cheyenne, WY	3 11
5 June 2009	Lagrange, WY Dalton, NE	24 12
6 June 2009	Thedford, NE	9
7 June 2009	Oregon, MO	22
9 June 2009	Greensburg, KS	19
10 June 2009	Big Bow, KS	5
11 June 2009	La Junta, CO	22
13 June 2009	Panhandle, TX	14

221  
probe  
deployments

# Deployment Examples

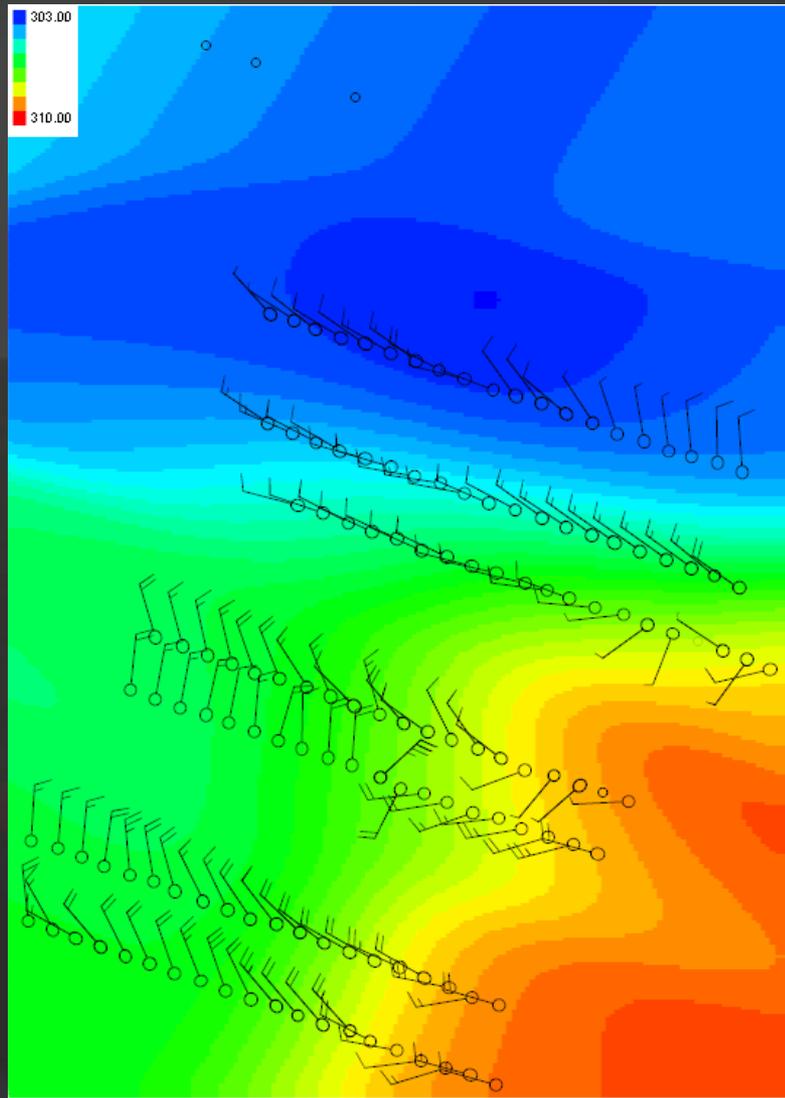
Lagrange, WY 6/5/09

Z

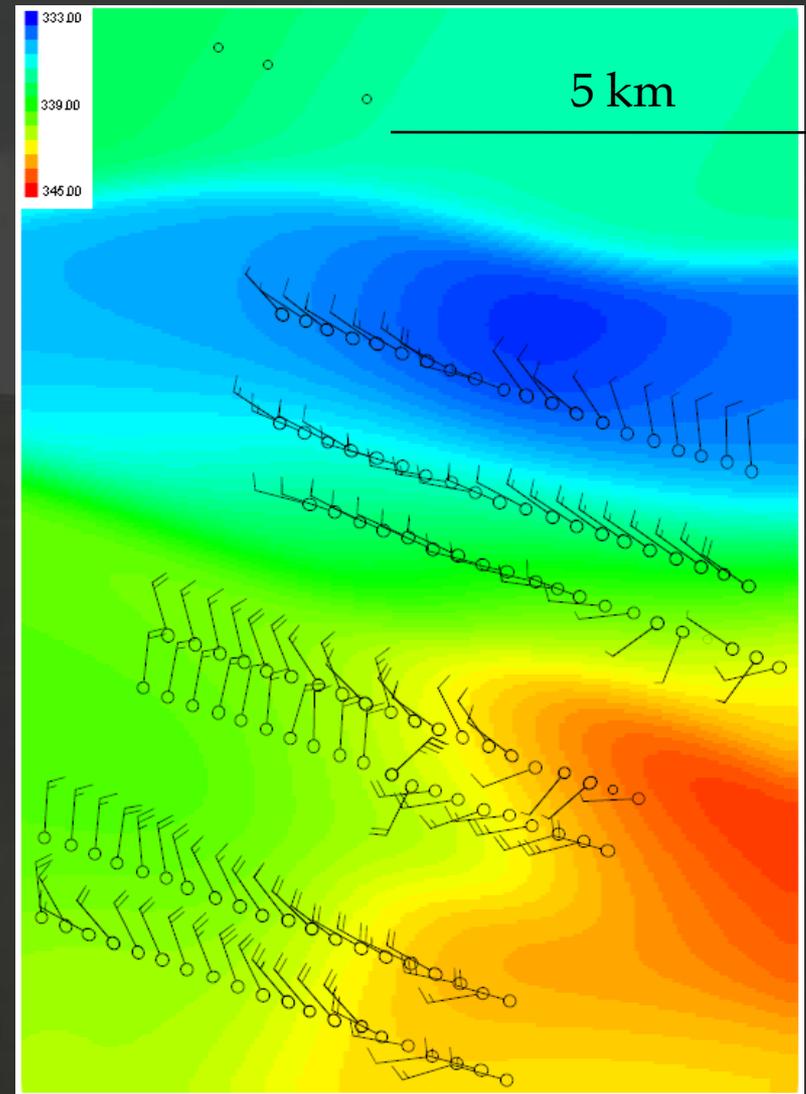
Oregon, MO 6/7/09

Z

# Lagrange, WY 6/5/09



$\theta_v$



$\theta_e$

# Data Availability

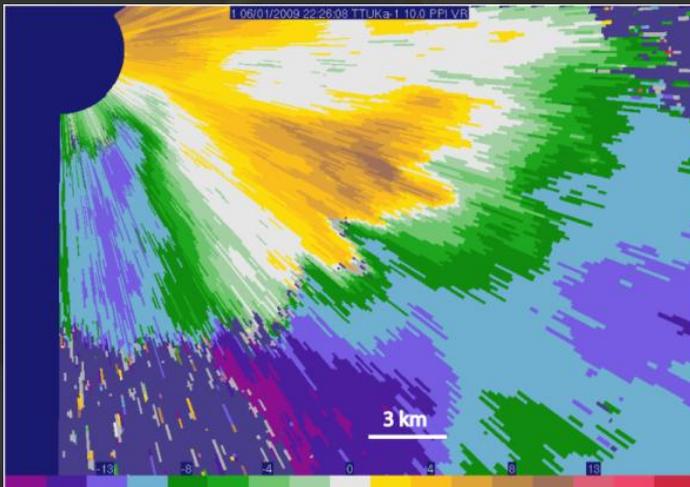
- ▣ Graphical metadata now on EOL site
- ▣ Continuing QC on 2009 data
- ▣ Separate thermo and kinematic flags
- ▣ Mass tests (5/7, 5/15, 5/17, 5/30, 6/15) will be provided for construction of bias correction (minor in the great majority of cases)
- ▣ Documentation of known instrumentation issues
- ▣ Full release planned for December

# Issues

- ▣ Instrument issues fairly minor  
(89% of deployments completely free of instrumentation / logging error)
- ▣ Main considerations for VORTEX2-2010 involve strategy
  - Earlier drops (inflow sample)
  - More coverage to left of updraft
  - Other deployment “shapes”?
  - Avoiding baselines (suspect a number of baselined cases in 2009)
  - Information on dual-Dop lobes at lead time of 45-60 min

# TTUKa Deployments

Date	Location	Event	Deployments	Description
5/26/2009	Sunset/Forestberg, TX	Left-moving supercell	2	Attenuation estimation experiment within hail core Data on anti-cyclonic circulation obtained
5/29/2009	Rose, NE	Dissipating supercell	2	VAD of inflow environment RHI scans of inflow, mid-level vortices
5/31/2009	Randolph, IA	Multicell storm	2	PPI scans
6/1/2009	Hebron, NE	Multicell cluster	2	PPI and RHI scans of outflow, gustnadoes
6/4/2009	Southeastern WY	Supercell storm	4	PPI scans of shallow circulations along gust front
<b>6/5/2009</b>	<b>Lagrange, WY</b>	<b>Tornadic supercell</b>	<b>5</b>	<b>PPI and RHI scans of tornado vortex</b> <b>Coordinated RFD sample with in-situ probes</b>
6/6/2009	Sutherland, NE	Supercell/bow transition	1	PPI scans of supercell transitioning to outflow-dominant stage
6/7/2009	Northwest MO	Supercell storm	3	PPI and RHI scans of non-tornadic supercell
6/9/2009	Greensburg, KS	Supercell storm	4	PPI scans of gustnadoes and anticyclonic rotation along rear flank PPI scans of near-mesocyclone
6/10/2009	Hugoton, KS	Multicell storm	3	RHI scans of leading edge of gust front
6/11/2009	LaJunta, CO	Supercell storm	1	PPI scans of anticyclonic rotation along rear flank
6/13/2009	Panhandle, TX	Supercell storm	3	PPI and RHI scans of target storm



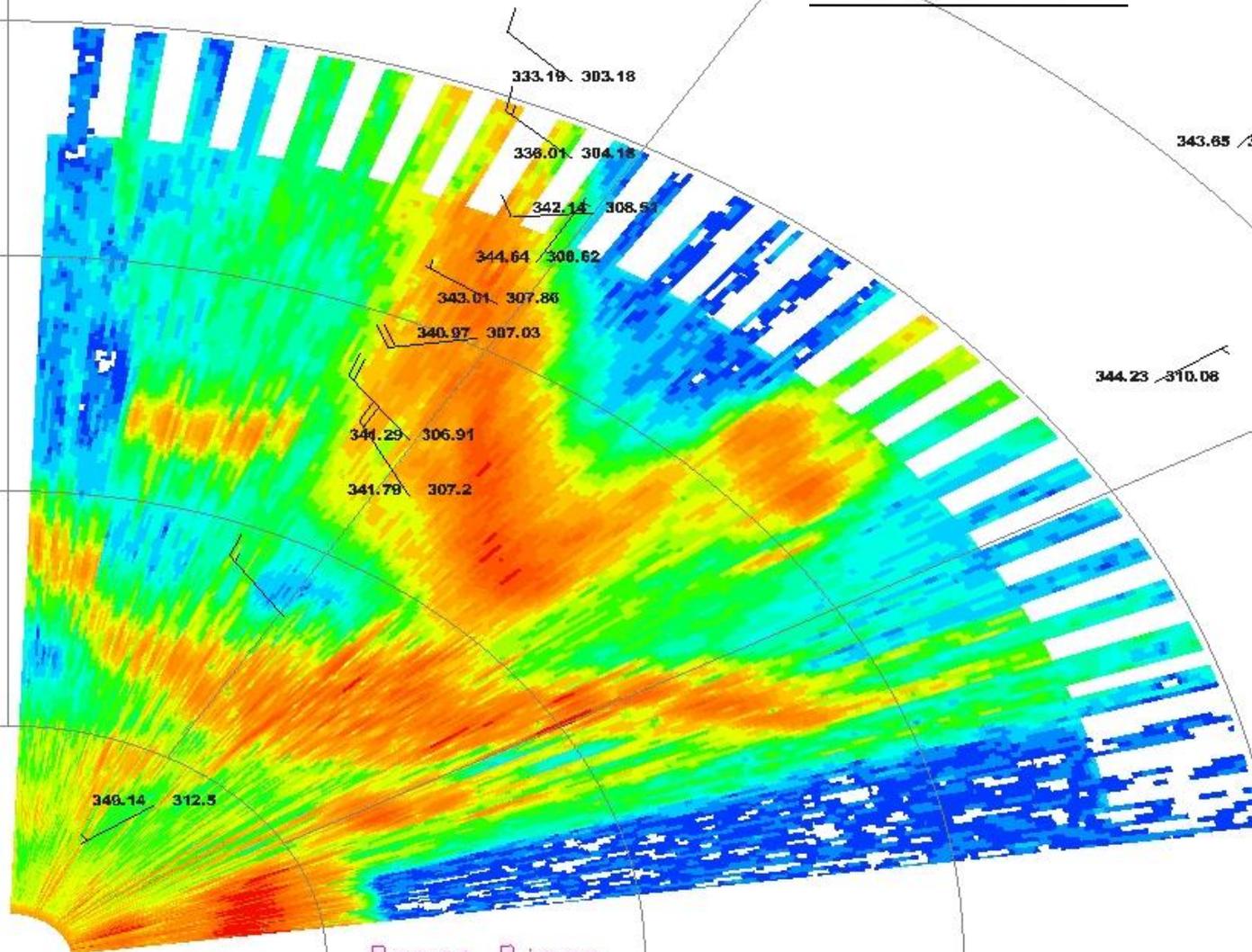
32 deployments

6/1/2009 east of Hebron, NE

# Lagrange, WY 6/5/09

326.83 303.46

5 km

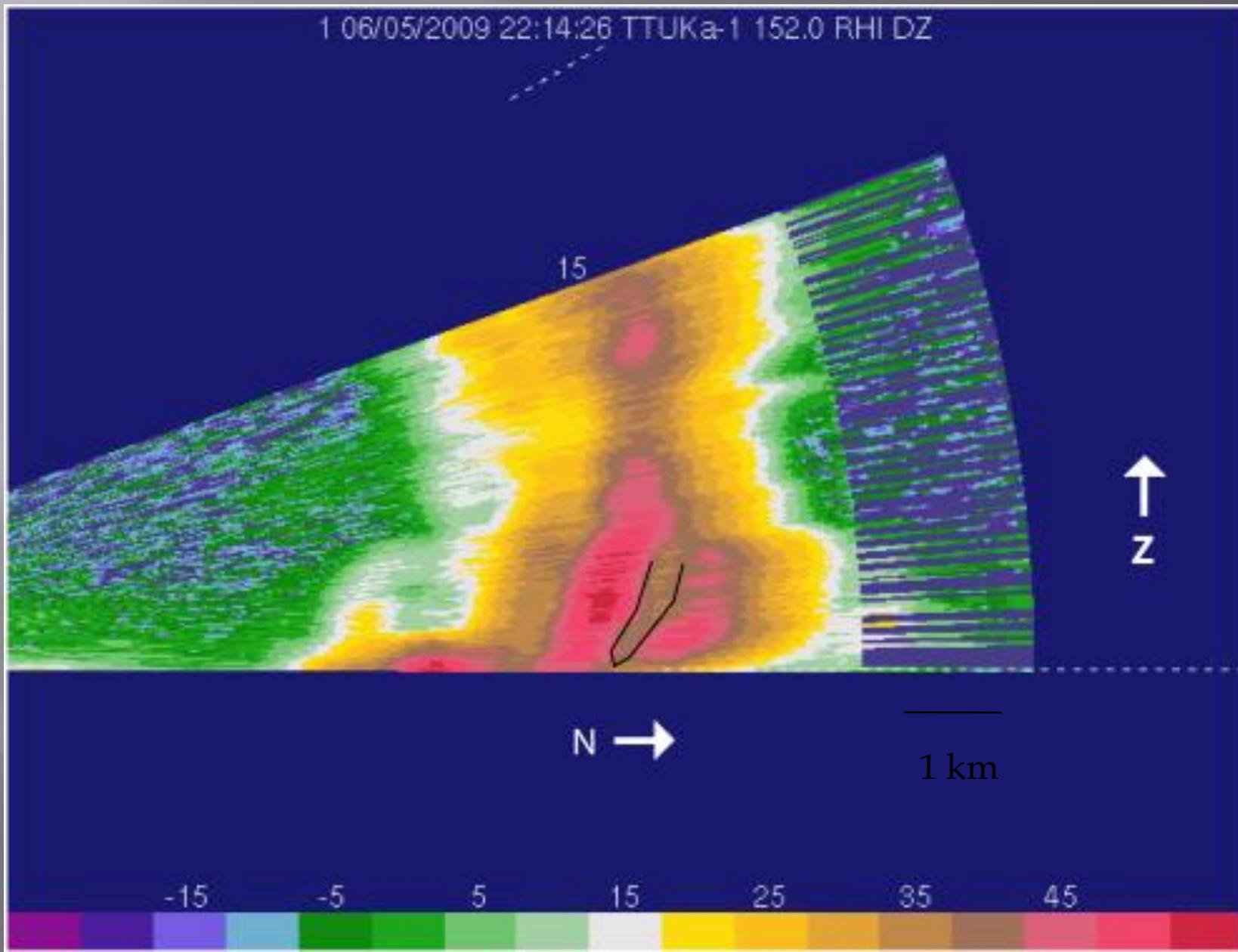


Range Rings

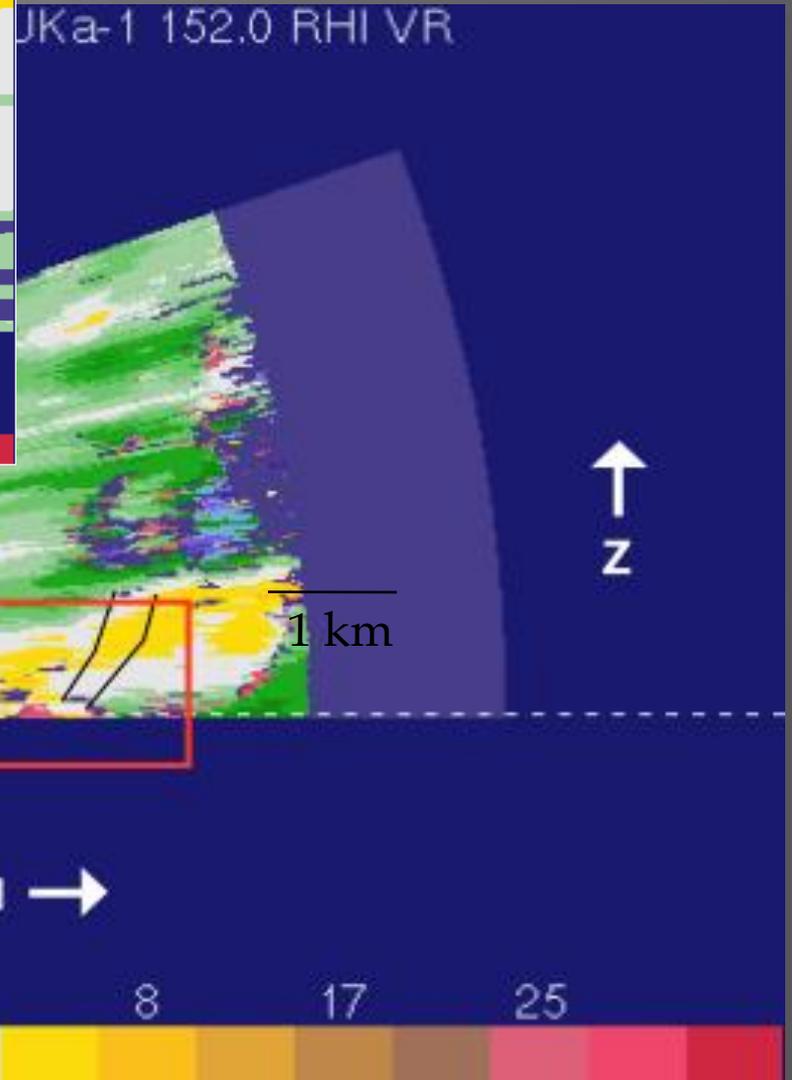
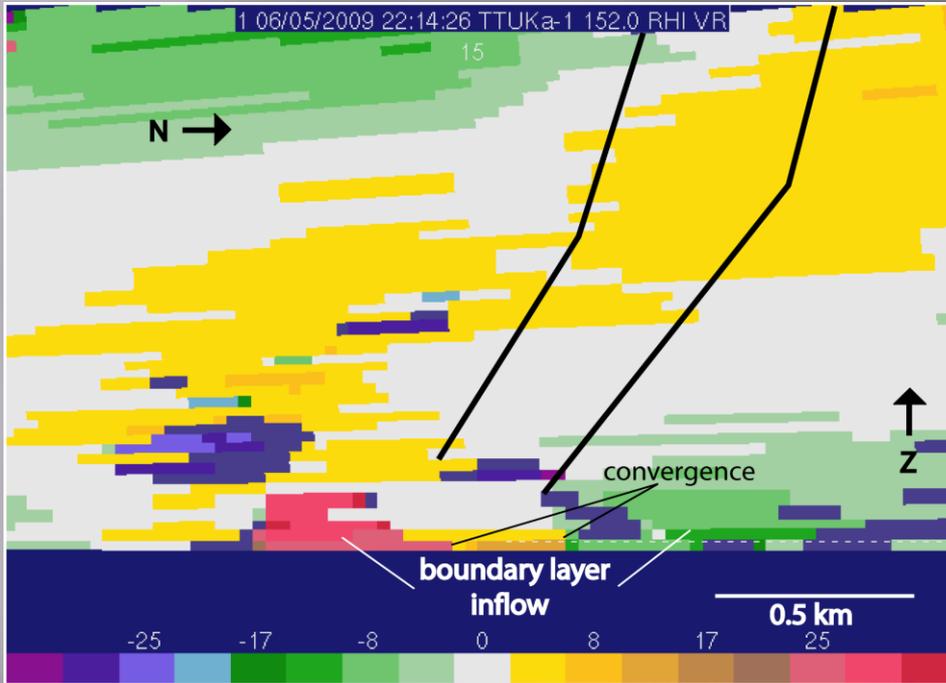
Text Point Data - Point Data Plot Control 2009-06-05 22:25:15Z

OZ - 2D Radar Sweep View 2009-06-05 22:25:04Z

# TTUKa RHI Reflectivity - Lagrange, WY



# TTUKa RHI Radial Velocity - Lagrange, WY



# TTUKa Issues / Data Availability

- ▣ One tornado case at long range
- ▣ Mechanical issues with truck (early), but very few radar issues
- ▣ Data available for release pending NSF grant for VORTEX2-2010. Opportunities for individual collaboration.
- ▣ Year 2 – dual- / multiple- Doppler at tornado scale, how do we coordinate?