LSC-NCAR Photogrammetry
VORTEX2: May 10th 2009 – June 13th 2009 and May 1st 2010 – June 15th 2010

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DATA SET OVERVIEW

This data set contains digital still imagery (DSLR) and HD video collected during the VORTEX 2 missions. The objective was to photo document the evolution and structure of the hook region within the supercell. Two teams, CAMA and CAMB during spring 2009, collected the data. Three teams, CAMA, CAMB and CAMC, collected data during the second part of the field project in spring 2010. Each team was comprised of a photographer and videographer. The teams attempted to collocate with the mobile X-band Doppler radars. For most missions, CAMA, CAMB and CAMC collocated with DOW7, DOW6 and DOW5, respectively.

Both CAMA and CAMB photogrammetry teams were operational during both field phases of VORTEX 2. CAMC was operational during the second portion of VORTEX2 in spring 2010. There were marginal days where one or all of the photogrammetry teams did not collect data. The tables below indicate when the respective data sets were collected during the experiment.

2009 Data Set

Data collection	No Data Collection

	DSLRA	VIDA	DSLRB	VIDB
5/12/2009				
5/13/2009				
5/15/2009				
5/19/2009				
5/20/2009				
5/23/2009				
5/25/2009				
5/26/2009				
5/31/2009				
6/4/2009				
6/5/2009				
6/6/2009				
6/7/2009				
6/9/2009				
6/10/2009				
6/11/2009				
6/13/2009				

2010 Data Set

Data collection	No Data Collection

	DSLRA	VIDA	DSLRB	VIDB	DSLRC	VIDC
5/12/2010						
5/14/2010						
5/15/2010						
5/17/2010						
5/18/2010						
5/19/2010						
5/21/2010						
5/23/2010						
5/24/2010						
5/25/2010						
5/26/2010						
6/2/2010						
6/3/2010						
6/6/2010						
6/7/2010						
6/9/2010						
6/10/2010						
6/11/2010						
6/12/2010						
6/13/2010						
6/14/2010						

INSTRUMENT DESCRIPTION

The DSLR imagery was taken by Canon 5-D Mark II cameras (http://www.usa.canon.com) along with the Canon EF 24-105mm f/4L IS USM standard zoom lens. The RAW image size is approximately 20 megapixels. The HD video was shot with Sony HVR-A1U HDV (http://pro.sony.com/bbsc/ssr/cat-broadcastcameras/cat-hdv/product-HVRA1U/) video cameras mounted on tripods.

DATA COLLECTION AND FORMAT

Data was collected during the deployments listed above. The temporal resolution of the digital still imagery varied from a few seconds to a few minutes depending on the weather situation at hand. While

the digital still images were collected in the RAW Canon format (*.CR2 files), the data set contains both RAW and JPEG formats. The RAW format can be read by freeware such as Google's Picasa (http://picasa.google.com/). The JPEG files were saved as both large (5616 x 3744 pixels) and small (800 x 533 pixels) sizes. All of the JPEG files were geo tagged with latitude, longitude, and elevation data indicating the photographer location at the time the photo was taken. The lat/lon data appear to be accurate to within 10 feet. All DSLR imagery are located in the CAMA, CAMB and CAMC directories.

Google Earth files (.kmz) have been generated for each mission and show the location of all the DSLR images taken by the CAMA, CAMB and CAMC photographers. These files are located in the deployment-sites directory.

HD video was collected during the deployments. Sony's HD video can also be viewed by Google's Picasa. From the HD video, lower resolution QuickTime movies were created and are included in the data set. All HD data are located in the VIDA, VIDB and VIDC directories.

Both photo and video times are in Central Daylight Time (CDT).

Certain cases where a tornado or a feature of interest was captured would yield taking a second panorama on a later date in clearer weather. The 5 June 2009 directory contains panorama and damage survey data. From 2010, May 25th, June 8th, June 10th and June 13th were days that another panorama was captured for the data set.

DATA REMARKS

The digital still imagery provided in this data set does not have azimuth-range grids provided (from the photogrammetric analysis). If this data is needed, please contact the PI (Nolan Atkins). The mission summaries generated in the field have also been included for the respective missions. Much of the data set is available for quick review at: http://meteorology.lyndonstate.edu/vortex2.