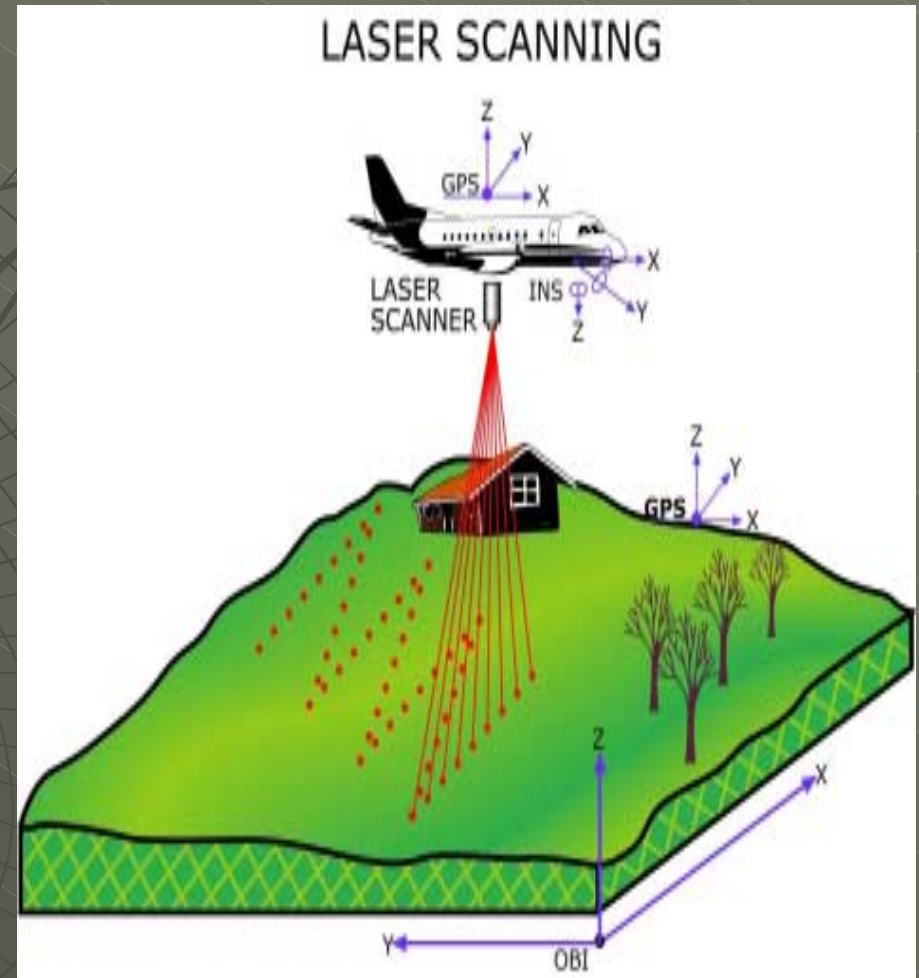


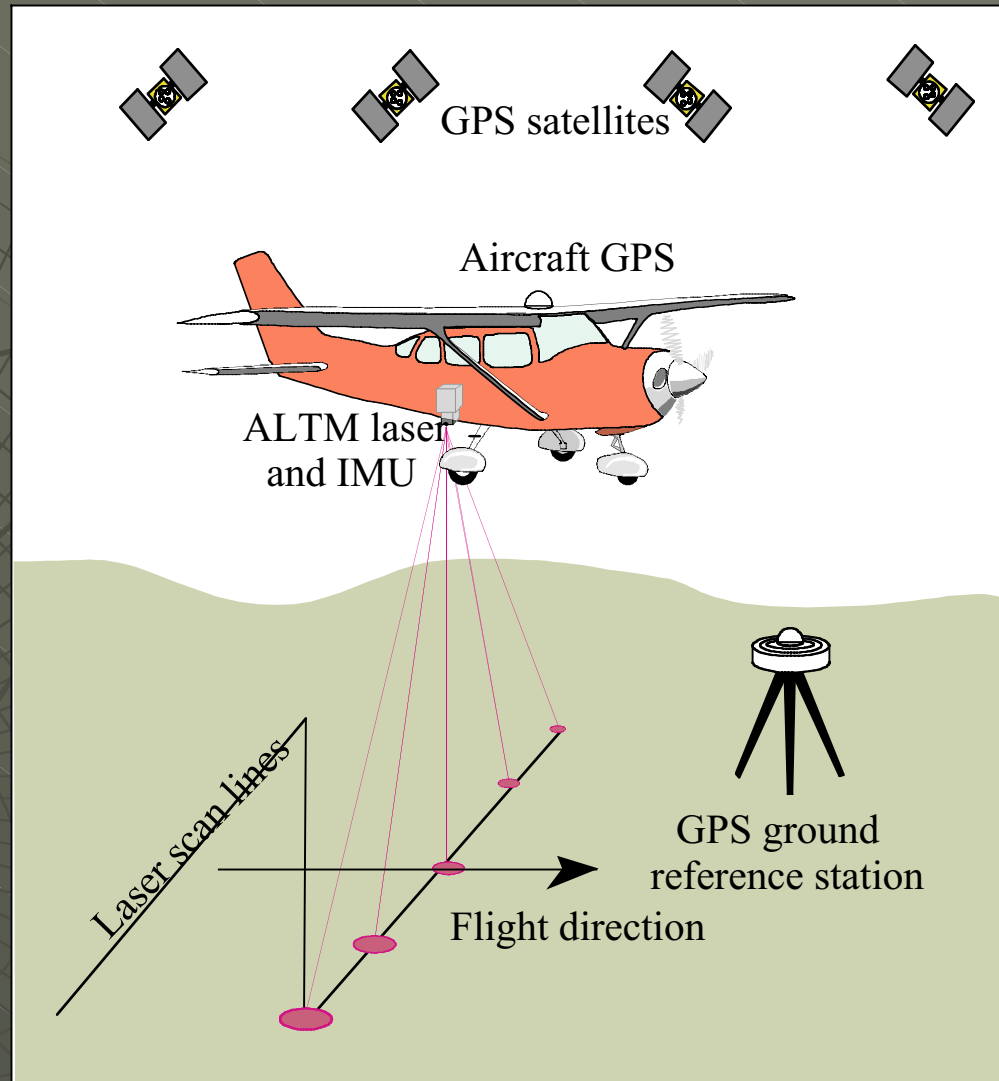
# LIDAR TECHNOLOGY AND ITS APPLICATIONS TO WATERSHED ANALYSIS

- ◆ My Research Interests include the Use of LIDAR DATA for Watershed Analysis.

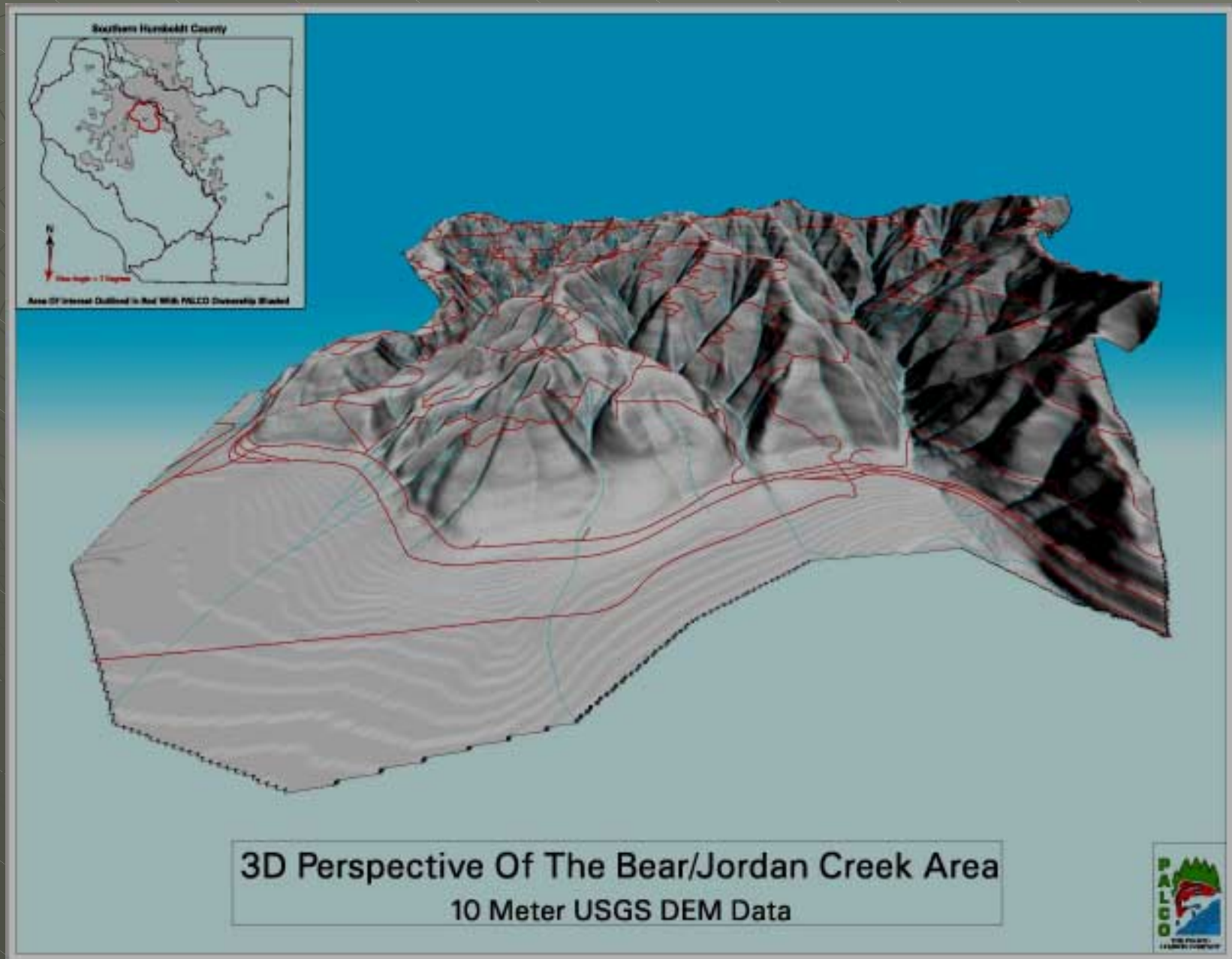


# HOW LIDAR WORKS

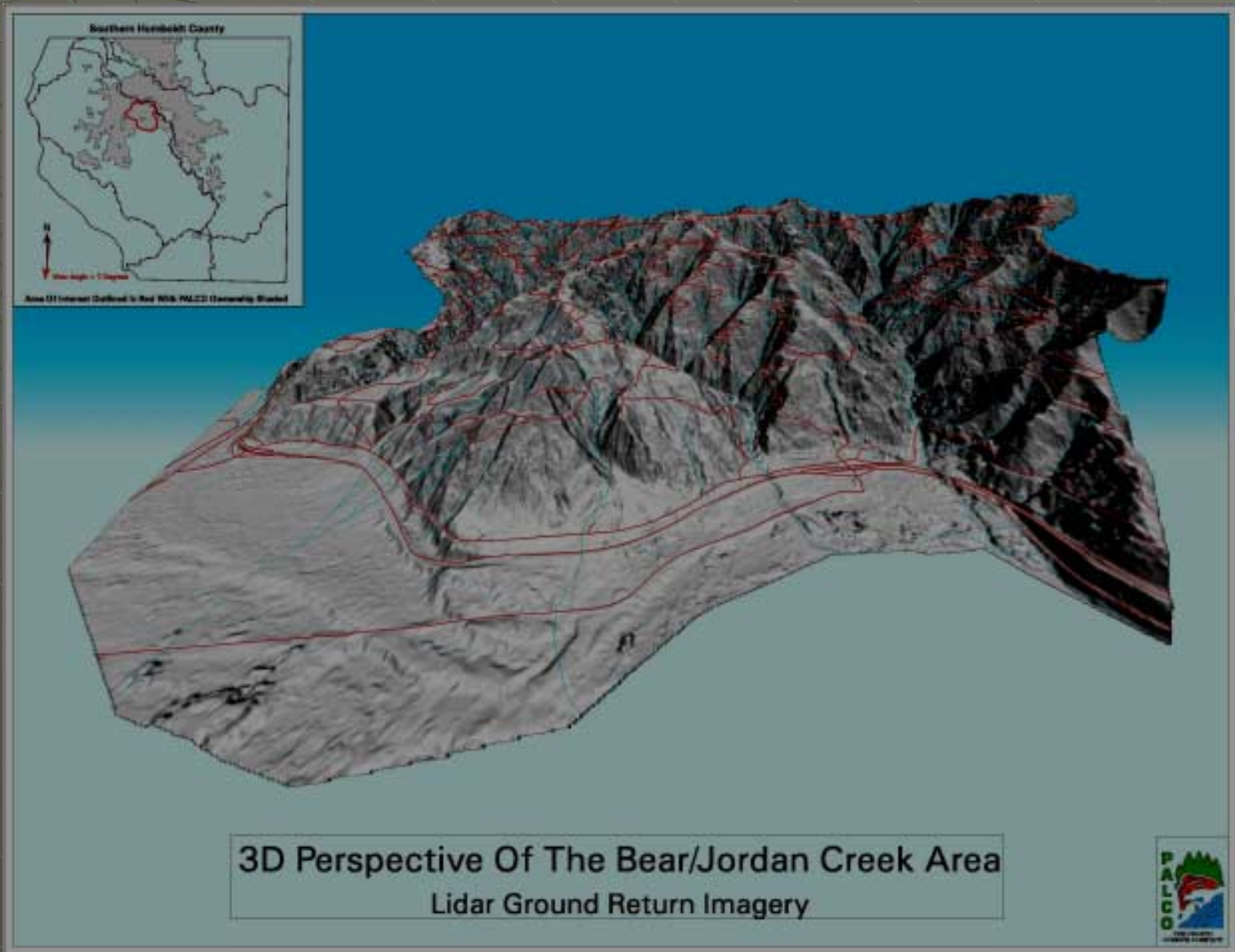
- ◆ Mirror sweeps laser beam across the ground.
- ◆ Range to target is determined by measuring time interval between transmission and return of reflected laser pulse.
- ◆ Aircraft position is determined using GPS phase differencing techniques.
- ◆ Pointing direction of laser determined with Inertial Measuring Unit (IMU) and recording of mirror position.
- ◆ Data streams recorded and synchronized for post processing.



# 3D View - From Existing 30m/10m Data



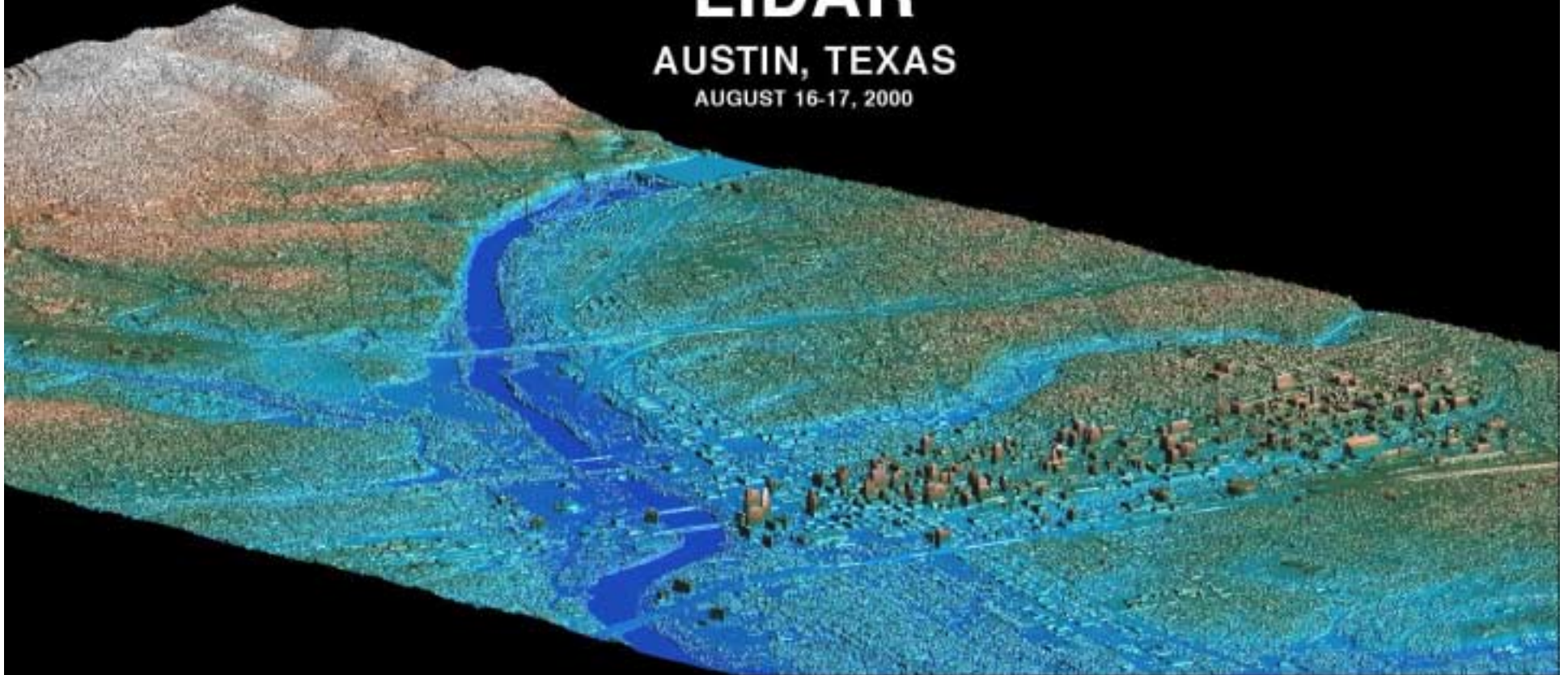
# 3D View - From LIDAR Data



# DIGITAL ELEVATION MODEL FROM LIDAR

AUSTIN, TEXAS

AUGUST 16-17, 2000



Survey conducted by the Bureau of Economic Geology,  
the Center for Space Research, The University of Texas at Austin,  
and the Texas State Aircraft Pooling Board, with support from the Raytheon Corporation



# Interests and Conclusions

- ◆ The Reason why I am interested LIDAR For Watershed Analysis

- ◆ i) Finer Details are obtained because of high resolution data
- ◆ Which help in topic like delineation of watershed
- ◆ boundaries more accurately.

- ◆ ii) The inner details of the watershed like the sub
- ◆ watersheds are obtained from LIDAR which may not be
- ◆ obtained from satellite data giving an approximate
- ◆ resolution of 30-100m.

- ◆ iii) The DEM would have greater accuracy giving better
- ◆ results if it
- ◆ is used in Modeling .