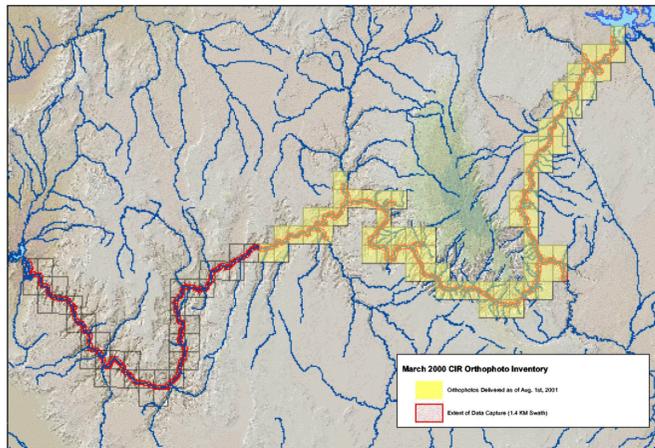


Status of March 2000 LIDAR and Orthophoto Deliverables as of August 7th, 2001

Color Infrared (CIR) Orthophotos Delivery Status



Example of CIR Orthophoto of Little Colorado River Confluence



Status of Deliverables

First 200 miles of Orthos Delivered and Readable
Final third of Canyon due by August 30, 2001

Data Evaluation Efforts by GCMRC

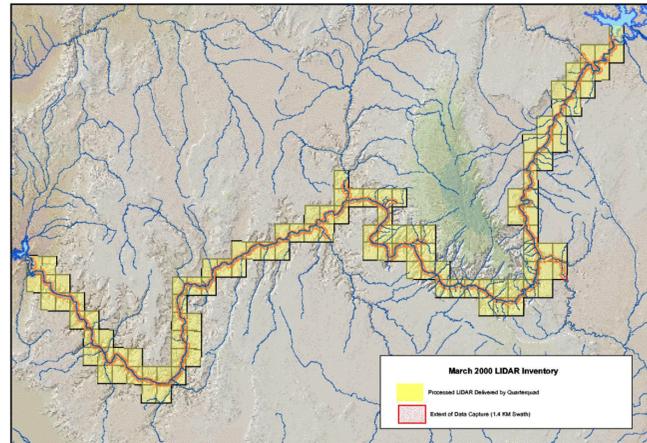
Methods:

1. Positions were located on orthophoto such as parking lot strips.
2. Coordinates for these positions were obtained using traditional survey methods in the field.
3. The difference between the surveyed position and the orthophoto position was measured.

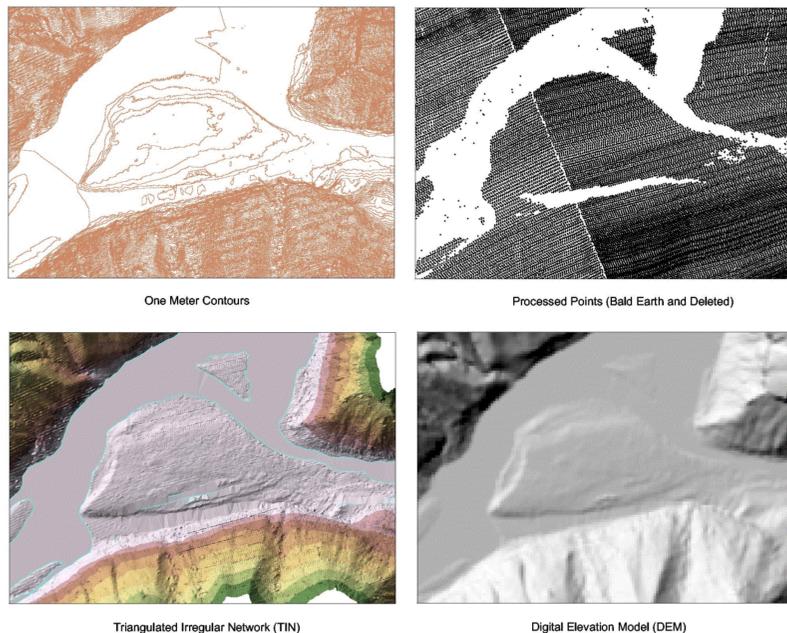
Results/Conclusions:

1. The results showed an average difference from surveyed location of 1.37 meters (contract specification was for 30 cm).
2. Large positional error was due to flight height error during the flight planning and photo acquisition stages of the mission.

Processed LIDAR Delivery Status



Examples of Processed LIDAR Products at the Little Colorado River Confluence



Status of Deliverables

All 300 miles have been delivered and are readable, except for Whitmore Pt SE NE. Earthdata has been requested to resend the bad quarterquad.

Data Evaluation Efforts by GCMRC

POINT TO POINT SURVEY CHECK

Methods:

1. LIDAR points selected to ensure a wide variety of terrain types are sampled.
2. Surveyor using Total Station uses "stakeout" technique to have Rodman locate exact coordinate of LIDAR point.
3. Once coordinate is located, the Total Station records the elevation of that point.

Results/Conclusions:

1. Average Difference in Z (elevation) = 40.17 CM; n= 102
2. Contract Specification = 15 CM Error in Z

TIN SURFACE COMPARISON

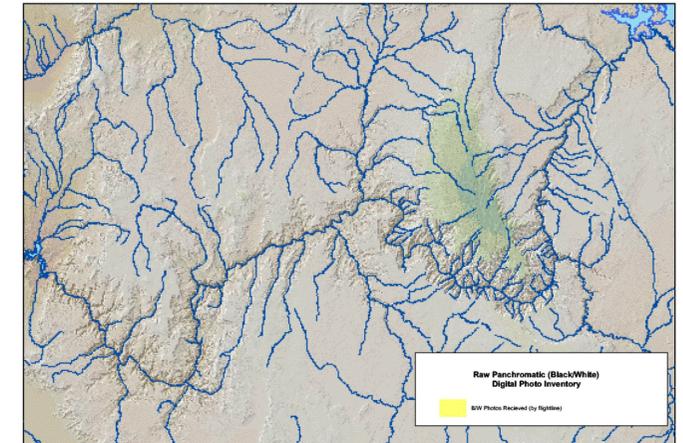
Methods:

1. LIDAR TIN subtracted from NAU survey TIN.
2. Bare Earth subset of each TIN also evaluated.

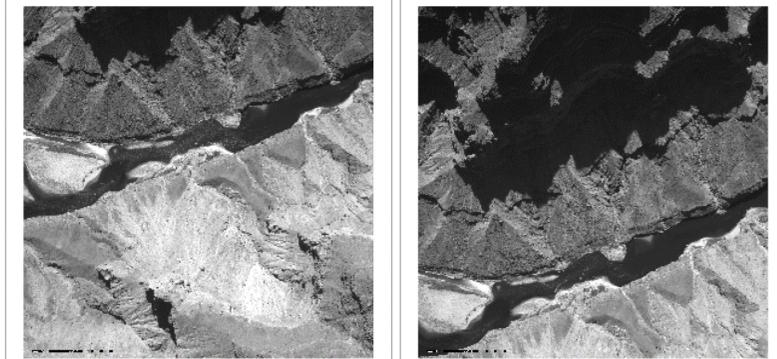
Results:

1. LIDAR TIN produced 16% higher volume than surveyed TIN.
2. Bare Earth subset produced only 3% difference between the two TINs.

Panchromatic (Black/White) Digital Photo Delivery Status



Example of Panchromatic Digital Photo Stereo Pair



Status of Deliverables

All 300 Miles of Imagery has been delivered.

Data Evaluation Efforts by GCMRC

Methods:

1. Photos were checked for readability.
2. Metadata was checked for content and readability.

Results/Conclusions:

1. One flightline was found to be unreadable.
2. The index footprint was found to be inaccurate.
3. Earthdata has been requested to correct these problems.