

Due Date: 02/10/04

Name: \_\_\_\_\_

### Lab 3: Image/Photo Interpretation

#### Objectives

- To introduce fundamental image interpretation techniques.
- To review and understand the fundamental concepts in aerial photography.

#### Description and Requirements

All remote sensing scientists require fundamental image interpretation skills to detect, identify, measure, and solve problems. Eleven fundamental image interpretation skills are listed in the table below.

Primary Elements	1. Black & White Tone
	2. Color
	3. Stereoscopic Parallax
Spatial arrangement of tone and color	4. Size
	5. Shape
	6. Texture
	7. Pattern
Based on analysis of primary elements	8. Height
	9. Shadow
Contextual elements	10. Site
	11. Association

As humans, we process profile views of the Earth all day long and are very adept at collaborating all of our knowledge in the interpretation of an image. Our minds might be able to recognize a feature on an image that a computer would have problems identifying due to our powerful visual processing capabilities and our experience. There has recently been a resurgence in the art and science of visual photo-interpretation due to new digital remote sensing systems providing higher and higher spatial resolution imagery. For example, IRS-C (5 x 5 m) and IKONOS (1 x 1 m) ([www.spaceimaging.com](http://www.spaceimaging.com)) panchromatic imagery is often photo-interpreted and used as a base map in GIS projects. The demand for experienced photo-interpreters will only increase as next-generation satellite systems proliferate.

1. Photo-interpret the following images and identify the features on and the location for each image. All these features and locations are within the city of Denton. Which fundamental image interpretation skills are you using to properly identify these locations? (If you cannot do it on black and white, you can view a color version of these images by visiting [www.geog.unt.edu/~jminhe/Teaching/RS/lab3.doc](http://www.geog.unt.edu/~jminhe/Teaching/RS/lab3.doc))



A



B



C



D



E

F

2. Create a list describing the advantages and disadvantages of vertical vs. oblique photography.
3. Describe how f-stop and shutter speed work and why these are important considerations in capturing aerial photography.
4. Describe three important mission planning considerations when acquiring aerial photography? (Refer to Chapter 4 of your textbook)
5. How often and at what scale is NAPP data collected for each state? A 9 x 9 inch photo at this scale represents how much area on the ground? What types of applications is this data useful?
6. Discuss some of the advantages/disadvantages of using satellite versus aircraft remotely sensed data.