

## AERIAL PHOTOGRAPHS & ORTHOPHOTO MAPS

Maps are valuable tools to examine landscapes, but it is better to use photographs to see finer details not visible on maps.

### 1. **Oblique photographs**

- 1.1. Photos that are taken at an angle.
- 1.2. Taken from a high lying point or an aircraft.
- 1.3. It can be problematic because of the amount of dead ground on the photos (obscured areas on the photos) being objects not seen because they are blocked from view by other objects.

### 2. **Vertical photographs**

- 2.1. Taken with cameras mounted on an aircraft from directly above an object.
- 2.2. They show a large amount of info.
- 2.3. They are useful when used in conjunction with maps.
- 2.4. They illuminate the problem with dead ground (blind spots).
- 2.5. They have more consistent scales across photographs.
- 2.6. They are mostly in black and white.

### 3. **Photographs are used to identify landforms and features.**

- 3.1. A rural landscape: Brown areas will be wet areas or harvested areas. Green lines show where rivers flow and support trees and shrubs.
- 3.2. Sportfields and stadiums are easily identified.
- 3.3. Residential areas and industrial areas can be identified with the different buildings being used,
- 3.4. Farming areas can be identified with crop fields, vineyards and orchards.

### 4. **To interpret black and white photos following guidelines are used:**

- 4.1. **Size:** House or apartment block will be way smaller than a shopping mall.  
Freeways will be much wider and have more lanes than a main road.  
Schools will have several buildings and sports fields.  
A golf course will cover a large area.
- 4.2. **Shape:** Airports will have long runways and large ones will have several pointing in different compass directions.  
Factories will be large flat buildings with ridges on the roof.  
Constructed structures will have clear geometric shapes and often are evenly spaced.  
Dams and lakes will have irregular shapes.  
Reservoirs will normally be rounded structures.  
Sewage works will normally be rounded or rectangular.
- 4.3. **Shades of grey:** Light coloured object will appear light grey.  
Dark colours will appear in darker shades.  
Water surfaces will appear smooth and may show reflected sun.

Rough surfaces often appear darker because of shadows.

- 4.4. **Texture:** Natural long grass may appear rougher than short grass.  
Land around dams may appear smooth because of silt deposits.  
Bushes and forests give a mottled appearance.
- 4.5. **Shadows:** Tall buildings and natural land forms cast longer shadows.  
Shadows tell the time of day when photo was taken.  
Shadows pointing to west or south-west indicates photo was taken before noon.
- 4.6. **Patterns:** Constructed features often have rectangular patterns – careful spacing.  
Street patterns are clearly visible.  
Land-use may suggest low-income housing with simple grid plan and small blocks, while high-income will often have planned irregular street plan with larger blocks.  
Drainage plans can tell about underlying rocks.  
Shape of landforms, flat-topped hills and mountains can tell about rock structures in an area.

## 5. **How to orientate an aerial photo with topographical map**

- 5.1. Match features on the photo with corresponding features on the map.
- 5.2. Look for unusual features on the photo and locate them on the map.
- 5.3. Look for roads, rivers, street patterns, fields or conspicuous buildings.
- 5.4. In rural areas the giveaways will be prominent hills, other landforms, farm boundaries, rivers, roads and intersections.

## 6. Orthophoto Maps

- 6.1. They are vertical photographs with contour lines added.
- 6.2. The scale of these photos will always be 1:10 000 (1cm on the map represents 10 000cm or 100m or 0,1km in reality).
- 6.3. It shows more detail than a topographical map.
- 6.4. Once you have orientated your photo with a topographical map, it will help you to identify features easier.
- 6.5. Familiarise yourself with the different features that appear on many orthophoto maps.