

### Panchromatic

**Detection:** Determine the presence of objects, emissions, activities of interest.

No spectral resolution.

Number of spectral bands: 1

### Multispectral

**Classification:** Spectrally separate different objects into similar groups.

Moderate spectral resolution.

Number of spectral bands: 2 to 100

### Hyperspectral

**Discrimination:** Determine generic categories of objects (for example, tanks, camouflage, presence of effluent gases).

High spectral resolution.

Number of spectral bands: 100 to 1000

### Ultraspectral

**Identification:** Identify specific objects (for example, types of tanks or specific effluent gases).

Very high spectral resolution.

Number of spectral bands: more than 1000

**FIGURE 10.7 Spectral Imaging Resolution and Levels of Information Obtained**