Image interpretation can be done manually, by a human interpreter, or using a digital image analysis system. For interpretation tasks requiring the interpretation of subtle clues or associations, the human interpreter is still necessary. When digital imagery is involved, the interpretation will likely be done using some combination of machine-based methods and human visual interpretation.

Manual interpretation techniques, using human interpreters with the necessary training and expertise, remains the most effective and reliable way to interpret remotely sensed imagery. Although the equipment has evolved, most of the techniques have remained basically the same for the past twenty years. Equipment required for manual interpretation of imagery includes equipment for viewing, measuring and transferring image detail to basemaps.

The simplest viewing instrument is the lens stereoscope, or pocket stereoscope. Lens stereoscopes have two lenses mounted in a metal or plastic frame with folding legs as seen in Figure 12. Lens stereoscopes usually provide two- or four-times magnification. The advantages of lens stereoscopes include their low cost, portability, and ease of operation and maintenance. The principal disadvantage is that matching points on the two photographs must be separated by a distance approximately equal to the eye base of the interpreter. For most image formats, including the most commonly used 23 x 23 centimetre format, this means that prints must be bent or folded to be viewed stereoscopically. Pocket stereoscopes also offer limited magnification compared to more expensive instruments.

Mirror stereoscopes eliminate these two major disadvantages. Two sets of mirrors, or a combination of prisms and mirrors, separate the lines of sight from each of the interpreter 's eyes. This permits 23 x 23 centimetre format prints to be viewed with full separation, removing the need to bend the prints as well as providing room for measuring instruments such as a parallax bar to be used under the stereoscope as shown in Figure 13. Under normal (zero) magnification, the entire coverage of the stereomodel