the corresponding 1987 data, the pixel will appear red in the change image. Pixels for which the brightness values have decreased from 1987 to 1988 appear cyan.

Two buildings (C1 and C2) are present in the 1988 image that are not evident in the 1987 image. The decline in brightness for those pixels from 1987 to 1988 makes the new buildings appear cyan in the change image. There is a bright area between the new buildings in the 1988 image (C3), possibly from the construction of a foundation for another building. Since there was an increase in brightness from 1987 to 1988, the area appears red in the change image.

Other areas, such as at C4 and C5, also appear red or cyan. In these cases, however, the changes are apparently related to differences in vegetative cover from one year to another. In areas used for agriculture, many changes shown by the imagery will be due to routine variations in the types and status of crops. Some sources of change may be artifacts of the imaging or analysis process rather than any actual changes. For example, errors in registering the panchromatic images or differences in sun angle when the two images were acquired may lead to changes in mountainous areas.

The change detection enhancement shows only differences in image intensity between two images. Many factors affect the image intensities, most of which have no significance for the interpretive task at hand. A human image interpreter must still identify the changes that have meaning and disregard the remainder.

Monitoring Aircraft

Figure 7 shows 1987 and 1988 panchromatic images and a multitemporal overlay image of Kabul Airport. Two aircraft can be seen at A1 in Figure 7(a). To a limited extent, the general shapes of large aircraft are discernible. Other aircraft at A2 in Figure 7(b) also have detectable shapes. However, if the aircraft are small or if the visual contrast between the aircraft and its background is poor, the shapes of aircraft will not be evident. The targets indicated by the arrows at A3 in Figure 7(b) are probably aircraft. Other examples are indicated at A4 in Figure 7(a) and A5 in Figure 7(b). The interpretation that these are possibly aircraft must be based upon their location. Because the shapes of the aircraft are not discernible, an interpreter must use less reliable, indirect clues to identify them.

Change detection imagery can help distinguish between aircraft, which one would expect to move periodically, and permanent features of a similar size. For example, the aircraft at A6 in Figure 7(c) appear red. They appeared in 1987 (labelled A4) but not in 1988. The aircraft at A7 in Figure 7(c) appear cyan. They appeared in 1988 (labelled A2) but not in 1987.