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Aerial photography has proven to be a valuable source of information for a wide variety of applications. Depending upon scale, aerial photography can provide a great amount of detail but often covers a limited area. Scale is highly flexible and is determined by the height (altitude) of the aircraft and the length of the camera lens.

Three major types of film are used to produce aerial photography: black and white, natural color, and color infrared. Black and white photography is widely used for map making and geologic and land use analyses. Natural color represents the object or area photographed in its natural or true color, and can also be used in certain land use analyses. Color infrared (IR) photography generally provides the most information about vegetation and is often utilized in resource inventories, agricultural analyses and pollution detection and monitoring.

This aerial photograph was developed from color infrared film. This type of photography is often called false-color infrared, because green vegetation appears as shades of red on the photography. Different types of vegetation have a wider range of reflected color values in the infrared region than in the green region of the spectrum. Consequently, color infrared film generally allows greater discrimination between vegetation types than natural color film. Similarly, when vegetation becomes stressed from such conditions as lack of water, lack of nutrients, or disease, color IR film can often detect such loss of vigor or disease before the green visible color begins to change. Thus, color IR photography provides excellent information about vegetation types and vigor.

This aerial photograph is of the Boston harbor area, oriented with north to the top. It was taken by a National Aeronautical and Space Administration (NASA) high-altitude aircraft on July 7, 1970. The scale is approximately 1:54,000 (one inch on the photograph represents 4,500 feet or 0.85 miles on the ground). In general, the water in the photograph is dark blue, whereas the land exhibits varying shades of red (vegetation) or gray-blue for non-vegetated areas. Notable on this photograph is Logan International Airport located near the right-center of the photograph. The runways and several aircraft around the terminal area are clearly visible. The downtown area of Boston is located to the left, west of the airport and across the harbor. The Charles River flows from the left, just west of downtown. Close inspection of the downtown area reveals shadows created by a few of the taller buildings in the Government Center and Business District. The length and direction of the shadows indicate that the photo was taken in the early morning. Notice that the density and intensity land cover and of land use decrease as distance from downtown Boston increases. Other obvious features on the photograph include the finger-like wharves which are visible along the edge of the harbor (between the airport and downtown) and along the Mystic and Chelsea Rivers to the north. The white circles located in groups across the upper (north) portion of the photograph are large storage tanks for petroleum products. Smoke from factories can be seen near the upper left corner of the photograph on the north shore of the Mystic River and to a lesser extent south across the harbor from Logan Airport. Two large boats can be seen in the channel, one north of downtown in the Mystic and Chelsea Rivers and the other near the mouth of the harbor south of the airport. The dust-like, white dots in the water clustered around the harbor are smaller boats at anchor. The light red or pink patches are open areas which are generally covered with grass. The deeper red areas with a mottled texture are trees of various species. Notice the Boston Commons and Public Park just west of downtown. Also, notice the difference in colors and tones from the open and residential areas northeast of Logan Airport to the industrial and business district near the center of the photograph. Throughout the area numerous streets, highways, and buildings are evident by their blue-gray color and could be accurately mapped and located with this photography.

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