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The image of Venus at left was acquired by the imaging experiment on the United States Pioneer Venus spacecraft on December 25, 1978, at approximately the time when the Soviet spacecraft Venera 11 parachuted through the atmosphere of Venus. Based on preliminary estimates provided by the Soviets for the time and location of the probe entry, the Russian craft should have descended along the equator near the planetary limb (left most edge of image). This area is within the arms of a dark horizontal Y-shaped feature which stretches around much of the planet. The clouds in this region form cellular patterns suggestive of convective activity in the atmosphere. After this image and others taken before and after it have been analyzed, it may be possible to measure atmospheric winds from the displacement of clouds in successive images. This will be valuable for comparison with the Soviet measurements of wind speed which began at altitudes just below the cloud tops. The U.S. and Soviet space agencies have agreed to future exchange of the data obtained by the spacecraft. The Pioneer Venus orbiter, is expected to circle Venus for eight months or nine, thus providing data for an entire Venusian year. By studying Venus' weather scientist hope to learn more about our own weather on Earth. Data obtained by the orbiter will be combined with information returned from an array of probes (Pioneer Venus 2) which descended through the Venusian atmosphere on December 9.

The image at right, constructed from data acquired 16 days later, again shows the dark, horizontal Y feature. Since this image was made during a portion of the orbit when the spacecraft was nearly over the equator, one is afforded comparable views of both hemispheres. The pronounced brightness of the clouds in the polar regions is typical of that exhibited in nearly all the Pioneer Venus images to date, with the degree of brightening substantially greater than that noted in Mariner 10 images of Venus in 1974.

