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Basin and Range

This satellite image shows a vegetation-sparse terrain dominated by physical features indicative of the Basin and Range Province. Covering most of the southwest corner of this image (lower left) is the Panamint Range. On the northern edge of this range is Tucki Mountain. To the north of the Panamint Range are the Grapevine Mountains. The Funeral Range and the Black Mountains lie north and east of the valley.

“Wineglass” valleys, characterized by flaring basins and fans which are joined by a “stem” where the stream leaves the mountains through a narrow gorge, are common in the Basin and Range. The alluvial fans in this area are the result of erosion along a steep scarp face produced by faulting. Several alluvial fans can be seen along the eastern side of the Panamint Mountains. One large fan is easily identified on the western edge of the Funeral and Black Mountains. The “stem” of this fan is Furnace Creek Wash which flows between these two mountain ranges. The large, red area situated on this fan is caused by human intervention. Furnace Creek has been channeled to provide irrigation water for agricultural purposes. Because this is a false color image, all vegetation on this photo appears red.

The large white features that appear on this image are salt pans. Cottonball Basin, the circular, dirty-white feature located between the Funeral Mountains and the Panamint Range, is a remarkable example of saline deposition that includes sodium borates, carbonates, lake and floodplain sediments, and gypsum. Another salt plain is located directly north of the Panamint Range. Between the Panamint Range and the salt plain is a dune field.

Even in this arid region, dominated by rugged mountains and dry stream beds, interaction between the human and physical worlds occurs. Besides the irrigated agricultural region, the saline deposits of Death Valley served as a source of minerals such as borax (sodium borate).

This false color image was taken December 20, 1982, using the Thematic Mapper (TM). The scene I.D. is 40124-17495.

A joint NASA Aerospace Education Services Program (AESP) and *Journal of Geography* publication.

Funding provided by NASA AESP.