MARS: What you look at and what you see.

It is as if Mars has two realities; the geographic/geologic reality of Mars and the observational reality of Mars. Because of this, the new maps of Mars may not be as helpful to observers as the old ones. This is why I have included generic maps of Mars albedo with classical names for this section of the atlas. If you actually observe Mars, you will see many events, shifts and changes in albedo features, the appearance of clouds, dust storms, the waxing and waning of the polar caps, and perhaps a glimpse of its two moons. All this makes Mars a fascinating object for study.

The names of the albedo features were adopted from the mapping efforts of Italian astronomer Giovanni Schiaparelli, and his naming system is still alive in the new nomenclature accepted by the International Astronomical Union (IAU). Names now are given mostly to specific geological features, most of which are invisible to observers from Earth. But broad areas often still carry the early names. Some of the old names have been dropped, because they 'only' refer to albedo markings, but these eliminated names may still be useful to observers who wish to relate what they see to an area they can identify. Spacecraft missions have shown us the real topography of Mars and continue to reveal Mars as it is. They have laid bare the surface realities of the planet. We now know that the earlier names of albedo features certainly don't represent the 'seas' 'bays', 'swamps' that the meaning of their names would suggest. So in the new nomenclature the "Sea of Sirens" becomes the "Land of Sirens", Mare Sirenum changes to Terra Sirenum and it relates to an area rather than to a specific albedo feature. But observers continue using the old terms and names to describe what they see or what they image in their CCD cameras precisely because they relate to the 'reality' of Mars that can be seen. Albedo maps were maps of what was visible to actual observers. The new maps are about 'what is there,' and yet invisible to observers. So as we move closer future oppositions of Mars we can expect references to both 'realities.' Both types of features and names will be used.

This section of the atlas reflects the observational aspect of Mars. It is hoped that it will prove helpful both to observers and to armchair astronomers and others who would like to find their way around this fascinating planet. The maps represent the albedo, or surface brightness and colors we are likely to be able to see with our eyes or CCD cameras. Relief has been removed from the albedo map image and the map has been blurred a bit to simulate a telescopic view and to give generic shapes to the classical features. Many of these features are subject to change anyway, and a sharp image would be misleading. The simple cylindrical projection distorts features as they get farther away from the equator so I have placed little orthographic disks at the top of the map to remind us how a telescopic view would look when the meridian they are placed at is central. If you click on the disks a larger detailed image will be called up. This image compares the blurred albedo image with an orthographic projection of the shaded relief with surface coloration image so you can see the real but probably invisible features that are in the field of view.

Early maps used to represent the south at the top because the optical geometry of the telescopes reversed the planetary image vertically -- turned it upside down. Likewise the view through your telescope will also play with the geometry of the image you see depending on how many reflective surfaces, etc. the image encounters on the way to your retina. The maps in this section have south at the top, though your telescope might also reverse the image, left to right.

The old nomenclature has been restored to these maps. Many of the feature names refer to the linear features, the 'canali' of Giovanni Schiaparelli and 'canals' of Percival Lowell. Names have been placed and aligned with the feature they were intended to describe. We can expect some of these features to disappear or shift positions, so precise locations are not entirely possible. An observer who sees something in this area though can use the name to describe what is seen and identify its position.

The albedo features of these maps reflect their positions and extent at the time of the Viking missions from which they were derived, and both of the polar caps are shown at their minimum extent.

Science attempts to give names that are specific in their descriptions, names that do not mislead or emotionally color features. Scientific terminology can be pretty dry, and it can, unintentionally become a jargon that separates scientists from common society. This is unfortunately often seen by 'ordinary folk' as elitist, and the scientific nature of these names may be intimidating to some people. Though it is tempting to translate terms like 'Arena Colles' to 'Sandy Hills', or 'Valles Marineris' to 'Mariner Valleys', it is not a bad idea for people interested in Mars to learn the terms and names. Much of the terminology used is not in common use. We do not refer to the "White Rupes of Dover" or the "Grand Chasma" and they may be new to many readers. For this reason a glossary of these terms and their definitions in the gazetteer.