Table 1. Data relevant to the geologic character of selected Solar System bodies. 1

	Study phase ²	Diameter (km)	Bulk density	Recent geologic activity ³	Past activity	Approximate mean surface age (m.y.)	Mean surface temperature	Atmos- phere4
Mercury	1	4,879	5.4		v,t	?	440 K	
Venus	2	12,104	5.2	?	v.t	500?	730 K	CO2
Earth	3	12,742	5.5	v,t,g,e	v,t,g,e	700	290 K	N2.0
Moon	2/3	3,469	3.3		V	4.000	350 K	
Mars	2	6,776	3.9	?	v,t,q,e	3.000	220 K	CO ₂
Asteroids	1	varied		?	v, g	4,500?	varied	
Jovian system								
lo	1	3,660	3.5	v,q,t	v,q,t	~1	130 K	
Europa	1	3,130	3.0	?	g?,v,t	50	110 K	
Ganymede	1	5,268	2.0		v?. t	3.500?	150 K	
Callisto	1	54,808	1.9	-		4.000?	150 K	
Saturnian system								
Enceladus	1	512	1.0	?	v, t	2.000?	100 K	
Tethys	1	1,046	1.2	-	t	3.000?	100 K	
Dione	1	1,120	1.4	10-	t	3.000?	100 K	
Rhea	1	1.528	1.3		t	4.000?	100 K	
Titan	1	5.150	1.9	?	62	?	90 K	No. CH.
lapetus	1	1,436	1.2	?	v?	3,500?	100 K	1.21 011
Uranian system								
Miranda	1	472	1.2		v?.t	3.500?	70 K	
Ariel	1	1,158	1.6		v.t	3.000?	70 K	
Umbriel	1	1.169	1.5	-	t	4,000?	70 K	
Titania	1	1,578	1.7		- 1	3,500?	70 K	
Oberon	1	1,523	1.6		1	4,000?	70 K	
Neptunian system						.,		
Triton	1	2,705	2.0	g	v,t	600?	38 K	No. CH
Pluto	1	2,300	2.0	?	?	2	640 K	N2, CH
Charon	1	1.186	1.4	?	?	?	640 K	











as impact.

The next major period in Mars' history was dominated by the effects of internal heat loss. This led to insive volcanism and tectonism at the surface, and also to catastrophic erostonal events—the sudden asses of huge stores of millions of cubic kilometers of ground water, causing joe and entrained rote debries our enormous channels on their way to the low northern plains basin. At the headwaters of these channels chockie, purified blocks positioned in steep-valled carryors, where the ground collapsed as the water was seed, taking much of the surrounding rock with it. Lesser releases of weter occurred on flanks of volcanous, reg, geothermal heating seems to have driven ground water to the surface, where it essals, cut through the volcanic saft deposits. Still farther upstream the Solar System's largest canyon, Valles Martineris for "Mar-Valles"—mannel for the spacecraft that discovered in), formed during this period, probably by rifting of the tand subsequent sideward erosion of the canyon's walls. Elsewhere, laws flows continued to pour onto the acc. covering over one-third of the beant. The Tharis rise, for examine, a broad? It of 10-8-mbin volcanies.







llite in the Solar System. One-third water ice, Ganymede exhibits a geologically different from the geology of rocky bodies seen in the inner Solar System, Sec-

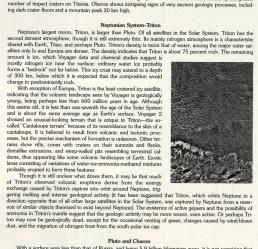








Umbriel, Titania, and Oberon have such a high density of impact craters that we must conclude that g cal activity on these satellites ceased much earlier than on Miranda and Ariel. Umbriel is very heavely or and has the durkes, grupest surface of any icy satellite except the dark hemisphere of lapachs. Geologic ceased so long ago that any signs of geologic features have been battered beyond recognition by impact nisk carptors, similar to flose or Ariel, are signs of ancient geologic activity. Bright craters again cleaner fee beneath the dark surface. Titania's surface is slightly older than Ariel's, as determined by the number of impact craters on Titania. Oberon shows intriguing signs of very ancient geologic processes, ing dark crater floors and a mountain peak 20 km high.





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are are many new discoveries in planetary science these days, from new missions, the Hubble Space Telescope, improvemis in Earth-based telescopic techniques, and even from old data being re-analyzed. The best way to keep current is to
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ERRATA to data tables on companion map 1-2447 "Mapping the Solar System." Some early copies of "Mapping the Solar System" had a few errors in the data tables. The correct values are:

Tritton—mass 0.0036 (incorrect value is 0.0056)

Oberon—semimajor axis of orbit 583.400 (incorrect value is 387,000)

Pan—orbit period 0.56 (incorrect value is .294)

Callisto—mean radius 2404 (incorrect value is .404)

Gamymode—mass 0.0249 (incorrect value is .00175)

1× = 1:100,000,000 (1mm = 100 km; base scale) 2× = 1:50,000,000 (1mm = 50 km) 3× = 1:33,333,333 (1mm = 33.3 km)