

Exogenic Processes: The prospects of their operation in the Pluto System

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It is virtually certain that the landforms created by exogenic processes will be observed in the Pluto system. Exogenic processes are those that the energy for surface modification is supplied external to the surface. The principal exogenic processes, in order of their pre-encounter presumed likelihood, are impact cratering, mass wasting, volatile redistribution, wind erosion, and the effects of a running surface fluid. Impact cratering potentially provides a compositional and perhaps thermal probe into the crust as well as a means of determining regional surface ages. Mass wasting can involve everything from the generation of impact regolith and that regolith's movement down slope, to the erosion of landforms otherwise held together by sublimating volatiles. Volatile transport itself can create landforms, such as are seen in martian polar terrains. Volatile transport, along with general atmospheric winds, can erode, transport, and create landforms (e.g. sand dunes) from loss but otherwise refractory material. These major processes, as they may be relevant for the Pluto system will be reviewed in detail but subsequent talks.