Impact degassing of reduced greenhouse gases into a thick CO$_2$ atmosphere can warm early Mars above the melting point on multiple occasions.

We investigate the photochemical response of the martian atmosphere to outgassing from impact melt pools generated by large impacts on Mars.

We examine simulated temperature and precipitation trends following impacts, and explore the factors that make it difficult to sustain warm and wet conditions.

We use a 3D climate model for early Mars to simulate a climate with MAT 273 K to determine if the valley networks and lakes could have formed in this climate.

We show the results of a novel recalibration of Phoenix’s RH sensor in the entire temperature, pressure, and humidity range observed on Mars.

We produced a fan and blotch catalog from output of Citizen Science based mapping of CO$_2$ jet deposits. We derive constraints on wind directions and strengths.

MSL has observed dust devils by imaging and by meteorological measurements. We use this data to determine meteorological properties of these martian dust devils.

Temporal evolution of the attenuation of the UV radiation caused by the dust deposited on the REMS UV Sensor of the Mars Science Laboratory mission.

Groundbased and orbital results at the location of Gale indicate a significant increase in water ice opacity (up to 50%) from martian year (MY) 32 to MY 33.