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The scientific document outlining the long-term temperature evolution of Mars following the dual polar impacts is now ready.



Mars_Tempe...ion_Report

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Thermal Timeline Summary:

1. **Initial Firestorm (First 24 Hours):** The kinetic energy release is so massive that the global mean temperature briefly spikes to over **200°C** as the atmosphere is superheated by the impact plumes.
2. **Impact Winter (1–3 Years):** Temperatures crash to a devastating **-100°C**. This is caused by the global dust cloud blocking 90%+ of solar radiation, overriding any initial greenhouse warming.
3. **The Warming Phase (5–50 Years):** As the dust settles, the newly released greenhouse gases (CO₂ and H₂O) trap solar heat. Temperatures rise rapidly toward a more temperate baseline.
4. **Temperate Equilibrium (100+ Years):** Mars stabilizes with a global mean temperature of roughly **-10°C**. While still cold by Earth standards, this represents a **50-degree increase** over pre-impact levels, allowing for liquid water stability in equatorial regions.