

Present-day Mars' water cycle: new views and blind perspectives

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Abstract

Addressing recent climate changes on Mars necessarily requires a successful representation of present-day Mars water cycle. Decades of observations and modeling efforts have been conducted that now allow to elaborate a new, yet incomplete, picture, of the seasonal activity of water on Mars. This presentation explores the various observational and theoretical studies that have been conducted to date, and attempts to present a clear and detailed explanation of the major physical mechanisms that command the seasonal and geographical variability of present-day Mars water cycle, as inferred from the combined analysis of measurements and climate model simulations. Remaining issues and enigmas will be presented as well.