

New gravity map gives best view inside Mars

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- By tracking the gravitational pull on three NASA spacecraft (MGS, Mars Odyssey, MRO) over 16 years, we have created **the most detailed map of the Red Planet's gravity** and what lies beneath (*top*).
- Combining this new gravity map with MOLA topography data allowed us to derive a new **map of the crustal thickness of Mars with a spatial resolution of 120 km** (*bottom*).
- Changes in the Martian gravity over time have been used to **monitor the polar ice caps**, showing **results consistent with predictions from atmospheric models**.
- The **new gravity map will enhance future Mars exploration** by helping mission navigators insert spacecraft more precisely into orbit and by contributing to **NASA's plan to send astronauts to explore Mars**.

