

NASA Mars Exploration Program

NASA's Mars Exploration Program is a long-term effort to explore the planet Mars, funded and led by NASA. Formed in 1993, the program has been exploring Mars with orbiters, landers, and rovers. The program's scientific goals are to determine whether Mars ever supported life, to characterize the climate and geology of Mars, and to prepare for human exploration of Mars.

The program includes several missions such as the Mars Science Laboratory (Curiosity rover), the Mars 2020 mission (Perseverance rover), and the Mars Reconnaissance Orbiter. These missions have provided unprecedented insights into the Red Planet's geology, climate, and potential for past or present life.

Key discoveries include evidence of ancient water flows, organic molecules, and seasonal methane releases. The program continues to expand our understanding of Mars and pave the way for future human exploration.

The Mars Exploration Program represents one of NASA's most ambitious and successful planetary science initiatives, combining robotic exploration with advanced technology development. The program has demonstrated the feasibility of landing and operating complex scientific instruments on the Martian surface, while also developing the technologies needed for future human missions to Mars.

Current missions include the Perseverance rover, which is actively collecting samples for future return to Earth, and the Ingenuity helicopter, which has demonstrated powered flight on another world for the first time. These missions are building the foundation for eventual human exploration of Mars.