

# NASA Heliophysics and the Science of Space Weather

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## 1. NASA

NASA formulates and implements a national research program for understanding the Sun and its interactions with the Earth and the solar system and how these phenomena impact life and society. This research provides theory, data, and modeling development services to national and international space weather efforts utilizing a coordinated and complementary fleet of spacecraft, called the Heliophysics System Observatory (HSO), to understand the Sun and its interactions with Earth and the solar system, including space weather. NASA's space-based observational data and modeling efforts have provided significant contributions to the science of space weather. Current and future space weather research will provide key information to improve the ability of the United States and its international partners to prepare, avoid, mitigate, respond to, and recover from the potentially devastating impacts of space-weather events.