

GLOBAL PRECIPITATION MEASUREMENT MISSION APPLICATIONS



Ecological Management

gpm.nasa.gov/applications



Ecological management is critical for maintaining and repairing ecosystems so these environments can reliably supply human needs while conserving and sustaining ecological services and diversity. Satellite observations can provide critical information relevant to the distribution of ecosystems and their resident species. Natural resource managers and scientists use this information to understand patterns of biodiversity, how biodiversity is changing, drivers of changes, and to predict impacts of environmental changes on ecological systems. The Ecological Management applications focus area encourages the use of GPM satellite precipitation data to analyze and forecast changes that affect ecosystems and to develop effective resource management strategies.

Credit: Hattie Bartlam-Brooks



NASA precipitation data used to predict zebra migrations in Botswana.

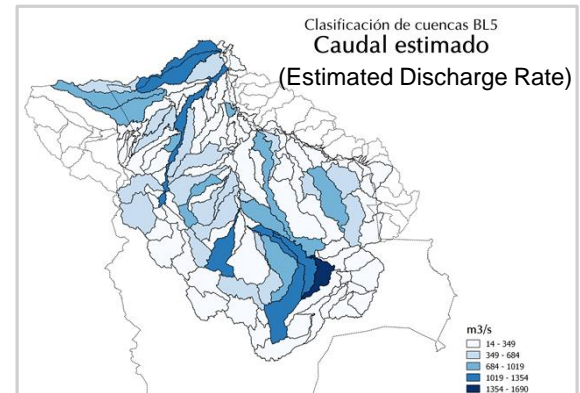
CASE STUDY: Strengthening the Mitigation Hierarchy in the Amazon



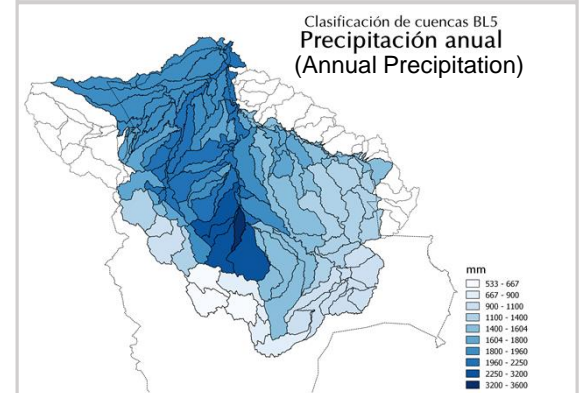
The large-scale development of agriculture, mining, oil & gas, hydroelectric dams, timber and fisheries in the Amazon require robust environmental research, planning, and management of aquatic ecosystems. In response to these needs, the Wildlife Conservation Society (WCS) in Bolivia are using over 17 years of precipitation data (1998-2015) from NASA's TRMM and GPM mission to collect rainfall totals and estimate potential discharge rates throughout the Bolivian Amazon. This information will enable WCS Bolivia to identify endangered river basins, which will then provide decision makers a useful framework to implement a mitigation hierarchy approach. This set of guidelines is meant to help decision makers limit negative impacts on biodiversity from development projects such as dam implementation in Bolivia.



Map of Bolivia (above). Red circle denotes area that GPM data is used to identify endangered river basins.



Estimated discharge rates (top right) and annual precipitation (bottom right) in the Bolivian Amazon.



Credit: Miranda G, Molina J, Sanjinés D & Painter L. in prep. (WCS Bolivia).



Have Ideas?
Get Involved!
gpm.nasa.gov/contact