An Integrated Tropical Cyclone Information System for Research (iTCIS)

2 main components

In the current iTCIS developed at JPL
Tropical Cyclone – Integrated Data Exchange and Analysis System (TC-IDEAS) - coming soon as Part of the HSRP

Joint NASA Jet Propulsion Lab and Marshall Space Flight Center Project

The JPL iTCIS

Objective: To provide fusion of multi-parameter hurricane observations (satellite, airborne and *in-situ*) and model simulations with the purpose of:

- supporting both research and field campaigns
- understanding the physical processes
- improving hurricane forecast by facilitating model validation and data assimilation
- enabling the development of new algorithms, sensors and missions.

Select by basin, name, or category with corresponding data availability timelines

ER-2 /AMPR data overlaid on GOES IR
Can satellite observations help determine which models produce the most realistic storms?

Impact of model microphysics

The treatment of microphysical processes in hurricane models has impact on the structure and the intensity of the forecasted storms.

The question is whether satellite observations provide enough information to help select the microphysical parameterization that produces the most realistic storms.

Preliminary research shows that, indeed, satellite observations can help discriminate between simulations with different microphysics and select the most appropriate one.