

An Integrated Tropical Cyclone Information System for Research (iTCIS)

2 main components
In the current iTCIS
developed at JPL

 **Jet Propulsion Laboratory**
California Institute of Technology

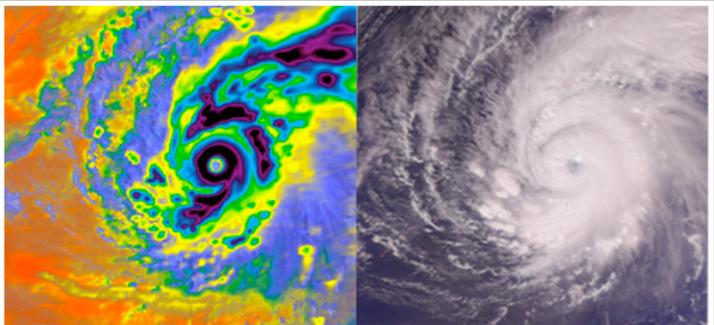
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JPL Tropical Cyclone Information System

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Welcome to the JPL Tropical Cyclone Information System

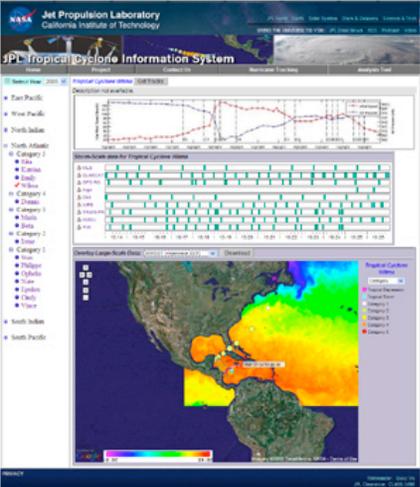
The JPL Tropical Cyclone Information System (TCIS) brings together satellite and in situ data sets from various sources to help you find information for a particular tropical cyclone over the world ocean. Currently, we have populated the entire 2005 and we will add data from other years in the future. We hope that you will find our analysis tools useful for your studies to improve hurricane models and plan future satellite missions with a particular focus on tropical cyclones.



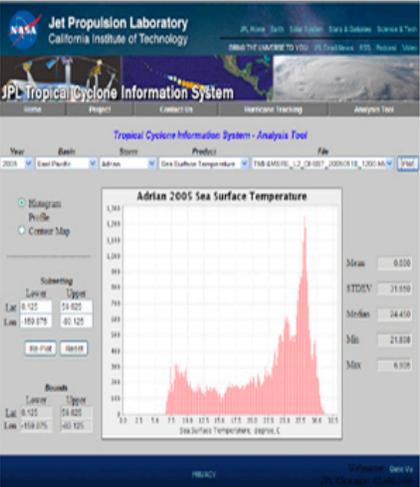
Supertyphoon Pongsona struck the U.S. Island of Guam on Sunday, December 8, 2002. The composite image (left) of the supertyphoon was made by overlaying data from the infrared, microwave, and visible/near-infrared sensors that make up the AIRS sounding system. This storm can also be seen with the standard AIRS Vis/NIR (right).

Tropical Cyclone Data Portal | **Data Analysis Tool**

Here you can search for specific storms in 2005 and directly access data and plots associated with that storm.



This tool will let you analyze data associated with a storm. You can plot histograms, maps, and profiles for many different data sets and products.



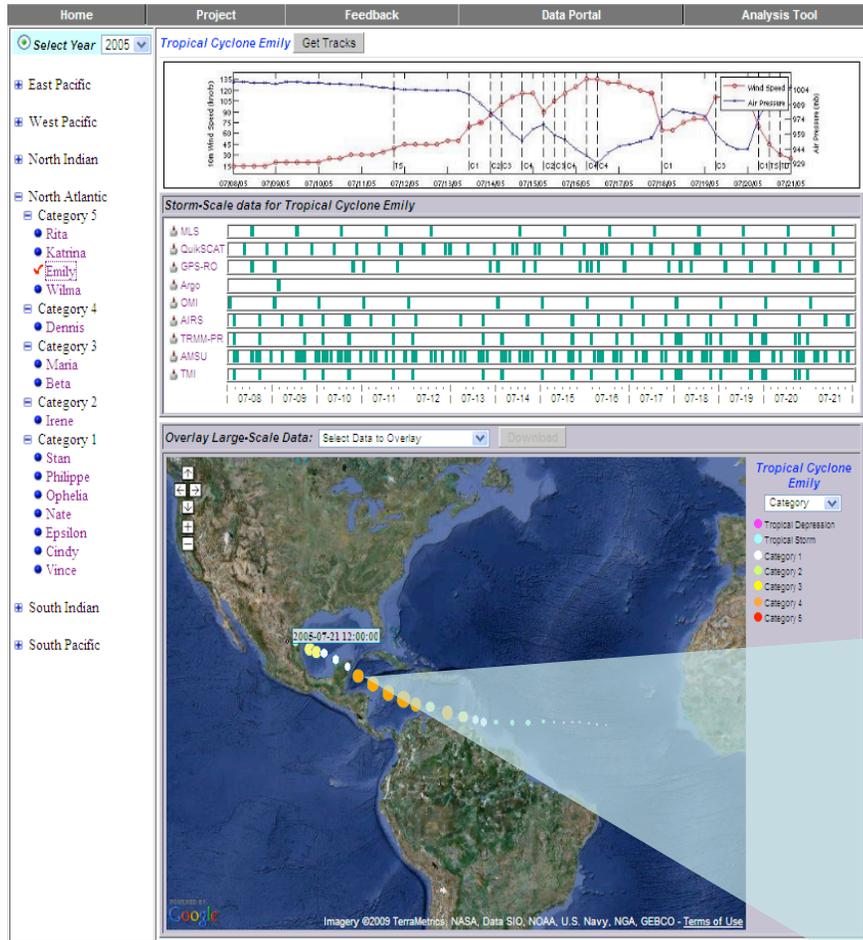
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Tropical Cyclone – Integrated Data Exchange and Analysis System (TC-IDEAS) - coming soon as Part of the HSRP

Joint NASA Jet Propulsion Lab and Marshall Space Flight Center Project

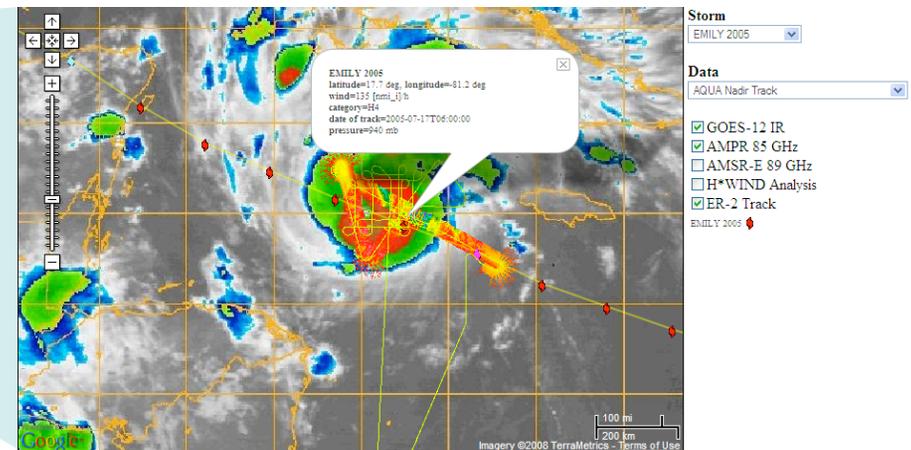
The JPL iTCIS



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

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.



ER-2 /AMPR data overlaid on GOES IR

Can satellite observations help determine which models produce the most realistic storms?

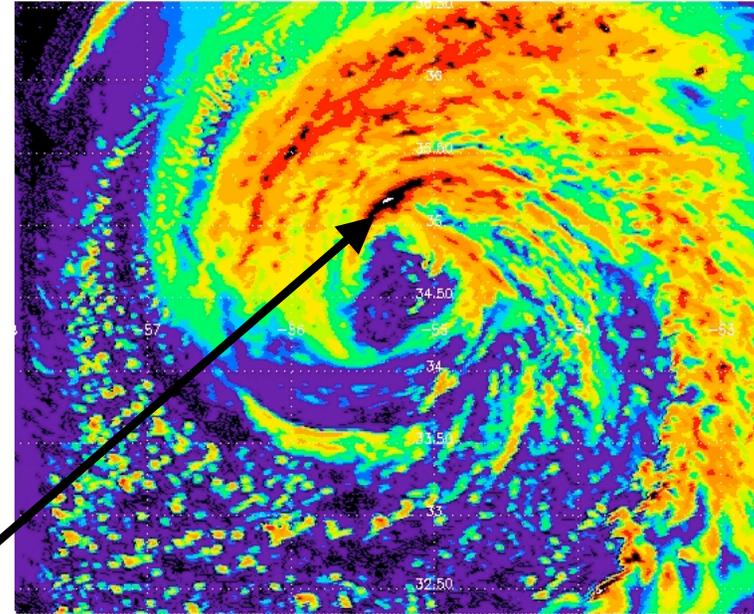
Impact of model microphysics

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.

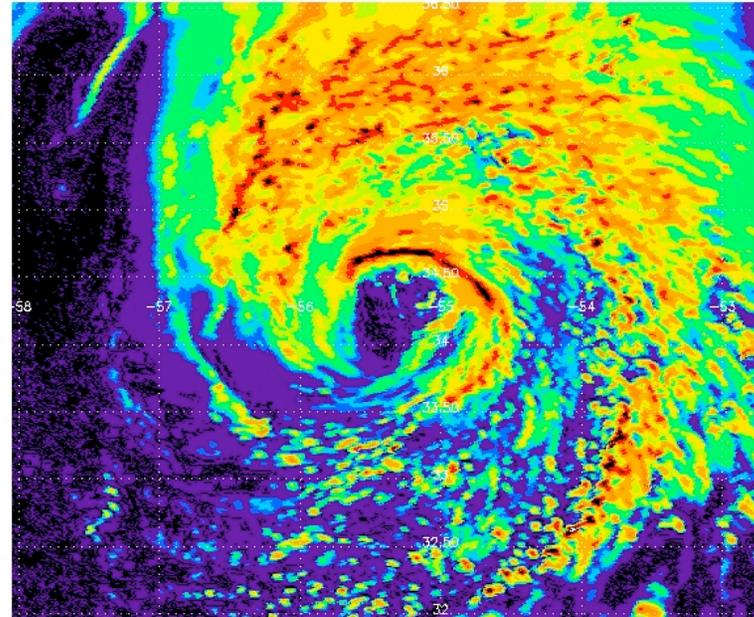
Preliminary research shows that, indeed, satellite observations can help discriminate between simulations with different microphysics and select the most appropriate one.

WRF-Rita;; Resolution:1.3km; Grid d02; mp6; cp1; pbl1; 112cpu; Date/Time: 2006265-16000C

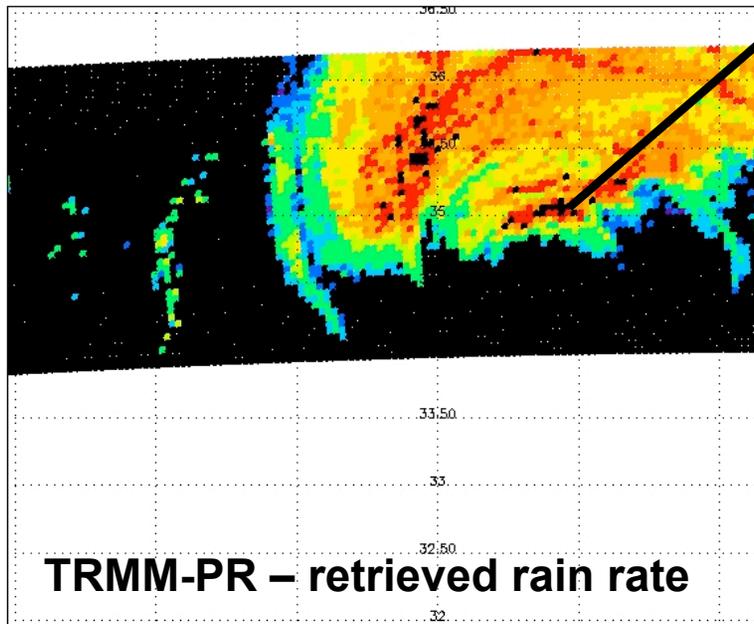


Micro6

WRF-Rita;; Resolution:1.3km; Grid d02; mp3; cp1; pbl1; 112cpu; Date/Time: 2006265-16000C



Micro3



Better?

