

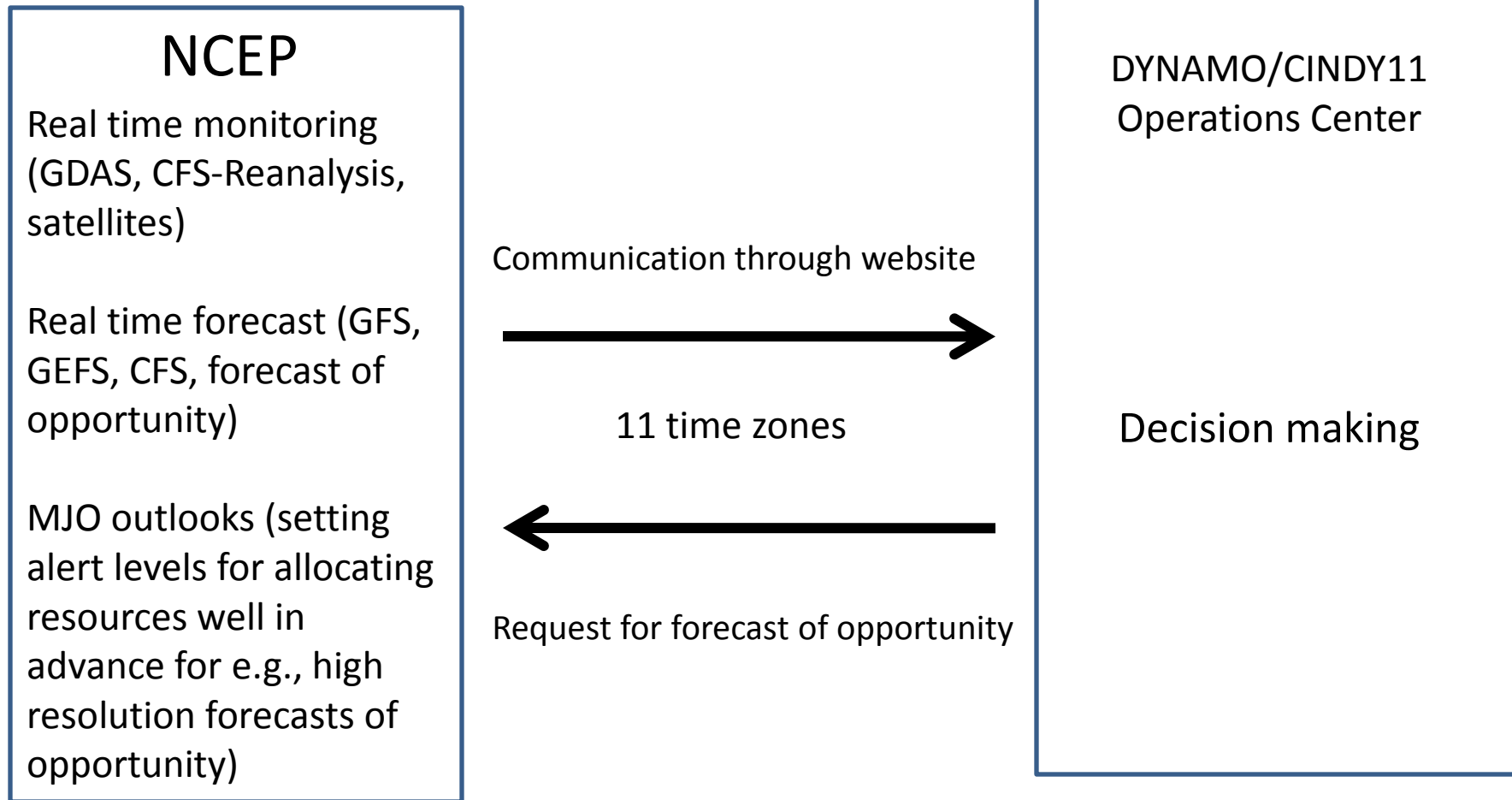
# Real Time Monitoring and Forecast tailored for **DYNAMO/CINDY11**



**NOAA/NCEP/CPC**

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# Schematic of the monitoring/forecast support to DYNAMO



# Three phases for successful R&D and use of the tools

## Before the campaign

Definition of which variables are important for what reasons (aircrafts, rawinsondes). What resolutions, which output frequencies (this meeting)

Verification of the existing analyses by comparing with eg., satellite products and data from previous campaigns

Establishing the forecast skill and investigate the necessity for very high resolution non-operational forecast of opportunity

Early warning system for preparing these forecasts of opportunity (1-4 week outlooks for MJO activity)

## Before the campaign

**DRY RUN!**

Correction of all glitches in the system!

## During the campaign

Operational update of the portal

Evaluation of the alert level for preparation of forecasts of opportunity

Feedback from the field to the forecasters in order to improve the system in real-time.

## After the campaign

Post – evaluation of the quality of the forecast tools and feedback to forecasters and modelers on specific cases of success and of failure



# Estimate of Operational resources for 2011-12

- GFS is the operational weather forecast model at NCEP for days 0-16. GEFS is the ensemble prediction system
- Next GFS implementation at T574L64 in July 26<sup>th</sup>
- Implementation of semi-Lagrangian version of GFS for 2011. This will allow to use even higher resolutions for GFS.
- CFS is the coupled forecast system. Current operational version is T62L64 and MOM3. Next implementation ~December 2010 with GFS at T126L64 and MOM4.
- Monitoring products: Operational analysis GDAS will be at T574L64 as of next implementation, CFS-Reanalysis is at T382L64
- Global Tropics Hazards Outlooks for week 1 and 2 – multimodel operational forecast of the MJO at CPC (CLIVAR MJO group)

## Need Resources for:

- evaluating the quality of the analyses on the tropical Indian Ocean and verification of forecast skill.  
Evaluation of benefits from the ensemble forecasts with GEFS (probabilistic information)
- If necessary, develop a very high resolution forecast of opportunity system -- computer resources
- Develop criteria for the forecasts of opportunity

Discussion during this workshop

**Definition of which variables are important, what resolutions, which output frequencies.**

Input during this discussion:

Which variables are necessary? What resolutions? What output frequencies?

(a) Atmospheric data

(b) Oceanic data

Do we need a very high resolution regional model (e.g., WRF) to downscale GFS forecasts? Will T574L64 of operational GFS (eventually even higher resolution by the campaign time) be enough? What is a minimum resolution.

CPCs Global Tropical Hazards outlooks for MJO at weeks 1-2 week. What format should the outlook have to best support the campaign. Is there a need for the campaign to extend this forecast experimentally to week 3 and 4?

What kind of satellite and or previous campaign data should we use to establish the quality of analysis and reanalysis?

## **DRY RUN!**

**We have to pre-define a period well in advance of the campaign for having enough time to make corrections to the system**

**Should we have a functional operations centre for the dry run or could we rely on a virtual one?**



What are other needs from NCEP?