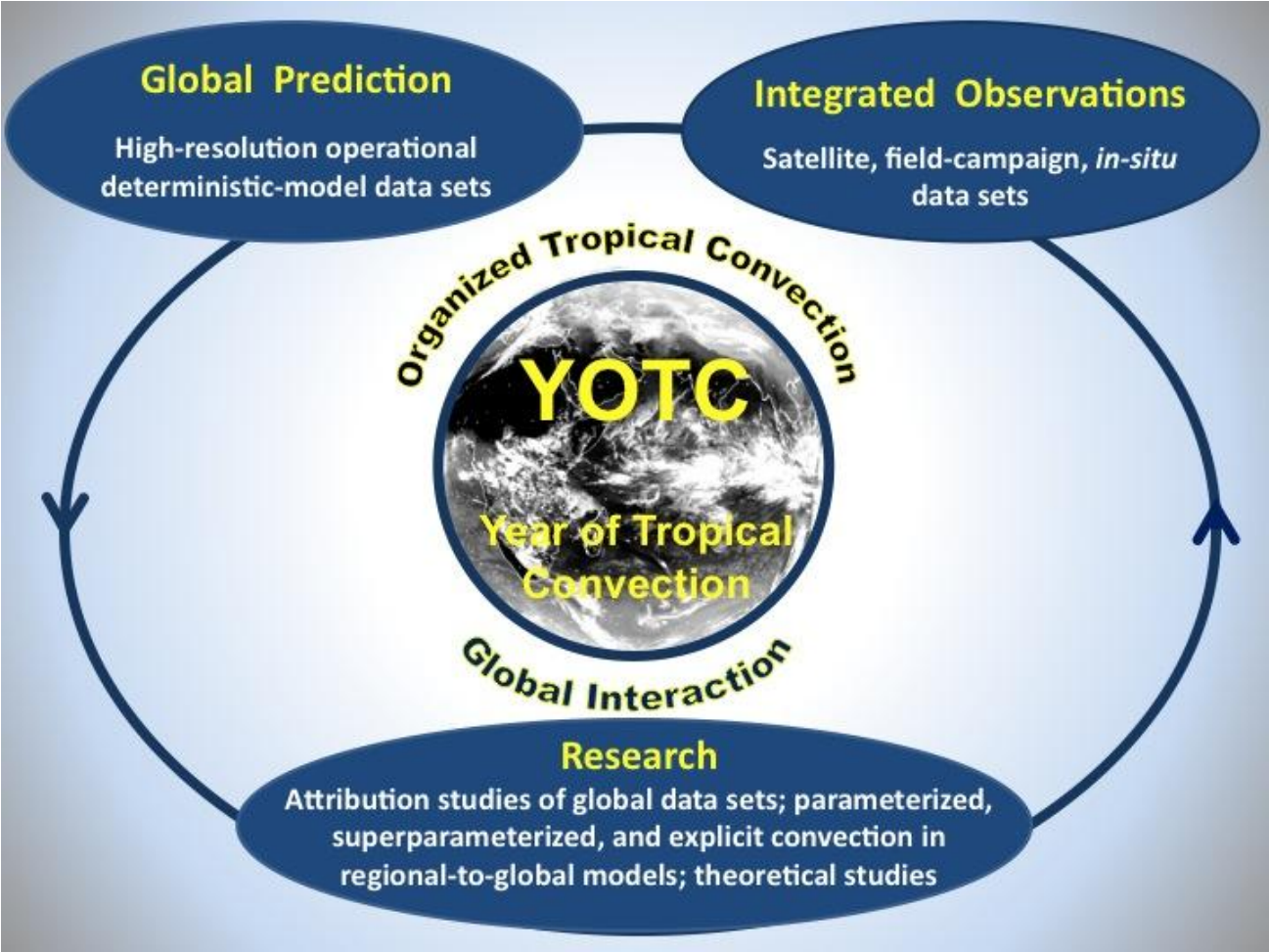


Plenary YOTC Implementation Summary

Mitch Moncrieff



- **YOTC is an unprecedented project in regard to scope, and the integrative and collaborative approach**
- **A keynote is the uniqueness of the YOTC global model database: applicable to weather forecasts, seasonal prediction, and IPCC climate models**
- **YOTC will help establish tropical convection and its multiscale interaction as a weather-climate research activity**
- **YOTC is a contribution to the WCRP/WWRP Seamless Prediction Initiative**
- **Formation of collaborative research projects/teams a priority of the YOTC IP Workshop**
- **All of the above creates an environment for new funding opportunities**
- **Planning phase of YOTC almost complete, next stage is research applicable to operations, and weather-climate intersection**

Collaborative research activities/teams

***** Mostly ready-to-go *****

- **Weather as an initial-value problem for climate (seamless prediction):**
 - i) Transpose AMIP 5-day forecasts in coupled mode, CMIP5 WGNE-endorsed activity**
 - ii) DOE/CAPT**
 - iii) GEWEX/EUCLIPSE**
 - iv) CMMAP MMF SP-CAM and SP-CCSM**
- **Winter TPARC: i) variability of jet and downstream propagation of eddies; US east-coast snowstorm March 2 2009; impact of tropical convection of 24 Feb 09 on midlatitudes; atmospheric rivers.**
- **“Relaxed tropics” prediction experiments involving tropical-extratropical interaction for northern and southern hemisphere**

- **CLIVAR Asian-Australian Monsoon Panel (AAMP): MJO-Monsoon Interseasonal Oscillation (MISMO) hind-cast experiments based on Oct 08 case and additional cases for 2009; MJO cases of interest; white paper (Bin Wang et al)**
- **Monsoon Interseasonal Oscillation: 2 events, rapid northward progression of ITCZ, important effect on 2009 Indian summer monsoon rainfall**
- **AMY IOP 2008-2009 heavy rainfall in monsoon region, MJO and its interaction with the Maritime Continent, modeling targets MJO-MISO, e.g. Vietnam floods**
- **Understand Maritime Continent predictability barrier by deploying the full range of models and observations involved with YOTC**

- **AMMA African Easterly Waves (AEWs) and convection, cases July 7-22 '08; Aug - Sept 14 '08, KW passage beginning June and July '08. Synergy with CFS forecast experiment**
- **GEWEX Cloud System Study Pacific Cross-section Intercomparison (GPCI) activity for JJA '08**
- **UK Cascade project forecasts/diagnostic studies of wintertime MJOs in IO/TWP region**
- **MMAP Multiscale Modeling Framework (MMF) superparameterization studies starting from nudged NOAA initial conditions and YOTC cases**
- **Forecast experiments for YOTC events of interest using NICAM global CRM**

- **CMMAP Multiscale Modeling Framework (MMF) superparameterization studies based on MMF initial states nudged to NOAA analysis and YOTC cases of interest**
- **NASA GEOS5 MMF coordination of high resolution simulation on cubed sphere (e.g., C1440, C720) with NICAM simulations for YOTC cases of interest**

Of general relevance

- **Diurnal cycle: open ocean, MJO, AEW, coasts, ITCZ; nocturnal max of precipitation, role of SST variability, moistening by shallow convection, convection propagating off mountains and coastlines; Maritime Continent effects on MJO lifecycle**
- **Global wind oscillation, planetary wave propagation, effects on prediction/predictability, tropical-extratropical interaction**
- **Extreme events, societal - economic impacts is beyond a YOTC activity but important that YOTC links with this community (e.g., global database)**
- **Improving parameterization of physical processes for weather-climate models and Earth System Models is remains an important objective**

Periods of interest (incomplete)

- **MJOs - May-June 2008; Jan-Feb 2009; April 2009**
- **CCEWs - May 2008, March-April 2009**
- **TPARC – winter 24 Feb '09**
- **MISMO – summer 2009 monsoon**
- **AEW- TC: July 7-22 '08; Aug –Sept 14 '08, KW passage June and July '08**
- **T-ET interaction**

Discussion/actions

- **Extend YOTC global model data archiving period to April 30 2010 on basis of likely El Nino event, i.e., 2- year archive**
- **Datasets on ocean analysis for coupled models (e.g., NCEP CFSRR)**
- **YOTC should be considered as the “interseasonal wing” of tropical cyclone activities within WWRP and elsewhere**
- **Completion schedule for YOTC implementation: complete IP by Sept 1 2009 based on current draft, but IP will be a “living document” taking new developments into consideration**
- **First YOTC Science Workshop, China has offered to host, possibly in Beijing, Oct 2010**