

NARC: Report of last year's activities

Members of NARC
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USTEC
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Content

1. Contribution to Major Activities of THORPEX

- T-PARC
- Winter component of T-PARC
- TIGGE and NAEFS
- THORPEX – IPY
- YOTC
- SERA

2. Regional & National Committee activities

- T-PARC and NAEFS Workshops
- National and Regional Planning Documents
- Membership and structure
- Other activities: TTISS

1.1 Summer T-PARC

+ Leadership

- Preparatory meetings (Hawaii, U.S.); drafting implementation plan
- Steering committee members (Chair: Prof. Patrick A. Harr (NPS); members: Prof. Russell L. Elsberry (NPS), Dr. Ron McTaggart-Cowan, (CMC), Canada)

+ Special observations

- Wide variety of observing platforms
 - Aircraft with dropsonde and radar facilities, and driftsondes

+ Operational activities during the campaign

- Central operations: NPS, Monterey, CA, U.S.A.

+ Funding of research activities

- US ONR and NSF funding nearly 20 research teams
 - Addressing tropical cyclone structure and ET/downstream studies

1.2 Winter T-PARC

(followed by the regular Winter Storm Reconnaissance (WSR) program)

+ Leadership

- Preparatory meetings (Hawaii, U.S.)
- Leaders: Zoltan Toth and Yucheng Song (NOAA)

+ Special observations

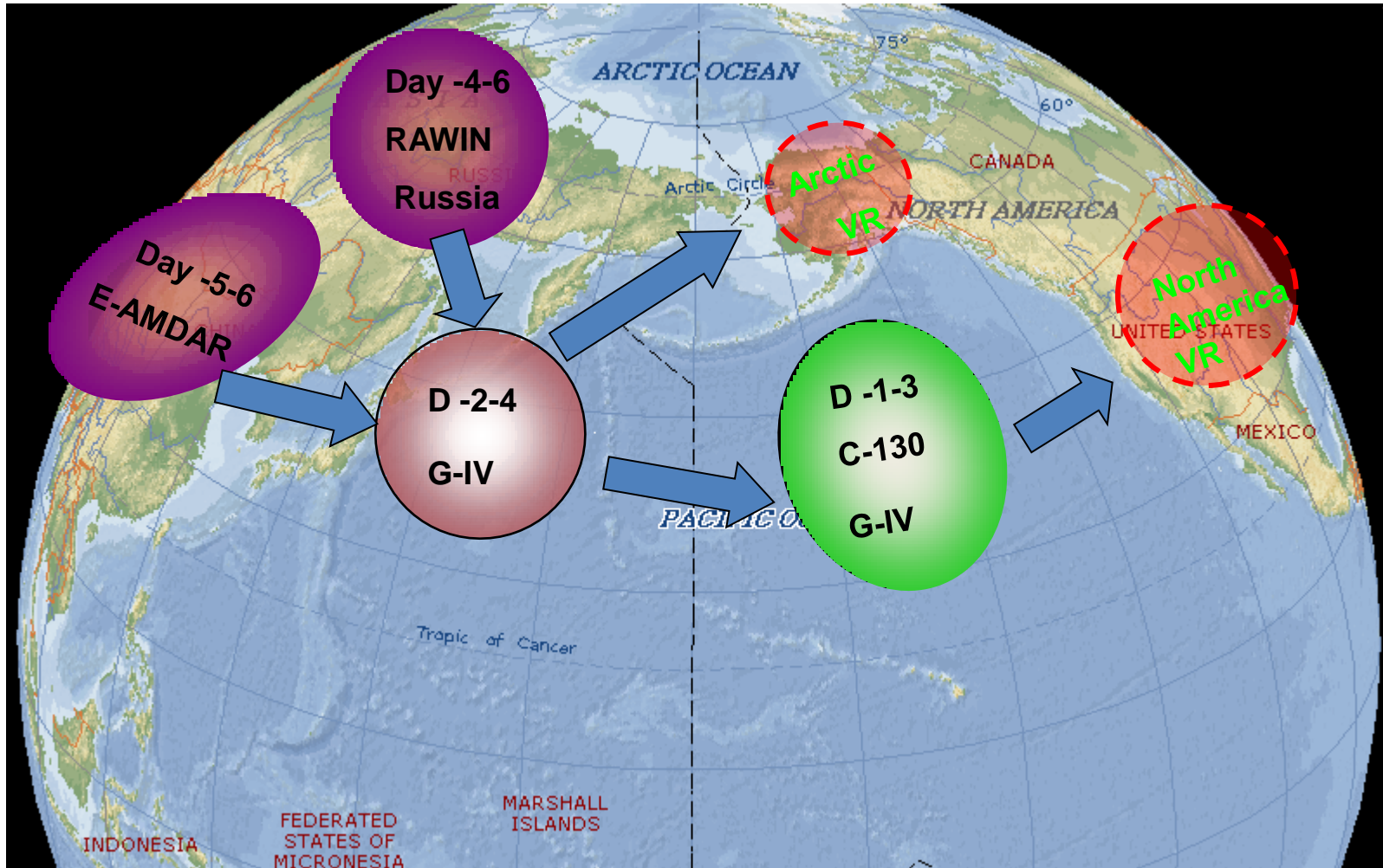
- NOAA G-IV based in Japan, USAF C-130s in Alaska
- Russian extra rawinsondes launches (from twice a day to four times a day)
- E-AMDAR data coverage near the Pacific Rim and Northern India

+ Operational activities during the campaign

- Central operations: NCEP, Camp Springs, MD, U.S.A.
- WFO field offices focal points at: Alaska: James Partain; Pacific: Ken Waters
Western Region: Andy Edman, Warren Blier; Central Region: Peter Browning
Southern Region: Rusty Billingsley; Eastern Region: Ken Johnson
CANADA: Chris Doyle, Environment Canada

ENHANCED OBSERVING PLATFORMS

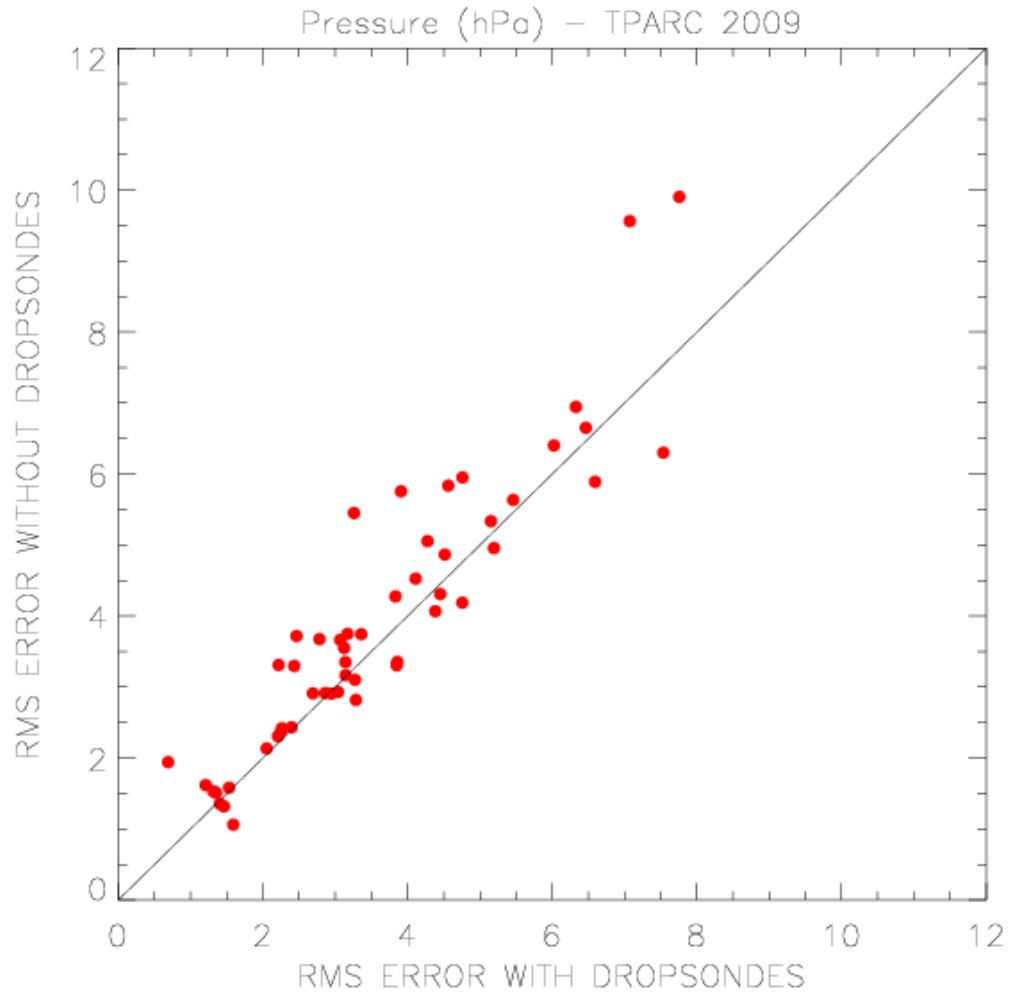
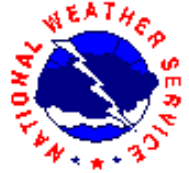
Extensive observational platforms during T-PARC winter phase allow us to track the potential storms and take additional observations as the perturbation propagate downstream into Arctic and North America



From Yucheng Song, NCEP/NOAA



Overall results for Surface pressure (T-PARC 2009)



In certain cases, significant RMS reductions are observed as high as 35%

1.3 NAEFS activities



+ Workshop and teleconferences

- 4th Workshop held at NCEP in 2008
- Monthly teleconferences

+ Research and Development

- Bias correction and downscaling methods
- Stochastic ensemble perturbations
- Ensemble initialization global and mesoscale
- Weather-climate link

+ Membership increase

- Currently evaluating inclusion of FNMOC ensembles

+ Users

- NWS in US and Canada; WMO's Tropical And South American desk at US/NOAA
- Increasing use of data in NWS in Mexico

1.4 THORPEX - IPY

(from last THORPEX Regional Committee Report; needs update)

+ STAR (Storm Studies of the Antarctic)

- Canada is quite active

+ TAWEPI (Thorpex Artic Weather and Environmental Prediction Initiative)

- Aytron Zadra (Environmental Canada) leads this effort

+ Other IPY

- USA and Canadian researchers involved at the IP level on Greenland Flow Distortion Experiment, Model intercomparisons and Artic surface flux studies

1.5 YOTC activities

(Funded by NSF, NOAA, NASA via coordination by the US THORPEX Executive Committee)

+ Science Plan and Implementation Plan completed (Honolulu in July, 2009). Project Office has been set up at NCAR; YOTC web site: www.ucar.edu/yotc

+ Science sessions:

- Fall AGU'08, spring AGU'09, AMS'09, AGU'09, 3rd JSC for WMO and TTISS; WGCM

+ Papers:

- YOTC in a Compendium of WCC-3, and a YOTC paper is part of a coordinated set of 5 papers for BAMS.

+ Data

- High resolution analyses and forecasts (ECMWF at T799 (~25km), NASA/GMAO GEOS5 at 25km, and NCEP at about 35km);
- Satellite data sets and associated archiving and dissemination system identified, with funding from NASA to develop this system.

+ IP meeting

- Identification of periods of interest for focused modeling and analysis work
- Decision to extend the YOTC period from May 2008-April 2010.
- Modeling and analysis activities.

1.6 SERA activities

(Needs update)

- + Road surface transportation's sensitivity to high impact weather (Brian Mills and others)
- + Use and perception of weather forecasts in Mexico (Jorge Vazquez and Juan Cervantes)
- + Implementing an Early Warning System of Cold Fronts passages across Mexico (“Metodología para la creación e implementación del Sistema de Alerta Temprana para Frentes Fríos y Nortes”) by Ricardo Prieto et al. 2008
- + Jeff Lazo, Barbara Brown and others at NCAR

2. NARC activities

+ Last NARC meeting was held in 2007

- T-PARC Workshop 2008: NARC members met after the 4th NAEFS Workshop

+ Planning Documents (from ICSC-7 report)

- Recommendations for capacity building and SERA activities in Mexico have been reported.
- North American Regional Plan has been discussed and is under development

+ Other activities: TTISS