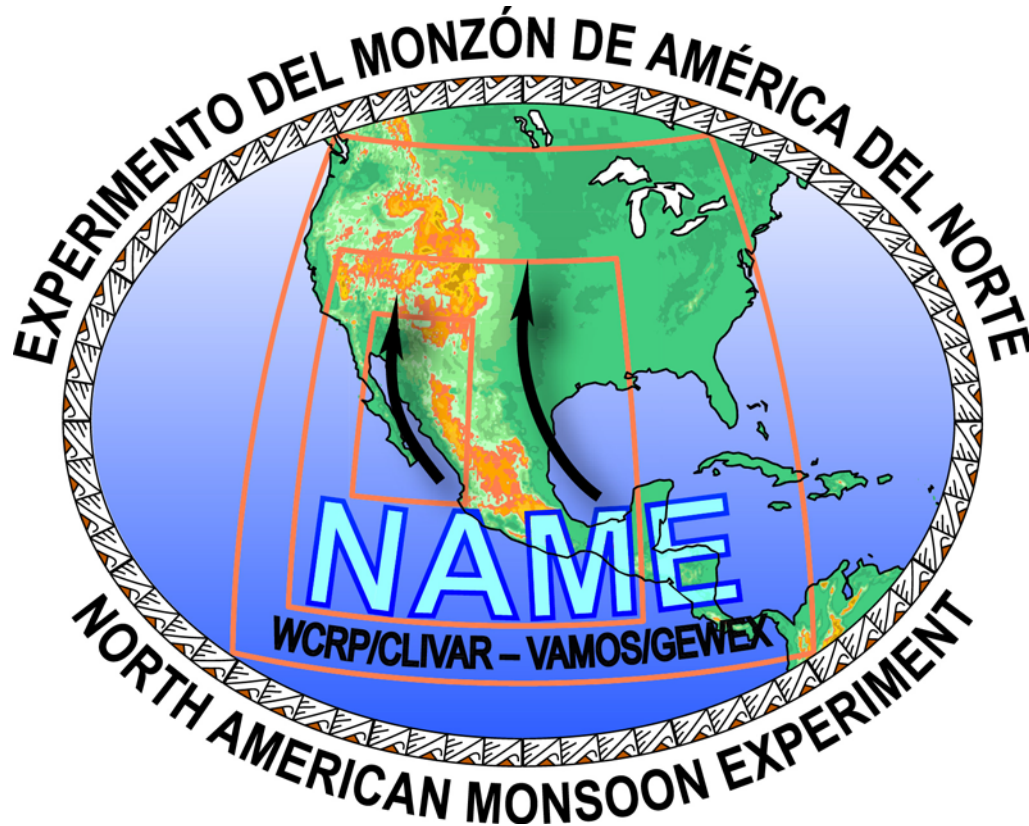


NAME STATUS REPORT



NAME Homepage:
<http://www.joss.ucar.edu/name>

<http://www.joss.ucar.edu/name>



North American Monsoon Experiment

Science

- Monitoring
 - [NCEP Monitoring Products](#)
- Data Assimilation
 - [NCEP Analysis Products](#)
- Forecasts
 - [Short Range Forecasts](#)
 - [NAME Zone Forecasts and Discussions](#)
 - [Climate Forecasts](#)

Data Management

[NAME Data Management page at UCAR/JOSS](#)
[Master Table of All NAME International Data Sets](#)
[NAME Data Management Plan](#)
[NAME On-line Field Catalog](#)
[NAME Zone Forecast Exercise forms](#)

Logistics and Support

[Directory of Field Participants](#)
[Field Operations Plan](#)
[Hotel and Site Information](#)
[Logistics Bulletins](#)

Planning

[NAME Field Observations](#)
[NAME Science and Implementation Plan](#)
[NAME-2004 Field Program Information Sheet](#)
[Meetings and Presentations](#)
[Organization](#)

Project Documentation

[Documents](#)
[Publications](#)

Other Links

[Institutions, Offices, and Organizations](#)
[Mailing Lists](#)
[Related Projects](#)



[Intl CLIVAR Home Page](#)



[U.S. CLIVAR Home Page](#)



[PACS Program Office](#)



[VAMOS Data Server](#)



[NOAA Office of Global Programs](#)



[GAPP Home Page](#)



[UCAR/JOSS Home](#)

OUTLINE

1. **PROGRAM RATIONALE AND OBJECTIVES**
2. **LINKAGES (PROGRAMS, AGENCIES, COUNTRIES)**
3. **NAME 2004 FIELD CAMPAIGN**
4. **NAME MODELING AND DATA ASSIMILATION**

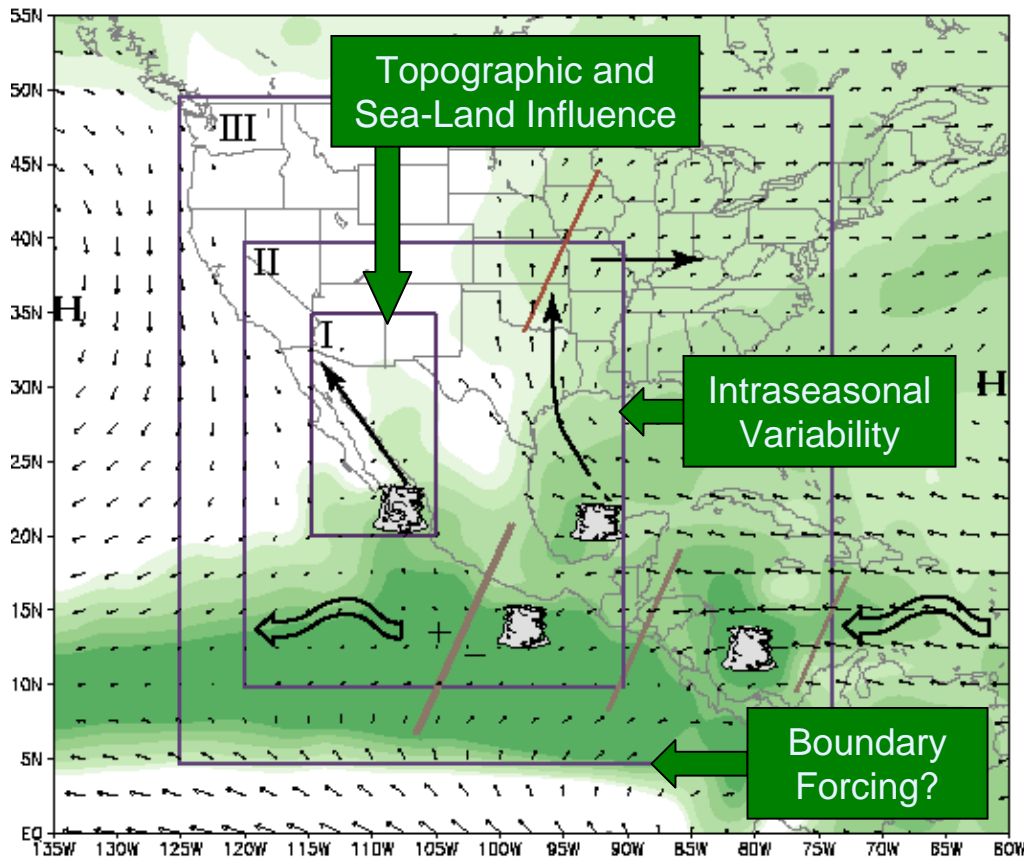


WHAT IS NAME?

NAME is an internationally coordinated, joint CLIVAR – GEWEX process study aimed at determining the sources and limits of predictability of warm season precipitation over North America.



NORTH AMERICAN MONSOON EXPERIMENT (NAME)



HYPOTHESIS

The NAMS provides a physical basis for determining the degree of predictability of warm season precipitation over the region.

OBJECTIVES:

Better understanding and simulation of:

- warm season convective processes in complex terrain (TIER I);
- intraseasonal variability of the monsoon (TIER II);
- response of warm season circulation and precipitation to slowly varying boundary conditions (SST, soil moisture) (TIER III);
- monsoon evolution and variability (TIER I, II, III).

YEAR (2000+)	00	01	02	03	04	05	06	07	08
Planning	-----								
Preparations		-----							
Data Collection			-----						
Principal Research				-----					
Data Management					-----				

NAME IMPLEMENTATION

- Empirical and modeling studies that carry forward the joint **PACS/GAPP Warm Season Precipitation Initiative** (2000 onward), and initiate new elements.
- NAME Field Campaign (JJAS 2004) including build-up, field, analysis and modeling phases.

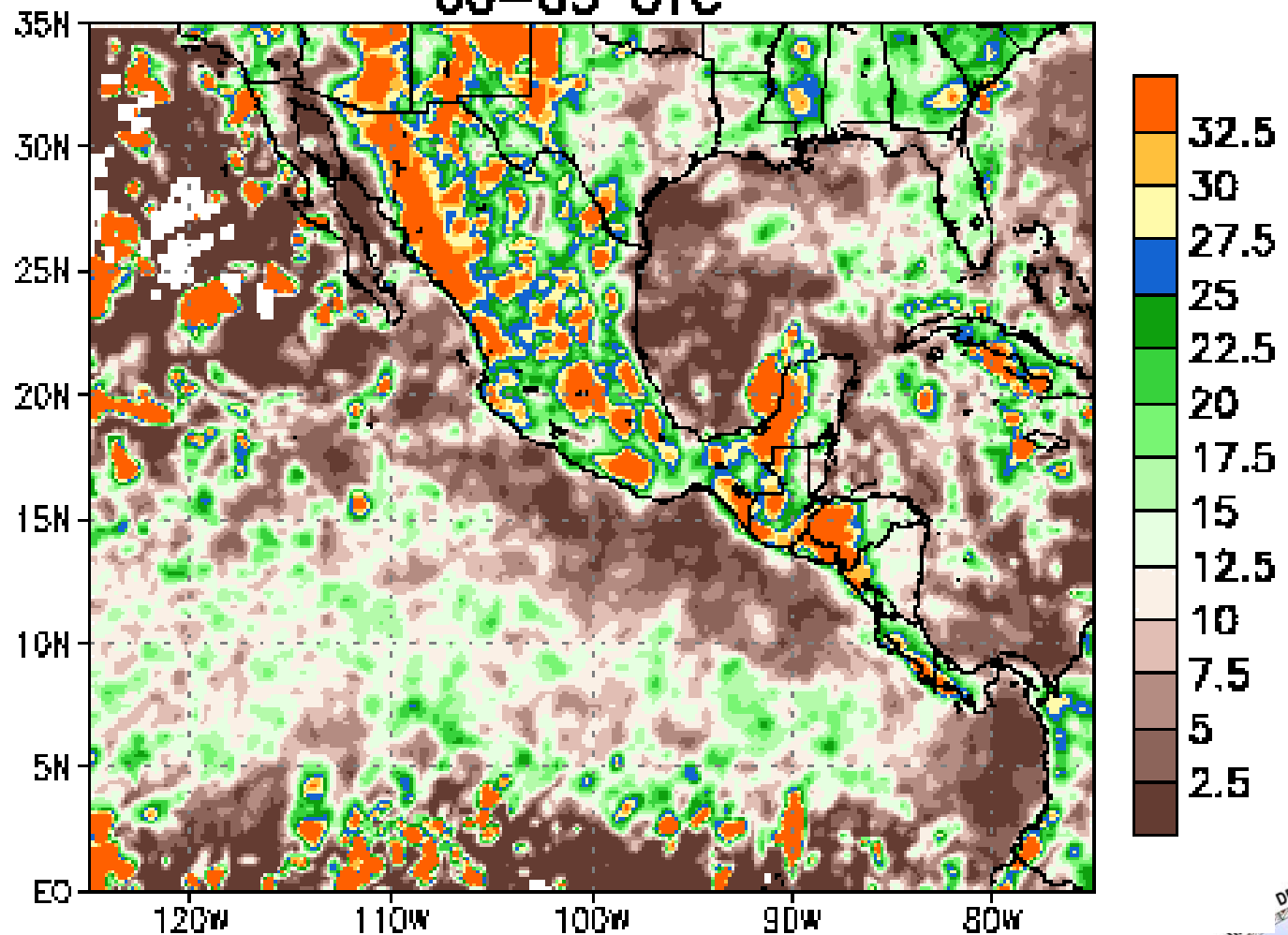


WHY IS THE DIURNAL CYCLE IMPORTANT?

- (1) The amplitude of the diurnal cycle in the core monsoon region is larger than the amplitude of the annual cycle.
- (2) There are large-scale shifts in the regions of deep convection during the day from over land to over water.
- (3) There is large intraseasonal and interannual variability of the diurnal cycle, but it is not well understood.
- (4) Improved monitoring and modeling of the diurnal cycle will go a long way towards improved warm season precipitation forecasts not just for Tier 1, but for Tiers 2 and 3.



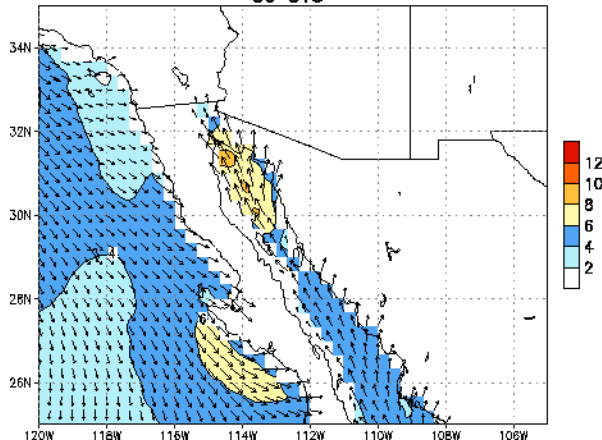
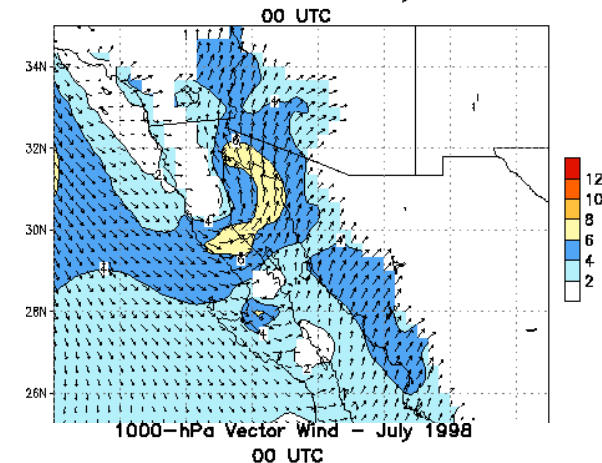
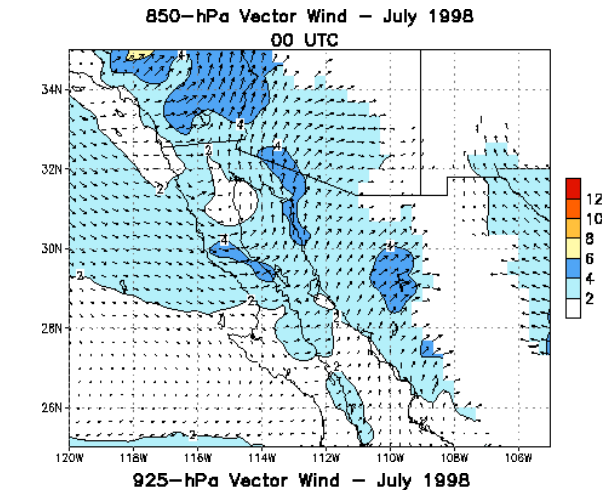
% Precipitation JJA 2003 00-03 UTC



RR Diurnal Cycle

Low-level Wind (m s^{-1})

- Is the GOC LLJ a slope jet?
 - the LLJ slopes toward the east with height.
 - diurnal variations are large in Northern GOC, with considerable flow across central Baja CA
- Is NAME doing enough in far NW Mexico and just inland from the northern GOC?
 - IOP priorities might include some reallocation of joint facilities (e.g. NOAA P3)?



AGENCY LINKAGES

- **Agency programs providing support and/or most likely to provide additional support for NAME 2004:**
 - NOAA PACS/GAPP NAME 2004 Solicitation
(Field Observations)
 - NOAA NWS
(Radiosonde Observations)
 - NOAA PACS/GAPP Warm Season Precipitation Initiative→CPPA
(Modeling and Diagnostic Studies)
 - NASA / THP and USDA / ARS
(NAME Soil Moisture Experiment - SMEX04)
 - NSF GEO/ATM, Hydro; NCAR/ATD; NOAA/ ETL and NOAA/AL
(NAME Tier I Network))



NAME ENDORSEMENTS

- **WCRP / CLIVAR Variability of the American Monsoons (VAMOS) Program**
 - *North American Implementation*
- **U.S. CLIVAR Scientific Steering Committee**
 - *Warm season process study of the North American Monsoon under the U.S. CLIVAR Pan American Panel*
- **GEWEX Americas Prediction Project (GAPP)**
 - *GAPP Science and Implementation Plan*
- *The NWS S&T Committee endorsed NAME at its December 2003 meeting.*

NAME ACTIVITIES (2003-04)

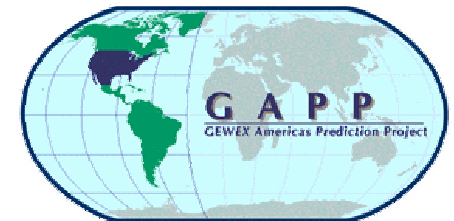
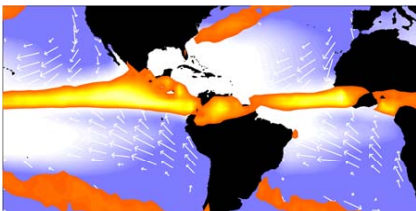
- **Ocean Processes:**
 - Ocean Component of NAME Workshop (Ensenada, Apr 03)
- **Land Surface Processes:**
 - Soil Moisture Field Experiment (SMEX 04) funded (NASA THP) (Apr 03)
 - NAME Hydrometeorology Working Group formed (Jan 03)
- **Modeling:**
 - Modeling and Data Assimilation Workshop (College Park, Jun 03)
 - Modeling and Data Assimilation Strategy Document (Jun 03, revision in progress)
- **NAME 2004:**
 - NAME 2004 Solicitation (NOAA PACS/GAPP, May 03)
 - NAME International Project Support Team meeting (May 03)
 - NSF Briefing on Tier 1 Observations (Washington DC, Mar 03)
 - OAR HQ Briefing on Ships and Aircraft (Washington DC, May 03)
 - NWS HQ Briefing on NAME Soundings (Washington DC, Dec 03)
 - NAME Special Session and SWG-5 Meeting (Puerto Vallarta, Nov 03)
 - NAME EOP/IOP Coordination Meeting (Boulder, CO, Mar 04)
 - **NAME 2004 Operations Review / Forecaster Orientation & SWG-6 (Tucson AZ, Apr. 21-23, 2004)**



NOAA Climate Prediction Program for the Americas (CPPA)

(slide courtesy Jin Huang)

- **CPPA is the research component of the new NOAA ISIP program**
 - a merger of existing NOAA PACS and GAPP programs
- **NOAA's rational for merging PACS & GAPP:**
 - Programs share common objectives, but have different focus areas
 - CPPA integrates the expertise in ocean, atmosphere and land from the CLIVAR and GEWEX communities
 - CPPA goal is to improve intraseasonal-to-interannual climate forecasts and to interpret climate forecasts for better water resource management
- **PACS & GAPP retain their interagency CLIVAR & GEWEX identities, including separate science and implementation plans.**

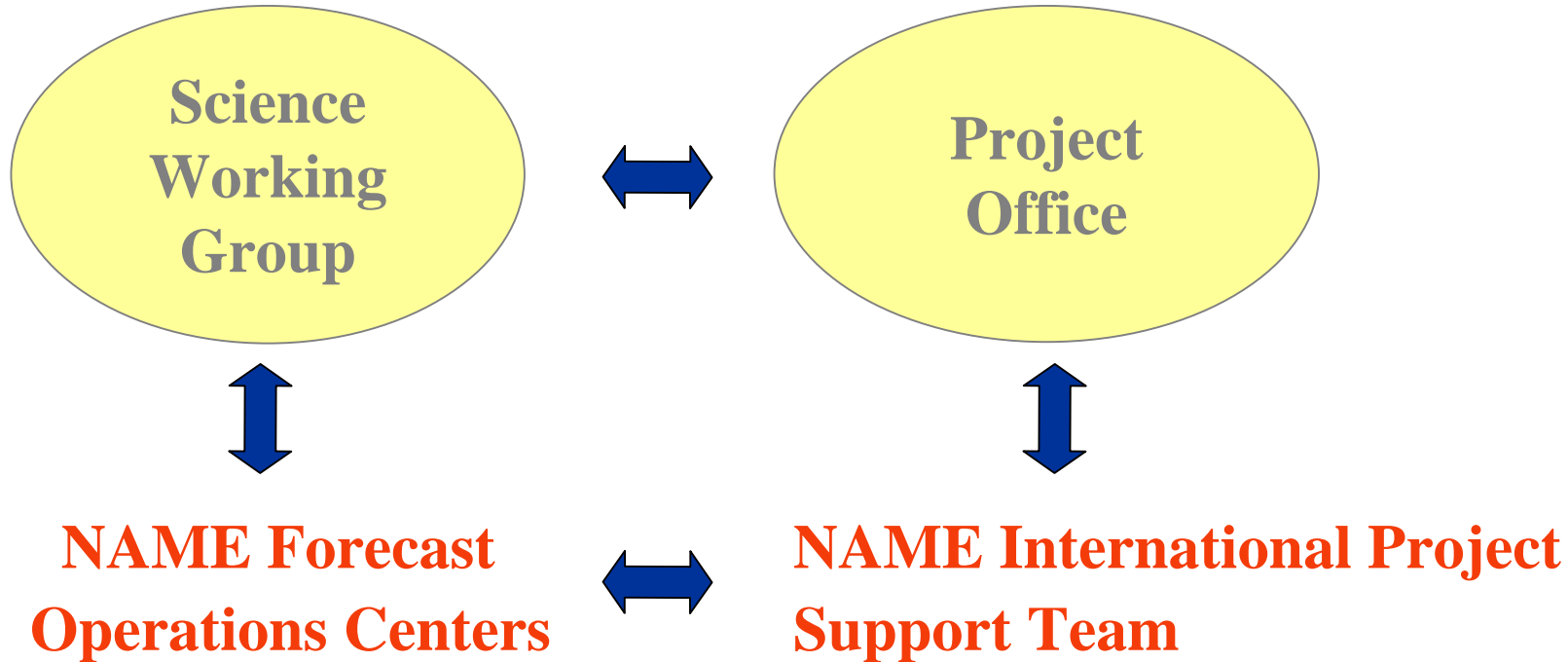


CPPA and NAME

- NAME is the first field campaign supported by CPPA
 - PACS and GAPP started the joint call for proposals for the Warm Season Precipitation Initiative in FY01
- The CPPA interest in NAME is to improve intraseasonal to interannual **climate** forecasts for the warm season
- CPPA will continue to support diagnostic and modeling studies in the Warm Season Precipitation Initiative after NAME 2004



NAME PROJECT STRUCTURE



NAME Science Working Group

(updated September 2003)

<i>Name</i>	<i>Affiliation</i>	<i>Service Through</i>		<i>Name</i>	<i>Affiliation</i>	<i>Service Through</i>
Jorge Amador	UCR	2006		Bob Maddox	UAZ	2006
Hugo Berbery	UMD	2004		Kingtse Mo	CPC	2006
Miguel Cortez	SMN	2006		Francisco O'Campo	CICESE	2006
Art Douglas	Creighton U	2004		Erik Pytlak	NWS	2006
Michael Douglas	NSSL	2005		Andrea Ray	CDC	2006
Dave Gochis	NCAR/RAP	2006		Jae Schemm	CPC	2004
Wayne Higgins (Chair)	CPC	2006		Siegfried Schubert	NASA	2005
Dick Johnson	CSU	2006		Dave Stensrud	NSSL	2004
Dennis Lettenmaier	UW	2006		Chidong Zhang	RSMAS	2005
Rene Lobato	IMTA	2004				

** The Terms of Reference for SWG rotation and the SWG rotation for 2003 have been forwarded from the US CLIVAR PanAm Panel to the CLIVAR VAMOS Panel for approval .*

INTERNATIONAL PARTNERSHIPS

(1) SMN Meteorological Infrastructure

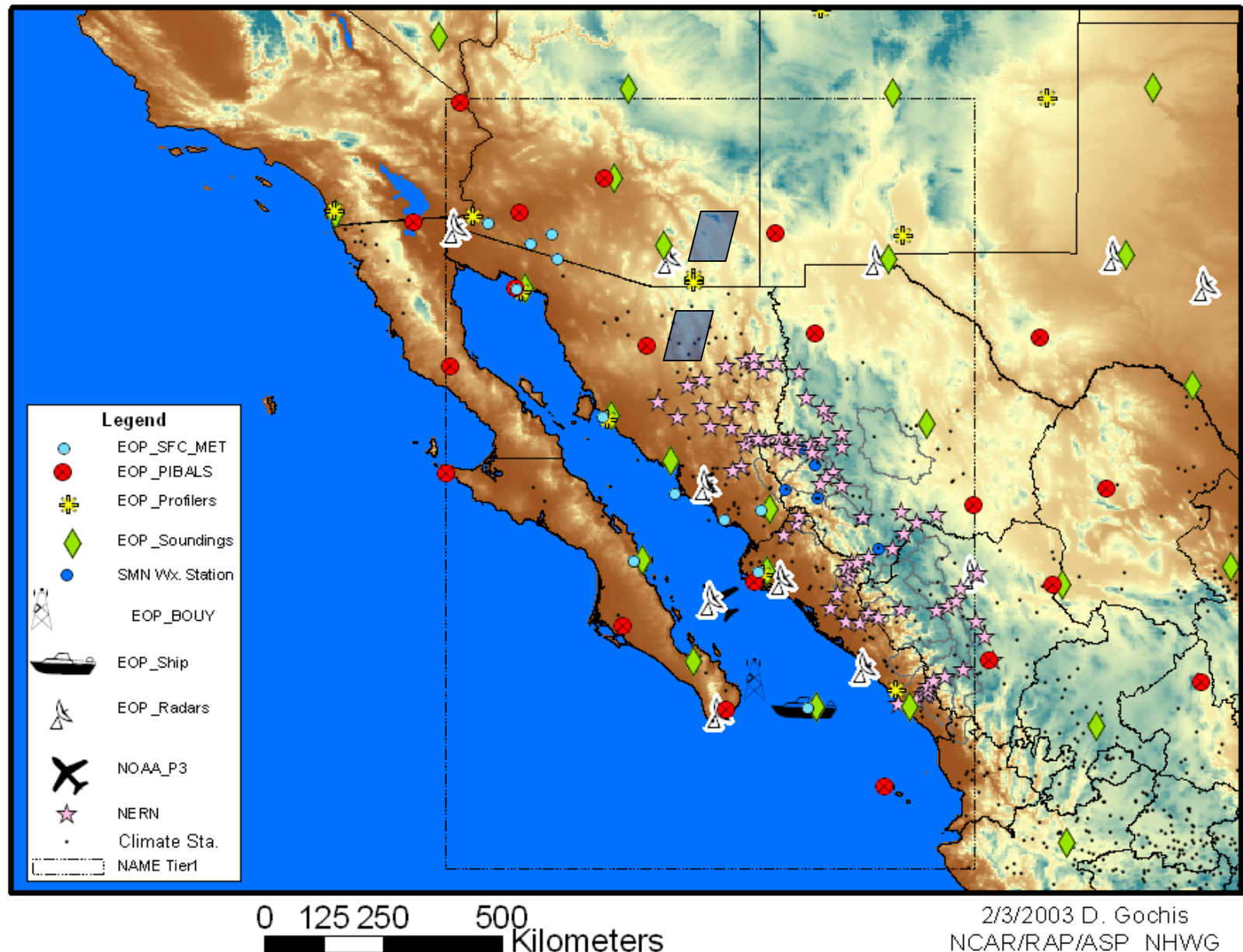
- 79 synoptic stations
 - 16 radiosonde sites
 - 60 automated weather stations (15 more in 2003)
 - 12 radars (4 in northwestern Mexico)
- Historical and real-time data
 - NAME Forecast Operations Centers (meteorologists, technicians)

(2) Universities and Institutions in Mexico and Central America

- UNAM
 - IMTA
 - CICESE
 - University of Costa Rica
 - University of Vera Cruz
 - University of Guadalajara
 - others
- Equipment, personnel, transportation, data collection, research



NAME 2004 Enhanced Observing Period

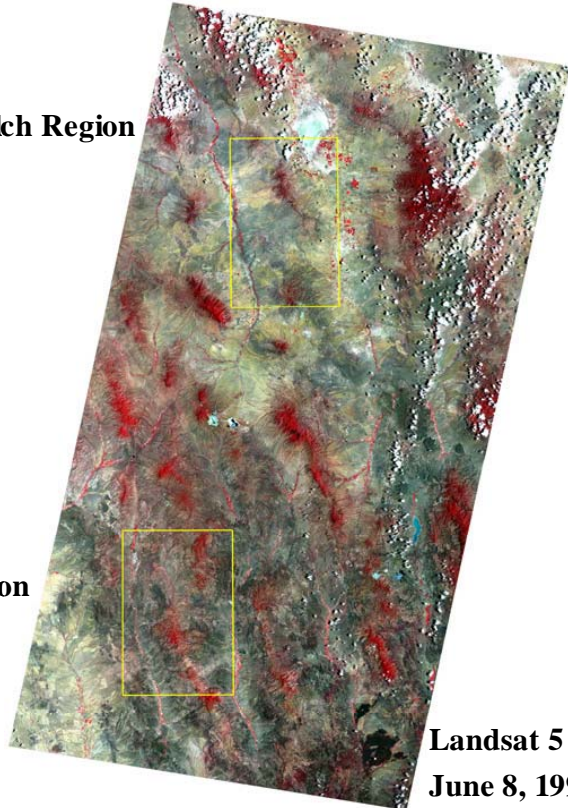




Target Areas

Arizona
Walnut Gulch Region

Mexico
Sonora Region



Landsat 5
June 8, 1997

SMEX04 Elements

- In-situ soil moisture networks (5-cm), precipitation, and micromet measurements (north and south sites)
- Aircraft mapping (NASA JSC WB-57)
- Intensive sampling concurrent with aircraft mission
- Satellite products (AMSR (Aqua), Coriolis TMI, SSM/I)





NAME FORECAST OPERATIONS CENTERS

[Director: B. Maddox (Univ. of Arizona)]

[Rotational Team Leaders: E. Pytlak (NWS); M. Cortez (SMN)]

Organizational Involvement

- NWS WFO's in WR & SR; NCEP Centers (HPC, SPC, TPC, CPC); Other Federal and Private Organizations (e.g., SRP, NSSL, Vaisala); SMN

2003 Activities

- Exchange Visits (NWS-SMN);
- Practice Forecasting (daily discussions / day 1 QPF in 9 zones)

2004 Activities

- Exchange Visits (NWS-SMN);
- Daily Briefings / Discussions; EOP Forecaster Support
- Operational Assessments / Analyses



NAME PRACTICE FORECASTING



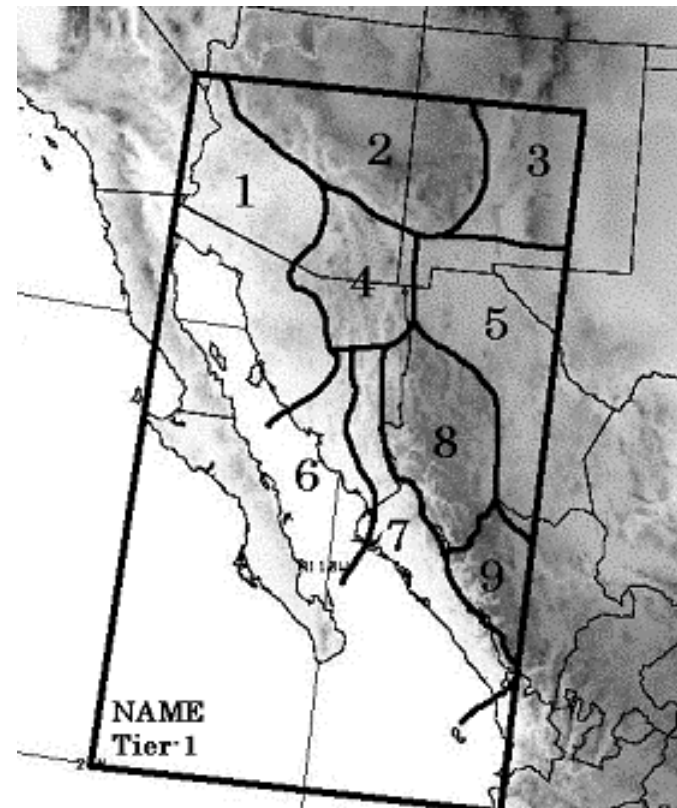
Operation Reports | [Status Reports](#) | [Zone Forecast Exercise](#)

Date(UTC)	monsoon discussion
2003/07/27	18:30
2003/07/26	18:45
2003/07/24	20:48
2003/07/23	20:50
2003/07/22	15:56
2003/07/21	18:56
2003/07/20	20:26
2003/07/19	18:25
2003/07/18	20:01
2003/07/17	21:56
2003/07/16	20:10

[Back to NAME Field Catalog](#)

comments : sroberts at ucar.edu

<http://www.joss.ucar.edu/name>



Operation Reports | [Status Reports](#) | [Zone Forecast Exercise](#)

Date(UTC)	Forecaster Number															
	1	2	3	4	5	7	8	9	10	11	14	15	17	34		
2003/07/27	23:54	18:31	20:29		22:59		18:44	17:15	16:36				04:48	19:44		
2003/07/26	19:04	16:39	18:35		23:08		18:43	15:47					00:33			
2003/07/25	17:05	15:30		18:00	22:10			18:58	13:37		12:19					
2003/07/24	19:05	18:10		17:33	22:29			17:28	13:34		12:21	17:20				
2003/07/23					20:41			21:55	13:33		11:22			09:12		
2003/07/22					05:44	20:26		18:35	22:18	13:39	18:26	10:41	17:50			
2003/07/21	18:56	19:15			04:03				13:37				19:48			
2003/07/20	23:23	18:24	21:30		03:56		18:49		15:47							
2003/07/19		17:04	23:41		04:32	19:40	18:10		16:31							
2003/07/18	20:15	16:09	21:34	20:02					13:54	18:48				21:15		
2003/07/17	22:13															
2003/07/16	20:55		20:54													

[Back to NAME Field Catalog](#)

comments : sroberts at ucar.edu





NAME COMPOSITE PRECIPITATION DATASET

- **Objective:** To provide a suite of precipitation estimates (gauge, satellite, radar, multi-sensor, operational analyses and models) for intercomparison studies and QPF forecast verification during NAME 2004.
- **Protocols:**
 - Period: June 2003-September 2004+
 - Domain: NAME Tier III
- **Participants:**
 - CPC merged US and Mexico daily precipitation analysis
 - CPC Morphing Technique (“CMORPH”)
 - NERN (Gochis)
 - Naval Research Laboratory/GEO
 - UC-Irvine/PERSIANN
 - NASA/GSFC/3B42RT
 - NESDIS/Merged AMSU-B Estimates
 - NESDIS/”Hydro-Estimator” Estimates
 - NESDIS/GOES Multi-spectral Rainfall Algorithm (GMSRA)
 - NCEP/Global Forecast System model (“GFS”)
 - NCEP/ GDAS, EDAS, R-CDAS



NAME Modeling and Data Assimilation

“White Paper”

June 2003

NAME Modeling and Data Assimilation:

A Strategic Overview



NAME Science Working Group*

June 2003

- Provides a strategy for accelerating progress on the fundamental modeling issues pertaining to the NAME science objectives
- Strategy includes
 - I. Multi-scale Model Development*
 - II. Multi-tier Synthesis and Data Assimilation*
 - III. Prediction and Global-scale Linkages*
- Emphasizes activities that bring observationalists, modelers and physical parameterization experts together to focus on key physical processes that are deficient in coupled models.

Modeling and Data Assimilation Issues

- **Are the pieces of the NAME Modeling-Observations strategy fitting together?**
 - NAME CPT strategy and timeline
 - Activities that accelerate progress towards NAME's guiding goal
- **How do we accelerate progress towards achieving NAME objectives in view of recent NOAA developments?**
 - PACS/GAPP merger
 - ISIP
- **What can NAME do that Mexico will sustain after NAME 2004?**
 - Networks (e.g. precipitation)
 - Products (seasonal forecasts; drought monitor; hazards assessments)
- **Can we jumpstart planning for NAME 2004 follow on activities?**
 - CLIVAR PanAM Panel has requested that we extend the timeline



Modeling and Data Assimilation Issues

Are the pieces of the NAME Modeling-Observations strategy fitting together?

- The NCEP regional reanalysis (Mo, Berbery)
- NAMAP2 and NAME CPT (Gutzler)
- Global Model and Forecast Experiments (Mo)
- Operational Warm Season Prediction Issues (Robertson).



GUIDING PRINCIPALS

The strategy must take *maximum advantage of NAME enhanced observations*, and should simultaneously provide model-based guidance to the evolving multi-tiered NAME observing program.

The *modeling activities must maintain a multi-scale approach* in which local processes are embedded in, and are fully coupled with, larger-scale dynamics.



NAME ROADMAP

Post-NAME 2004 Activities

* **Model and Forecast System Development**

- NAME CPT activities (simulation of convective precipitation)
- NAMAP2

* **Experimental Prediction**

- NAME 2004 case studies / hindcasts
- Sensitivity to SST and soil moisture (operational centers)
- Subseasonal prediction (e.g. MJO)

* **Diagnostics and Analysis**

- Reanalysis (global, regional, NAME data impact)

* **Applications and Product Development**

- Assessments (Hazards, North American drought monitor)
- Forecasts (North American seasonal and subseasonal)
- Applications (Agriculture, Fire WX, Water Resource)



NAME MILESTONES

- **Benchmark and assess current global and regional model simulations of the North American monsoon (2004)**
- **Evaluate the impact of additional data from the NAME 2004 field campaign in operational seasonal forecast models (2006)**
- **Simulate the initiation of regular deep convection (i.e. monsoon onset) to within a week of its observed initiation (2006)**
- **Simulate the diurnal cycle of observed precipitation to within 20% on a monthly averaged basis (2007)**
- **Reproduce the magnitude of the observed afternoon peak of latent and sensible heat fluxes to within 20% on a monthly averaged basis (2008)**
-



WARM SEASON PRECIPITATION MILESTONES IN NOAA/OGP 5-YR PLAN

- **Conduct intensive NAME field observation campaign in northwest Mexico, southwest US, and Gulf of California (04)**
- **Implement new high-resolution North American climate analysis system at NCEP (04)**
- **Assess impact of NAME observations on (NCEP) operational analysis products (05)**
- **Evaluate impact of changes in model parameterization schemes (06)**
- **Measure improvements in model simulations of monsoon onset and variability (07)**
- **Implement recommended changes to NCEP operational climate prediction systems to bring monsoon forecasts online (08)**



NAME DELIVERABLES

- **Observing system design for monitoring and predicting the North American monsoon system.**
- **More comprehensive understanding of North American summer climate variability and predictability.**
- **Strengthened multinational scientific collaboration across Pan-America.**
- **Measurably improved climate models that predict North American monsoon variability months to seasons in advance.**

