

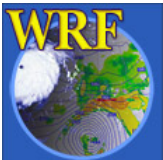
HPC and Computational Infrastructure

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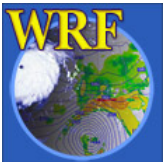
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Indo-US Workshop July 2, 2005



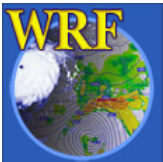
HPC and Computational Infrastructure

- Existing MOU between NCAR and CDAC
 - Atmospheric Chemistry
 - Training
 - Computational Infrastructure for DTC
 - WRF porting and optimization on PARAM Padma
- Follow on...



HPC and Computational Infrastructure

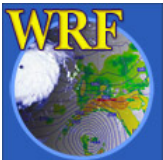
- Discussions this week with Rich Loft, Deputy Director of NCAR Scientific Computing Division
 - New or expanded MOU between NCAR and CDAC covering
 - Applied Mathematics
 - Parallel Computing
 - Computational Science
 - Purpose
 - Port and optimize existing weather and climate models on parallel supercomputers of interest to both parties
 - Further development of new algorithms, numerical methods
 - Advance development of joint atmospheric modeling systems and related software
 - Exchanges through visitor program in Computational Science
 - Demonstrate and exploit Grid Computing
 - Participate in Joint Center activities arising from this Indo-US workshop



Other Opportunities for Collaboration

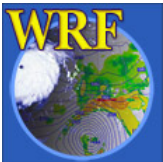
WRF Development Teams and Working Groups

	Numerics and Software (J. Klemm)	Data Assimilation (T. Schlatter)	Analysis and Validation (K. Droegemeier)	Community Involvement (W. Kuo)	Operational Implementation (G. DiMego)
Working Groups	Dynamic Model Numerics (W. Skamarock)	Standard Initialization (J. McGinley)	Analysis and Visualization (L. Wicker)	Workshops, Distribution, and Support (J. Dudhia)	Data Handling and Archive (G. DiMego)
				Model Physics (J. Brown)	
	Software Architecture, Standards, and Implementation (J. Michalakes)	3-D Var (J. Derber)	Model Testing and Verification (C. Davis)	Atmospheric Chemistry (P. Hess)	Operational Requirements (G. DiMego)
				Land Surface Models (J. Wegiel)	Operational Forecaster Training (T. Spangler)
	Advanced Techniques (D. Barker)	Ensemble Forecasting (D. Stensrud)	Regional Climate Modeling (proposed)		



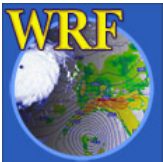
Suggested Discussion Topics

- Discussion of approach
- Outline for Workshop Report/Proposal
- Writing assignments



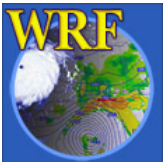
Initial Outline for Workshop Report

- Introduction
- Minutes of Workshop and Round Table Discussions
- Proposal for Joint Center



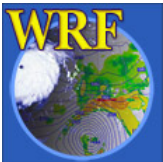
Report: Introduction

- Background, statement of problem, importance
- Refer to new MOU between DS&T and UCAR
- Other related agreements, minutes, etc.



Report: Minutes of Workshop and Round Table Discussions

- Summaries on topic areas covered (writing assignments?)
 - Tropical cyclones and other extreme weather
 - Regional Climate
 - Chemistry and Air Quality
 - Observing systems
 - Data Assimilation
 - Testing and verification in support of operational NWP
 - Training and Education
 - HPC and Computational Infrastructure



Report: Proposal for Joint Center

- Organization, governance, mission, objectives?
 - Develop and administer program(s) to support collaborative projects in topic areas
 - Support collaborations, workshops, travel
 - Provide facilities in form of computational, data, community models
 - Support for effort by project team members, students
 - Targeted initiatives by Joint Center staff itself?
- Specific program outlines (writing assignments)
 - Scientific problem
 - Current state and anticipated improvement
 - Indo-US collaborative opportunities
 - Expected progress and timetable
 - Resource requirements
 - Examples of specific proposals that might come from teams that form from this workshop?

