

WORLD CLIMATE RESEARCH PROGRAMME

**JSC-XXIX/Doc. 3.5
(29.02.2008)**

JOINT SCIENTIFIC COMMITTEE

Item 3

TWENTY-NINTH SESSION

ARCACHON, FRANCE, 31 MARCH-4 APRIL 2008

WORKING GROUP ON COUPLED MODELS

ANNUAL PROGRESS REPORT

(Submitted by John Mitchell and Jerry Meehl)

DELIVERED ADDED VALUE OF ACTIVITY / PROJECT

Overall- co-ordination of climate change modeling including setting of standards, co-ordination of experiments for model evaluation, coordination of experiments for improved understanding of models and their simulation of climate change, coordination of new mitigation scenarios with integrated assessment modeling community, co-ordination of modeling for detection and attribution studies, links to palaeoclimate, regional modeling, emissions scenarios, carbon cycle, atmospheric chemistry communities including IGBP

END USERS OF ACTIVITY / PROJECT OUTCOMES

MODELLING AND WIDER COMMUNITIES, NOTABLY IPCC
FIRM SCIENTIFIC BASE FOR MODEL COMPARISONS AND SCENARIOS FOR IPCC
COMPREHENSIVE CLIMATE MODEL OUTPUT DATABASE FOR CLIMATE SCIENCE AND IMPACT COMMUNITIES
STRUCTURED APPROACH TO REDUCING UNCERTAINTIES IN CLIMATE PREDICTIONS

MAJOR ACTIVITIES AND ACHIEVEMENTS IN 2007

RE-ORGANISED FORMAT TO ALIGN WITH WCRP ACC OBJECTIVES-
EMISSION SCENARIOS AND CO-ORDINATED EXPERIMENTS,
IMPROVING CLIMATE MODELS,
SERVING THE IMPACTS COMMUNITY
HIGH IMPACT OR EMERGING UNCERTAINTIES
LINKING WITH WCRP AND WIDER COMMUNITY

MAJOR INPUT TO IPCC AR4 – WGCM CMIP3 ARCHIVE AT PCMDI LED TO OVER 300 PAPERS, 1200 SCIENTISTS, AND STILL RISING
COORDINATED ANALYSIS OF CMIP3 MODEL OUTPUT FOR ASSESSMENT FOR IPCC AR4
SETTING UP NEXT STAGE OF CFMIP- LINKS TO GEWEX
SETTING UP DECADAL PREDICTION EXPERIMENTAL DESIGN WITH WGSIP
SETTING UP LONG TERM CLIMATE CHANGE EXPERIMENTAL DESIGN TO USE NEW MITIGATION SCENARIOS IN EARTH SYSTEM MODELS

ACTIVITIES PLANNED FOR 2008 INTO 2009

DECADAL PREDICTION COORDINATED EXPERIMENTS- INCLUDING ASSESSMENTS OF INITIALISATION TECHNIQUES, RESOLUTION (WITH WGSIP) – ALSO POSSIBLE MODEL ANALYSIS WORKSHOP
NEW PHASE OF CLOUD FORCING INTERCOMPARISON EXPTS (LINKS TO GCSS)
LONG TERM CLIMATE CHANGE COORDINATED EXPERIMENTS—INCLUDING ASSESSMENTS OF CARBON CYCLE FEEDBACKS AND MITIGATION SCENARIOS (EXPERIMENTS COULD BE ASSESSED IN A POSSIBLE IPCC AR5)
ENGAGING THE ICE SHEET MODELLING COMMUNITY IN CLIMATE CHANGE AND SEA LEVEL ISSUES

DEVELOPING METRICS FOR CLIMATE MODELS**UPDATE RECOMMENDATIONS FOR REGIONAL MODELLING, DEVELOP WGCM WEBPAGE**

Further links with SPARC – re atmospheric chemistry and climate, particularly with regards to decadal prediction coordinated experiments

INTERACTIONS (ESPECIALLY WITH WCRP'S SPONSORS & PARTNERS)**LINKS WITH WCRP PROGRAMS, ESPECIALLY WGSIP ON DECADAL PREDICTION****WITH GEWEX GCSS- CLOUD FEEDBACKS****WITH SPARC - ATMOSPHERIC CHEMISTRY****WITH IGBP – CARBON CYCLE MODELLING AND C4MIP****WITH IPCC RE BASELINE EMISSION SCENARIOS, EARTH SYSTEM MODEL RUNS (ALSO WITH IGBP)****CHALLENGES AND CONSTRAINTS****COMPUTING****REPORTING TO CLIVAR AND JSC**

**CONTINUING LACK OF VISIBILITY OF ACC IN WCRP – WE PUSH PROGRAMS NOT SCIENCE AREAS
MODELLING REGIONAL CLIMATE CHANGE- INCLUDING USE OF REGIONAL MODELS, DOWNSCALING
MAINTAINING OLD CMIP ARCHIVES**

REDUCING UNCERTAINTY- ENGAGING THE GEWEX COMMUNITY**ICE SHEET MODELLING AND SEA-LEVEL, ENGAGING A SPECIALIST COMMUNITY (CLIC HELPING)****PUBLICATIONS AND OTHER PRODUCTS****WGCM CMIP3 DATABASE OF IPCC RUNS AT PCMDI****CFMIP DATABASE AT PCMDI, RELATED PUBLICATIONS**

WHITE PAPER ON PLANS FOR NEXT ROUND OF COORDINATED EXPERIMENTS (Meehl, G.A., and K.A. Hibbard, 2007: A strategy for climate change stabilization experiments with AOGCMs and ESMs. WCRP Informal Report No. 3/2007, ICPO Publication No. 112, IGBP Report No. 57, World Climate Research Programme: Geneva, 35 pp.)

EOS PAPER SUMMARIZING COORDINATED EXPERIMENTS (Hibbard, K.A., G.A. Meehl, P. Cox, and P. Friedlingstein, 2007: A strategy for climate change stabilization experiments. *EOS*, **88**, 217, 219, 221.)

OUTREACH AND CAPACITY BUILDING ACTIVITIES

**LINKS TO IGBP- PLANNED JOINT MEETING THIS YEAR SUBJECT TO AGREEING COMMON DATE
WORKING WITH IPCC WG2 AND WG3 COMMUNITIES ON MITIGATION SCENARIOS FOR FUTURE
CLIMATE CHANGE EXPERIMENTS**

**LINKS TO INTEGRATED ASSESSMENT MODELING COMMUNITY VIA THE SCENARIOS CONSORTIUM
LINKS TO THE IAV COMMUNITY FOR GREATER INPUT TO THE PLANNING OF COORDINATED
CLIMATE CHANGE EXPERIMENTS**

SCIENTIFIC STEERING COMMITTEE (SSC)**MEMBERSHIP CHANGES FOR CONSIDERATION****IPO, PROGRAM ADMINISTRATION AND MANAGEMENT**

**LACK OF SUPPORT FOR MEETINGS AND FOLLOW UP IS BEGINNING TO TELL ON THE
EFFECTIVENESS OF THE GROUP**

ADDITIONAL COMMENTS FOR THE JSC

Date

15 February 2008

Compiled by:

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