



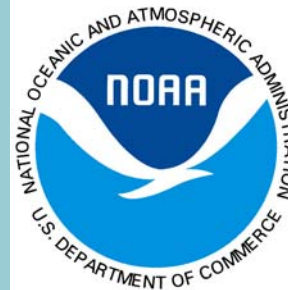
Koninklijk Nederlands
Meteorologisch Instituut
Ministerie van Verkeer en Waterstaat

WELCOME



WCRP

World Climate Research Programme





Koninklijk Nederlands
Meteorologisch Instituut
Ministerie van Verkeer en Waterstaat

Royal Netherlands Meteorological Institute

- Operational Weather Forecasts and Research
- Climate Research and Seismology
- Infrastructure & Observations

~450 employees

Agency of Ministry for
Transport Public Works and
Water Management (V&W)

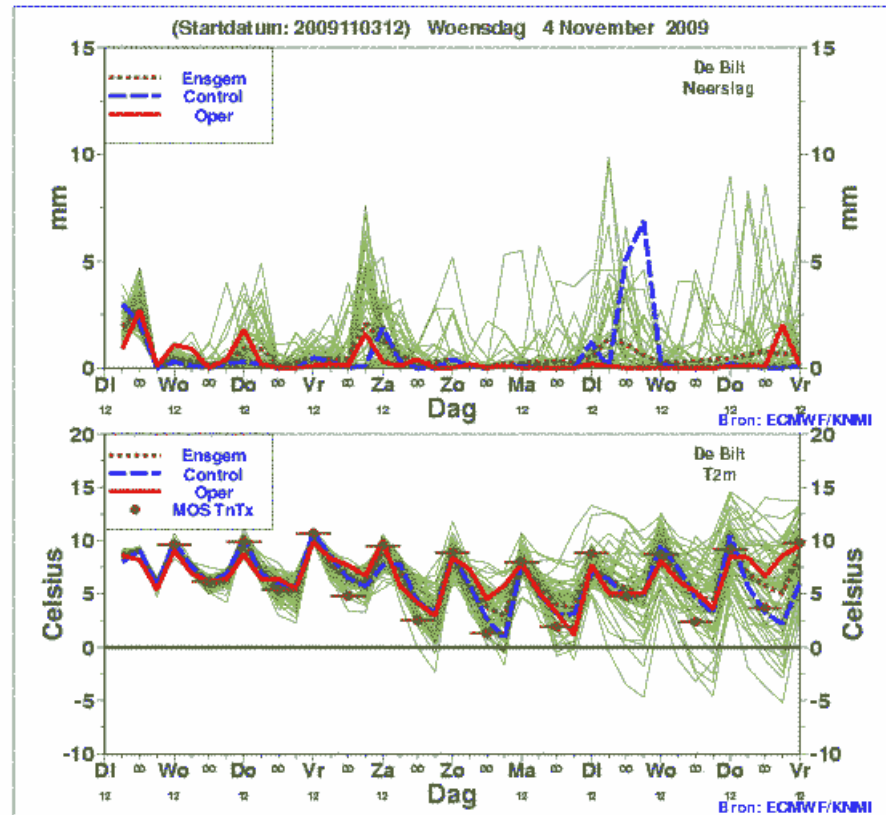


Since 1854 founded
by Buys Ballot



'Decadale' prediction.

Skill from initializing a numeric weather prediction model

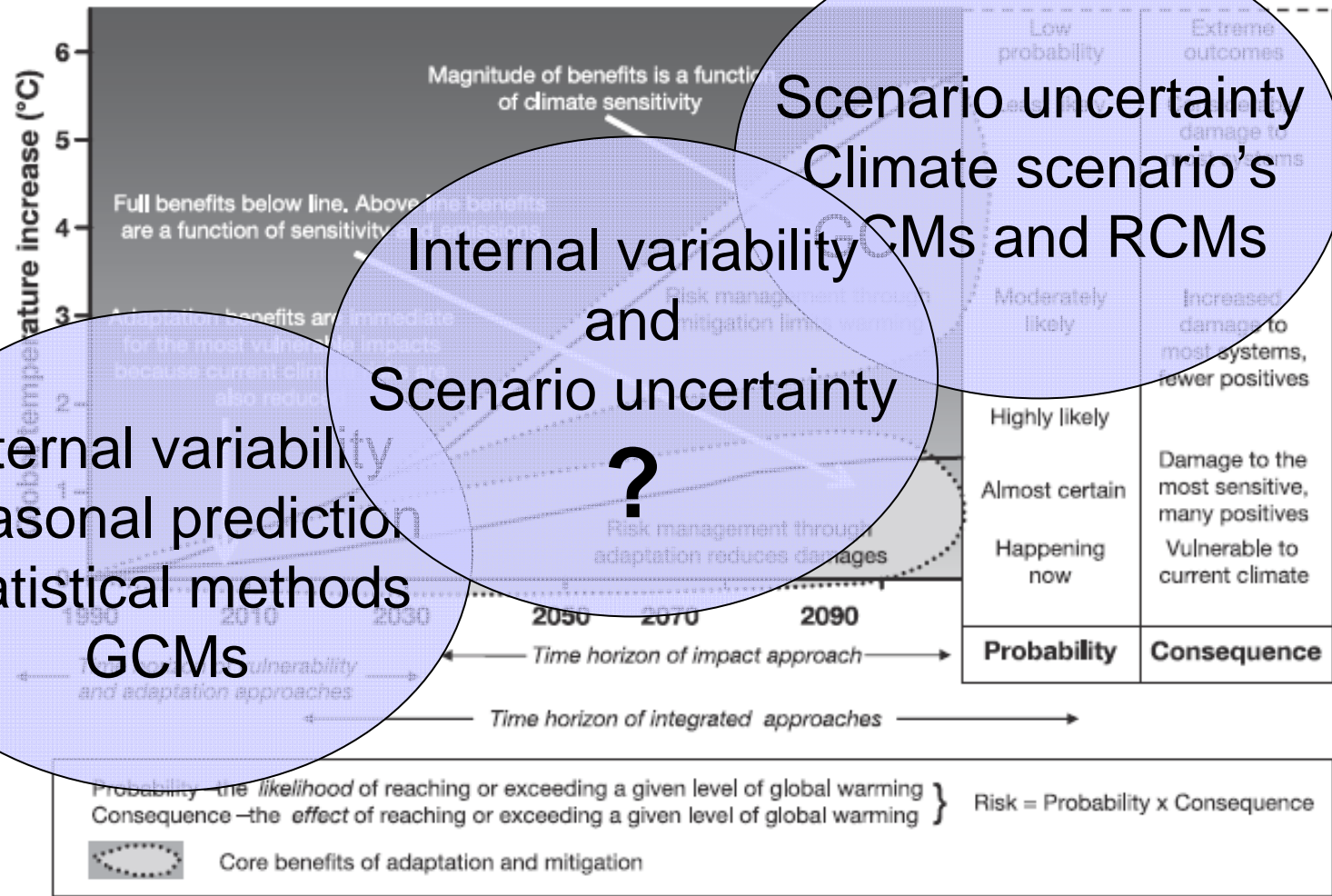




Scope & goals

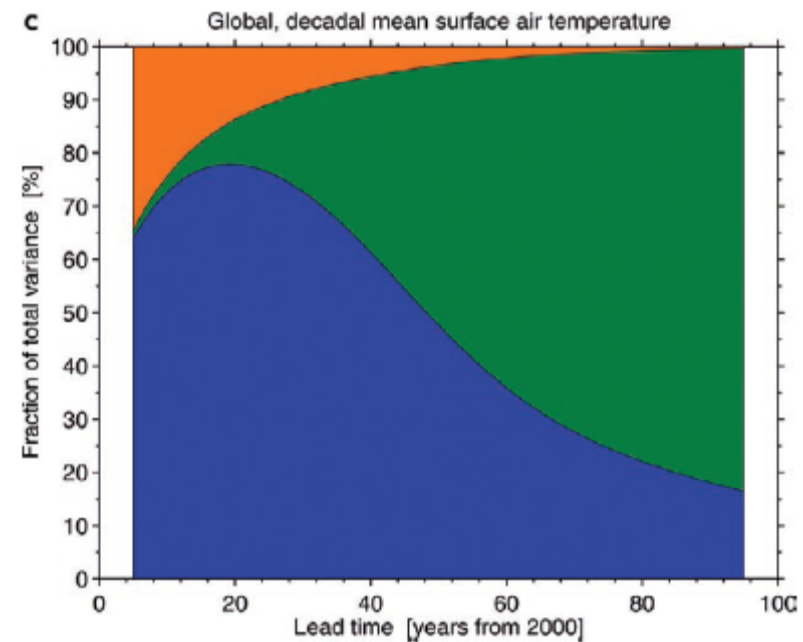
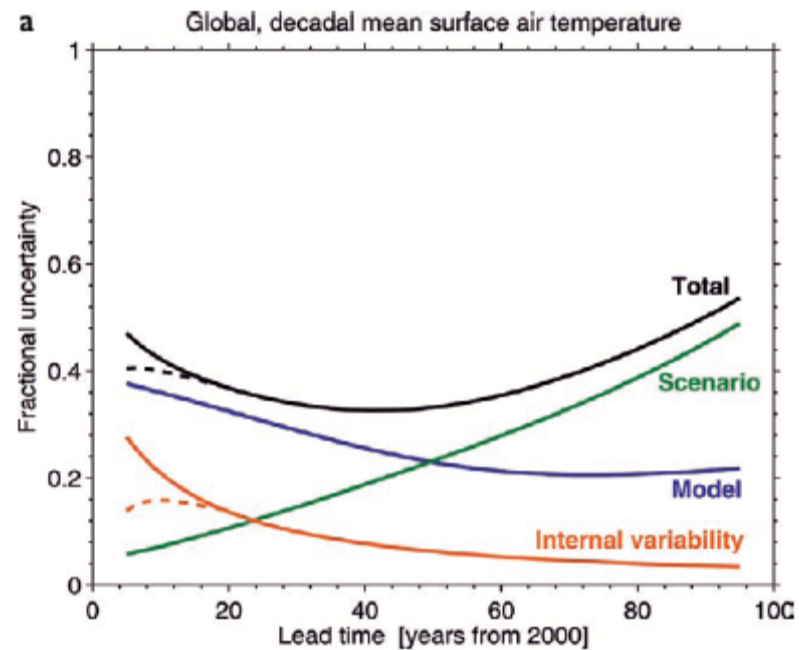
Exchange best practices and provide future directions for earth-system initialization for decadal predictions

- To make an inventory of initialization and perturbation techniques in earth system models; compare and contrast, where possible, forecast made with these different initialization strategies.
- To discuss the effectiveness of initialization and perturbation techniques.
- To review the observing system and available data for initialization: ocean, soil moisture, ice, snow, atmospheric composition.





Initial condition – boundary condition uncertainty

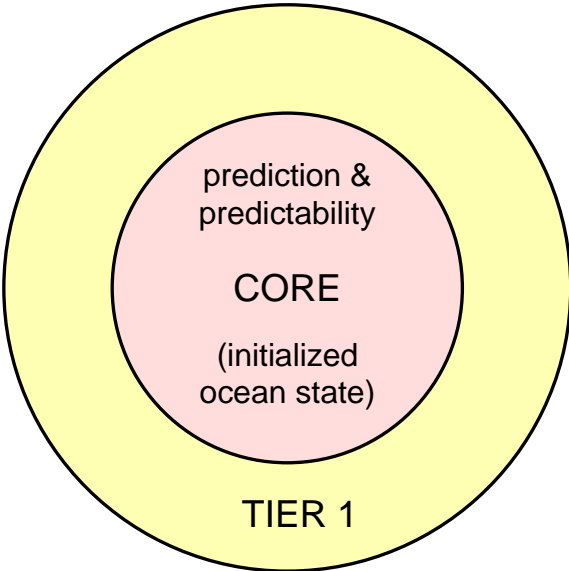


Hawkins and Sutton, BAMS 2009

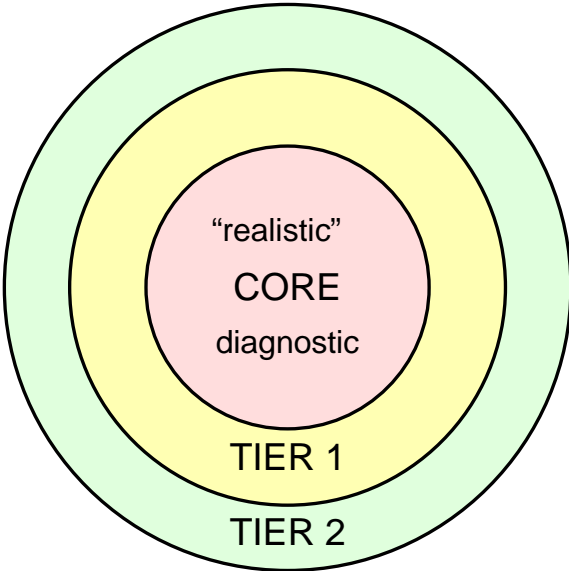


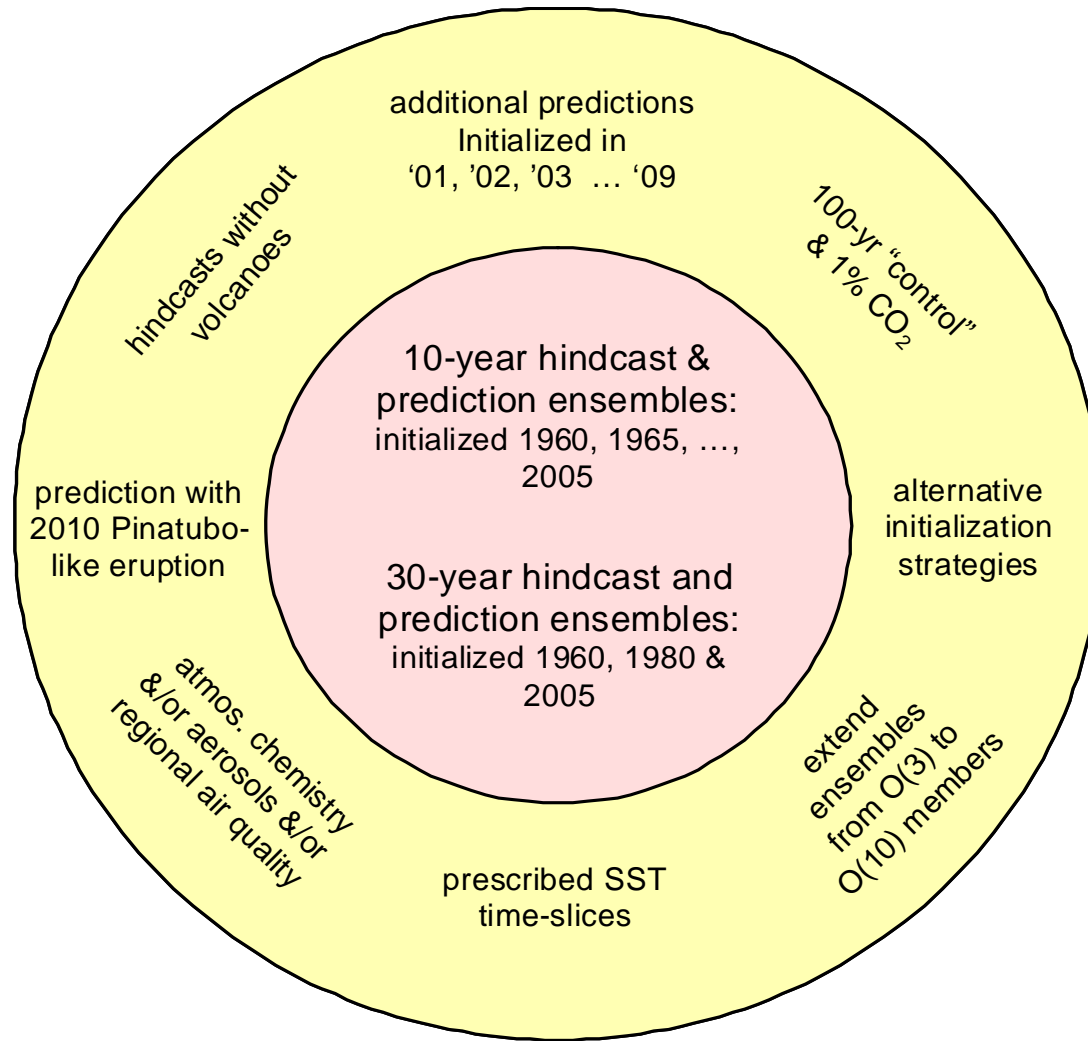
Coupled model intercomparison project 5 & IPCC

“Near-Term”
(decadal)



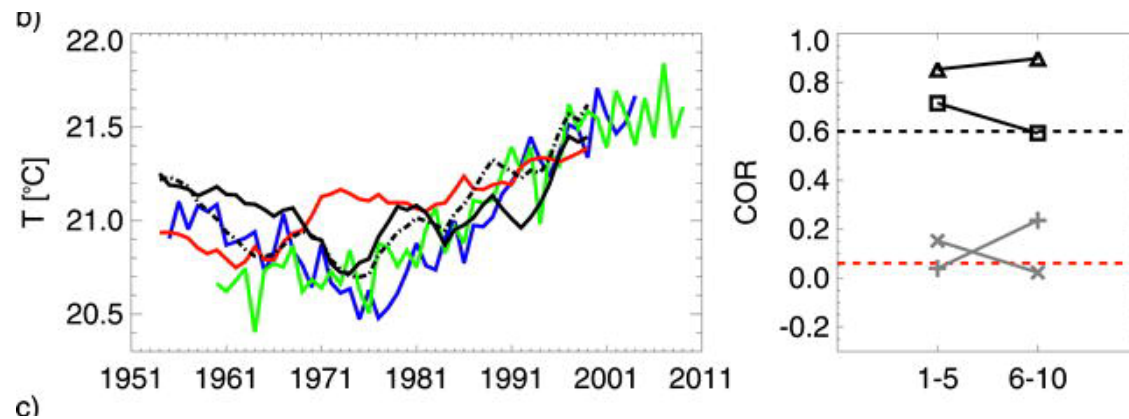
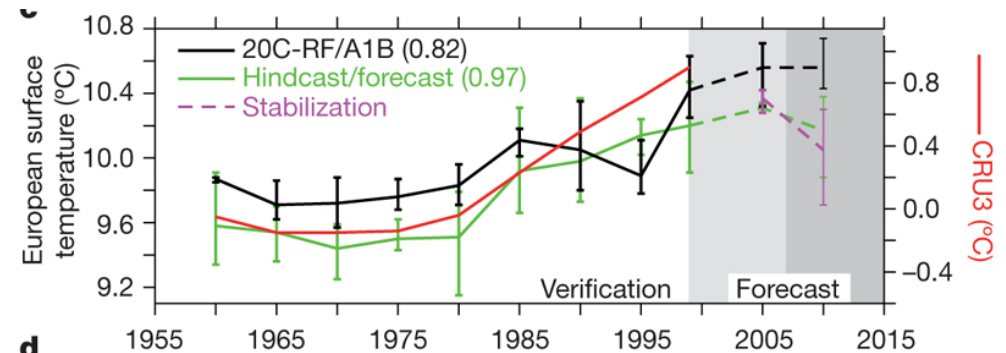
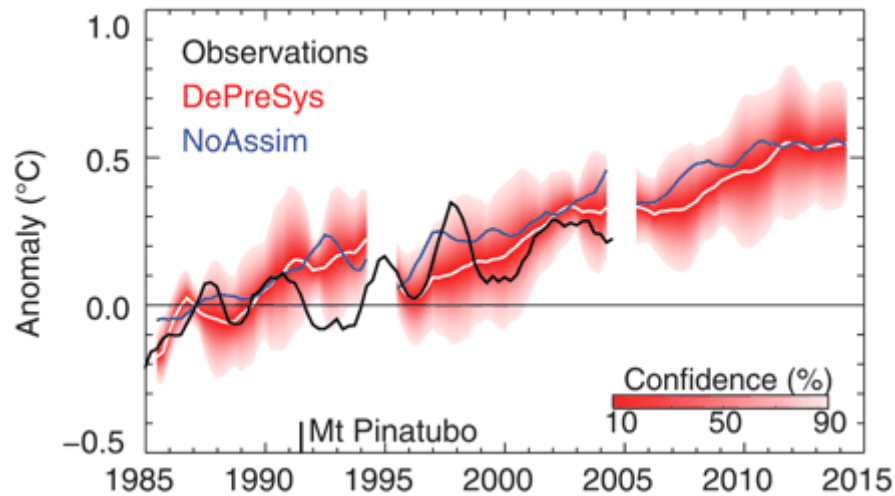
“Long-Term”
(century & longer)







Published decadal predictions, e.g.:

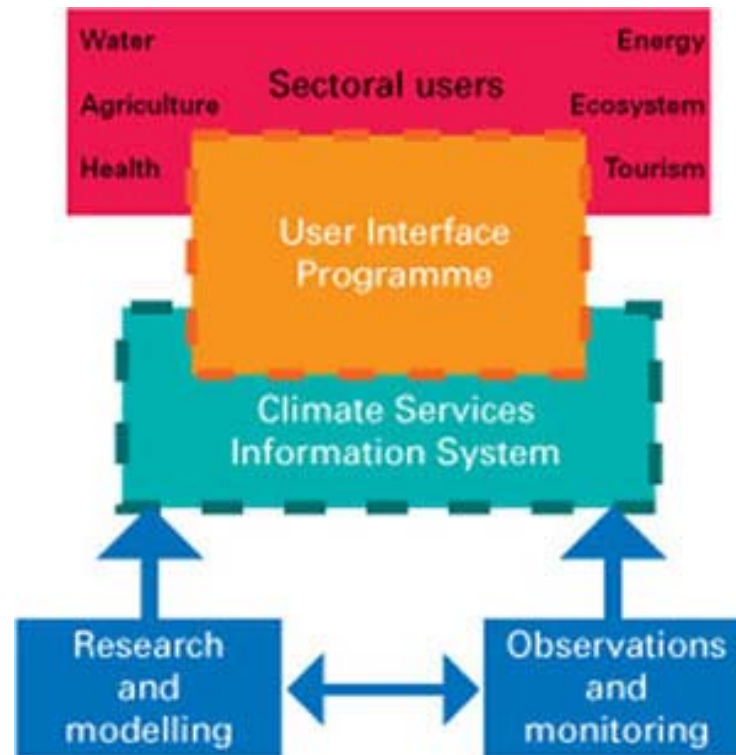


Smith et al 2007
Keenlyside et al 2008
Pohlmann et al 2009



WCC-3: Global Framework on Climate Services

Provide sectoral users ranges of future changes, preferably to be used for risk-management strategies





Program

Introduction

09:30-10:00 Registration, *Coffee/Tea*

10:00-10:15 Welcome and logistics

10:15-10:30 Goals and scope of the workshop

General aspects of decadal predictions

10:30-11:15 Overview of decadal potential Predictability (G. Boer, CCCma)

11:30-12:15 Overview of decadal predictions (D. Smith, UKMO)

12:30-13:30 *Lunch*

The observing system for decadal predictions

13:30-14:00 The ocean (E. Harrison, NOAA)

14:00-14:30 Cryosphere (L.-A. Breivik, NMI)

14:30-15:00 *Coffee/Tea*

15:00-15:30 Atmospheric composition & aerosols (D. Smith, UKMO)

15:30-16:00 Overview of re-analyses (A. Köhl, Univ Hamburg)

16:00-16:30 Critical assessment of producing analyses (M. Balmaseda, ECMWF)

16:30-18:00 Poster session and drinks



Program

Forecast strategy for decadal prediction systems

9:30-10:15 Fundamentals of initialisation of non-linear systems (L. Smith, LSE)

10:15-11:00 Overview initialisation techniques (N. Keenlyside, IFM-GEOMAR)

11:00-11:30 *Coffee/Tea*

11:30-12:15 Overview perturbation techniques (B. Kirtman, RSMAS)

12:15-13:30 *Lunch*

13:30-15:00 Showcases

Decadal hindcast and prediction experiments with a coupled atmosphere-ocean GCM, MIROC (M. Ishii, JAMSTEC)

Preliminary tests at IPSL (J. Mignot & E. Guilyardi, IPSL/LOCEAN)

Estimation of optimal perturbations for decadal climate predictions (E. Hawkins, Univ Reading)

Windows of opportunity

15:00-15:30 Memory in the ocean (H. Drange, Univ. Bergen)

15:40-16:00 Large climate events in the 20th century (G.J. van Oldenborgh, KNMI)

16:00-17:30 Discussion break out groups

17:30-18:00 Short report chairs on progress in plenary

Dinner in Utrecht (19:30 Abrikoos)



Program

Friday 6 November 2009

9:00-10:30 Continue discussions, directed at new, challenging, innovative aspects

10:30-11:00 *Coffee/Tea*

11:00-12:00 Plenary discussion new research directions initialisation

12:00-13:00 Plenary discussion new research directions perturbation

13:00-14:00 *Lunch*

14:00-15:00 Plenary discussion new research directions verification

15:00-15:30 Concluding remarks

15:30-17:00 *Adjourn and drinks*



Logistics

Talks: Buys Ballotzaal

Discussion sessions: meeting rooms

Lunches/drinks: Hallway + meeting rooms

Posters: Hallway

WIFI: see workshop-bag/reception

Taxi's: ask reception

Busses to Utrecht, see workshop-bag

Or....rent a bike!

Thursday night: dinner at "Abrikoos" in Utrecht at Oude Gracht (main canal, go down the stairs see workshop-bag). 19:30h.





Talks, posters:

Lots of good work is done

Variety of methods discussed (Noel: 19)

Pragmatic choices to make ;-(

But...

There is potential predictability

Skill has been shown

There are 'windows of opportunity'

And...

Big interest → funding → man power ☺



Outcome: a WCRP – CLIVAR report on Earth System Initialization.

- Comparability: systematic experimental setups, data sharing, verification,..
- Key challenges, research questions
- Expectation management

Work with CLIVAR groups: GSOP, WGSIP, WGCM, WGOMD, basin panels; set up directions, protocols (through CMIP#)



Guidelines for discussion

3 Themes in 3 groups: Initialisation, Perturbation, Verification (but not exclusively)

Inventory – Options, minimal best practices

Innovation – Challenges, creativity

Guidelines (experimental setups, observing system, organisation, verification methodology... etc etc.)