Joint GEWEX/CLIVAR Monsoon Panel

CLIVAR had 3 monsoons panels (Asia-Australia, Africa, and Americas)

3 years ago combined into one Monsoon Panel (MP), made joint with GEWEX to consolidate disparate monsoon efforts across WCRP

The regional panels have been reborn as Working Groups under the new MP

Paul Dirmeyer (George Mason Univ.) liaison with GLASS

Monsoon Panel: Three Regional MP Working Groups

Asia-Australia WG

Co-Chairs:

H Annamalai – (IPRC, Hawaii, USA)

Aurel Moise – (BMRC, Australia)

Members:

Andrew Marshal – (BMRC, Australia)

Gill Martin – (Hadley Center, UK)

Bill Boos – (Yale University, USA)

Partha Mukopadhyay – (IITM-Pune, India)

Suryachandra Rao – (IITM-Pune, India)

Randy Wu – (IAP, China)

G Srinivasan – (RIMES, Thailand)

Koh Tieh Young – (SNU, Singapore)

Yi Ming – (GFDL/NOAA, USA)

Brian Mapes (RSMAS-Miami, USA)

Africa WG

Co-Chairs:

Serge Janicot – (IRD/France & AMMA)

Alessandra Giannini – (IRI/USA)

François Mkankam Kamga – (U Montagnes/Cameroon & CR4D)

Members:

Françoise Guichard – (CNRM & Meteo-France)

Cathryn Birch – (U. Leeds /UK & FCFA)

Benjamin Lamptey – (ACMAD & CR4D)

Fredrick Semazzi – (USA & HyVic)

Mouhamadou Bamba Sylla – (WASCAL & CORDEX)

Pauline Dibi Kangah – (UFHB/Ivory Coast)

Claudine Wenhaji-Ndomeni - (CNR-ISAC/Italy)

*1 TBD

Americas WG

Co-Chairs:

Alice Grimm – (Fed U. Paraná, Brazil)

Iracema Cavalcanti – (CPTEC/INPE, Brazil)

Members:

Francina Dominguez – (U. Illinois, USA)

Manoel A. Gan – (CPTEC/INPE, Brazil)

Marcelo Barreiro – (U. Republica, Uruguay)

Pedro da Silva Dias – (U. São Paulo, Brazil)

Rong Fu – (U. Texas, USA)

Tereza Cavazos – (CICESE, México)

*2 TBD

Monsoon Panel: Key Issues Identified by Each WG

Asia-Australia

Designing process-based metrics for the A-A monsoon and making these available to the wider community (Toolkit)

Renewed effort to bring SE Asia & Sri Lanka *winter* monsoon to fore

Assessing predictive skill in current forecast models (**S2S**)

Direct engagement with local stakeholders (start: user-needs survey)

Africa

Develop process based and user metrics for CMIP5/6

Variability, predictability, forecast skill at intraseasonal (**exploit S2S**)

D&A work; climate services

Americas

Exploiting S2S for the South American monsoon (MJO impacts; onset/demise/ active/break prediction)

Development for process diagnostic of SAMS intraseasonal variability; challenging models

Provide demonstration forecast products

Monsoon Panel Project office

http://www.clivar.org/organization/icpo

CLIVAR has a split project office – most functions are at the Qingdao, China location where the Exec. Director Valery Detemmerman (outgoing) and Dep. Exec. Director Nico Caltabiano sit.

There is also the Int'l CLIVAR Monsoon Project Office (ICMPO) in Pune, India, Rokkam Rao Director.

A long twisted political story why this is so.

The Monsoon Panel is served by the Pune office.

Ongoing issues with ICMPO's functionality – need to be addressed. Personnel not trained/qualified to carry out PO functions.

Monsoon Leadership / Future

MP Co-Chair appointments for Dirmeyer and Turner officially end December 2016.

Turner willing to stay an additional year, Dirmeyer rotating off.

Françoise Guichard nominated to replace Dirmeyer as co-chair.

Francina Dominguez also nominated for MP membership.

Opening on MP for one additional GEWEX member.

Next panel meeting IUGG Cape Town September 2017.

Specific interest from MP and CLIVAR to have GLASS and GASS representation at that panel meeting, explore collaborations.

Subseasonal-to-Seasonal (S2S)

International S2S Prediction Project: http://s2sprediction.net/

- Operational forecast centers (11) participate, provide ensemble historical re-forecasts and near-real-time forecasts.
- Each center follows its own operational protocols, output data are supposed to meet S2S standards (mandatory variables, units, etc.)
- Data re-distributed by ECMWF (primary) and CMA (secondary); IRI (limited subset); primarily daily means, multiple ensemble members, out to 30-60 days; forecasts initialized 1-7 times per week.
- This is all in the classical GLACE "wheelhouse" of timescales where land-atmosphere coupling is believed to be strongest, potentially a tremendous treasure trove for GLASS research.
- Project entering 4th year of 5-year lifetime, contemplating renewal for an additional 5 years. This is a time to recommend changes to make forecasts/hindcasts/data sets more useful and relevant to the GEWEX community.

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GLASS-y Issues with S2S

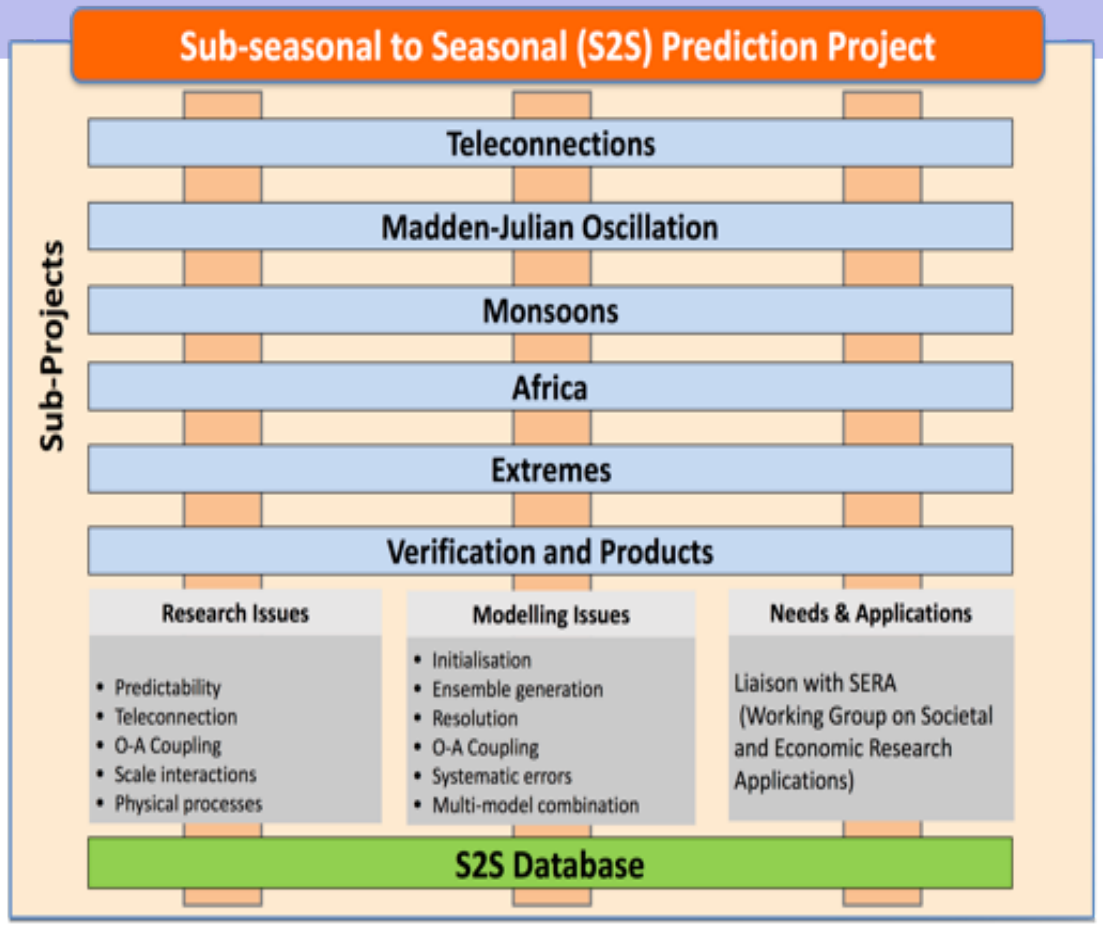
- Only 5 of 10 active S2S models are reporting soil moisture.
  - ECMWF, CMA, HMCR and NCEP report 20cm and 1m, BoM only 20cm
  - ECCC did not know to interpolate, will begin reporting in 2017.
  - UKMO, Météo-France say they will begin reporting after land model upgrades in 2017.
  - Met Office lacking a lot of surface variables.
- Only 1 model reporting surface fluxes! (they were *optional* variables)
- S2S model documentation acking information on land surface model characteristics and initialization.
  - GLASS drafted a questionnaire on recommendation of F. Vitart that was circulated to modeling centers.
  - As of mid-December 2016, 9 of 11 centers have responded (no NCEP or HMCR yet) and that information has been incorporated into the models' documentation on the S2S Project web site: https://software.ecmwf.int/wiki/display/S2S/Models

S2S Subprojects

All subprojects represent specific scientific applications of S2S data.

Open to additional membership by interested parties http://s2sprediction.net/static/subproject

Monsoons, Africa, Extremes, Verification especially GEWEX-relevant



Each has leadership / membership, a science plan and a Wiki page at s2sprediction.net

S2S: North American Subseasonal Experiment (**SubX**)

New US effort supported by NOAA/CPO called “SubX” is also a sub-seasonal forecast/hindcast experiment http://cola.gmu.edu/subx/. Differs from S2S in the following ways:

- ➢ Evolved from seasonal prediction predecessor: NMME (North American Multi-Model Ensemble) – focus remains on multi–model ensemble techniques
- ➢ Only North American models involved, includes research models (NCEP/CFSv2, NCEP/GEFS, NASA/GMAO, NCAR-CCSM4, ECCC, USNavy)
- ➢ All models synchronize IC dates, output data grid, land/sea mask, period of hindcasts
- ➢ No time embargo on real-time forecasts

More GEWEX-relevant output variables than S2S – another resource for GLASS studies. Hindcasts should be completed by end of 2017.

NOAA S2S Prediction Research

NOAA Climate Project Office sponsored grants 2016-2019

- 14 proposals have been funded in response to an announcement of opportunity focused on S2S prediction research.
- The science complement to SubX; most projects are focused on using both SubX and S2S data
- CPO customarily herds PIs into Task Forces to foster collaboration – Dirmeyer co-lead.
- Kickoff meeting of the NOAA **S2S Prediction Task Force** was in early December at IRI/LDEO in conjunction with a workshop on S2S predictability of extremes http://iri.columbia.edu/s2s-extremes-workshop-2016/ and the Int'l S2S SG meeting.
- Task Force information: http://cpo.noaa.gov/ClimatePrograms/ModelingAnalysisPredictionsandProjections/MAPPTaskForces/S2SPredictionTaskForce.aspx.