NMME Sub-seasonal Forecast System Exploratory Workshop
AGENDA
MARCH 30-31, 2015

NCWCP Conference Center
5830 University Research Court, College Park, Maryland

Monday, March 30

8:00-8:15 Coffee/refreshments
8:15-8:30 Welcome & Workshop Scope (Jin Huang and Annarita Mariotti)

Session 1: Overview & Motivation
8:30-9:00 Overview of Challenges in Subseasonal Prediction (Frederic Vitart)
9:00-9:20 Overview of NMME Project and Subseasonal Experiment (Ben Kirtman and Kathy Pegion)
9:20-9:40 Bridging the Gap Between Forecast and Action (John Dutton)

Session 2: Sources and limits of subseasonal predictability
(Chair: TBD, Rapporteur: TBD)

09:40-09:55 Land-Atmosphere Interactions (Randy Koster)
09:55-10:10 Ocean-Atmosphere Interactions (Eric Chassignet)
10:10-10:25 Predictability of Tropical Subseasonal Variability (Duane Waliser – remotely)

10:25-10:45 Coffee Break

10:45-11:00 NAO prediction and the stratosphere (Adam Scaife - remotely)
11:00-11:15 MJO-NAO connection and its impact on subseasonal prediction (Hai Lin)
11:15-11:30 Linking stratospheric predictability to prediction (Ming Cai)
11:30-11:45 Blocking (Stan Benjamin)
11:45-12:00 Extremes (Scott Weaver)

12:00-1:00 Lunch

Session 3: Existing Modeling Systems (experimental or operational) sub-seasonal prediction skills (Chair: TBD; Rapporteur: TBD)

- Each presentation should include:
  - prediction system components
  - system design (e.g., initialization, reforecast frequency, ensemble size) including requirements and computational aspects
  - current or planned prediction products including skill assessment
  - requirements for future development
  - readiness of hindcasts for research

1:00-1:15 NCEP (Hendrik Tolman)
1:15-1:30 ECMWF (Frederic Vitart)
1:30-1:45 UK Met Office (Anca Brookshaw)
1:45-2:00 Environment Canada (Bertrand Denis)
2:00-2:15 Navy (Tim Whitcomb)
2:15-2:30 NCAR (Ben Kirtman)
2:30-2:45 NASA (Siegfried Schubert)
2:45-3:00 ESRL (Shan Sun)
3:00-3:15 GFDL (Gabe Vecchi)
3:15-3:30 APCC (Haejeong Kim)

3:30-3:45 Coffee Break

Session 4: Breakout Session: Bridging the gap between predictability and current skill (split into two groups designed to be random except for Chair and Rapporteur chosen to lead discussion)

3:45-5:00 Group 1 (Chair: Jim Kinter; Rapporteur: TBD)
3:45-5:00 Group 2 (Chair: Ben Kirtman; Rapporteur: TBD)

Focus Questions

- What are the most important scientific questions that need to be answered to bridge the gap between current and potential skill for subseasonal timescales?
- Without resource limits, how would you approach answering those questions?
- How would a multi-model ensemble re-forecast contribute to answering those questions?
- Within resource limits, what system improvements (e.g. horizontal resolution, stratospheric vertical resolution, ensemble size, initialization) are most likely to cost-effectively improve sub-seasonal skill?

Tuesday, March 31

8:00-8:30 Coffee/refreshments
8:30-9:00 Breakout Session Report Back

Session 5: Needs, requirements, feasibility for deployment of a subseasonal NMME prediction system (Chair: TBD; Rapporteur: TBD)

9:00-9:20 Feasibility and requirements from NCEP/CPC forecast perspectives (Jon Gottschalck)
9:20-9:40 Air Force needs/requirements for subseasonal Products (Mike Gremillion)
9:40-10:00 Overview of Research Community Needs (Andrew Robertson)
10:00-10:20 Lessons and plans on WMO infrastructure for sub-seasonal to seasonal predictions. (Arun Kumar)

10:20-10:30 Coffee Break

Session 6: Breakout Session: Needs and requirements for a subseasonal NMME prediction system (participants self select into community/group they most identify with)

10:30-Noon Group 1: Feasibility, technical and engineering requirements (Discussion Lead: Jon Gottschalck; Rapporteur: Kathy Pegion)

10:30-Noon Group 2: Research Community Needs & Requirements (Discussion Lead: Siegfried Schubert; Rapporteur: Emily Becker)

Focus Questions:

- What are the needs for a subseasonal NMME prediction system to be useful to your community (both re-forecast and real-time components)?
- What are the data needs (e.g. format, frequency, flow, access, variables, etc.)?
- What needs are critical vs. negotiable?
- What is your ideal system given no limitations on resources?
- How would you use the system you envision?
- What are the key benchmarks you consider necessary to demonstrate success of such a system?
- What are the feasibilities of deploying a NMME subseasonal forecast system including technical, data, and engineering aspects?

Noon-1:30 Lunch

1:30-2:00 Breakout Report Back

Session 7: Design of a potential re-forecast experiment that would test the feasibility and skill improvement of an NMME-type sub-seasonal system and set of products compared to other approaches (Lead by Organizing Committee)

2:00-3:00 Synthesis & Discussion

- Will present and discuss a proposed subseasonal re-forecast experiment with emphasis on how this will meet operational (e.g. CPC) and research (e.g. S2S + others) needs defined in breakout sessions.
- Will present and discuss how this experiment can be used to address scientific opportunities (e.g. those discussed in day 1 breakouts).
- Data issues

3:00 Meeting Adjourns

Closed Meeting

3:00-5:00 Organizing Committee Meeting and representatives from operational centers and S2S community.