IPET-OPSLS & Potential Research Requirements to Advance Operational Infrastructure

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IPET-OPSLS

ET-OPSLS

- A joint CCl & CBS Inter-Programme Expert Team on Operational Predictions from Sub-seasonal to Longer-time Scales (IPET-OPSLS)
- Terms of reference include
  - Co-ordination of operational LRF activities (seasonal predictions)
  - Evaluating applications for Global Producing Centers (GPC) for Long-Range Forecast (LRF) and for Annual to Decadal Climate Prediction (ADCP)
  - Collaborate with WCRP in operational needs and transition of research to operations
  - Maintain updated the relevant sections of the WMO Manual on Global Data-Processing and Forecast System (GDPFS)

WMO infrastructure for long-range predictions

- Seasonal
  - 13 GPCs for Long-range Forecasts
  - Lead Centers (LCs)
    - Long-Range Forecasts Multi-Model Ensembles (LC-LRFMMF)
    - Standardized Verification System for Long-Range Forecasts (SVSLRF)
- Annual to Decadal
  - Lead Center for Annual to Decadal Climate Predictions (LC – ADCP)
  - Applications for GPCs for ADCP will be forthcoming

Potential research needs to advance operational infrastructure

- The focus in on operational needs related to
  - Configuration of S2S (sub-seasonal to seasonal) forecast systems
  - Development of forecast products
  - Verification

Configurations of S2S forecast systems

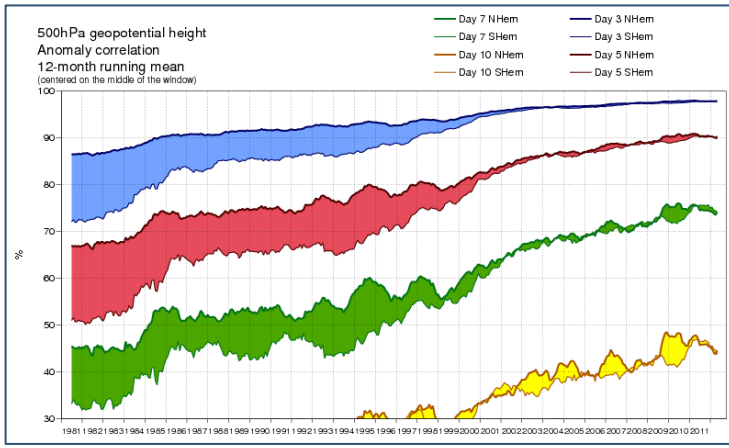
- Lagged vs. burst
- Relative importance of various observations
- Ensemble generation techniques
- Relative importance of various design choices
- Requirements on consistency between hindcast & forecasts
- Approaches for reducing initial shocks

Development of forecast products

- Guidance on optimal lagged ensemble
- Guidance on objective procedures for consolidating forecast information from various models: Strategies for multi-model ensembles (equal vs. skill weighted):
- Products beyond terciles
- Does forecast spread provide useful information?
- Estimating forecast probabilities from ensemble
- Feasibility of products based on higher frequency data

Verification

- Quantifying improvements in skill with advances in forecast systems



- Conditional skill?

- Is there something unique about S2S skill verification? Defining standards for S2S verification

- Everything may be important, but because of limited resources, we have to make choices and prioritize

- Will be useful to get guidance/perspective on some of the research needs or develop a research agenda