WGSIP INTERACTION WITH THE WMO REGIONAL CLIMATE OUTLOOK FORA (RCOF)

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INTEGRATED DEVELOPMENT SOLUTIONS

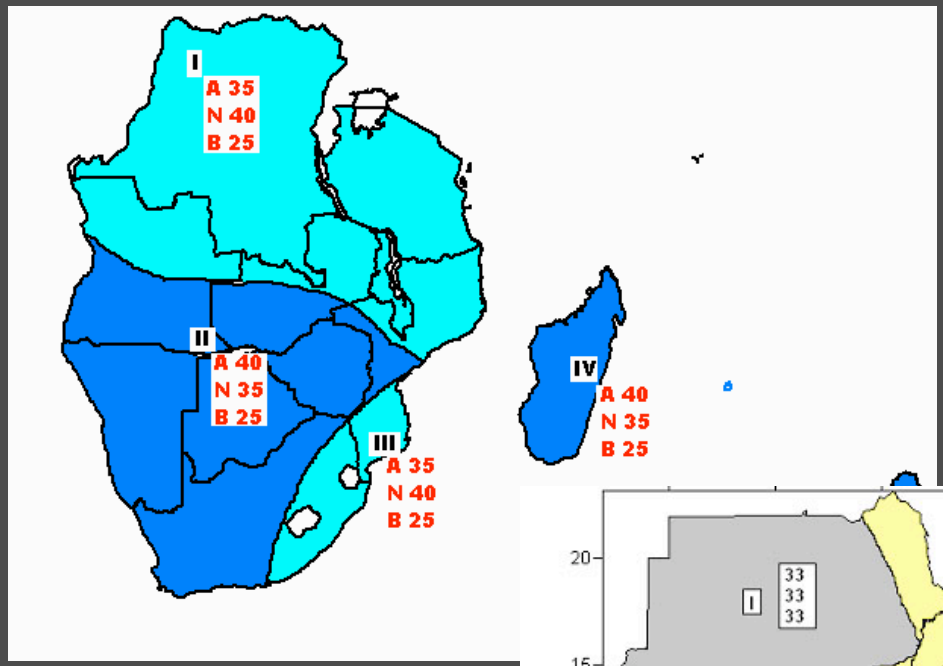
The RCOF concept

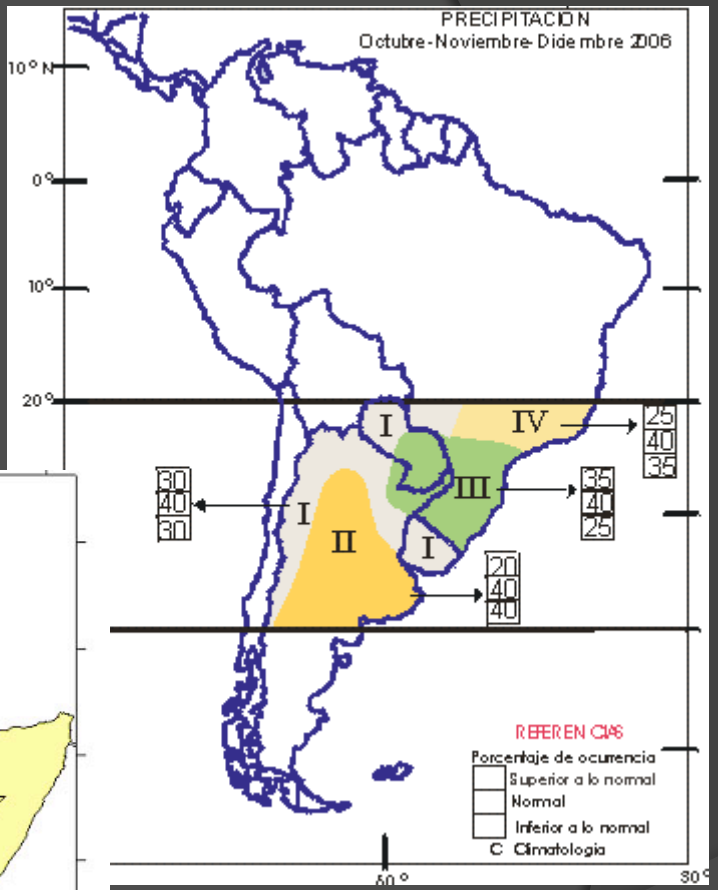
- Towards the end of 1997 two important climate-related events occurred
  - The record-breaking El Niño episode
  - The holding of the first series of Regional Climate Outlook Forums (RCOFs) in southern Africa
- Awareness of the likelihood of an El Niño grew throughout 1997
  - Forums in other regions of the world was accelerated to provide assistance during the period of the event
- The Forum process promoted the recognition in many parts of the world that short-range climate predictions could be of substantial benefit in adapting to and mitigating climate variations
- An important aspect of the Forums is the facility to bring together experts in various fields, local meteorologists and end-users of forecasts in an environment that encourages interaction and learning
  - Capacity building is one of the key tasks

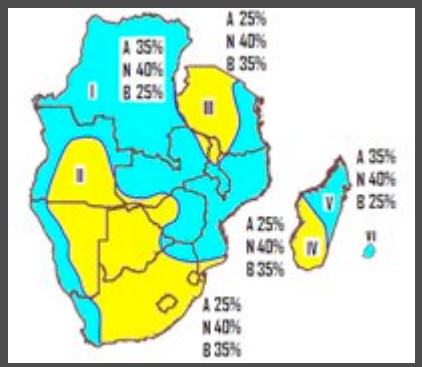
Regional Climate Outlook Forums

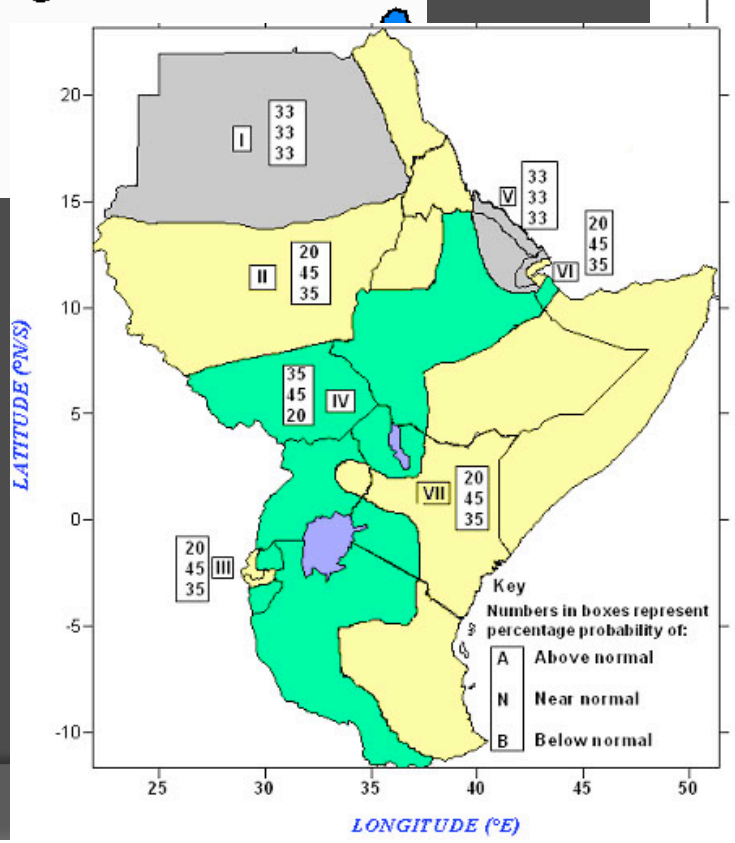
- Southern African Regional Climate Outlook Forum (SARCOF)
- Greater Horn of Africa Climate Outlook Forum (GHACOF)
- Climate Outlook Forum for West Africa (PRESAO : PRÉvisions Saisonnières en Afrique de l'Ouest)
- FOCRAII : Forum on Regional Climate Monitoring, Assessment and Prediction for Regional Association II (Asia)
- Western Coast of South America Climate Outlook Forum (WCSACOF)
- Southeast of South America Climate Outlook Forum (SSACOF)
- The Pacific Islands: The Island Climate Update
- Pacific Islands online Climate Outlook Forum (PICOF)
- Climate Outlook Forum for Central America
- Southeastern Europe Climate Outlook Forum (SEECOF)
- South Asian Climate Outlook Forum (SASCOF)
- Climate Outlook for Cricket in the Caribbean: The Outfield

Typical RCOF forecasts





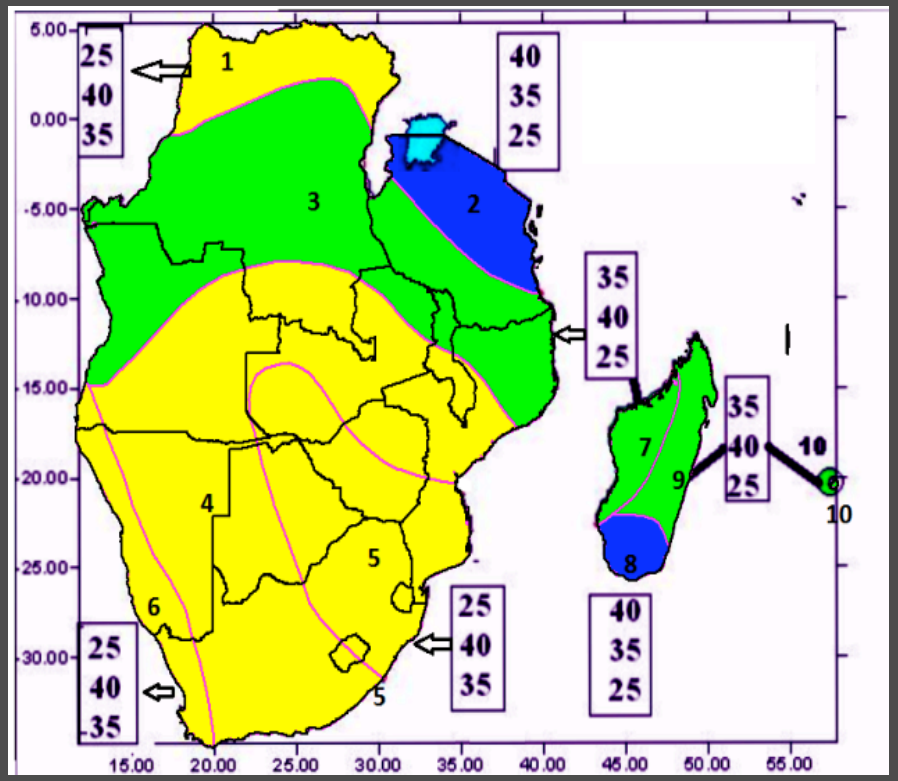




A strong emphasis on the middle category

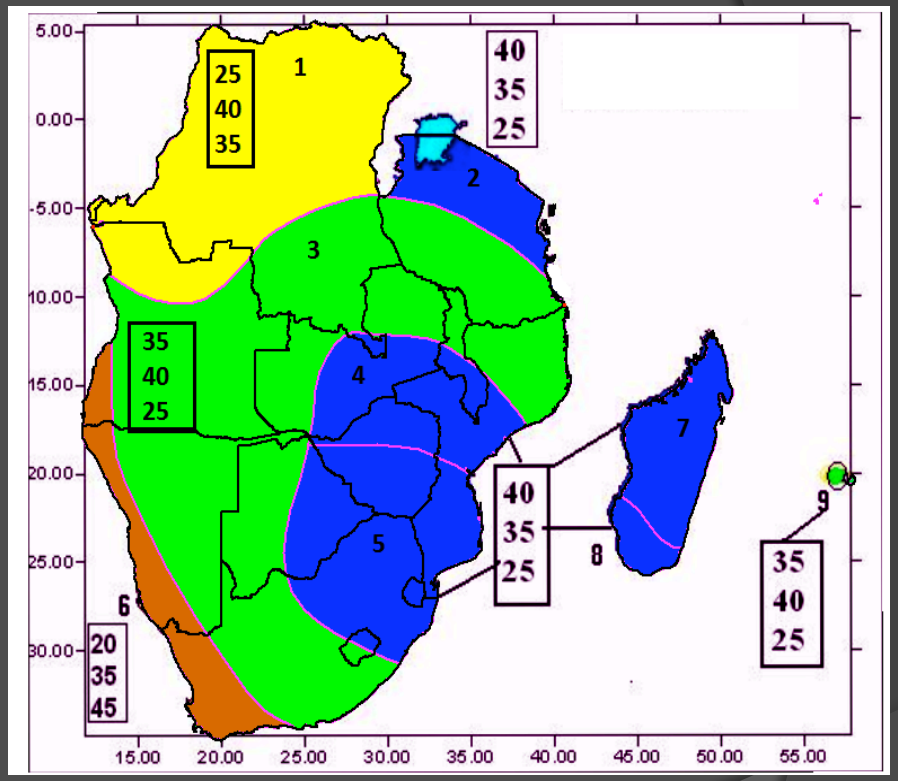
Latest SARCOF forecasts

Oct-Nov-Dec 2011



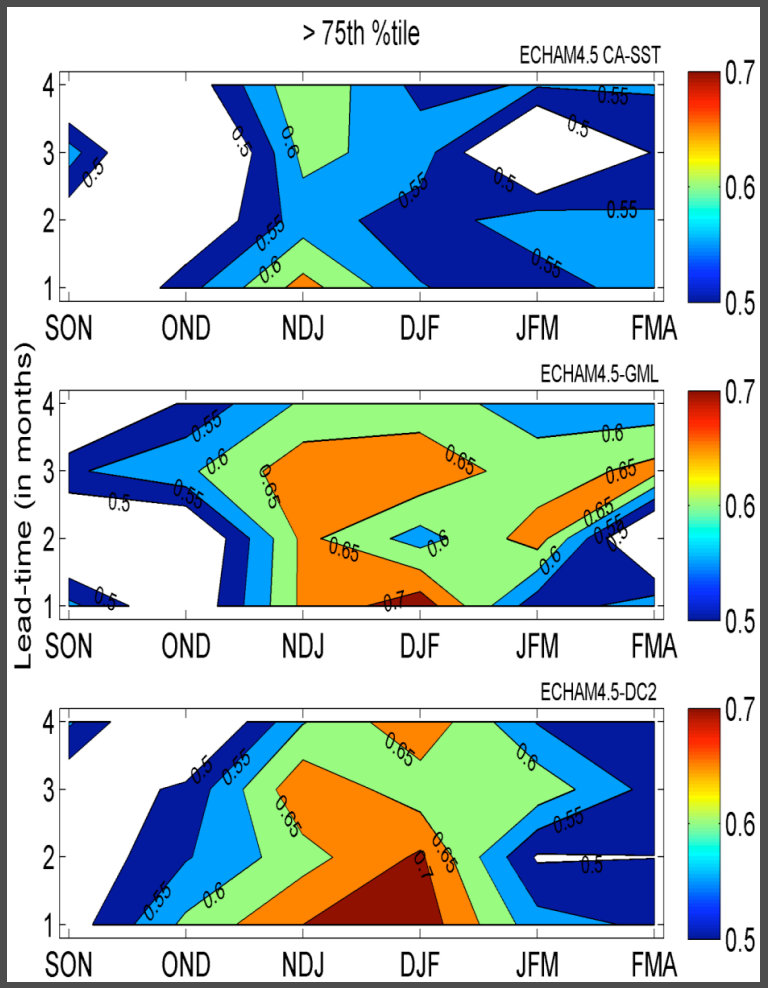
• The bulk of contiguous Southern African Development Community (SADC), are expected to receive **normal to below-normal** rainfall.
• However, northern parts of Tanzania and southern Madagascar are expected to receive above-normal rainfall.
• The rest of the continental SADC and most of Madagascar and Mauritius are likely to receive **normal to above-normal** rainfall

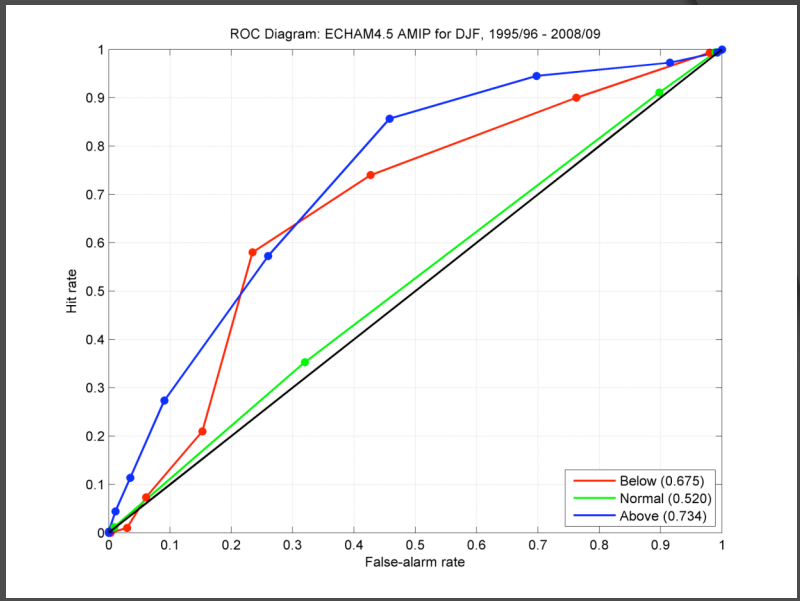
Jan-Feb-Mar 2012

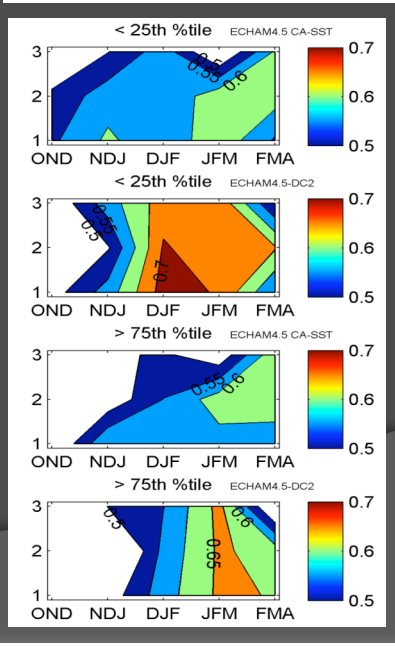


• The bulk of conterminous SADC and Mauritius are expected to receive **normal to above-normal** rainfall.
• However, the south eastern continental SADC as well as northern parts of Tanzania and Madagascar are expected to receive above-normal rainfall.
• Most parts of DRC and northern Angola are expected to receive **normal to below-normal**. The western flank of contiguous SADC is expected to receive below normal rainfall

Typical relative score between categories and seasons of highest predictability

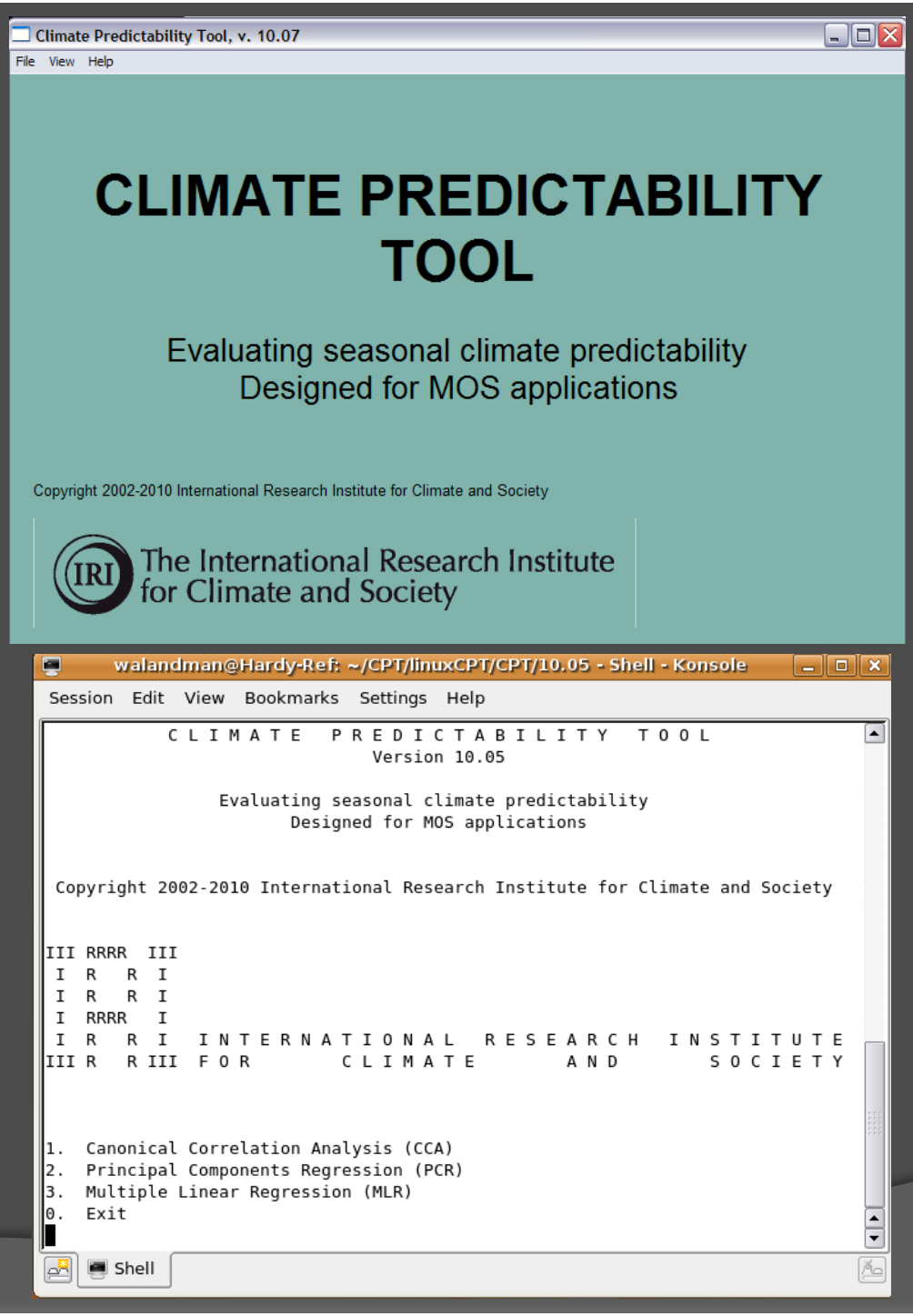






IN FACT…

- **Low skill associated with middle category**
- **Very low skill during austral spring season**



Software like the CPT can be used to downscale global model forecasts to regional/station level, subsequently capacitating NMHSs to produce their own seasonal forecasts which can be updated throughout the season

Review of SARCOF-14 Recommendations

Recommendation	SADC CSC Response	Progress
User community task team to design user-template for seasonal outlook	Claimed by SADC to be responsibility of user community	No action
Include influence of tropical cyclones into outlook	TCs are considered Need resources (funding, staff)	Some progress
Include session on climate change	TCs are considered Need resources (funding, staff)	Some discussion of CC and DRR No other action
Incorporate indigenous knowledge	Need resources (funding, staff)	No action
Include new predictors to improve forecast skill	Ongoing efforts to improve forecasts Need resources (funding, staff)	No clear progress
Advocacy on behalf of SARCOF in COP17 negotiations process for a focus on investment in climate forecasting	Inputs made via SADC Secretariat Adaptation focus Additional focus on current climate variability	No demonstrable progress
Access to met data for research purposes	WMO protocols on data exchange are binding Research links always possible on bilateral basis	No progress
RIACSO support and participation in SARCOF	DRR workshop Need resources (funding, staff)	Some progress
Dialogue with producers of climate information for improved product development and delivery	Ongoing Incremental improvements DRR workshop Need resources (funding, staff)	No demonstrable progress

SARCOF-15 Recommendations

- Forecast updates
  - Provide update of consensus forecast at least once during season
  - Include assessment of cumulative rainfall to date to allow users to judge progress of the season
  - Make updates of forecasts available on a monthly basis (not on consensus basis)
- Modify information contained in forecast
  - Publish threshold values (i.e. between above normal/normal/below normal categories) in map form
    - Allows users to understand likely magnitude of rains e.g. in "above normal" category in their region
  - Provide 5 forecast categories, not three
    - Very wet/wet/normal/dry/very dry
    - Better discrimination for users between likely future conditions
  - Integrate climatological and hydrological forecast information
  - Provide estimates for
    - Onset of rains
    - Distribution of rains during the season
      - Especially the likelihood of mid-season dry spells
  - Include analogue years to allow users a sense of likely conditions (from past observations) expected during the forecast period
- Shift from a climate forecast (i.e. of the hazard) to a risk assessment (hazard plus vulnerability)
  - Define and highlight
    - Risk (low/medium/high)
    - Likely magnitude and duration
    - Confidence
  - Note: possibly best-suited to shorter-term forecasts, not seasonal climate forecasts
- Publish validation and skill assessments
  - More rigorous assessment
  - Assessment of performance over time
- Foster collaboration between climate information providers and all users of that information
  - Commit to team-work approach

Recommendations to assist RCOF forecasts (old news!)

- More hindcast and forecast data sets in CPT format for statistical downscaling to capacitate NMHs
- More products than usual “3 categories”
  - Onset (through seamless systems?)
  - Extremes forecasts
  - Verification
- Foster collaboration with end-user community