Breakout Group 2: Educational Strengthening/knowledge development

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Role of WMCs and RSMCs to enhance LDCs/SICS capabilities in the prediction of hazards?

- **Operational information support – numerical guidance (ground for cascading)**

- **Consulting and training**

- **Additional roles**

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Role of WMCs and RSMCs to enhance LDCs/SICS capabilities in the prediction of hazards?

- **Need for a catalog of support activities/products to LDC/SIDS**

- **One other aspect is the value of more proactive WMO Regional offices, to network and mobilize resources to serve on the purpose**

- **Earth System hazards (considering hydro, meteo, marine ….)**

- **Short term, medium term, long-term trainings to be requested by LDSs/SIDS**

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What are the key areas that need attention from WMCs and how to address them

- **Communication channels**

- **Training**

- **Security of the only official voice**

- **Sustainability of the service both in LDCs/SIDS and WMCs (It is easier to issue automated forecasts than to physically involve experts).**

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What are the key areas that need attention from WMCs and how to address them

- **WMC is focusing to short-long term forecast, this is the remit for training and advise**

- **Sustainable trainings: WMO should first analyze the plan of LDCs/SIDS concerning training**

- **How could we scale up training problems to set up solutions through partnership**

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Twining between WMCs and Regional Centers and/or national centres?

- **No appetite, but there is a capability that might be relevant if there is such a request (as a back-end product for a LDC NMHS).**

- **Several examples of bilateral supports exist (ex. BOM and Papua Guinea), the question here is what (if any) WMO could add?**

- **In case of emergency (e.g. large-scale crisis situations, humanitarian activities), fast track request to governments for involving Met Services**

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What are the issues/barriers for sharing data in the GTS

- Barriers: Data policy, cost recovering model
- Some NMC's cost recovery is an important part of annual revenue
- Business model on data revenue or on added value services
- Market drivers are changing.
- Mobile met services - Nigeria - moving from raw-data to service revenue cost recovering
- How could we help countries developing different cost recovering model based on added value services in order to facilitate the sharing of raw-data/observations?
- South Africa have completed some work evaluating different business models.
- Private providers in weather observations, how does it limit the availability of observations in GTS? (Contractual arrangements where revenue from the observations goes to the private provider.)
- Standard and quality of exchanged data, and data collection – Met Services and private industry may have different expectations around data quality.

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Solutions to Barriers

- Countries have different data sharing policies
- An outcome of the IWTC workshop was to set up a Pilot Project related to improving TC modelling. The provision of observational data was included in scope and is proving an effective way of addressing some data policies around access to observations.

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Sharing data instead of charts

- Copernicus climate data store. Single interface to a distributed data system providing downloading tools, visualisation, allows datasets to be combined, some computational capacity, API's.

- Reanalysis 5 - more variables - high resolution - ~30 Petabytes across the databases.

- Cloud strategies - hybrid solutions (Copernicus) –

- ECMWF embarking on a similar project relating to weather – European Weather cloud.

- Data policy - private provider policy - it is not just technology that will impact on the way business will be organised and conducted

- Ensemble data too big for sharing, how to move towards sharing sub-set or products

- Is there a time when TIGGE could be revisited and provided real time – the provision of Ensembles has moved forward and real-time provision through GTS/WIS might be approaching.

- What is the right set of Ensemble data to share? (Not all parameters are needed.)

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Sharing data instead of charts

- Charts still have a role to play. Fro some LCD's / SID's they may still be preferred.

- JMA noted work with the SE Asia SWFDP to provide products from the TIGI dataset. Feedback was the charts were well received.

- Provision of NWP vs providing post processed products – where does the balance lie? How to account for all user requirements?

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Thank you
Merci

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