

WORLD METEOROLOGICAL ORGANIZATION  
COMMISSION FOR ATMOSPHERIC SCIENCES

CAS/THORPEX ICSC/  
GIFS-TIGGE-9/Doc. 2.3  
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**THORPEX ICSC  
GIFS TIGGE Working Group  
Ninth Meeting**

Item: 2.3

Original: ENGLISH

WMO, Geneva  
31 August to 2 September 2011

**SEVENTH INTERNATIONAL WORKSHOP ON TROPICAL CYCLONES**

**SPECIAL FOCUS SESSION SF2a ON “THORPEX/TIGGE applications to TC motion and forecasting”**

There were three presentations in this special focus group meeting on THORPEX and TIGGE; Overview of TIGGE by R. Swinbank (RS), UK Met. Office, Application of TIGGE for typhoon forecast, by T. Nakazawa (TN), WMO/WWRP, and Application for Shanghai EXPO by H. Yu (HY), Shanghai Typhoon Institute.

**1.1. Overview of TIGGE and plans for GIFS, by R. Swinbank, UK Met. Office**

RS gave an overview of TIGGE and its relationship to THORPEX and GEO. TIGGE has been operating since Oct 2006 with 10 operational NWP centres contributing global ensemble forecasts to the database. Interested people can register for access at the TIGGE website (<http://tigge/ecmwf.int>).

An important application of TIGGE is the development of a prototype Global Interactive Forecast System (GIFS). RS described plans for developing and evaluating TIGGE products in conjunction with the WMO SWFDP (Severe Weather Forecast Demonstration Project) and other regional projects. SWFDP regional projects were integral to the process of cascading ensemble and probabilistic products to users. There was an invitation to forecasters for feedback on what types of products should be developed.

**QUESTIONS/COMMENTS:**

Météo France: noted problems with CXML datasets from some centres

TN noted there had been some problems but they should be fixed now.

Pakistan: asked for comment on relative skill between ensembles and deterministic models. Based on Met Office experience, RS suggested ensembles showed better skill after Day 3.

Australia: welcomes this opportunity to provide products for use by the community in decision making (especially through SWFDPs)

RS made the point that the TIGGE WG plans to work very closely in conjunction with the SWFDP which has developed good links with operational forecasters and users.

Australia: commented that estimating probabilities from the proportion of the ensemble that forecast a particular event was not satisfactory when the ensemble is under-spread (e.g. if track forecasts are not diverse enough)

Meteo France: asked if model data was under the same resolution from each contributing member

RS answered no – each centre decided what resolution to run their model

New Zealand: could not access ECMWF data through the SWFDP website but had to go separately to the ECMWF site for those products

RS was not sure how access to data for SWFDPs worked

The TC formation products shown earlier looked useful and asked if they could be made available through the SWFDP

RS asked that he be sent a reminder to follow-up this up.

### **1.2. NW Pacific Ensemble Forecast Project, by T. Nakazawa (WMO/WWRP)**

TN explained the background behind the development of cxml file format for data transfer of TC information and showed products developed at JMA for the NW Pacific TC ensemble forecast project, including some examples taken from the TC forecast website developed by MRI/JMA (<http://tparc.mri-ima.go.jp/cyclone/>) for the NW Pacific.

#### **QUESTIONS AND COMMENTS**

Australia: Are these products available in real-time? (yes)

Is there an intention to add formation oriented guidance products? (maybe)

Can a similar domain be built for the SW Pacific area?

TN said that MRI would be happy to make the software available, so similar websites could be set up for other regions.

US: Is CXML data available for 10 days for the ECMWF model?

RS acknowledged that they run the model for 15 days but only presently make 5 days available via CXML. He will raise this with ECMWF.

China: Probability type products were helpful but asked if this could be extended to other products such as precipitation fields

USA: Could cyclone phase space products be provided? (yes)

Hong Kong: track data in CXML only goes to 4 days (TN can change to 5 days)

### **1.3. Ensemble Products in Shanghai Meteorological Bureau, by H. Yu (Shanghai Typhoon Institute)**

These were developed and tested during the Shanghai EXPO period. There has been increased usage of consensus and EPS products since 1996 in SMB. HY showed the array of model members used. They also placed a researcher in the forecast office to advise on product choice.

Forecaster feedback from the trial indicated that they favoured deterministic forecasts and noted resistance to ensemble products by decision makers. Ensemble products were helpful to express confidence however overall there was considered to be too much uncertainty and the products were not effective (and so forecasters were not confident to use them). They considered products like the Extreme Forecast Index were useful.

#### **QUESTIONS AND COMMENTS**

US: noted that ensemble verification was tricky

Australia: followed up by suggesting that once forecasters started using probability numbers then there was an obligation to verify the forecast

Pakistan: noted low public opinion for a 50% chance type forecast – RS noted that in some situations a 50% chance of precipitation was quite high

Pakistan: enquired about probability products for storm surge

HY said that SMB used deterministic models for storm surge.

(This report is based on notes originally taken by Gary Foley during the session. We thank Gary for taking the notes. )