

**THORPEX ICSC
GIFS TIGGE Working Group
Ninth Meeting**

WMO, Geneva
31 August to 2 September 2011

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Discussion at WWRP JSC 4 concerning the activities of the GIFS-TIGGE Working Group

The following text is extracted from the JSC 4 Report

1. TIGGE was a major THORPEX activity and appeared in the GEO context as Task WE-06-03. Ten major global data providers were sending ensemble data to three archive centres. This data was made available to the research community with a 48 hour delay. Over 1000 researchers have registered to use the TIGGE data sets at NCAR and there are now about 60 very active users downloading data each month at the ECMWF and NCAR. Significant efforts had been made to publicize the TIGGE archives. A major BAMS article had been written. A new TIGGE leaflet was being widely distributed. An article had been drafted for GEO that was widely distributed at the GEO ministerial Plenary held in Beijing during November 2010. An article on tropical cyclones had been published in the WMO Bulletin and the TIGGE website had been expanded and further developed.

2. Now that the databases had been established and populated the main focus was now on research. There were three main interests. These were the calibration of ensemble prediction systems, the combination of multi-model ensembles and Research and Development concerning the construction of probabilistic forecast products. It was also noted that TIGGE data was being used in research projects concerning dynamical processes and that some 43 papers related to TIGGE had appeared in the literature.

3 Some examples of TIGGE results were then outlined. It was shown that combining the 4 best models exceeded ECMWF skill for 850hPa and surface air temperatures. This was possibly due to the ensemble benefiting from differing aspects of the model physics.

4 Other areas being considered were multi-model forecasts of precipitation, cyclone tracks (although it was difficult to track weak cyclones), blocking and MJO skill.

5 As part of the development of GIFS through the SWFDPs, TC tracks were being exchanged in CXML format and the forecast data displayed on the Japanese MRI website including strike probability etc. Further GIFS products would be developed in due course (e.g. heavy precipitation) and tested and evaluated through appropriate SWFDPs.

6 *During discussions the JSC:*

- Queried the future of TIGGE archiving since the databases are expanding rapidly; however, it was expected that archiving would continue for the time being in the absence of pressure from the archive centres to reduce data volumes.
- Progress in establishing really effective links with the SWFDPs was also queried but this was said to be proceeding steadily if somewhat slowly - the importance of this aspect was emphasized and the JSC asked that the Working Group specifically report on the status of our collaborations with the SWFDP at the next JSC.

- It was also noted that advances and activities were mainly in the Northern Hemisphere but this was felt due to a lack of relevant resources in the Southern Hemisphere. The suggestion was made later in the meeting that the design of the THORPEX regional committees might not be optimal for activities in some regions of the Southern Hemisphere. For example, many of the nations in South America have developed strong links with nations in Central and North America so that a Regional Committee for the Americas may be more appropriate. The JSC suggests that such a regional organizational issue be discussed at the next THORPEX ICSC.
- Noted the changed emphasis of the work for Global Interactive Forecast Systems (GIFS), away from seeking to establish GIFS Demonstration Projects, towards research on probabilistic prediction of high impact weather and their evaluation in conjunction with the SWFDP regional projects and other RDPs and FDPs.
- Noted the success of the TIGGE archive as shown by the large and growing number of active users and publications of research based on TIGGE data. The knowledge about the use being made of the data is supported by the monitoring of archive usage by the TIGGE data centres and the tracking of "TIGGE" publications on the GIFS-TIGGE web site, and thanks the Working Group for undertaking these tasks. The JSC urges that continual stressing of this success story and that programme managers in the nations funding TIGGE be made aware of this success story.
- Suggested that at an appropriate time, the Working Group should consider a review article in the referred literature that summarizes the key findings of TIGGE research.