Regional Training Workshop on Severe Weather Forecasting (GDPFS/TCP/MMO/SAT) and Warning Services (PWS/TCP/MMO)

Macao, China, 8 – 19 April 2013

Provisional Programme for GDPFS/TCP/MMO/SAT, 1st week: 8 – 13 April 2013

Course	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
8.30 – 10.30	Registration Opening Introductory remarks Participants and lecturers introduction	Forecaster decision-making process blending ensemble and deterministic forecasts (AP)	Forecasting extreme events (recording) (AG)	Satellite Nowcasting Products, including verification results (HO) Tropical Cyclone analysis and forecasting: products and tools (MU/MM)	Forecast process for forecasting severe weather, including priority tasks of the forecasters; example (RJ)	Discussion: Implementing the Severe Weather Forecasting Demonstration Project (SWFDP) in Southeast Asia and in the Bay of Bengal Region (AS)
10.30 11.00	Break	Break	Break	Break	Break	Break
11.00 – 11.50	10.30 – 11.05 Introducing SWFDPs (AS)	Instructor led activity: (EFI) (AG)	Instructor led activity: (Monitoring and Prediction of Cyclogenesis/tropical thunderstorms) (MM/ MK)	Practicals (case study)	Practicals (case study)	Complete WMO Training Workshop Questionnaire (GDPFS)
11.55 – 12. 45	Ensemble forecasting (AP)	How to prepare case studies (RJ)	Instructor led activity: (EPSgrams) (AP)	Practicals (case study)	Practicals (case study)	Weather Game Results (AG)
12.45 – 14.00	Lunch	Lunch	Lunch	Lunch	Lunch	Closing remarks
14.00 – 14.30	Current weather (Weather Game) (AG)	Current weather (Weather Game) (AG)	Current weather (Weather Game) (AG)	Current weather (Weather Game) (AG)	Current weather (Weather Game) (AG)	
14.35 – 15.25	Verification: EUMETCAL modules (AG) Introduction to verification assignment and case study (RJ)	Practicals (case study)	Specific products (diagnosis of deep convection): K-Index, Total Totals Index, Lifted Index, Vertical Velocity, CAPE, Precipitable water, Theta-e, CIN (RJ)	Verification (including hands-on session) Introduction to verifying forecasts and warnings; SWFDP verification tasks and interpretation of results; Review of the assignment (RJ)	Webinar (JMA): Storm Surge forecasting (NK, MM) Practicals (case study)	
15.25 – 15.55	Break	Break	Break	Break	Break	
16.00– 16.50	Global NWP models and their products for South and Southeast Asia, including GIFS-TIGGE products (HO, HV)	Webinar: Forecasting tropical cyclones in the medium range (ECMWF) (AG) Forecasting tropical cyclones (MU) Parallel session: Forecasting continental tropical thunderstorms (MK)	Practicals (case study)	Webinar: Ocean Waves (ECMWF) (AG) Parallel session: Monsoon systems (MK)	Students presentations	
16.55 – 17.30	Regional NWP/Limited Area Model (LAM), and products for South and Southeast Asia, including daily guidance (MM, HV)	GAME (probability) (AG)	Practicals (case study)		Visit to SMG Forecasting Office	

1) Lecturers:
AS – Alice Soares (WMO)
AP – Anders Persson, WMO Consultant
RJ – Rick Jones, WMO Consultant
AG – Anna Ghelli (ECMWF)
HV – Hoa Vo Van (Vietnam)
HO - Hiromi Owada (JMA, NWP)
MU - Mikio Ueno (JMA, RSMC Tokyo)
MM – M. Mohapatra (IMD, RSMC New Delhi)
MK - Medha Khole (IMD, Forecasting continental tropical thunderstorms and monsoon systems)

Lecturer by Internet: (Webinar)
NK – Nadao Kohno (JMA, Storm surge forecasting)
ECMWF experts

Case studies: (students will be divided in 5 groups of 3 participants)

1) **Floods in Pakistan, led by AG**
2) **Monitoring and Prediction of Cyclogenesis, led by MM**
3) **Tropical Cyclone analysis and forecasting, led by MU**
4) **Tropical Cyclone forecasting in the medium-range, led by AG**
5) **Severe Thunderstorms monitoring and forecasting (STORM-FDP), led by MK**

Supported by the other lecturers, as appropriate.