OpenIFS WORKSHOP

Venue : Ecole Nationale de la Météorologie (Toulouse, France)

19th - 21st June 2018 (15h)

Overview

This workshop will introduce participants to the ECMWF OpenIFS forecast model, with presentations and exercises based on a case study of Hurricane “Nadine” during HyMeX* SOP1 (Special Observation Period nr 1) in autumn 2012

Location

Room B132 (ENM)

Public

Max 24 people

Speakers

G. Carver and G. Szepszo (European Centre for Medium-range Weather Forecast)
F. Ferry and E. Chabot (Météo-France / French Met. School)

* HyMeX : Hydrological cycle in Mediterranean experiment (www.hymex.org)

Acknowledgements to V. Ducrocq (CNRM) and F. Pantillon (KIT)

Tues June 19th: Analysis & deterministic forecast at medium range.

9.15 *Coffee*

9.30 Workshop overview - *F. Ferry (ENM)*

9.45 Introduction to ensembles, OpenIFS & Metview - *G. Carver & G. Szepszo (ECMWF)*

10.15 Computer setup + presentation of the exercises

10.45 Break

11.00 General context (HyMeX) and initial conditions (satellite images) - *E. Chabot (ENM)*

11.15 Practical exercice 1 : Exploring ECMWF analysis on 2012 Sept. 20th

12.15 Lunch

13.45 Group PHOTO

14.00 Practical exercice 2 : Exploring ECMWF deterministic HRES forecast at medium range (up to 28th Sept. 2012)

15.45 Break

16.00 Practical exercice 3 : Tracking and Cyclone Phase Space (CPS) diagrams

17.00 *Finish*

Wed June 20th: Ensemble forecast at medium range & short range forecast for HyMeX SOP1 (Intensive Observation Period nr 6). Clustering methods (manual then automatic).

9.15 *Coffee*

9.30 – 11.00 Practical exercice 4 : ECMWF ensemble products at medium range (comparison IFS 2012 vs 2016) : spread, spaghetti, member stamps, probabilities, CDF, quantiles, …

11.00 Break

11.15 – 12.30 Practical exercice 5 : Deterministic and ensemble operational forecast before HyMeX SOP1/IOP6, at medium and short ranges (using Météo-France models on weather forecaster workstations – **room E150**). Decision making as if in real-time.

Lunch 12.30-14.00

14.00 – 15.00 Practical exercice 6 : Manual clustering of the ensemble members (2 groups)

15.00 – 15.30 Key-presentation : automatic clustering methods

15.30 Break

15.45 Practical exercice 7 : Automatic clustering

17.00 *Finish*

Thurs June 21st : A posteriori observations, forecast errors, article reviews, debriefing.

9.15 *Coffee*

9.30 A forecaster's experience : official forecasts (before) and a posteriori observations (during) HyMeX IOP6 – *E. Chabot (ENM)*

*10.30 Break and ENM briefing (**room E155**)*

11.15 Practical exercice 8 : assessment of the forecast error (RMSE, plumes, difference maps, …)

12.15 Lunch

13.45-14.45 Article reviews and discussions – *F. Ferry (ENM)*

- Pantillon et al., 2015 : Vortex–vortex interaction between Hurricane Nadine (2012) and an Atlantic cut‐off dropping the predictability over the Mediterranean : https://rmets.onlinelibrary.wiley.com/doi/abs/10.1002/qj.2635

- Evans et al., 2017 : The Extratropical Transition of Tropical Cyclones. Part I: Cyclone Evolution and Direct Impacts : https://journals.ametsoc.org/doi/citedby/10.1175/MWR-D-17-0027.1

Open discussion about the predictability of ET transition and the impact of climate change on such events.

14.45 Final debriefing (feedback)

15.00 *Finish*