Aladin Outre-Mer

ASM, Krakow April 13-16 2010

CNRM/GMAP



Outlines

-Intoduction

- Presentation of domains
- Configurations
 - Coupling with IFS
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Introduction

Météo-France is planning to implement regional numerical weather prediction systems for its overseas dominions. The target configuration consists of an Aladin 3DVAR assimilation, very similar to the one of La Réunion. Thus, New Caledonia, Polynesia and the West Indies and French Guyana will benefit for their short-term forecasts of Aladin outputs with a 8 km resolution and 70 vertical levels over their respective areas.



Presentation of domains

2 domains on the Pacific Ocean:

- New Caledonia (288 x 360)



- French Polynesia (540 x 486)

Resolution: 8km 70 vertical levels Mercator projection



Presentation of domains

West Indies and French Guyana (450 x 512)



Resolution: 8km 70 vertical levels Mercator projection



Configuration

The IFS has been retained as coupling system

- good performance of this global model in the Tropics
- T1279 => resolution around 16 km

Coupling of the surface with Arpege

54 hours forecast at 00 UTC and at 12 UTC

Time step 450 s



Assimilation

B matrix calculated for each domain:

PEARP ensemble with 6 members.

29 days of Aladin forecast january-february 2009, dynamic adaptation from AEARP (Arpege double T798C2.4, 70 levels) for each domain.

6 hours forecast.

FESTAT + FEDIACOV



Assimilation-Diagnosis



Assimilation

Observations from Arpège

- Conventional observations:
 - -Temp, Pilot,Synop, Airep
- Satellites observations from:
 - Noaa15 ,16,17,18
 - Metop A
 - Ers-2
 - Aqua
- GPS Radio occultation



Obstat for West Indies and French Guyana



Assimilation



Obstat for French Polynesia: Amsua from noaa-18



Some results – ULUI



Mtsat-1R 20100314 0300 UTC



ULUI Sea level pressure



Aladin 3Dvar forecast

Coupled with Arpege T798

67 20-20-5 1015

XPID: 83LS Base hour: 2010031400 Term: 48 Param: PMER Level: SOL

Aladin Forecast

1BC°E

Coupled with IFS T1279



ULUI - PLTT



Aladin forecast Coupled with Arpege T798

Aladin 3Dvar forecastAladin forecastCoupled with Arpege T798Coupled with IFS T1279



Ongoing works

Build a configuration 3DVar coupled with IFS

SURFEX

Work on coupling files

Create climatological files from PGD files



Ongoing works-climatology



Ongoing works - Climatology





Ongoing works- climatology

Land-sea mask from PGD file





Ongoing works-climatology





Thank for your attention !