

III Worketa - Cachoeira Paulista

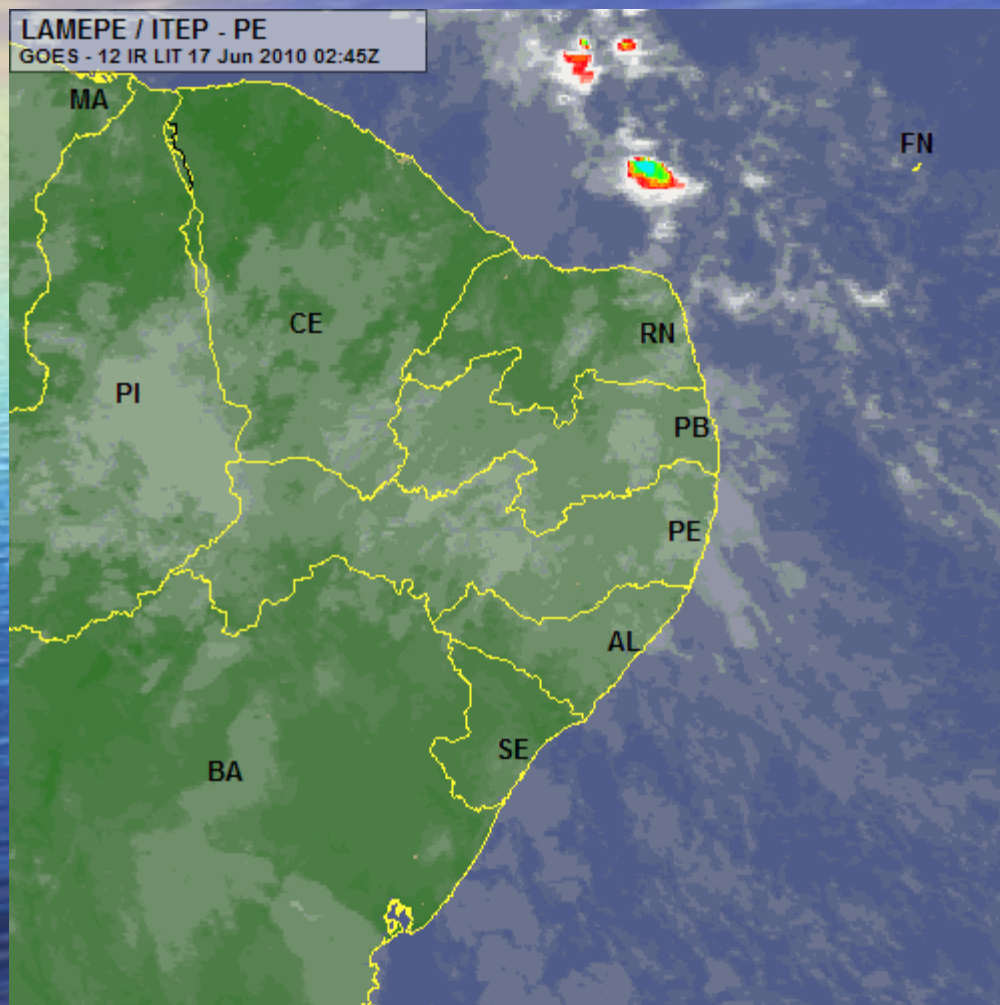


Adriano Almeida Santos - LAMEPE

Arthur Chaves - CEMIG

Romilson Ferreira - LAMEPE

ESTUDO DE CASO DAS CHUVAS DE JUNHO/2010 EM PERNAMBUCO



EVENTO EXTREMO

Distúrbio Ondulatório de Leste (?)
atinge leste do Nordeste.

Motivação e Justificativa:

O Lamepe é responsável pela previsão e monitoramento meteorológico do estado de Pernambuco. Tendo em vista a severidade do evento que ocorreu em junho desta ano, há o interesse de avaliar a destreza do modelo Eta (rodado operacionalmente neste centro) em prever eventos extremos.

Objetivo:

Avaliar os resultados do modelo Eta utilizando diferentes esquemas de parametrização Cumulus.

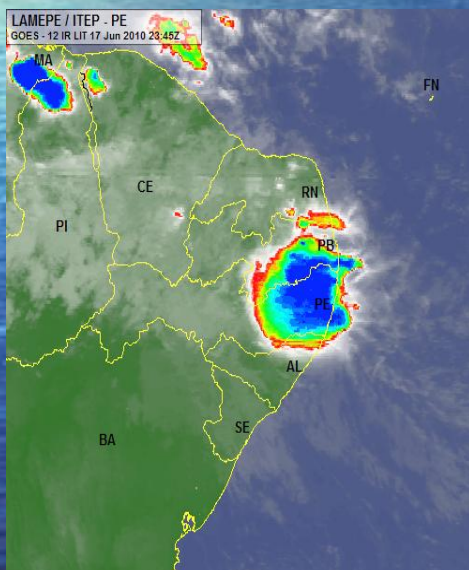
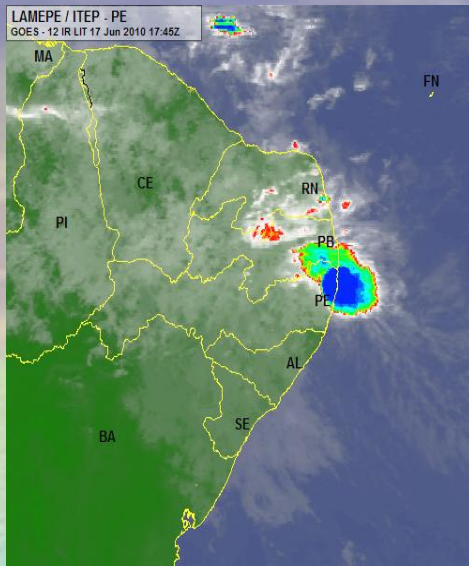
Conseqüências



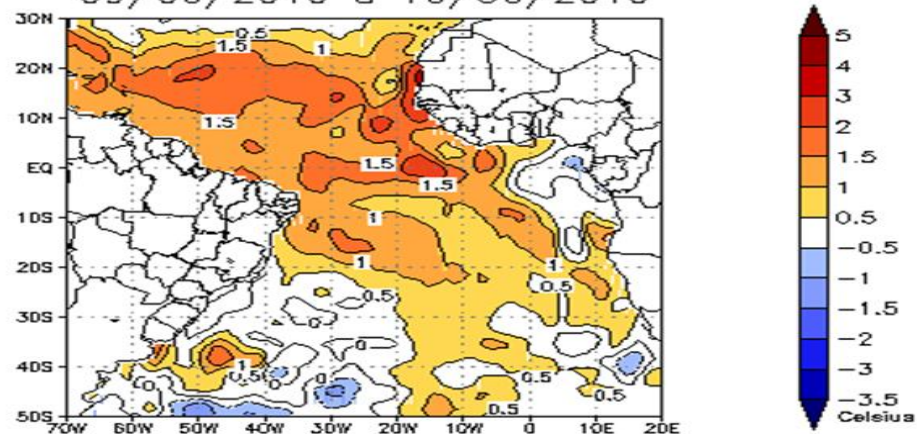
Palmares – PE



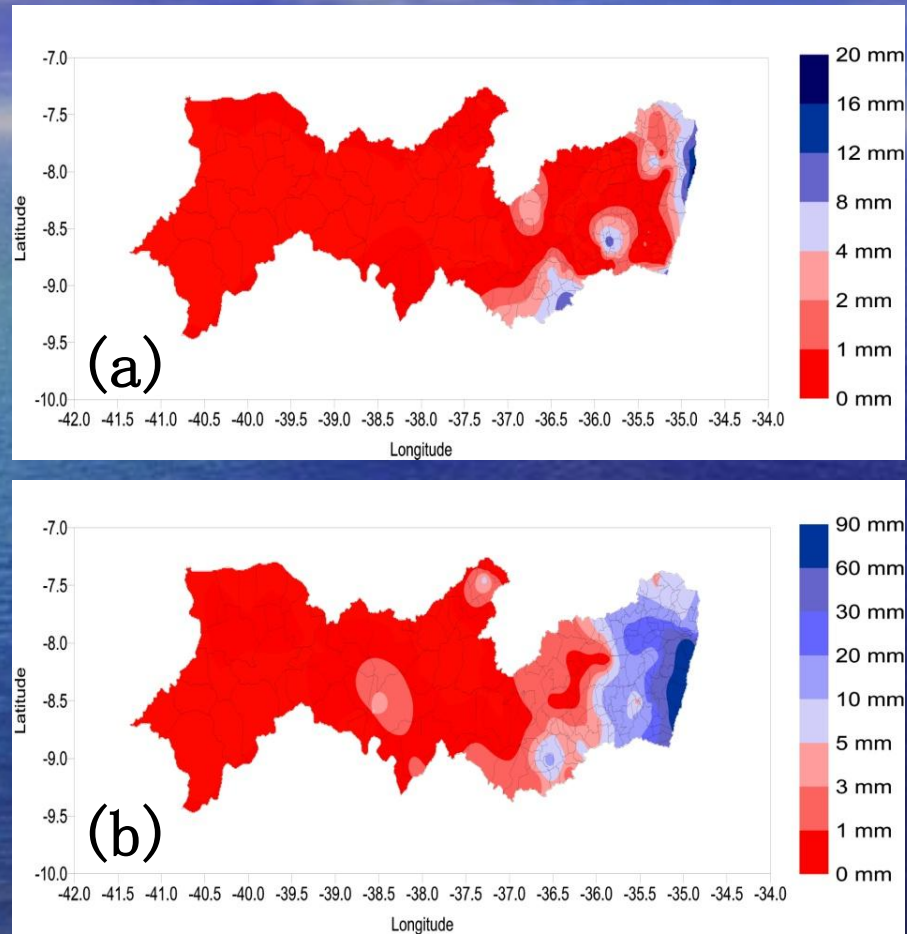
Barreiros – PE



Anomalia de Temperatura da Superfície do Mar 09/06/2010 a 16/06/2010

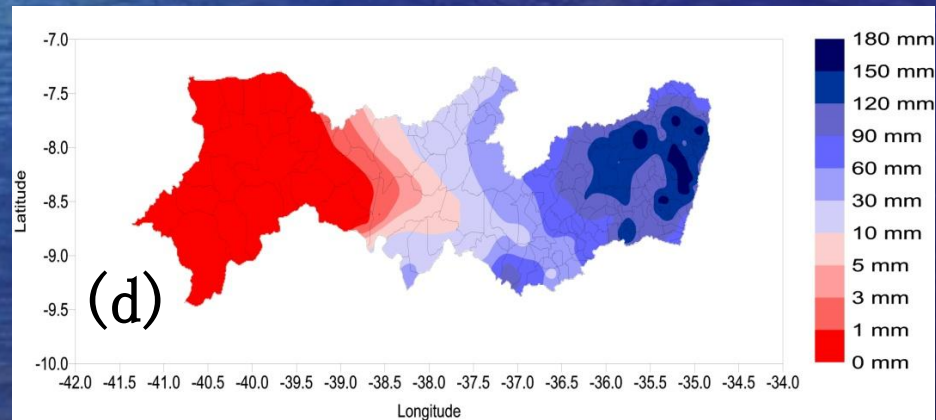
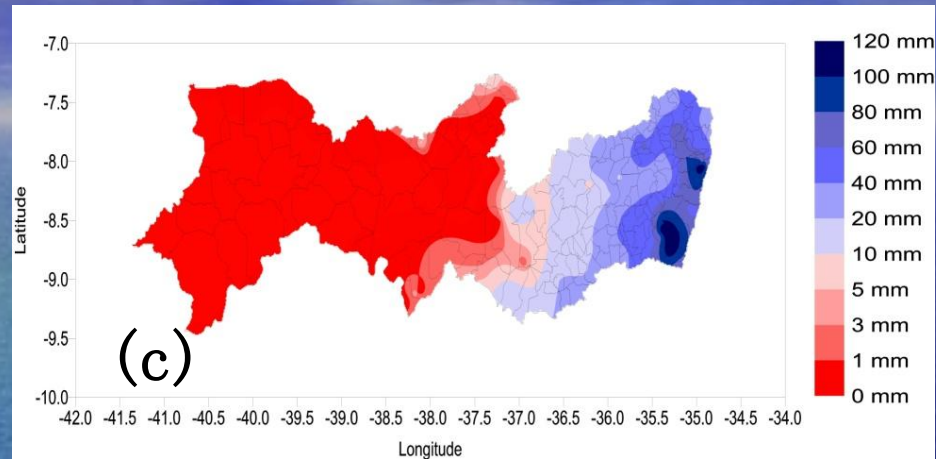


Monitoramento Pluviométrico



Precipitação registrada em Pernambuco nos dias 15 (a) e 16 (b) de Junho de 2010

Monitoramento Pluviométrico



Precipitação registrada em Pernambuco nos dias 17(c) 18(d)

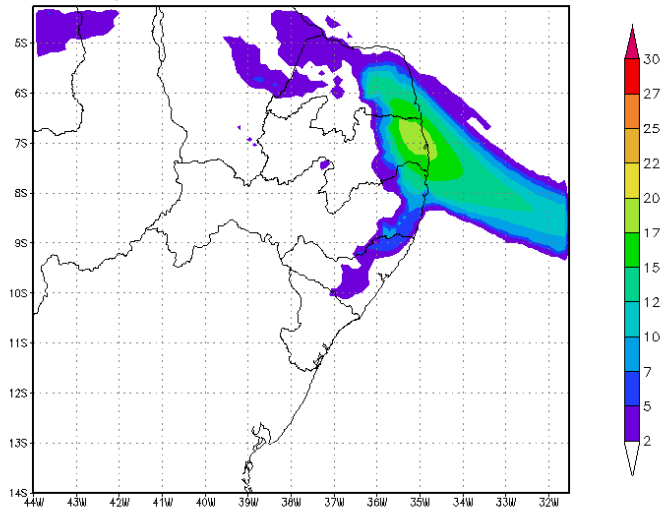
Experimento Realizado

O modelo Eta com resolução de 40 km foi utilizado como condição inicial e de contorno.

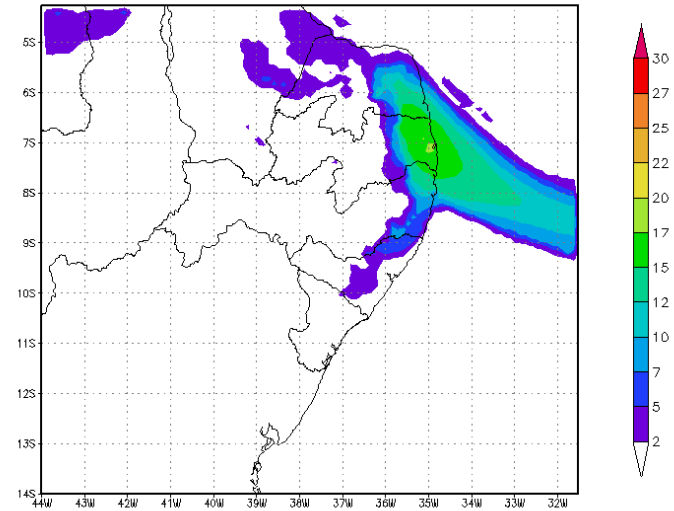
Esquemas de convecção:

- Betts Miller-Janjic
- Betts Miller-Janjic – Não hidrostático
- Kain-Fritsch
- Kain-Fritsch – Fluxo de Momento

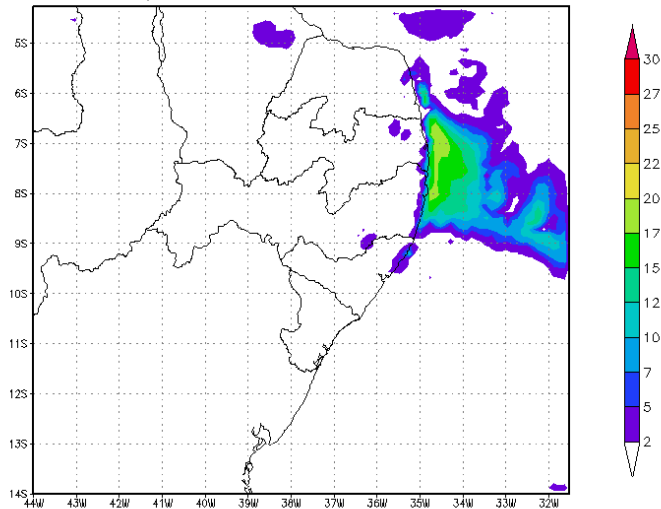
experimento controle 00Z16JUN2010



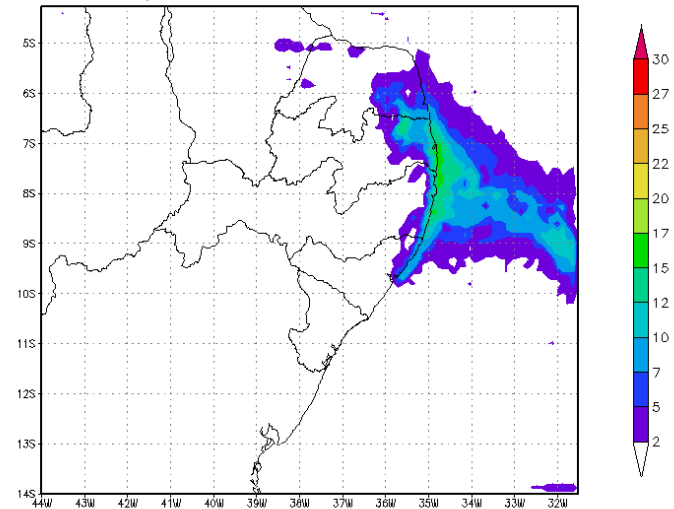
experimento controle NH 00Z16JUN2010



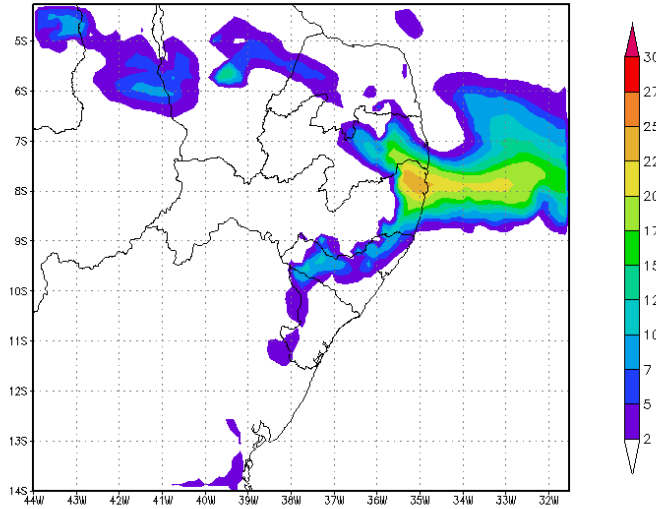
experimento KF 00Z16JUN2010



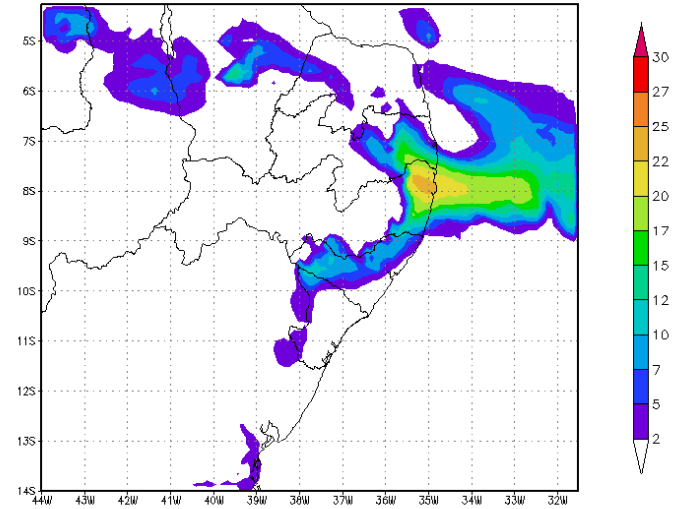
experimento KFM 00Z16JUN2010



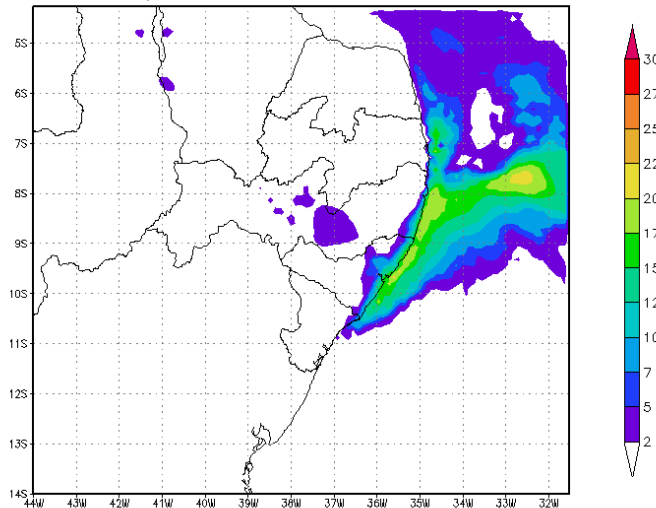
experimento controle 12Z16JUN2010



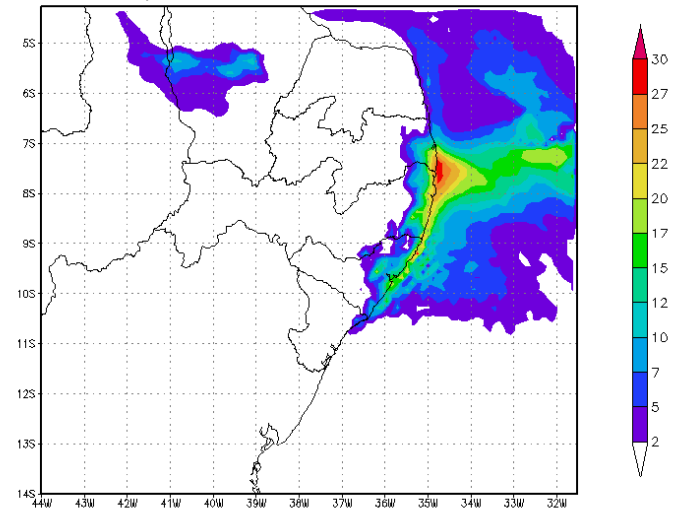
experimento controle NH 12Z16JUN2010



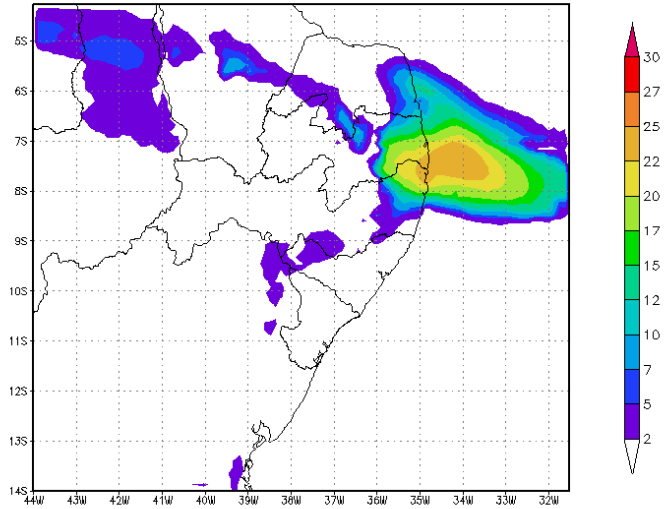
experimento KF 12Z16JUN2010



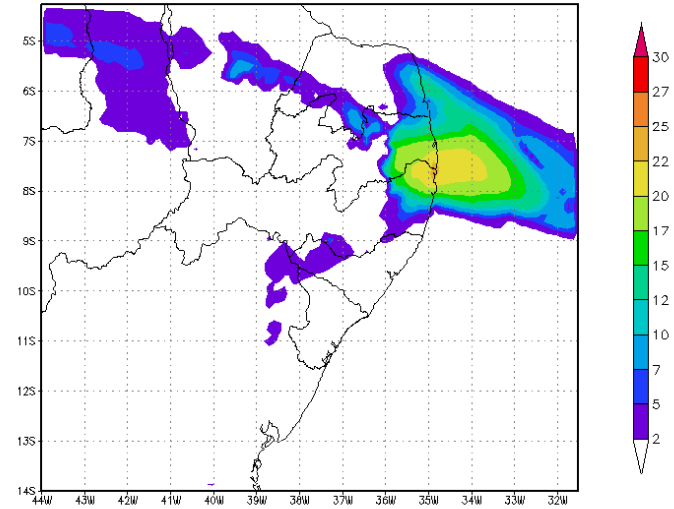
experimento KFM 12Z16JUN2010



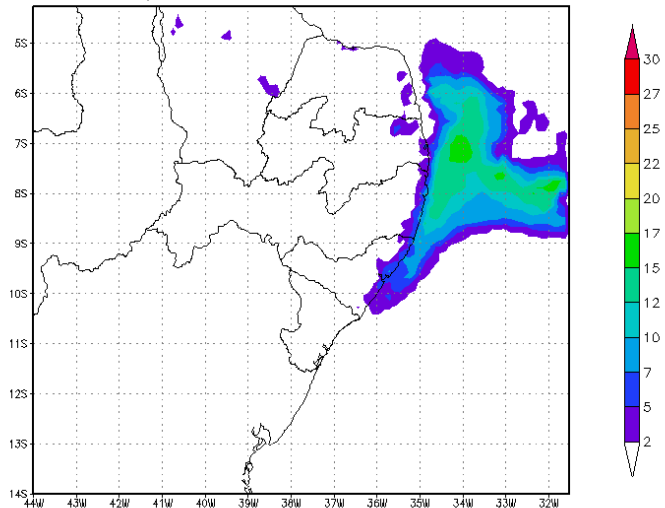
experimento controle 18Z16JUN2010



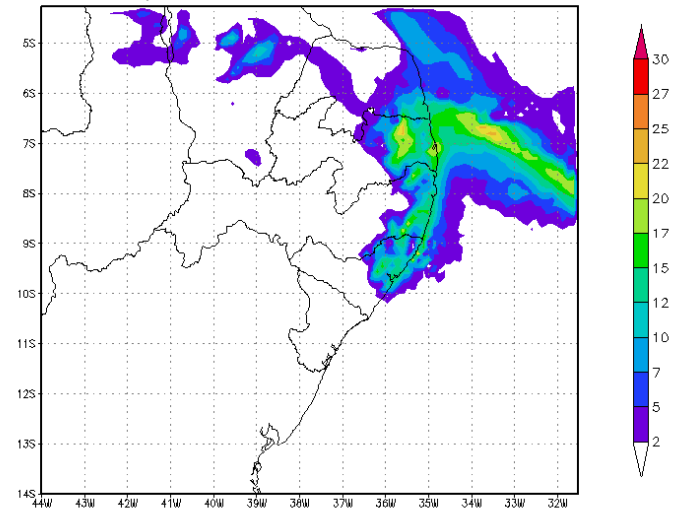
experimento controle NH 18Z16JUN2010



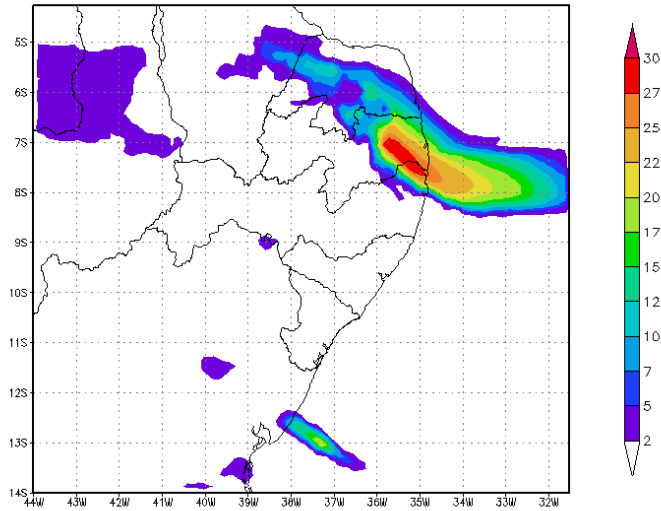
experimento KF 18Z16JUN2010



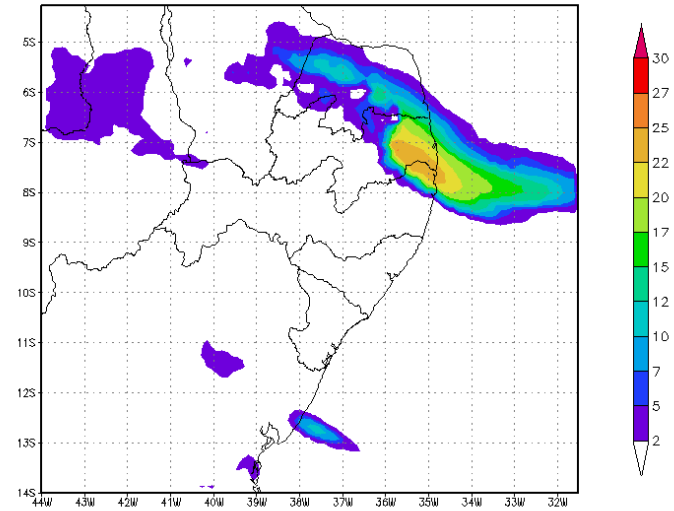
experimento KFM 18Z16JUN2010



experimento controle 00Z17JUN2010

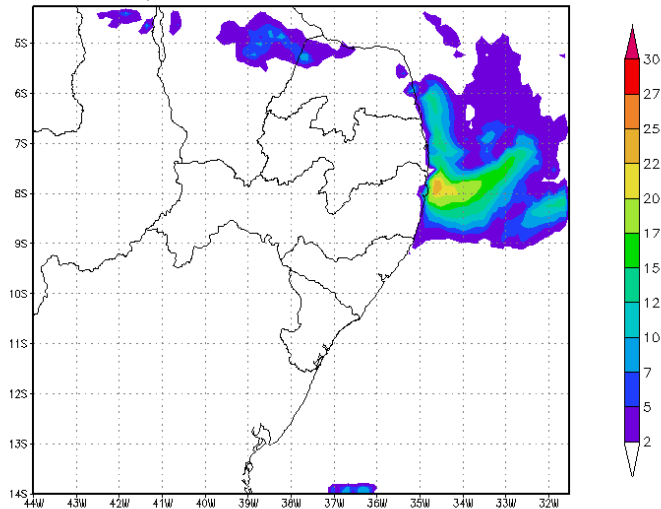


experimento controle NH 00Z17JUN2010

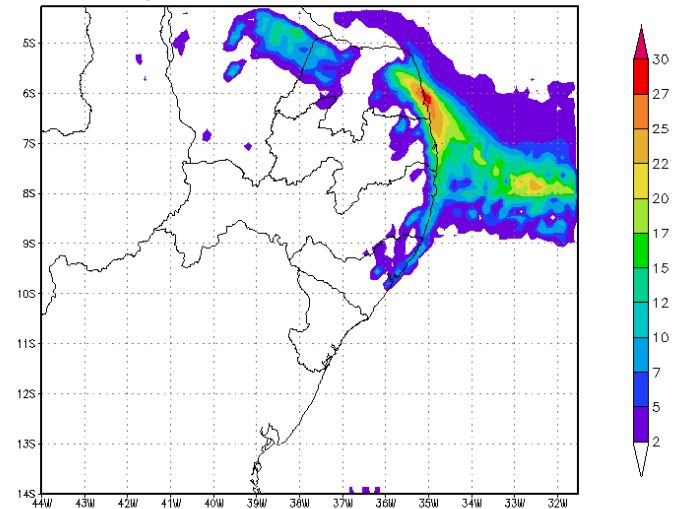


Kain-Fritsch

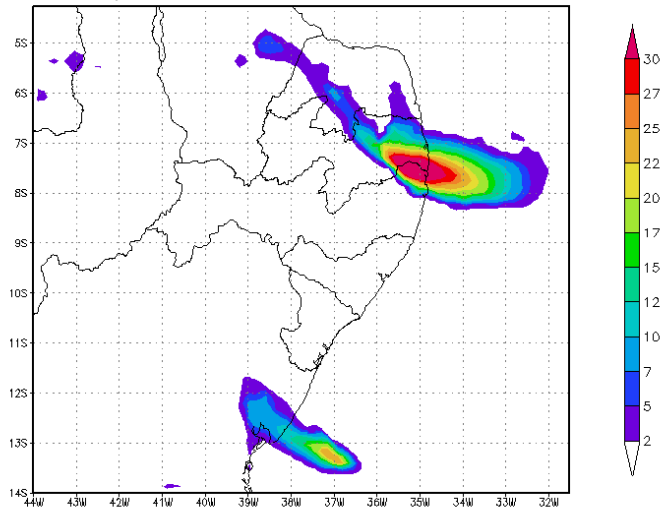
experimento KF 00Z17JUN2010



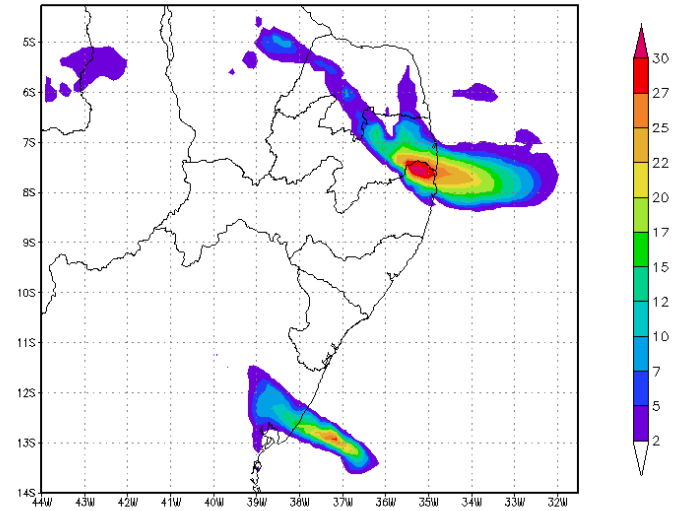
experimento KFM 00Z17JUN2010



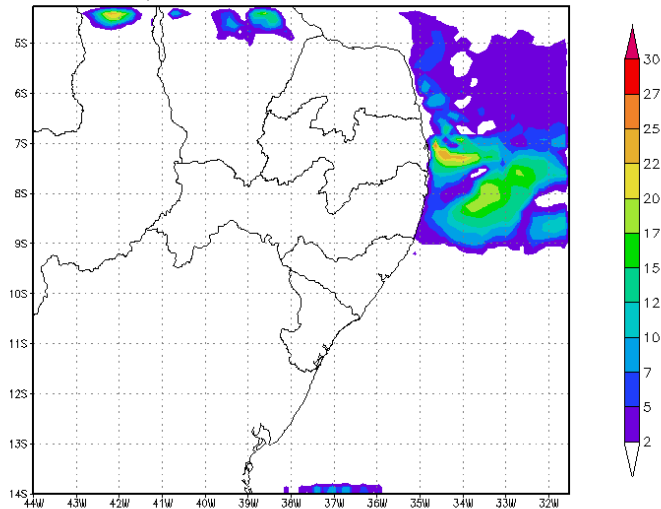
experimento controle 06Z17JUN2010



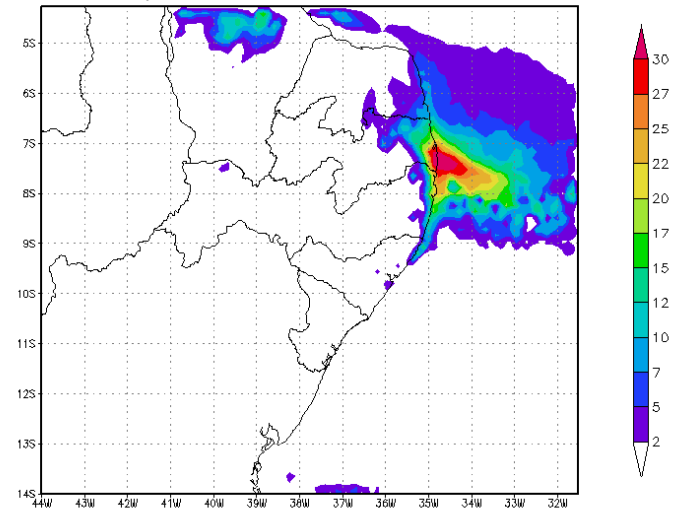
experimento controle NH 06Z17JUN2010



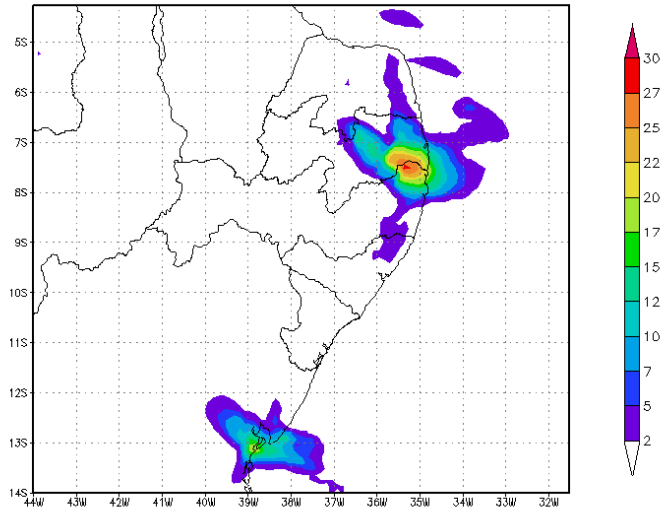
experimento KF 06Z17JUN2010



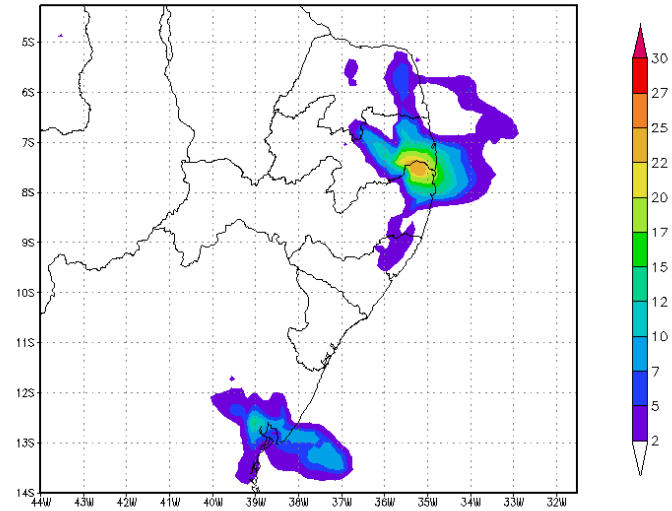
experimento KFM 06Z17JUN2010



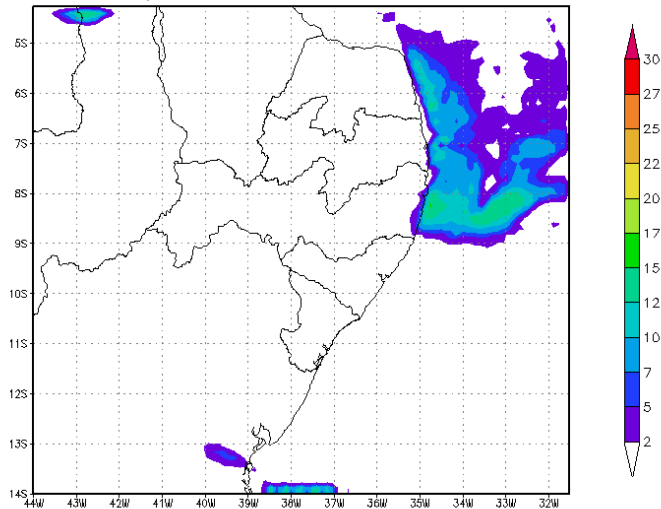
experimento controle 12Z17JUN2010



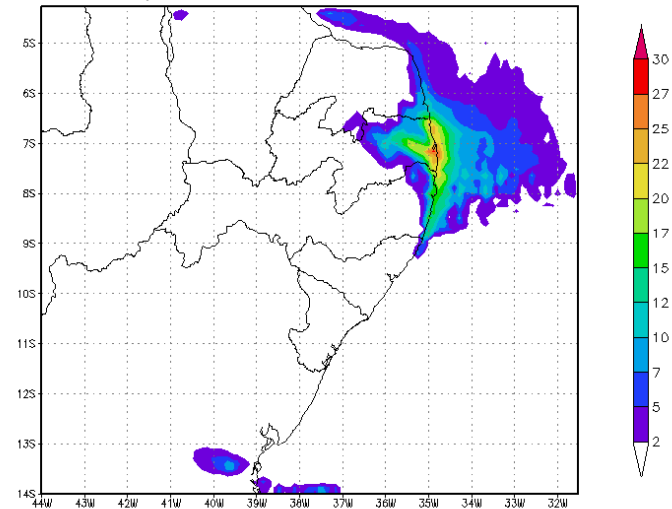
experimento controle NH 12Z17JUN2010



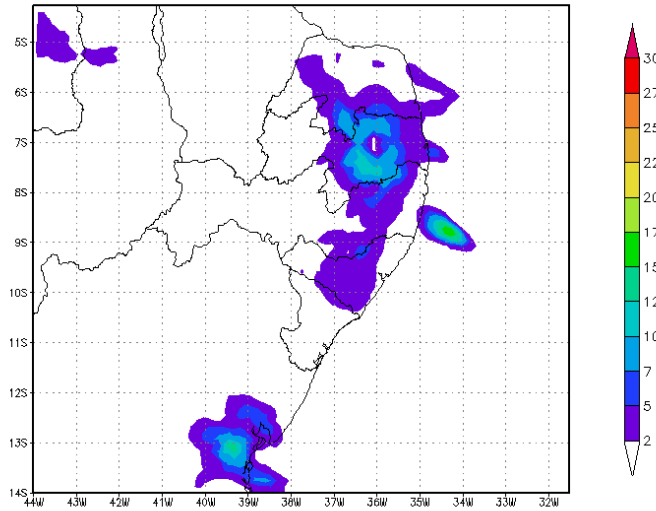
experimento KF 12Z17JUN2010



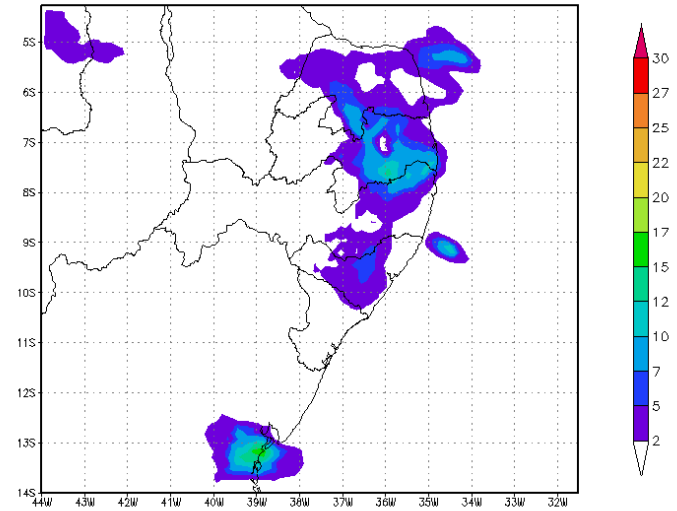
experimento KFM 12Z17JUN2010



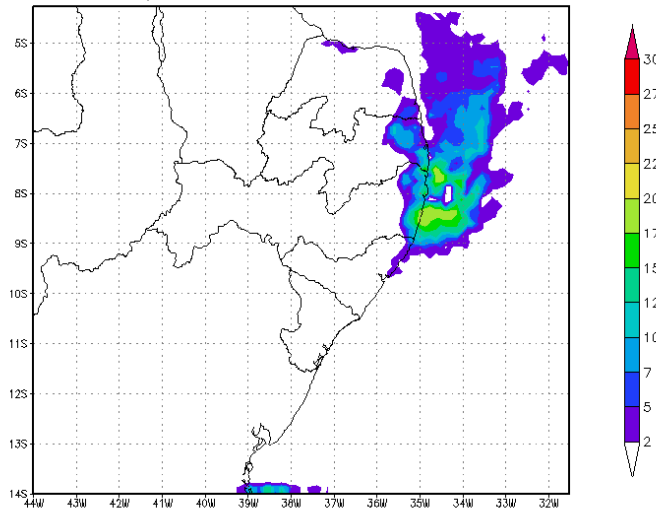
experimento controle 18Z17JUN2010



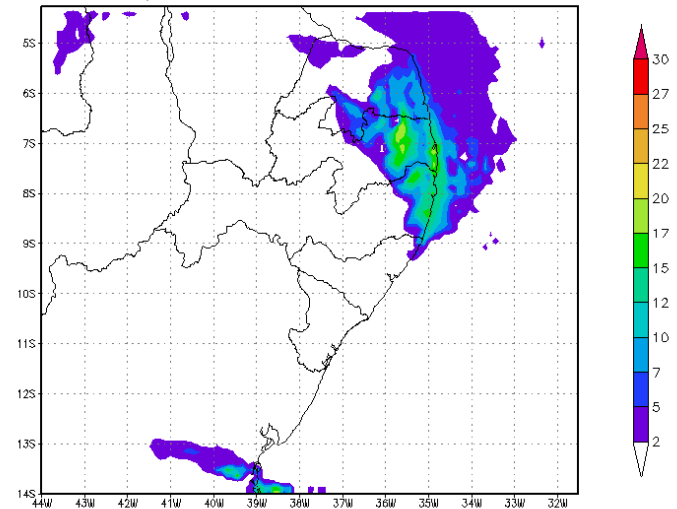
experimento controle NH 18Z17JUN2010



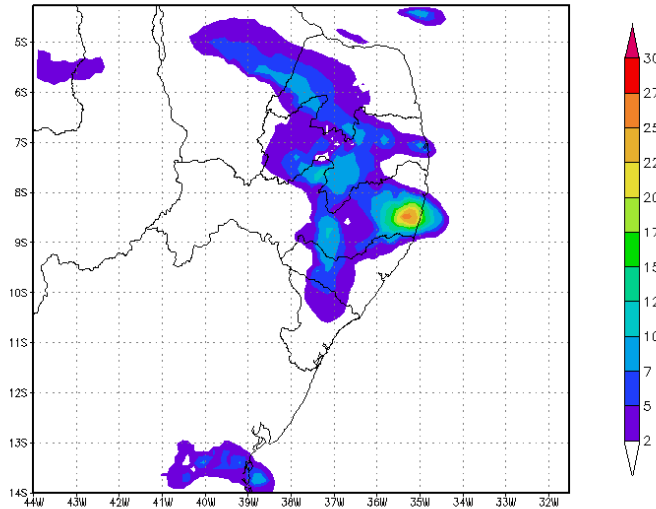
experimento KF 18Z17JUN2010



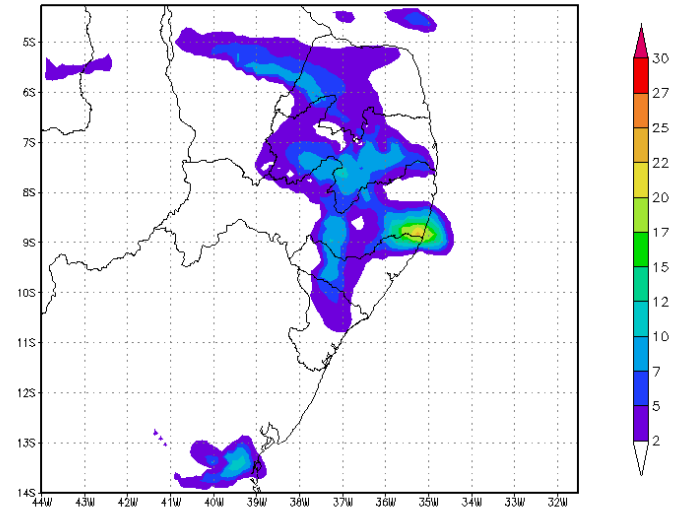
experimento KFM 18Z17JUN2010



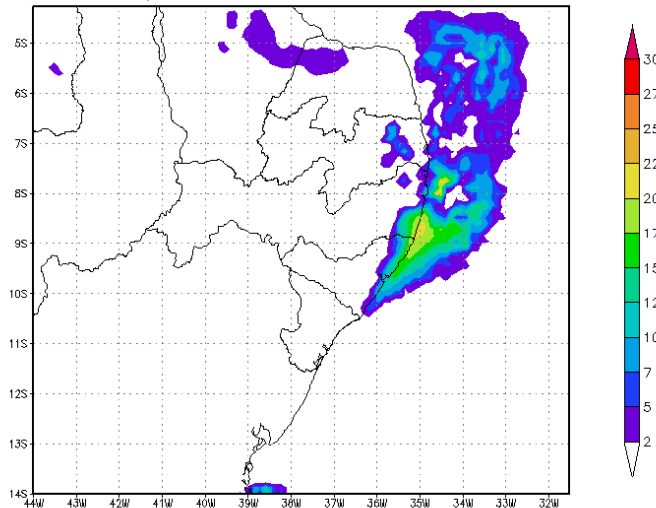
experimento controle 00Z18JUN2010



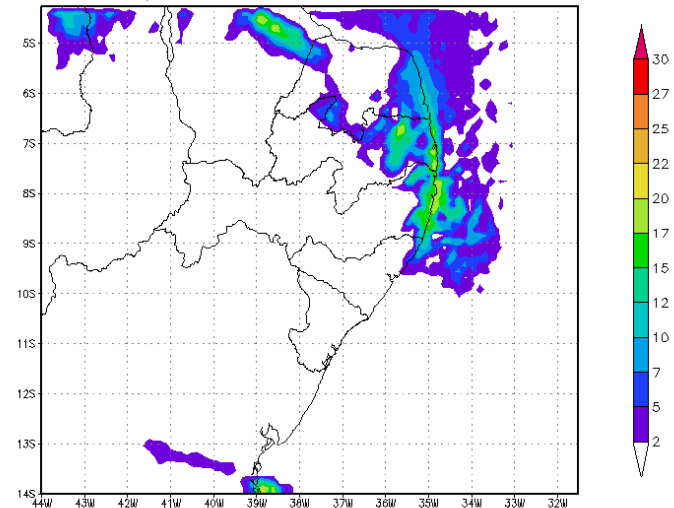
experimento controle NH 00Z18JUN2010



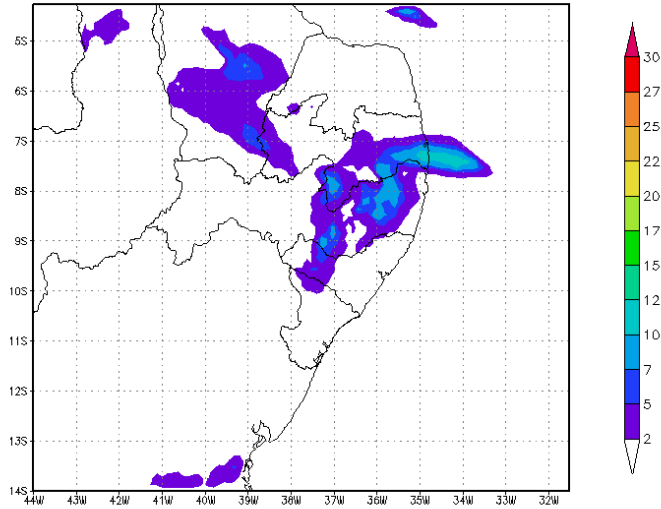
experimento KF 00Z18JUN2010



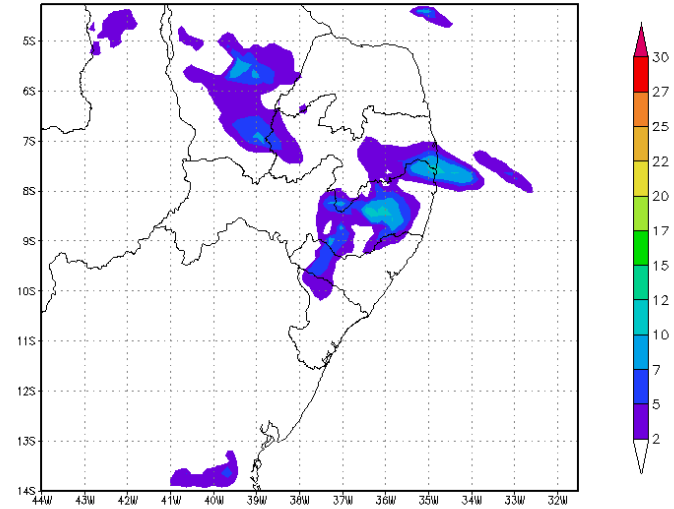
experimento KFM 00Z18JUN2010



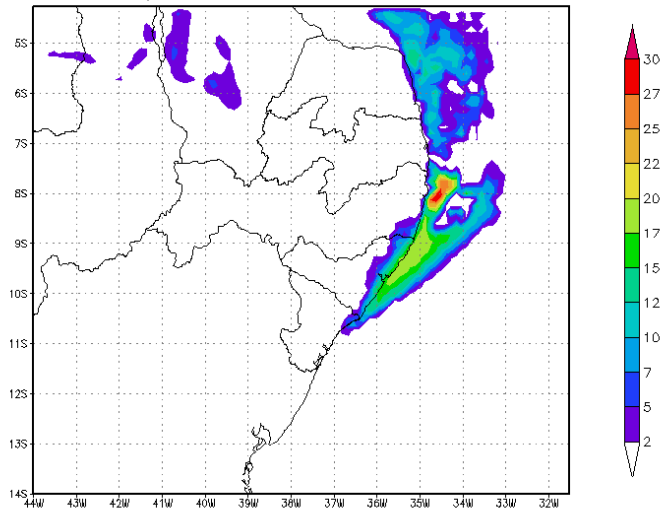
experimento controle 06Z18JUN2010



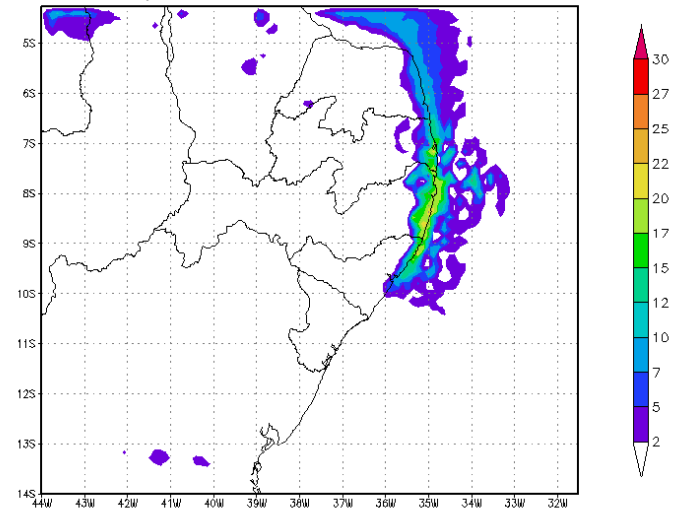
experimento controle NH 06Z18JUN2010



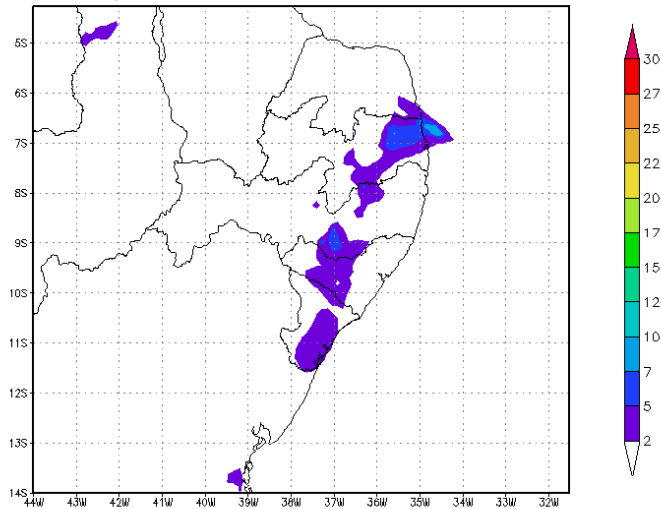
experimento KF 06Z18JUN2010



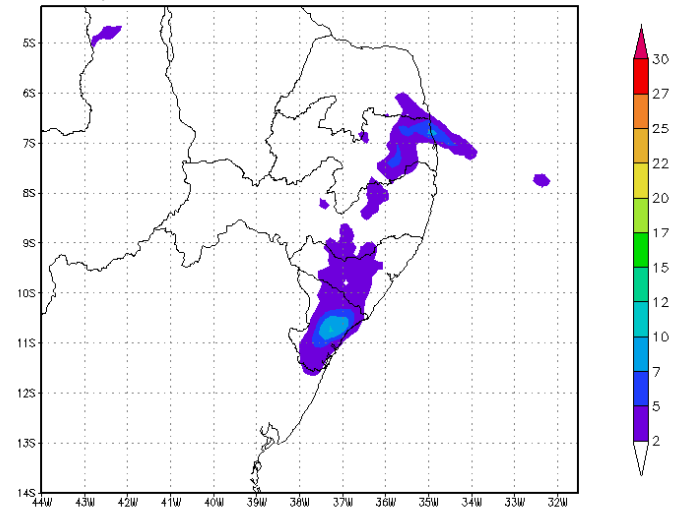
experimento KFM 06Z18JUN2010



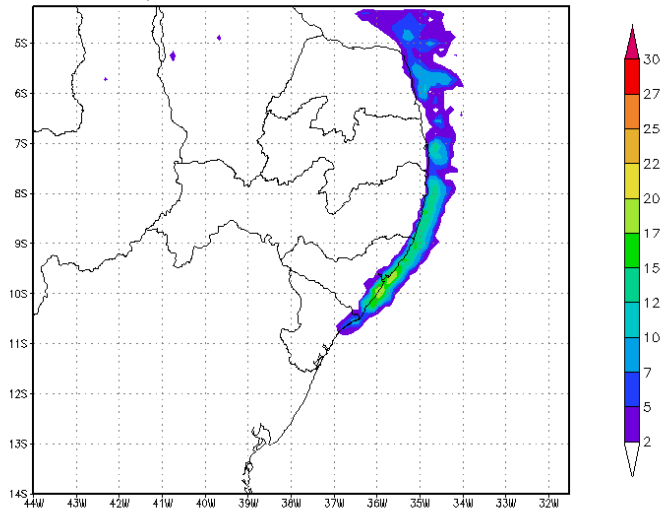
experimento controle 12Z18JUN2010



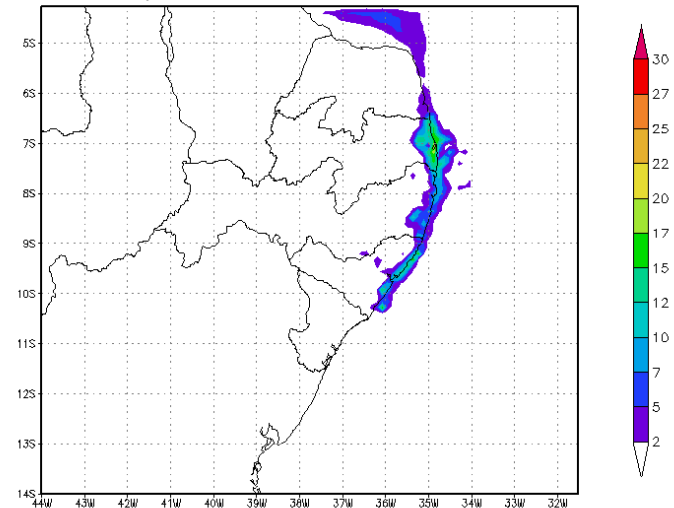
experimento controle NH 12Z18JUN2010



experimento KF 12Z18JUN2010



experimento KFM 12Z18JUN2010

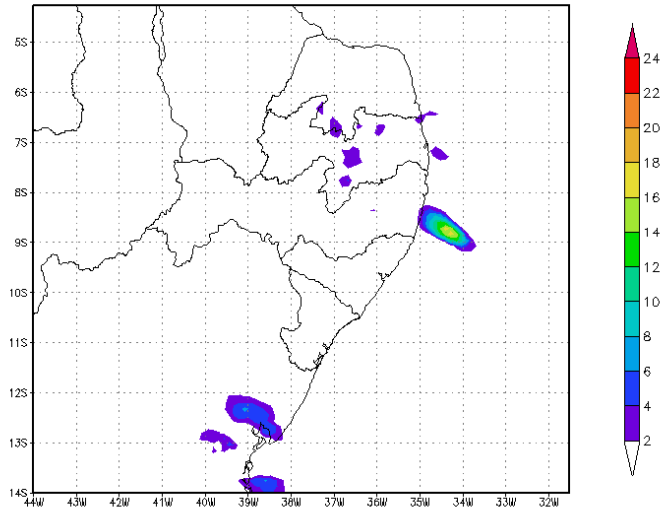


The background of the slide is a photograph of a sunset or sunrise over a vast body of water. The sky is a deep blue with wispy white clouds. A bright, colorful rainbow is visible on the left side of the image, extending from the horizon towards the top. The water in the foreground is dark blue with gentle ripples.

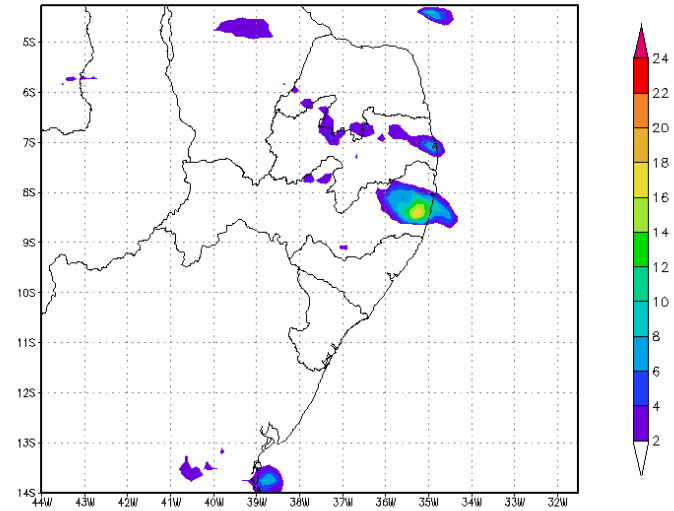
Diferença entre os esquema de Convecção

Betts Miller-Janjic: Hidroestático – Não-hidroestático

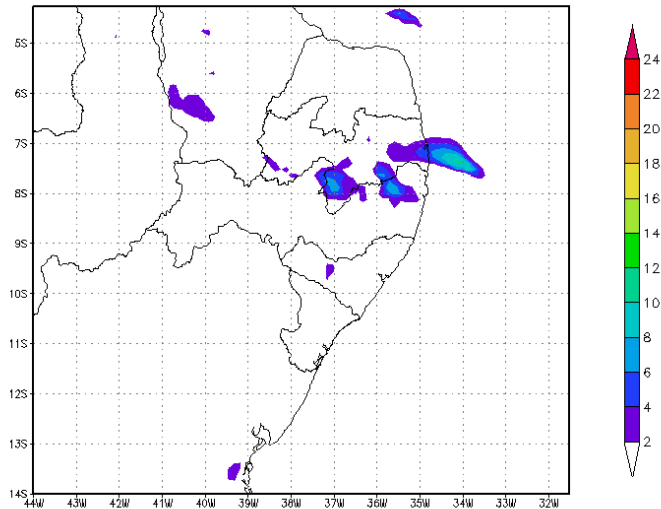
Betts-Miller H-NH 18Z17JUN2010



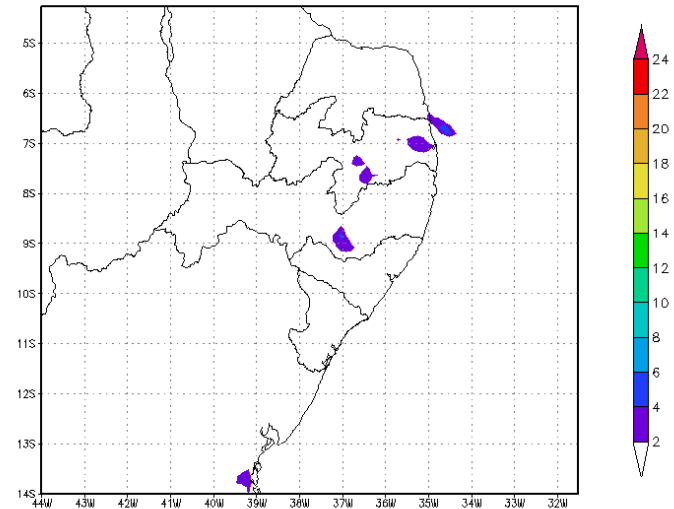
Betts-Miller H-NH 00Z18JUN2010



Betts-Miller H-NH 06Z18JUN2010

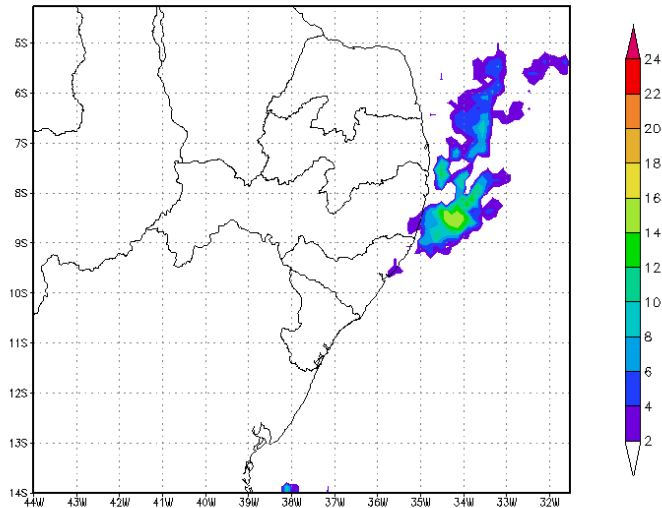


Betts-Miller H-NH 12Z18JUN2010

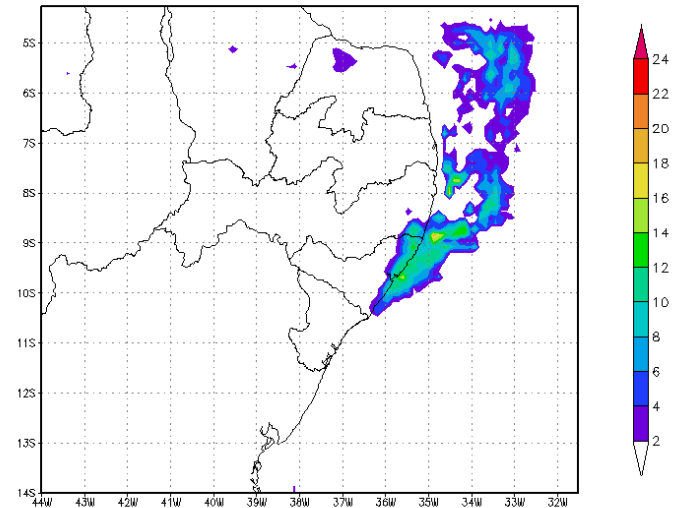


Kain-Fritsch: Hidroestático – Não-hidroestático

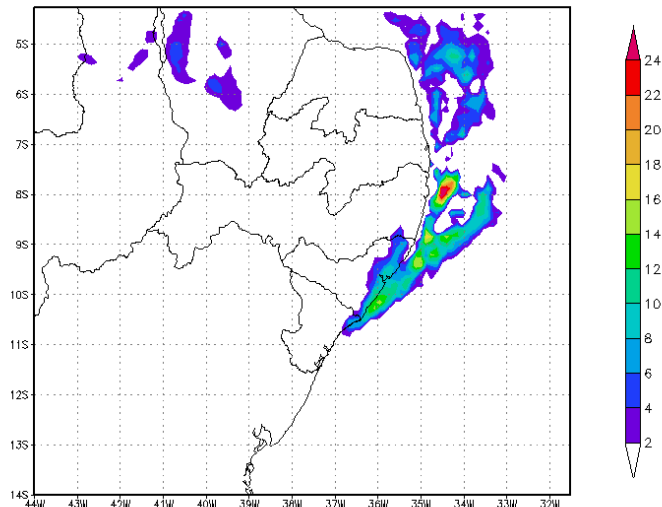
kf-kfm 18Z17JUN2010



kf-kfm 00Z18JUN2010



kf-kfm 06Z18JUN2010



Conclusões:

1. Quanto a distribuição espacial, o esquema Betts-Miler se aproximou mais do observado.
2. Não foram observadas diferenças significativas entre as rodadas de Betts-Miler Hidrostático e Não-Hidrostático.
3. Com Kain-Fritsch o modelo ficou bloqueado na costa da região em estudo.

Sugestões de Trabalhos Futuros:

1. Rodar com condições iniciais e de contorno de 15Km, para verificar melhor a leste da região.
2. Rodar ensemble com alguns membros para verificar a destreza do modelo.



Obrigado