

Implementações recentes e trabalhos em andamento MASTER.

Edmilson Dias de Freitas, Pedro Leite da Silva Dias, Leila Droprinchinski Martins, Éder Paulo Vendasco, Melissa Santi Itimura, Fabrício Branco, Mariana Lino Gouvêa, Fábio Calixto Cabral, Jorge Alberto Martins

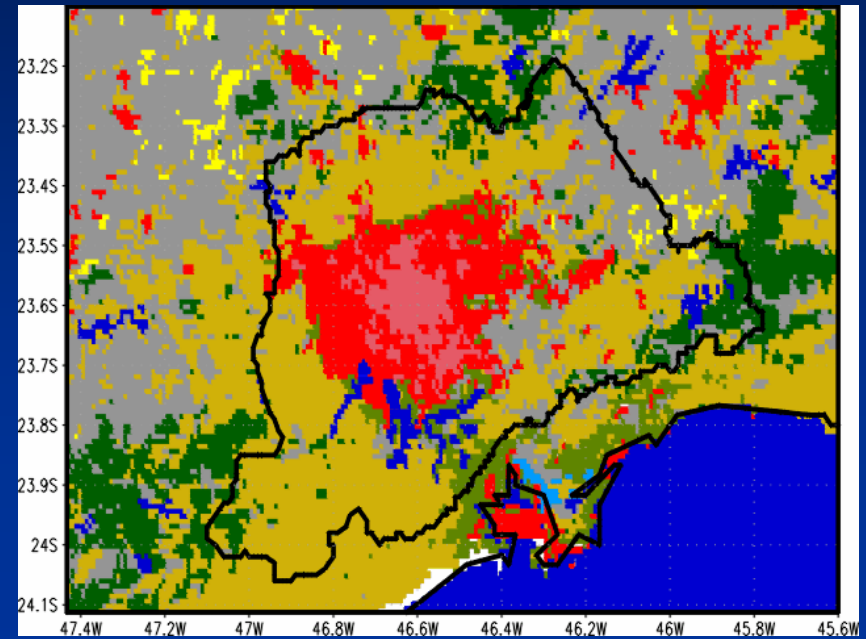
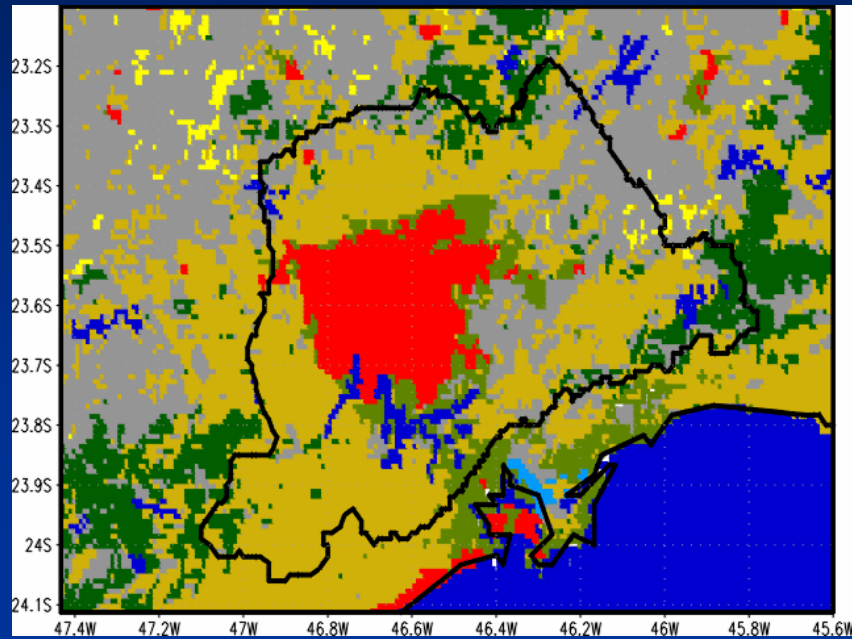
DCA – IAG – USP



Mudanças no arquivo de uso do solo

USGS v2

USGS v2 + Landsat



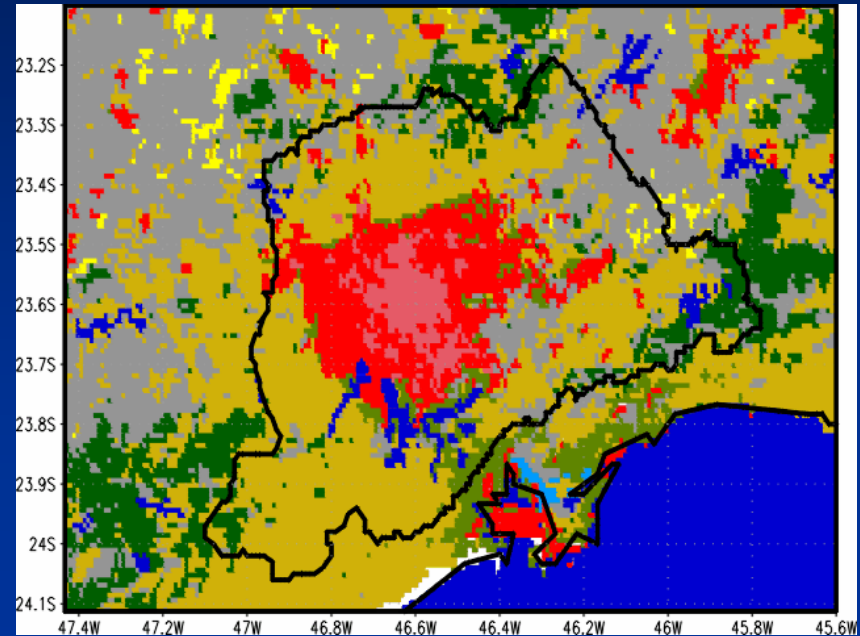
Em andamento:

USGS v2 + Landsat

Com base em informações de número de veículos e população (IBGE) criar arquivo baseado na ocupação do solo com os parâmetros de interesse do TEB.

O objetivo é eliminar as variáveis do RAMSIN e dar maior flexibilidade ao código.

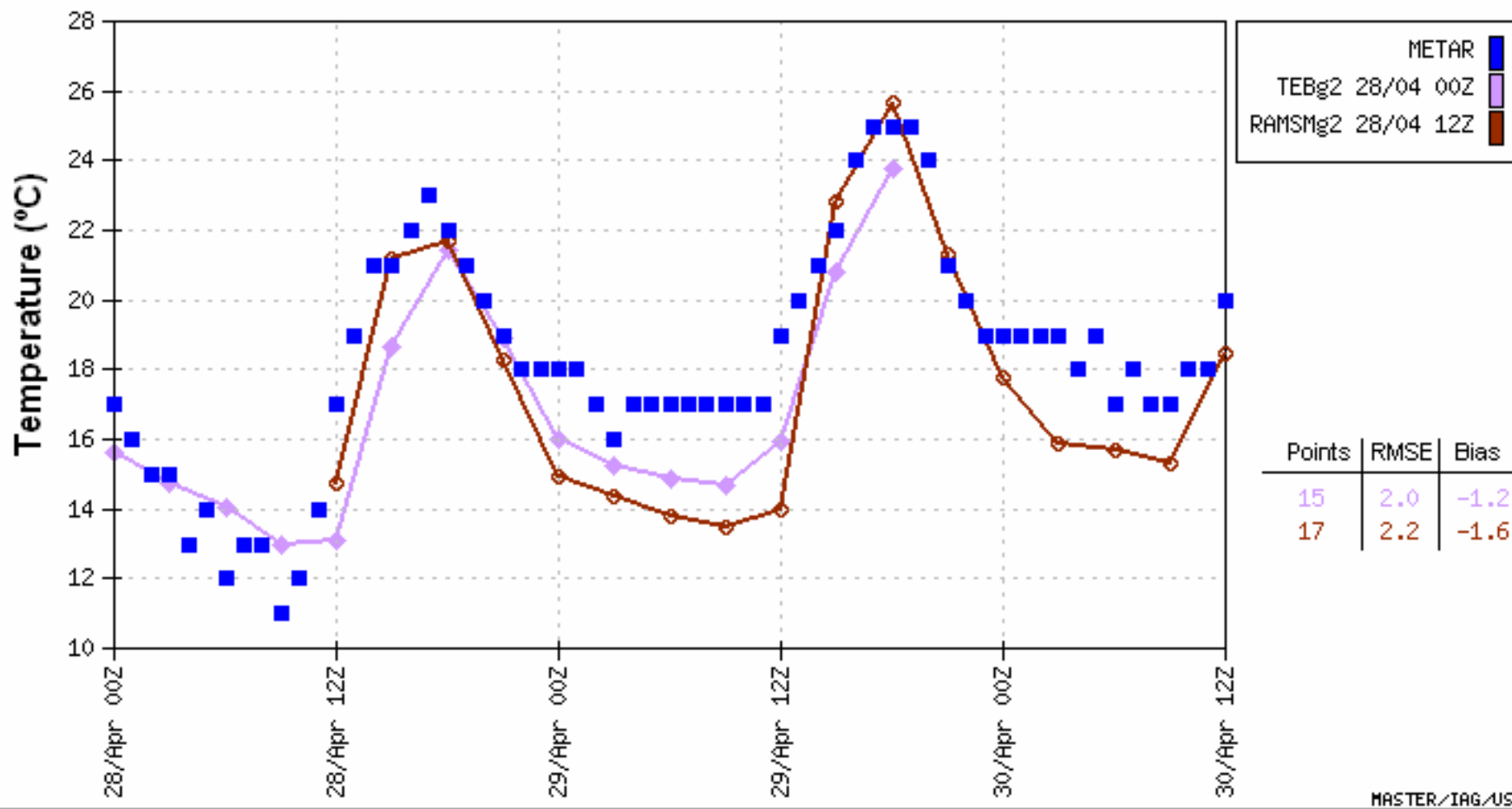
O mesmo procedimento será feito para as emissões.



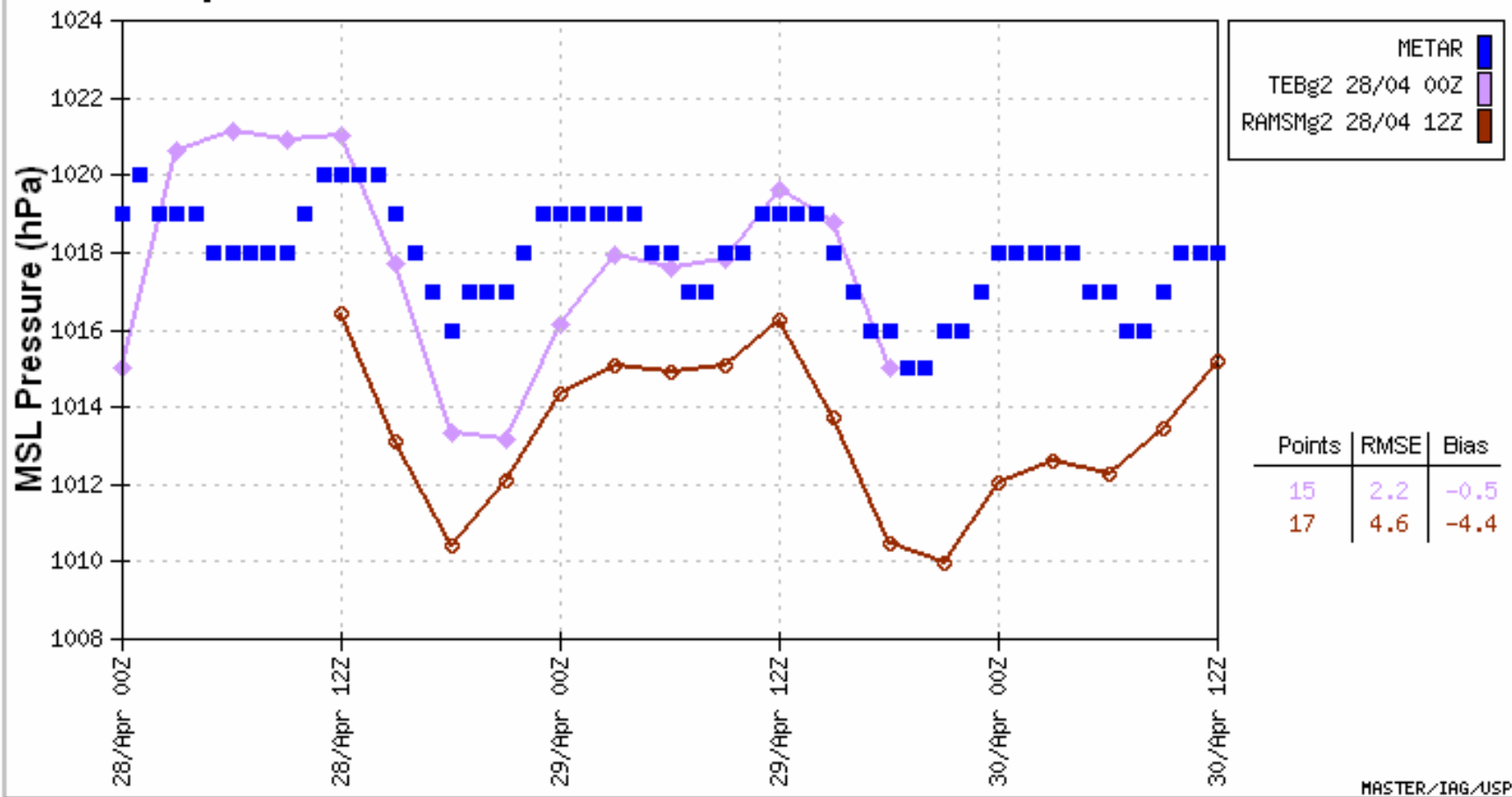
Introdução dos resultados do TEB
na página do MASTER
Comparação entre modelos



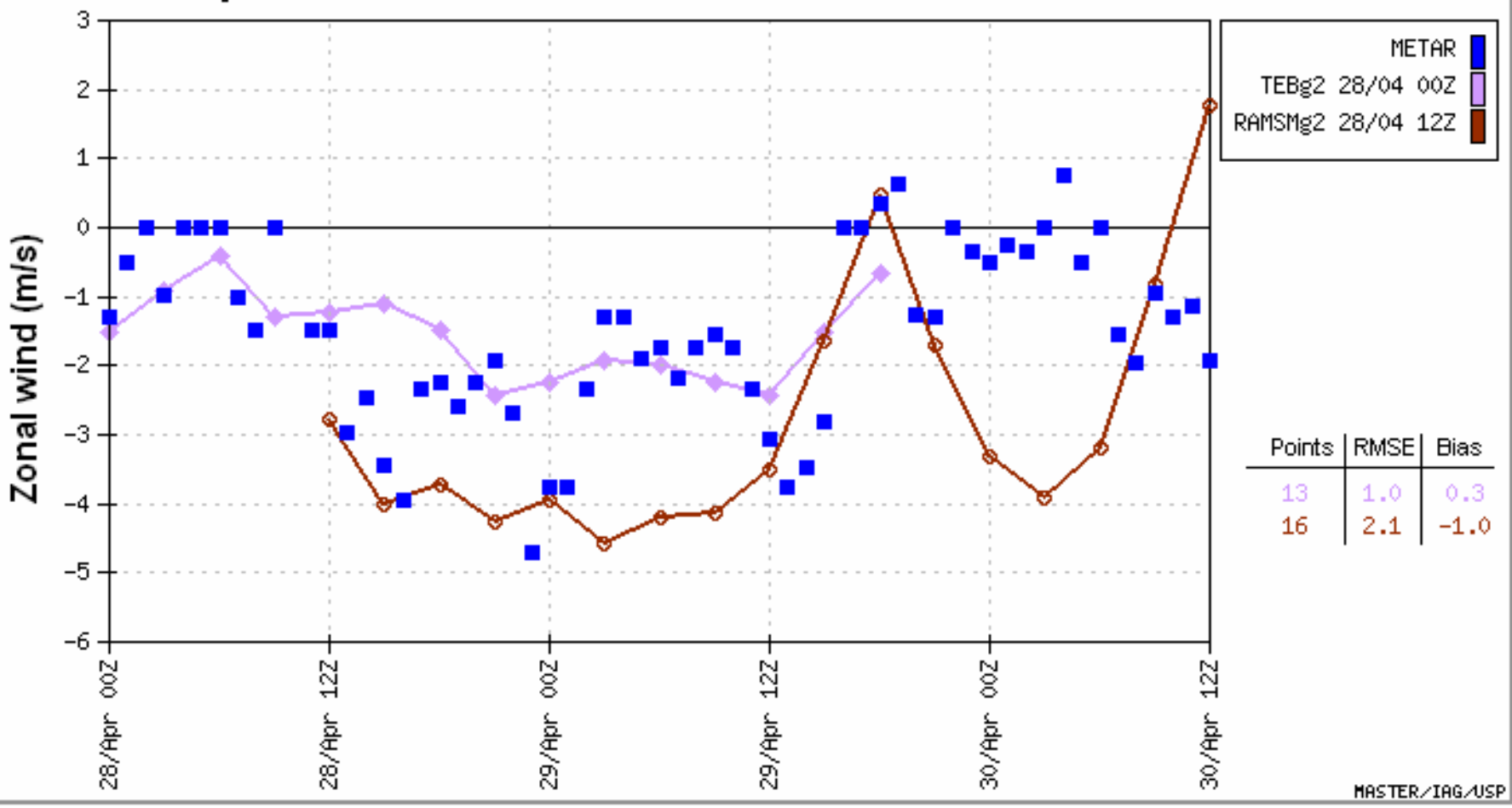
Comparison between models and observed data at SBGR station



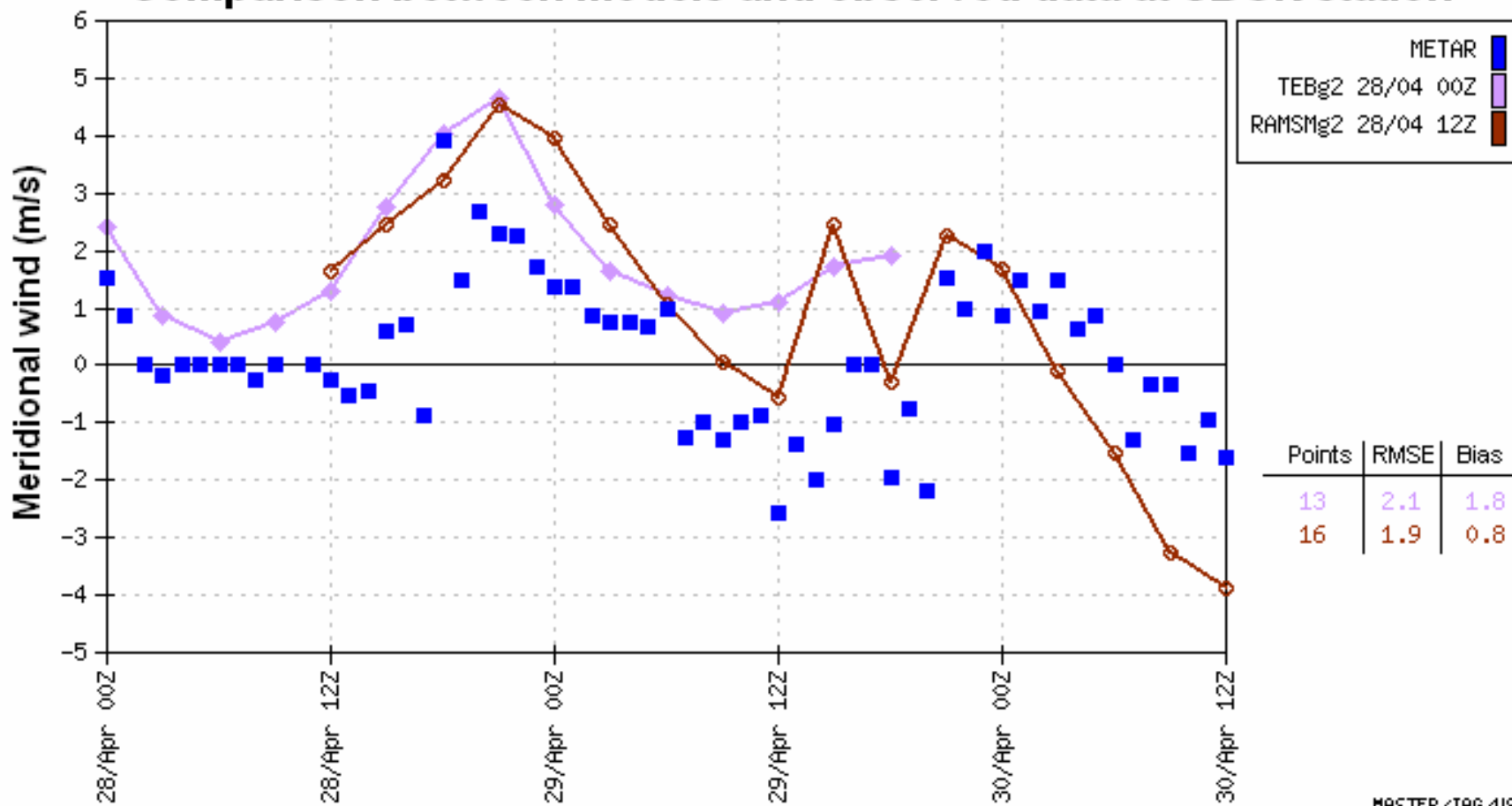
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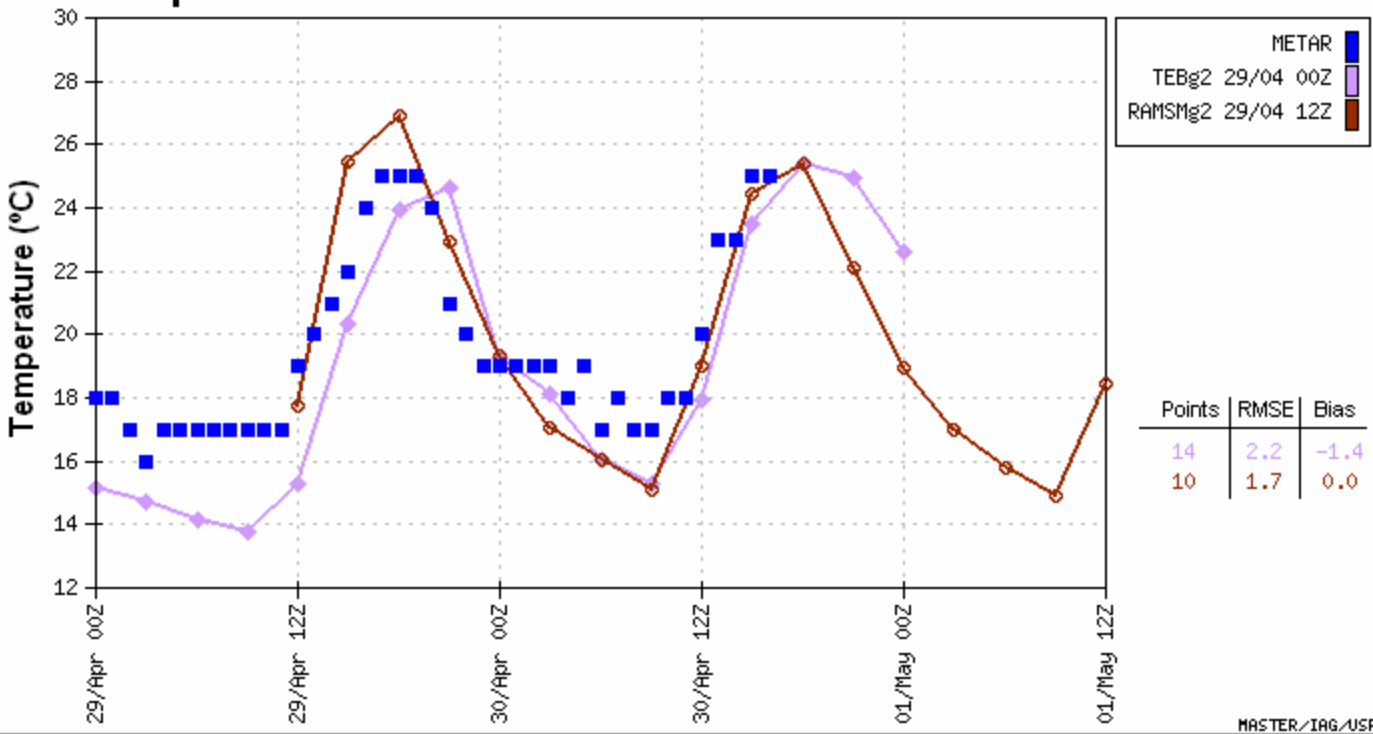
Comparison between models and observed data at SBGR station



Comparison between models and observed data at SBGR station

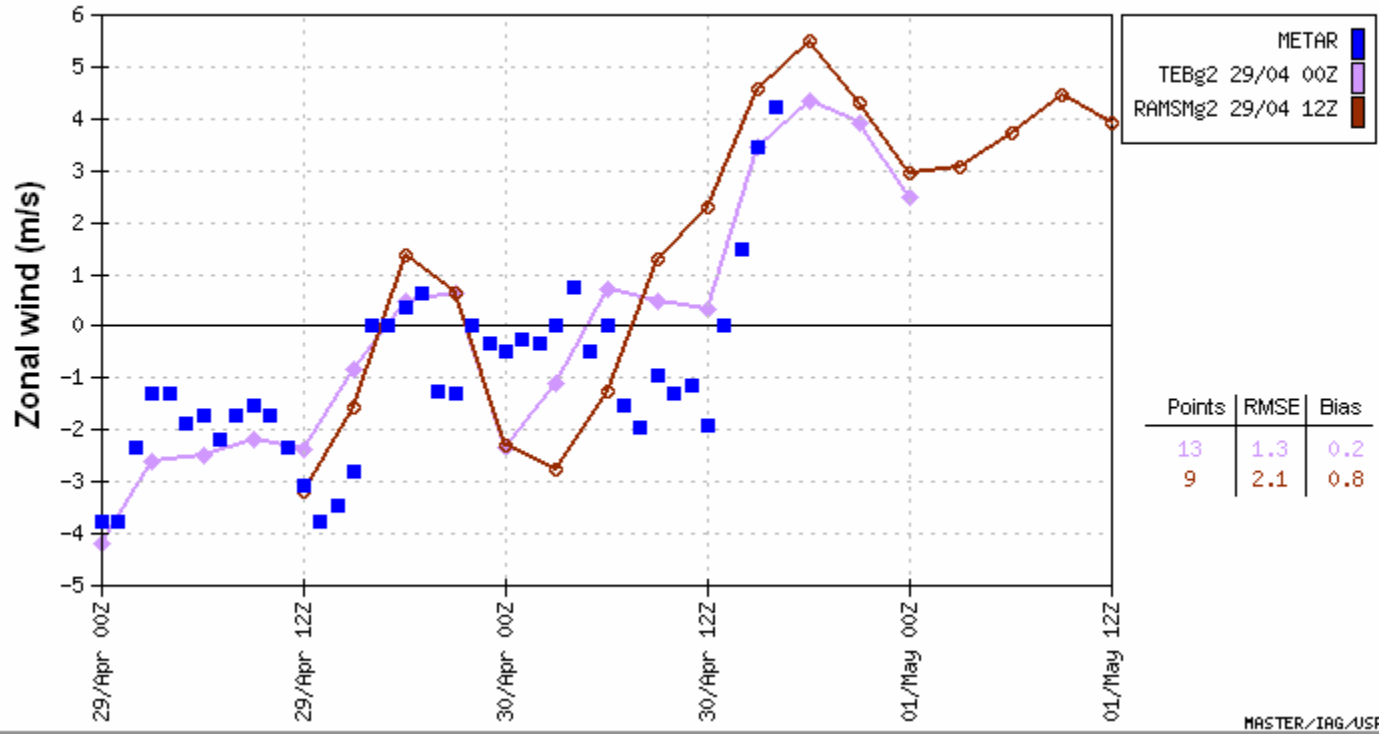


Comparison between models and observed data at SBGR station



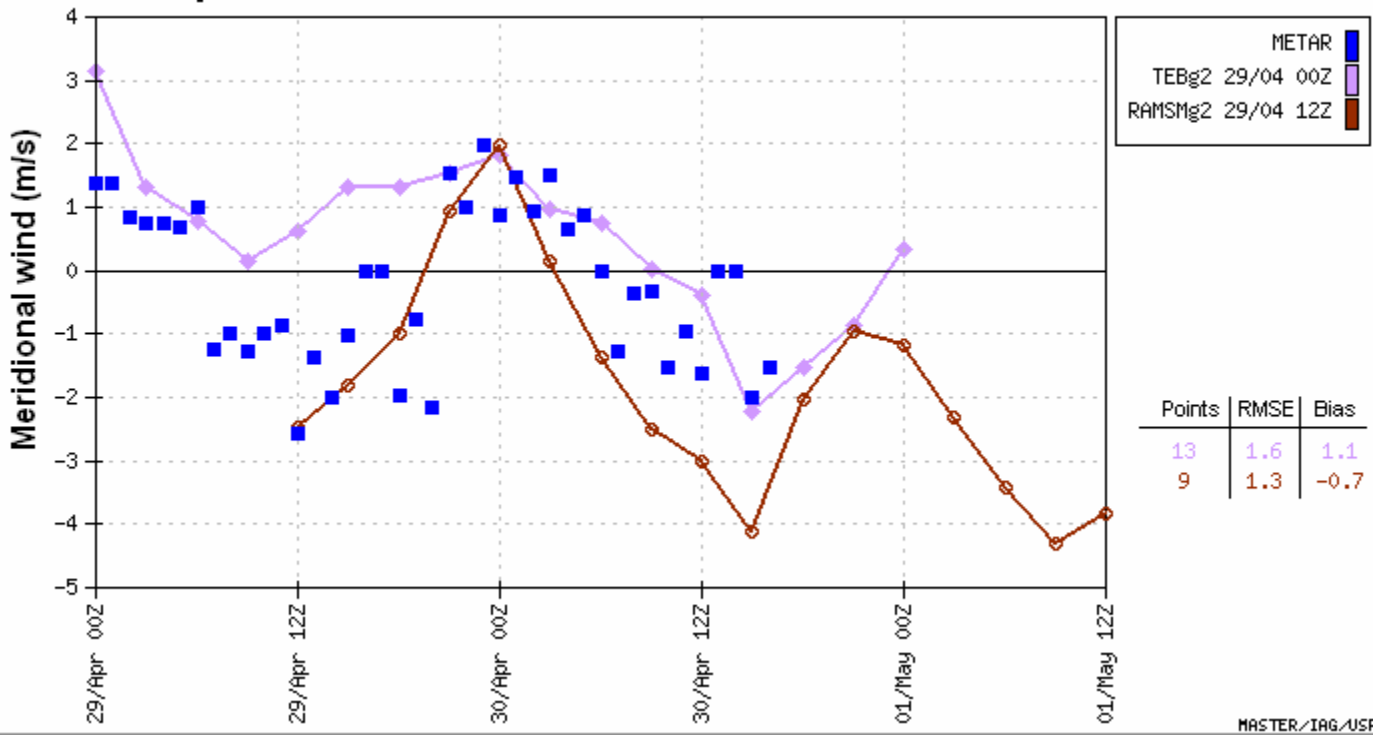
MASTER/IAG/USP

Comparison between models and observed data at SBGR station



MASTER/IAG/USP

Comparison between models and observed data at SBGR station



Exemplos da previsão de poluentes



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Escolha a estação:

Pq Dom Pedro

Escolha o composto químico:

NO

Dia

01

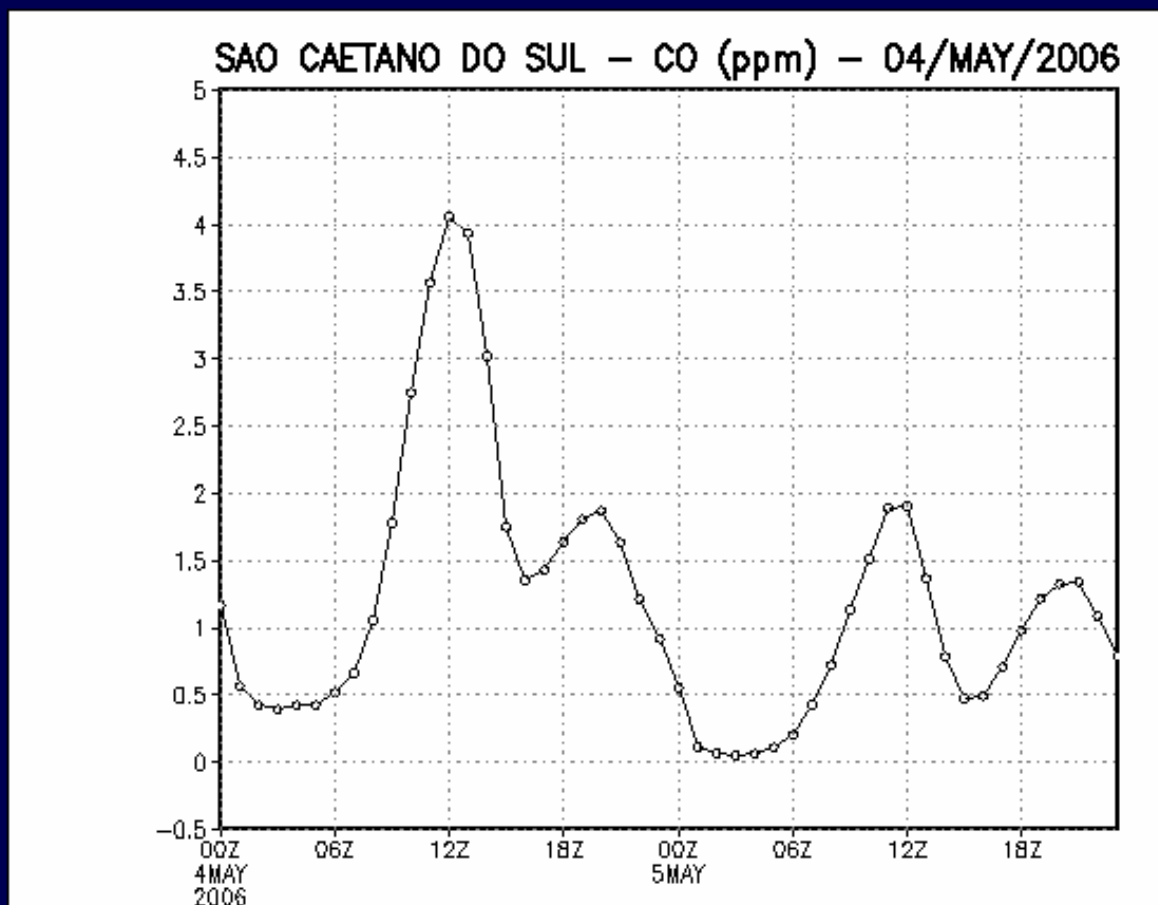
Mês

01

Ano

2006

Buscar



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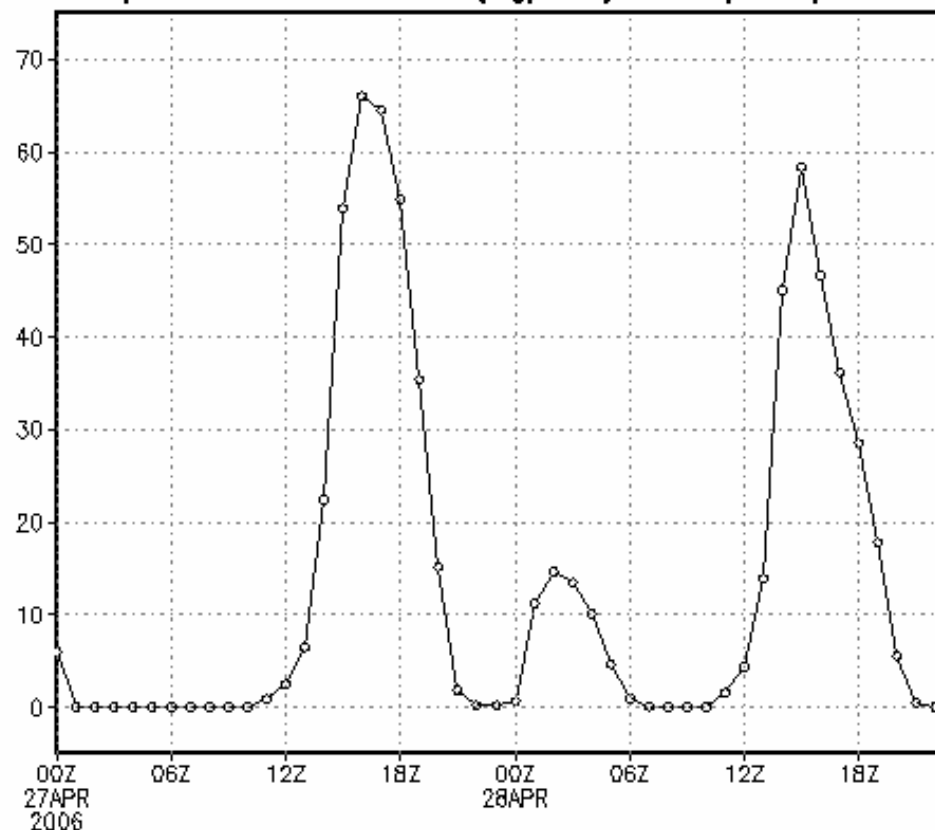
01 ▾

Ano

2006 ▾

Buscar

Pq. D. Pedro II – O₃ (ug/m³) – 27/APR/2006



Escolha o composto químico:

NO

Dia

01

Mês

01

Ano

2006

Animar

Controle e Animação

Animar Imagens:

<< Parar >>

Reinicia

Ajuste de Velocidade:

Devagar

Rápido

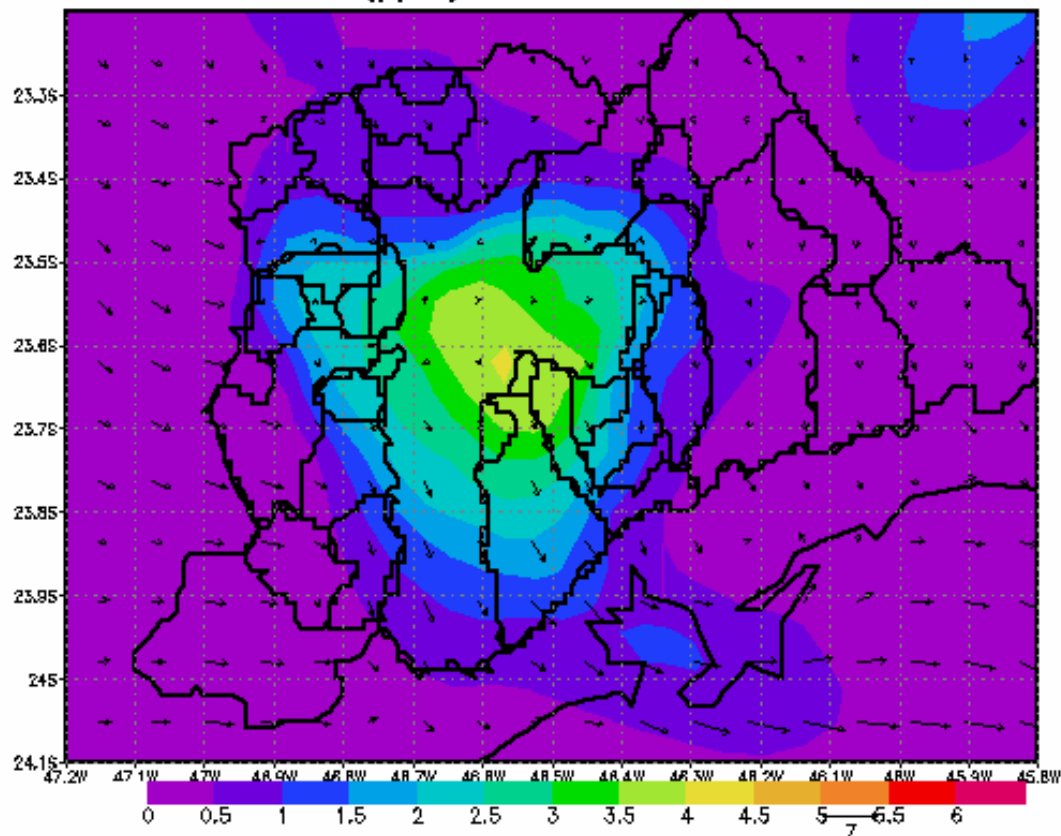
Quadro a quadro:

Anterior

Próxima

Numero da Imagem: 12

CO (ppm) - 12Z04MAY2006



Controle e Animação

Animar Imagens:

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Parar

>>

Reinicia

Ajuste de Velocidade:

Devagar

Rápido

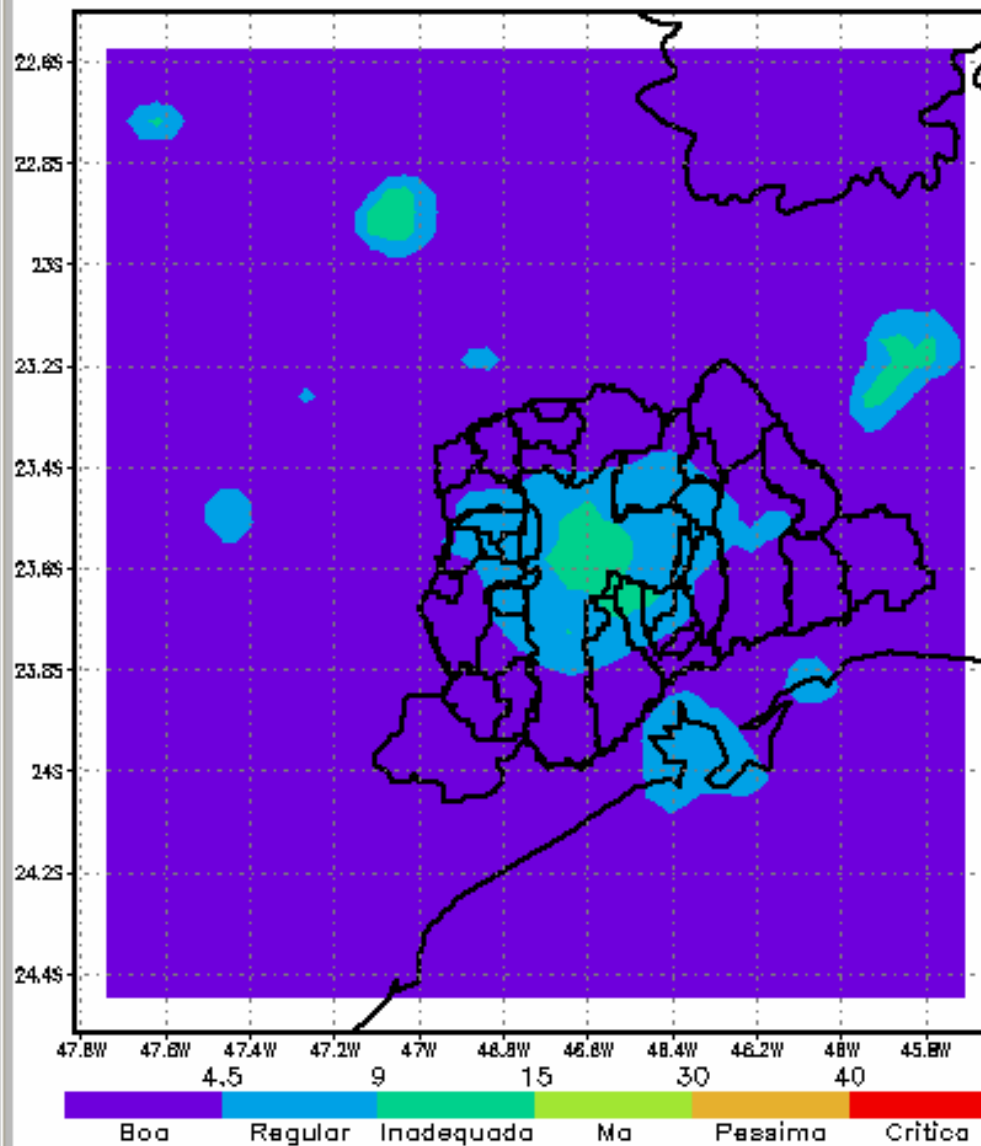
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Anterior

Próxima

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CO - 07Z25APR2006

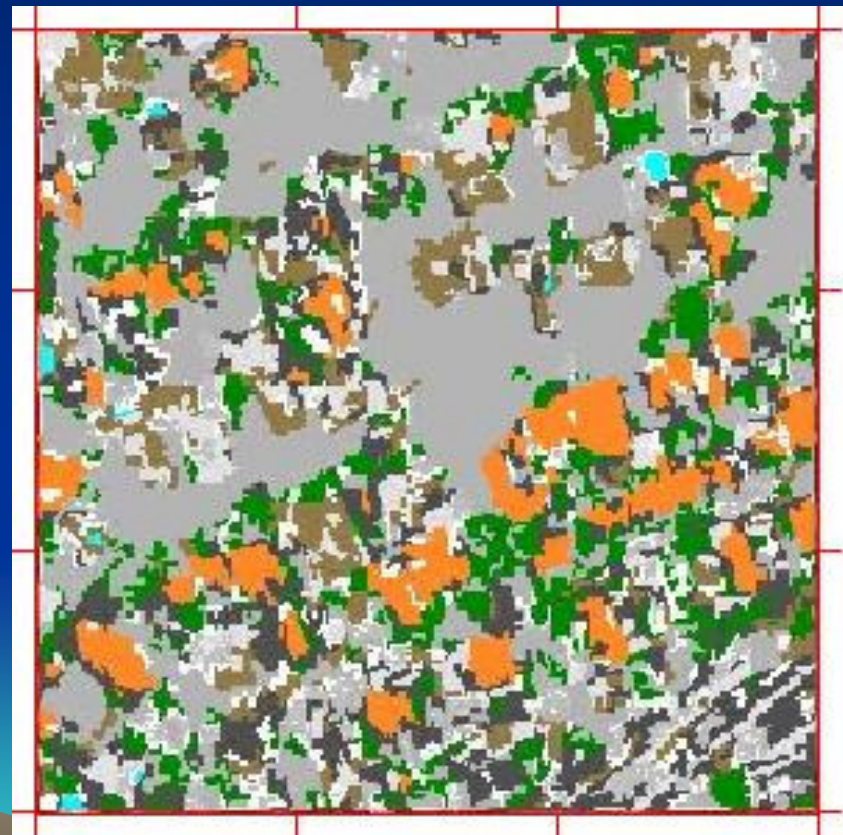


GRADS: COLY/IBES

2006-04-25-14:35

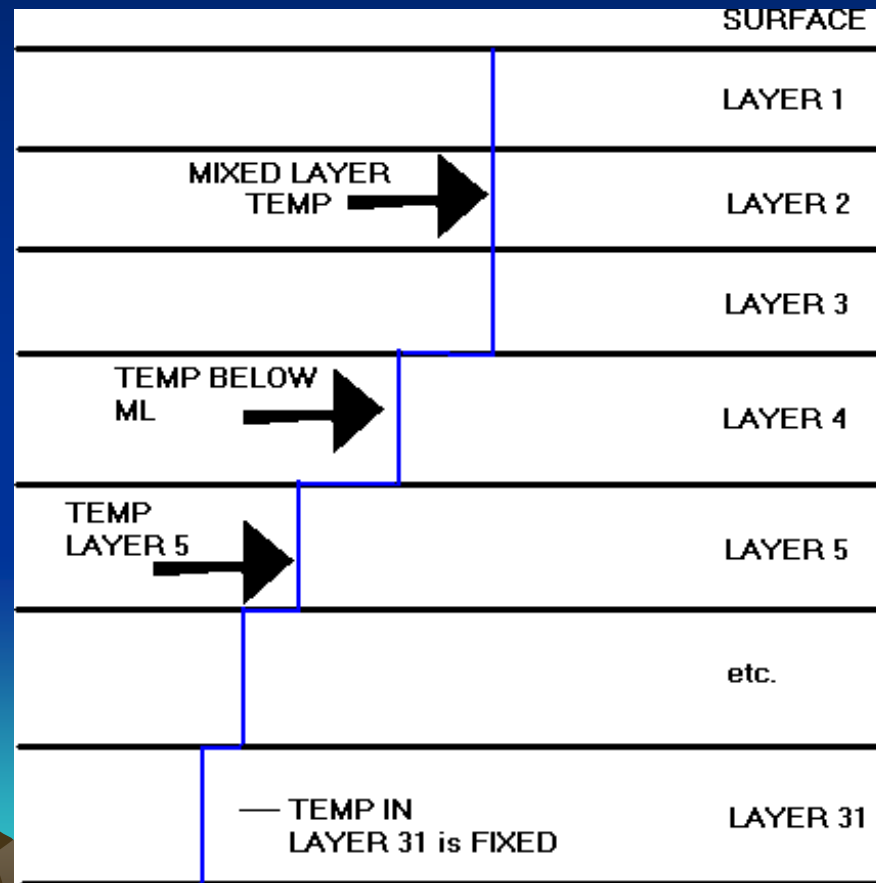
A ser desenvolvido

- Inclusão dos efeitos da vegetação no TEB-LEAF3
(Mariana Gouvêa e Fabrício Branco)



Ongoing work

- Inclusão de modelo simplificado de camada de mistura oceânica.
(Ana Cristina e Fabrício Branco)



Ongoing work

- For scientific purposes, inclusion of a more complete set of equations in the photochemistry processes

(Leila Droprinchinski Martins and Melissa Itimura)

- Base: SAPRC mechanism



Ongoing work

- Evolução dinâmica da vegetação (plantio, crescimento e colheita).
- Impactos da mudança do uso do solo na região amazônica

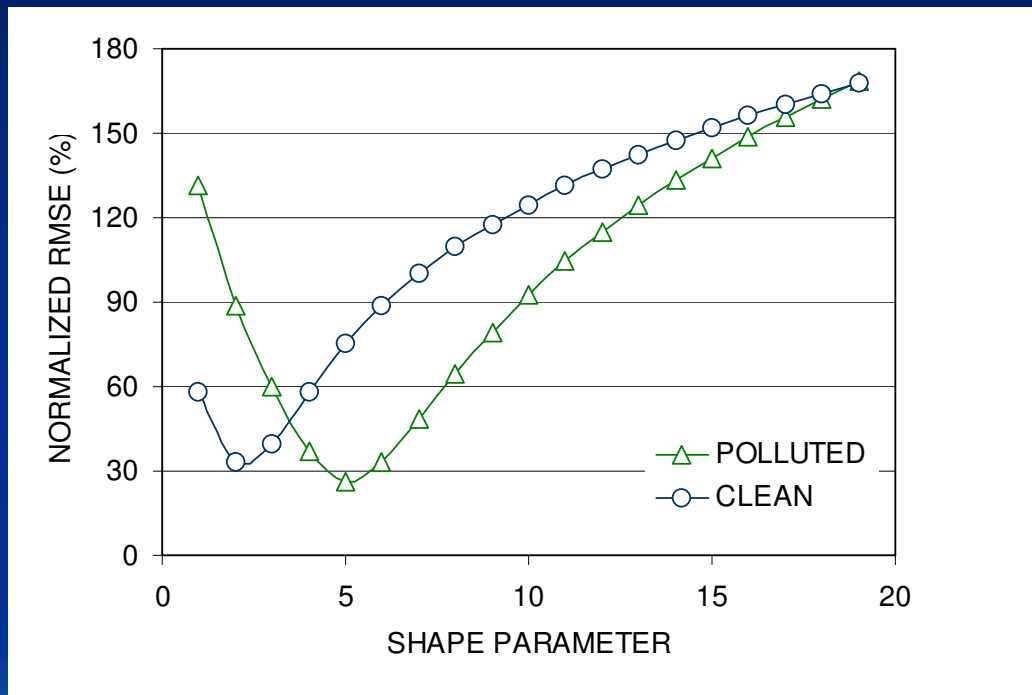
(Fábio Calixto Cabral e Sandra Saad)

- Base: GEMTM ou IBIS
- Colaboração e orientação do Demerval



Ongoing work

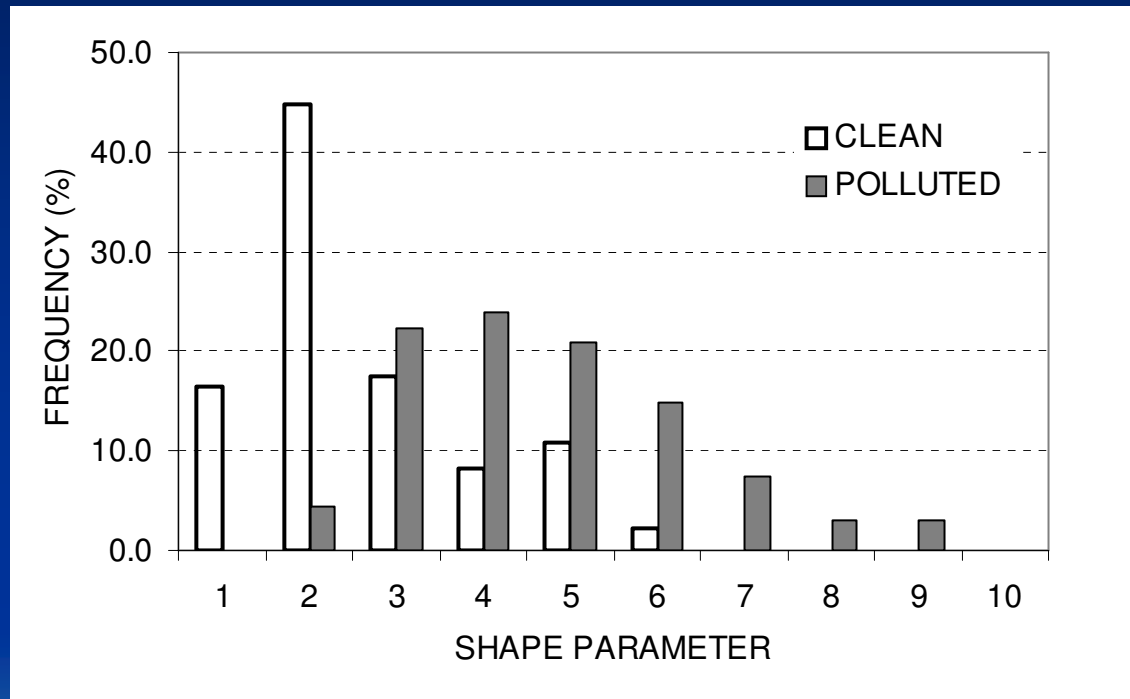
- Interaction of aerosols and clouds.
(Jorge Alberto Martins)



Change of minimum RMSE as function of the shape parameter of the fitted gamma distribution. Two representative clouds of the polluted (predominantly large shape parameters) and unpolluted (low values for shape parameters) conditions studied in this work

Ongoing work

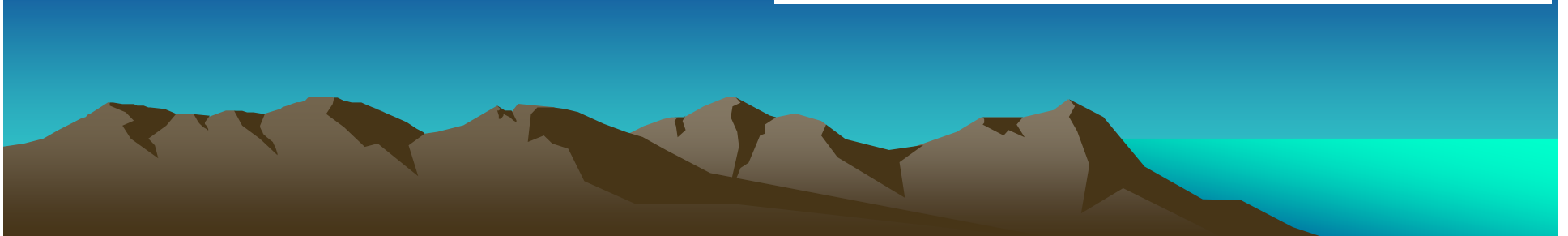
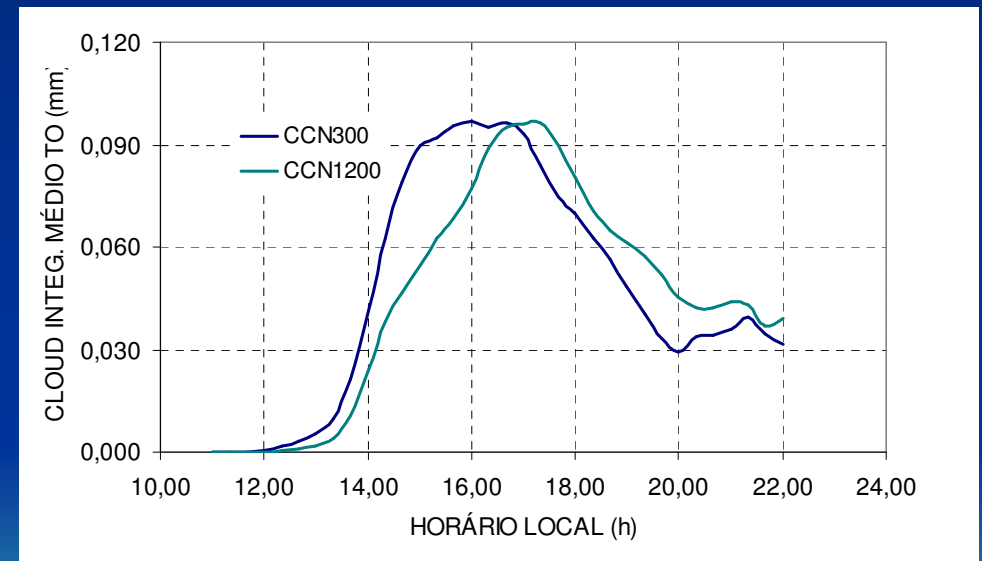
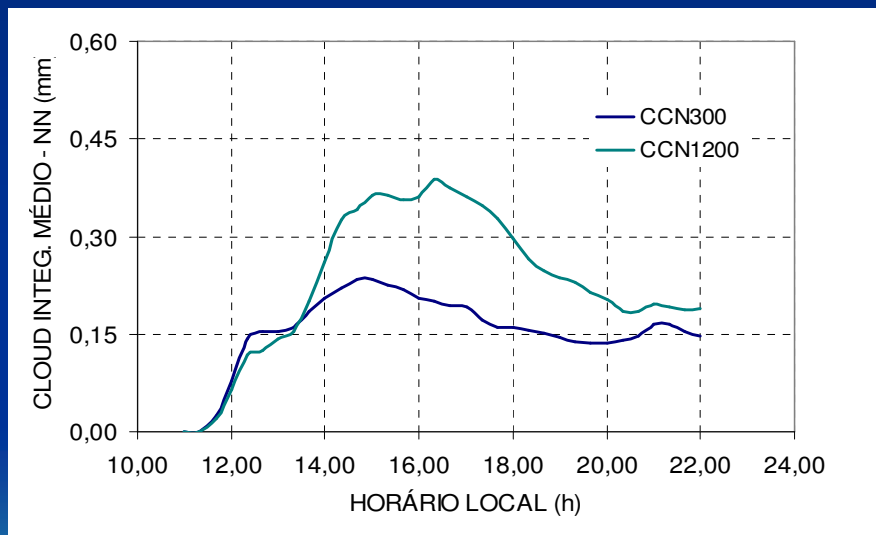
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Histogram of the frequency of occurrence of best fitting shape parameter for two selected regions of study: an unpolluted region in the west side of Amazonian and a polluted region under strong biomass burning activity near Rondônia

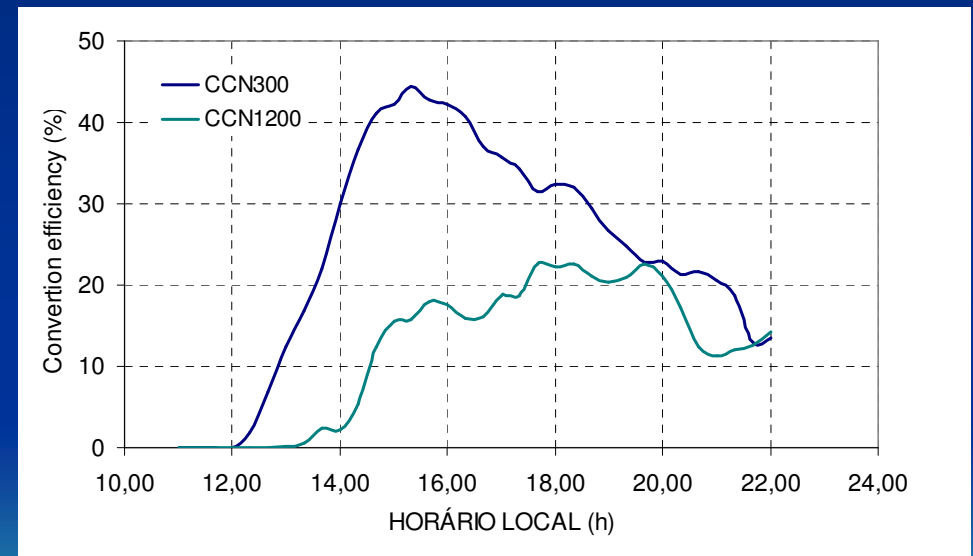
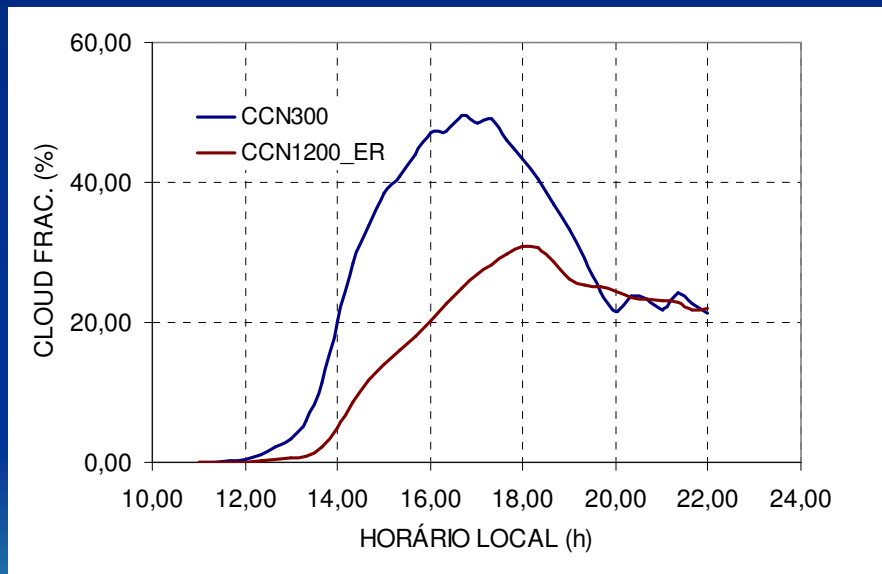
Ongoing work

- Interaction of aerosols and clouds.
(Jorge Alberto Martins)



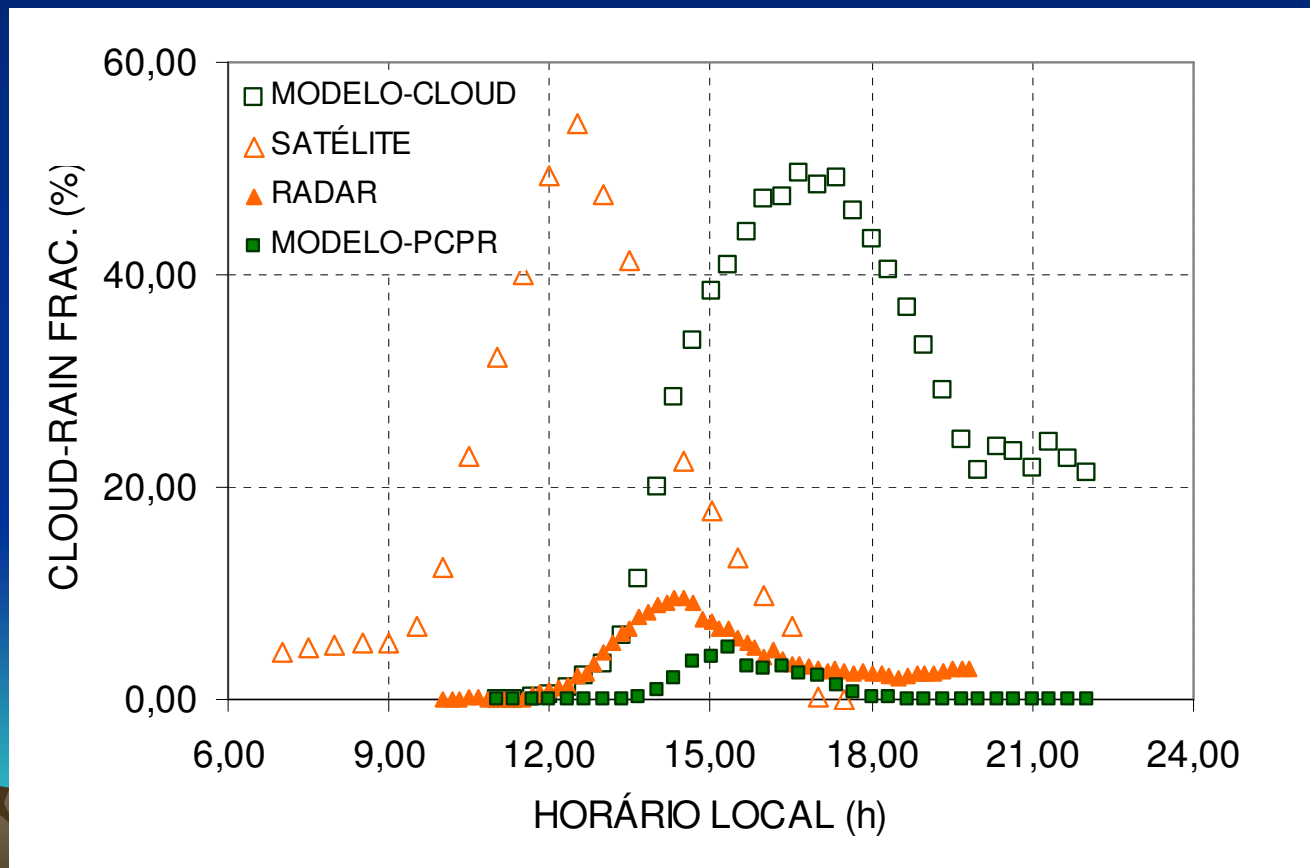
Ongoing work

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Ongoing work

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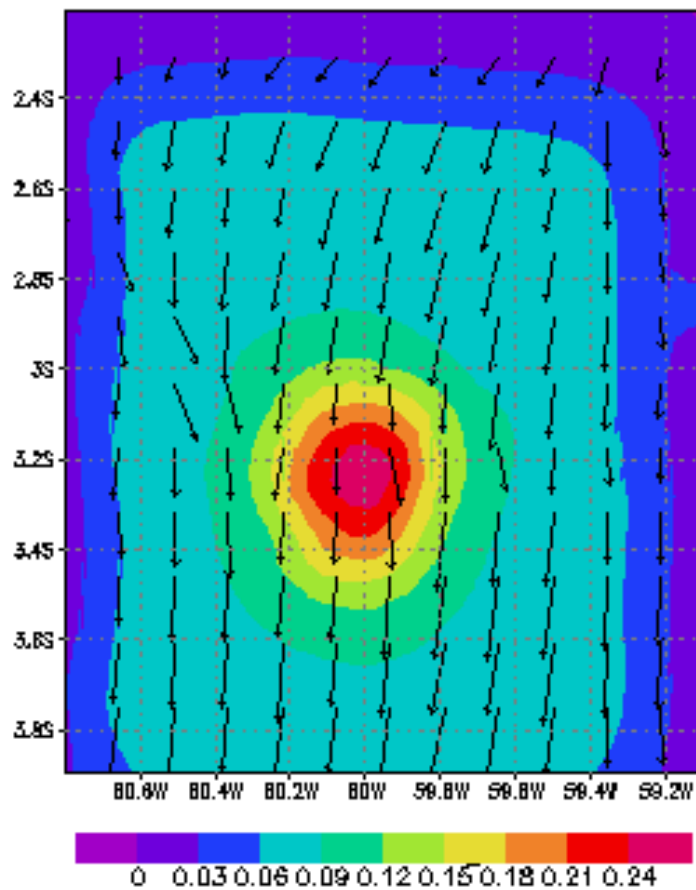
Ongoing work

- Microphysics processes
(Jorge Alberto Martins)
- Conversion of SO_2 into H_2SO_4
- Nucleation of H_2SO_4

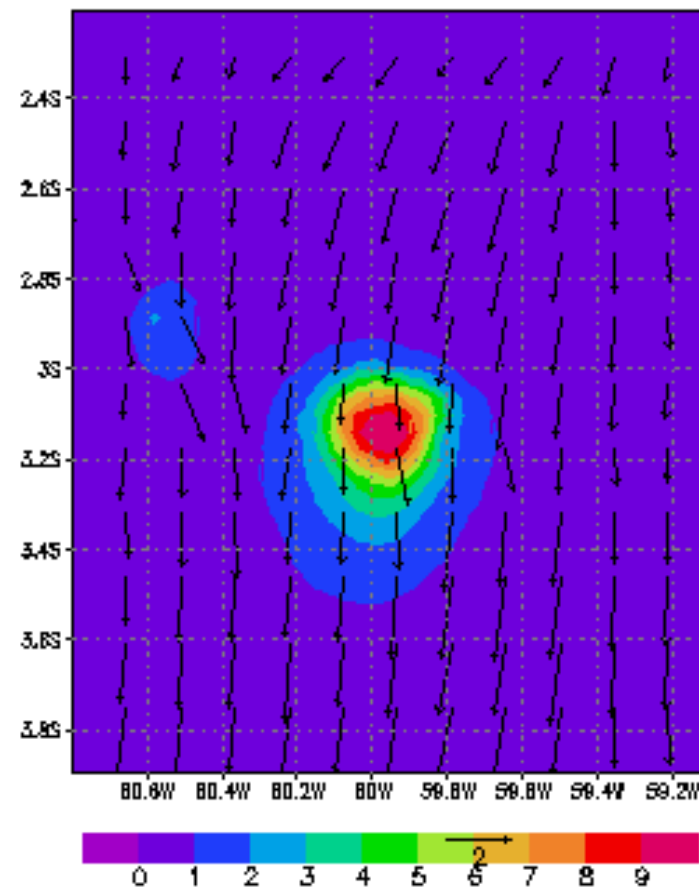


Conversion $\text{SO}_2 - \text{H}_2\text{SO}_4$

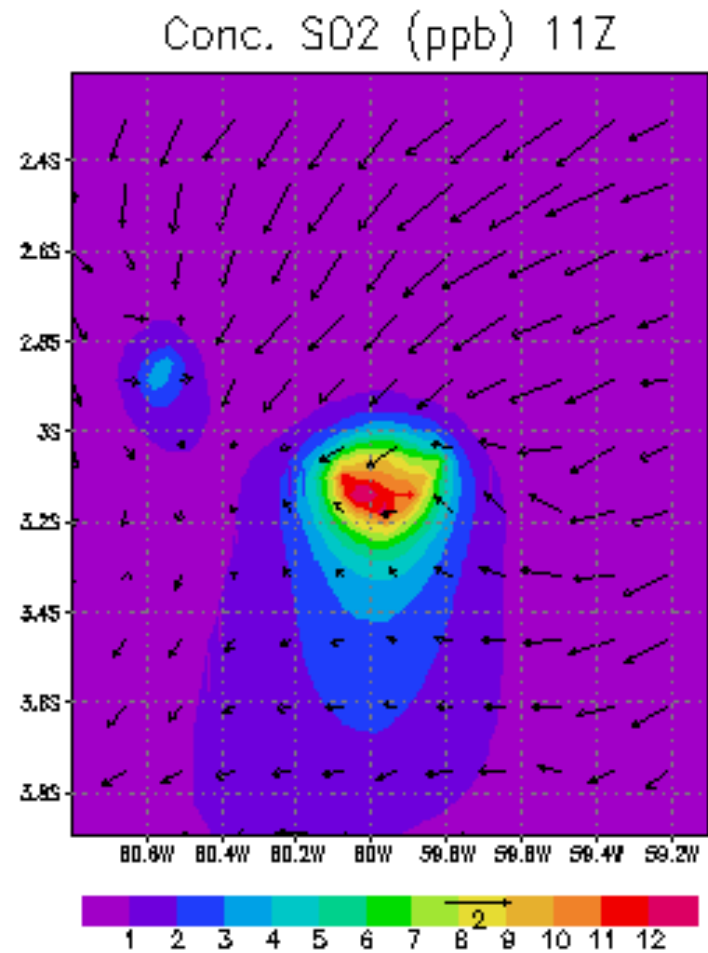
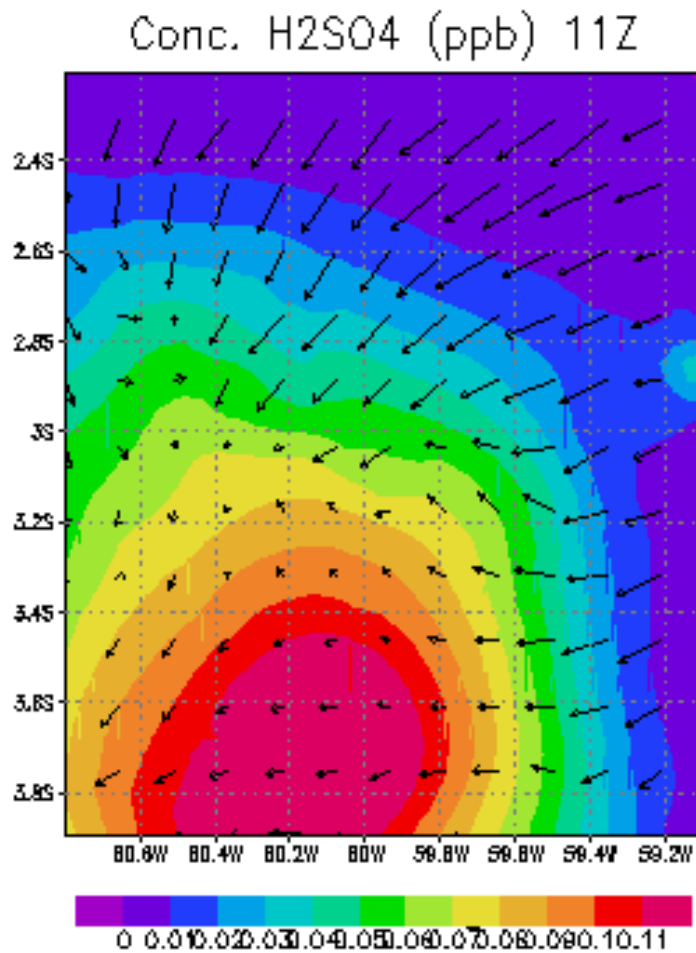
Conc. H_2SO_4 (ppb) 03Z



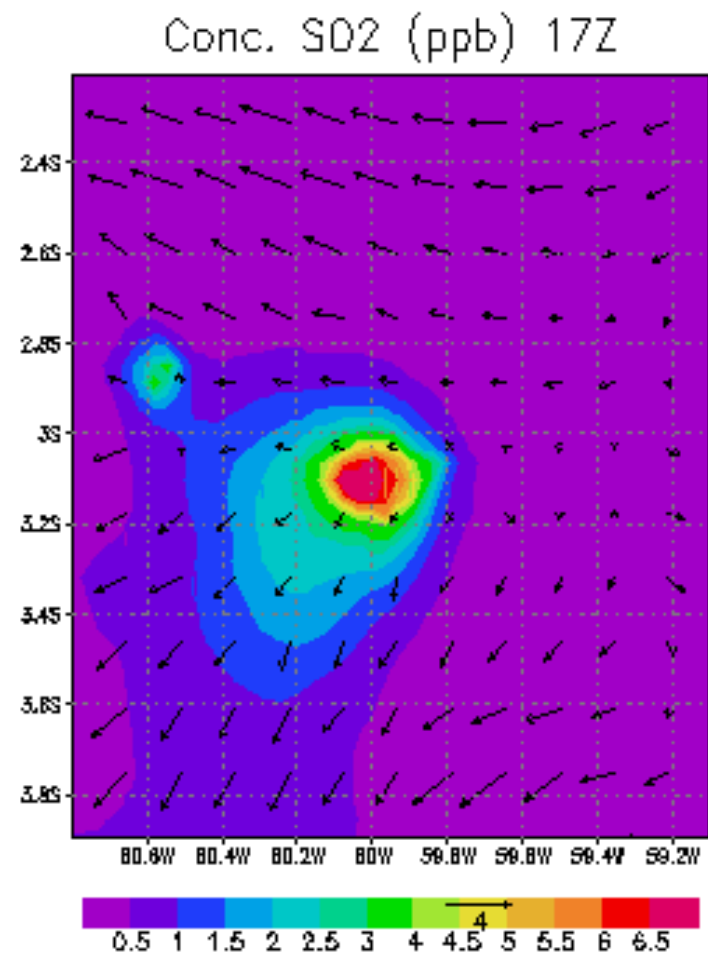
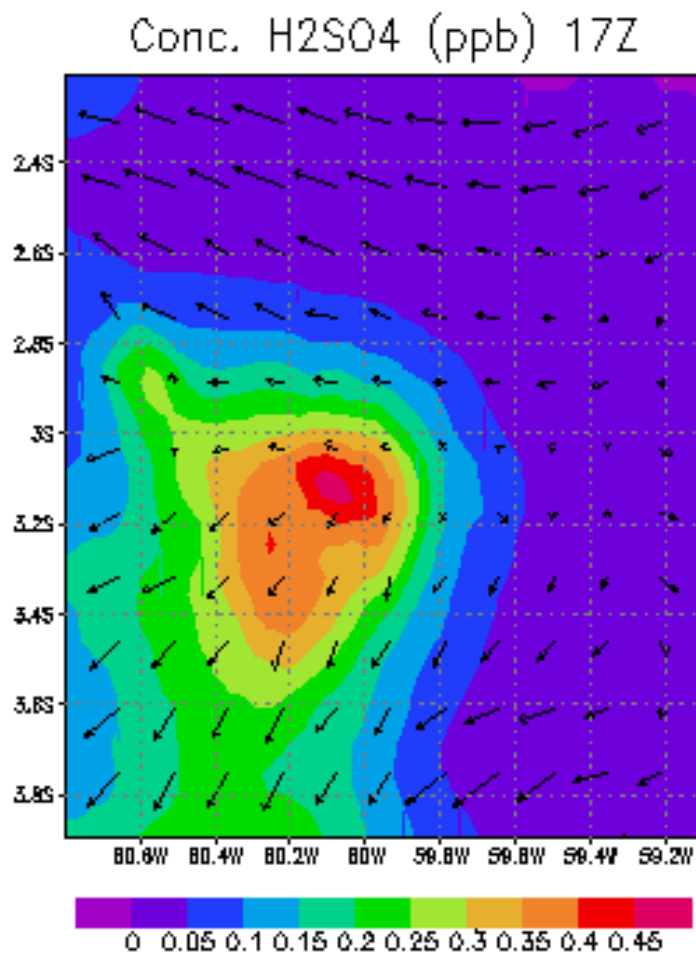
Conc. SO_2 (ppb) 03Z



Conversion $\text{SO}_2 - \text{H}_2\text{SO}_4$

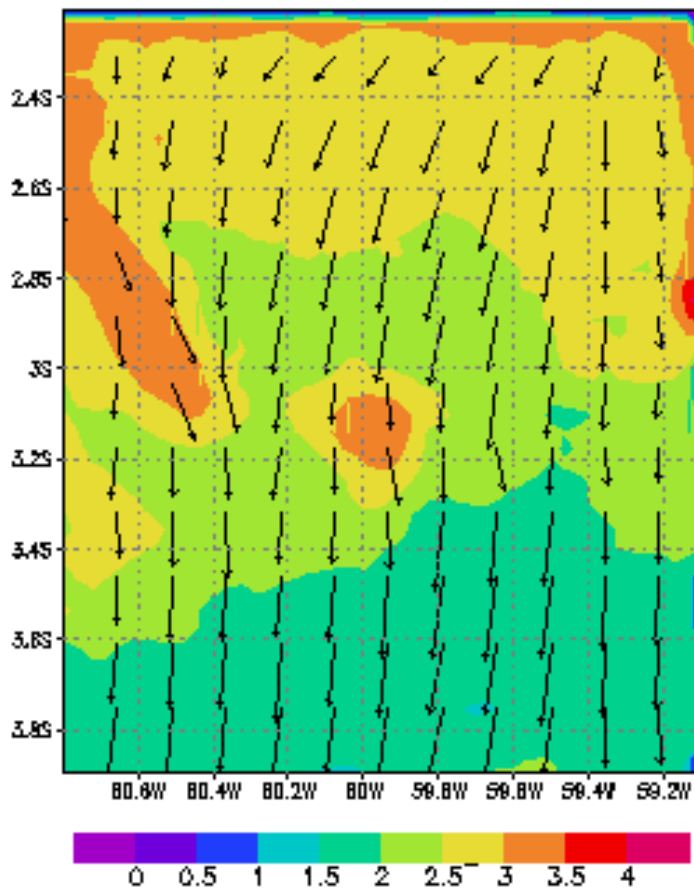


Conversion $\text{SO}_2 - \text{H}_2\text{SO}_4$

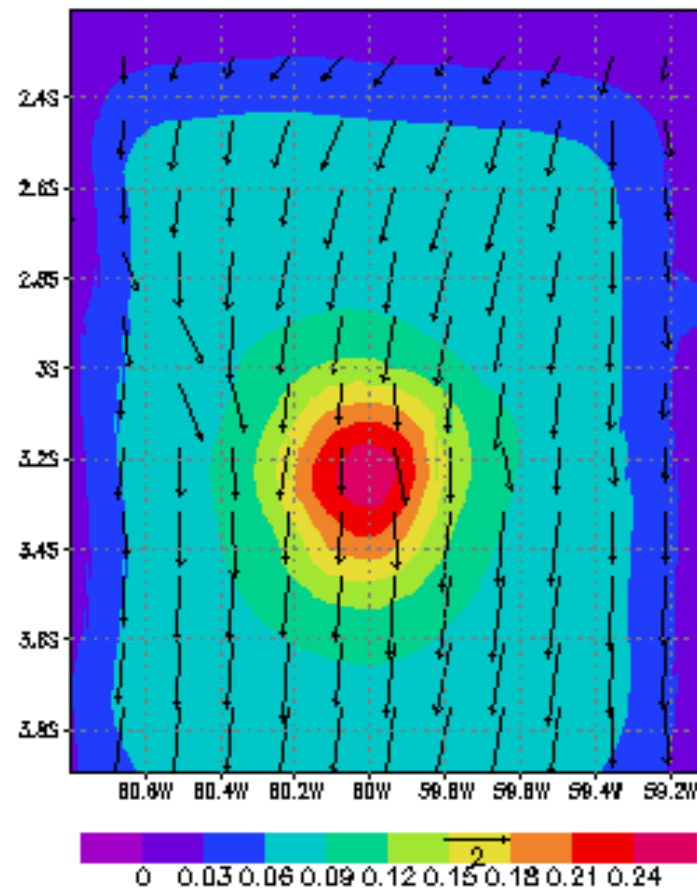


Nucleation

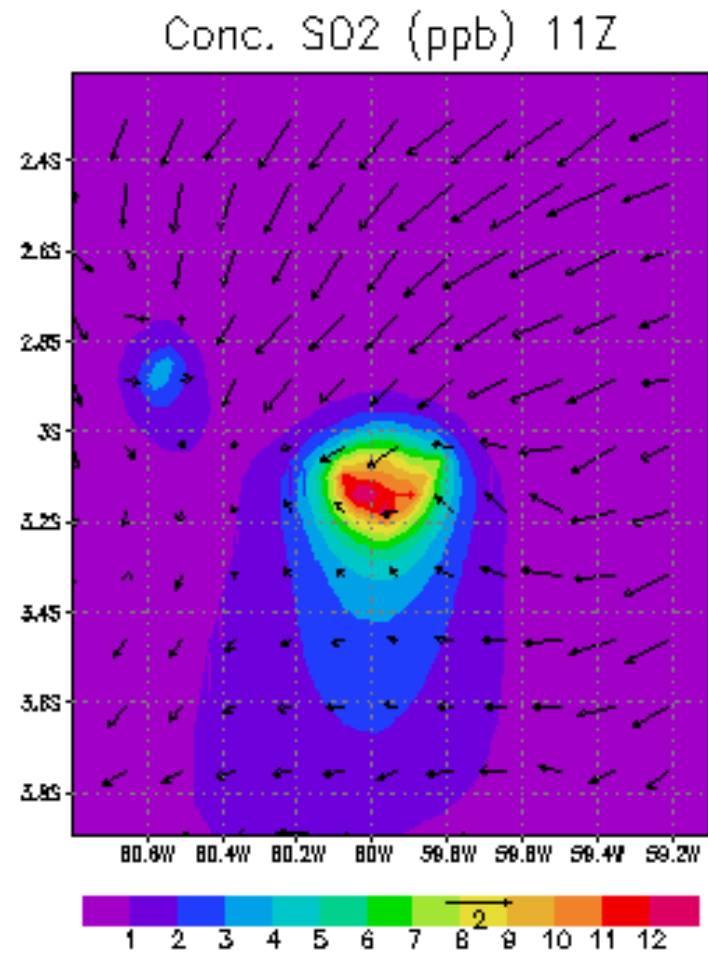
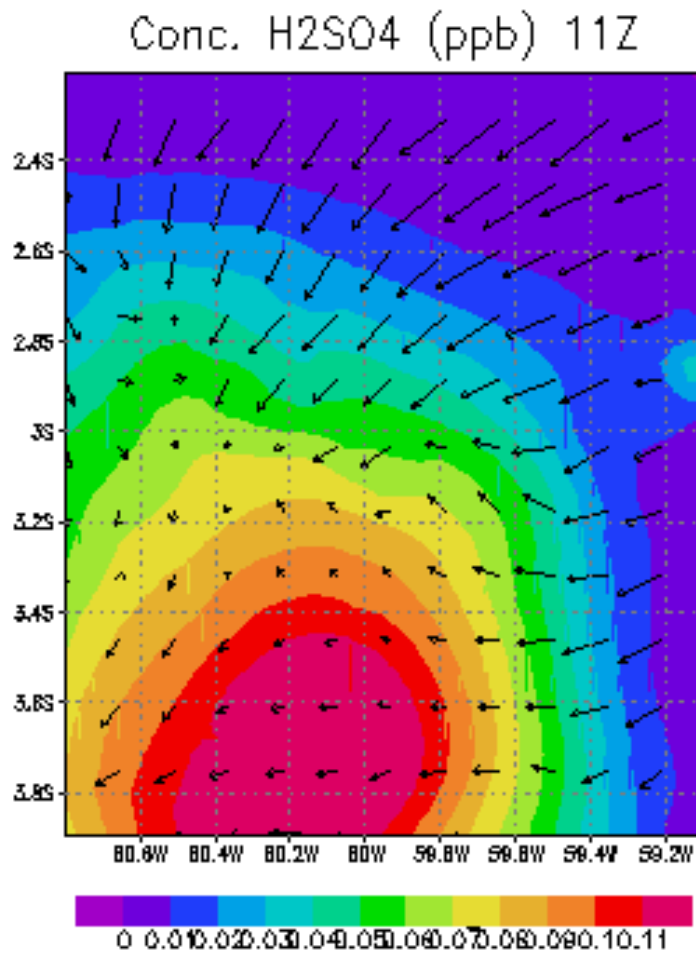
No part nucleadas 03Z



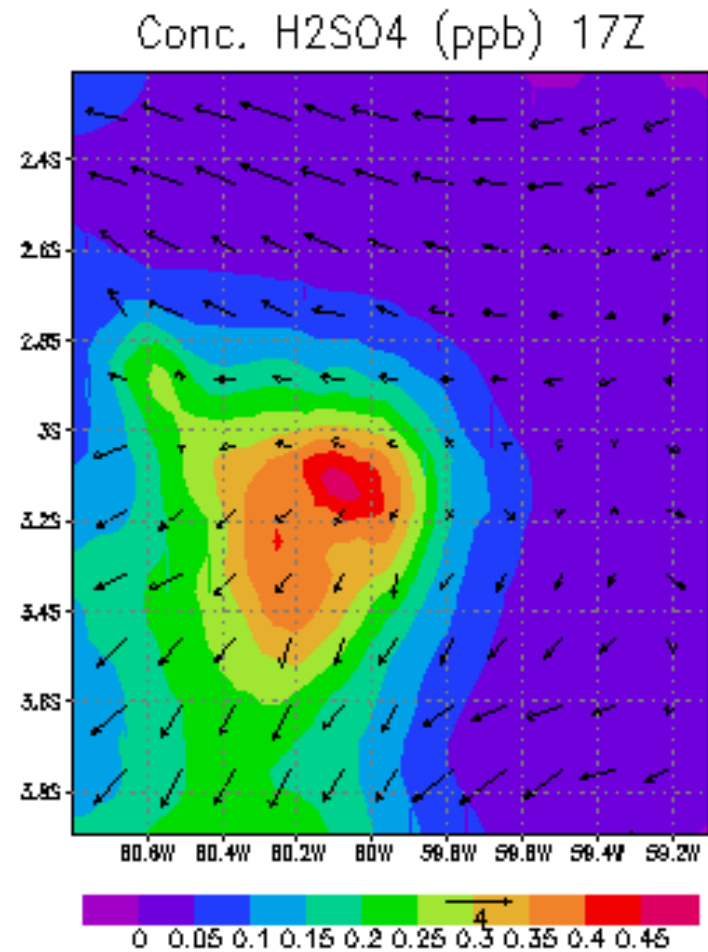
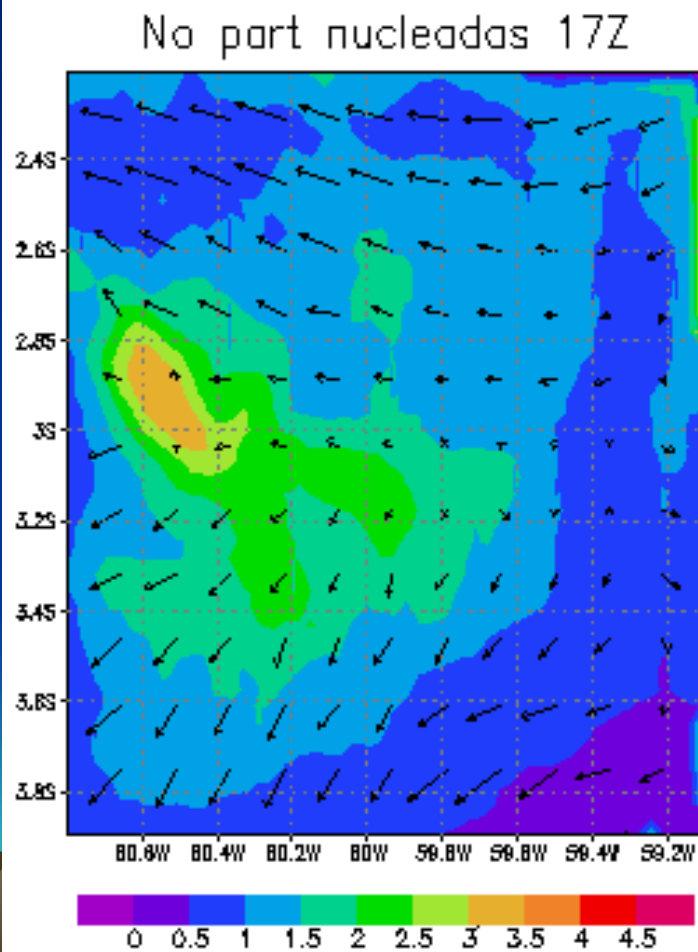
Conc. H₂SO₄ (ppb) 03Z



Nucleação



Nucleação



Ongoing work

- For the case of Sao Paulo, it is important to include more urban types (the model is ready for that).
- Better emission rates : Tunnel experiments performed during 2005
- Improvement on the calculation of photolysis rates
- Better representation of VOC's (ungroup) to check sugar cane burning.
- Improve land use representation (Osasco, for example)

