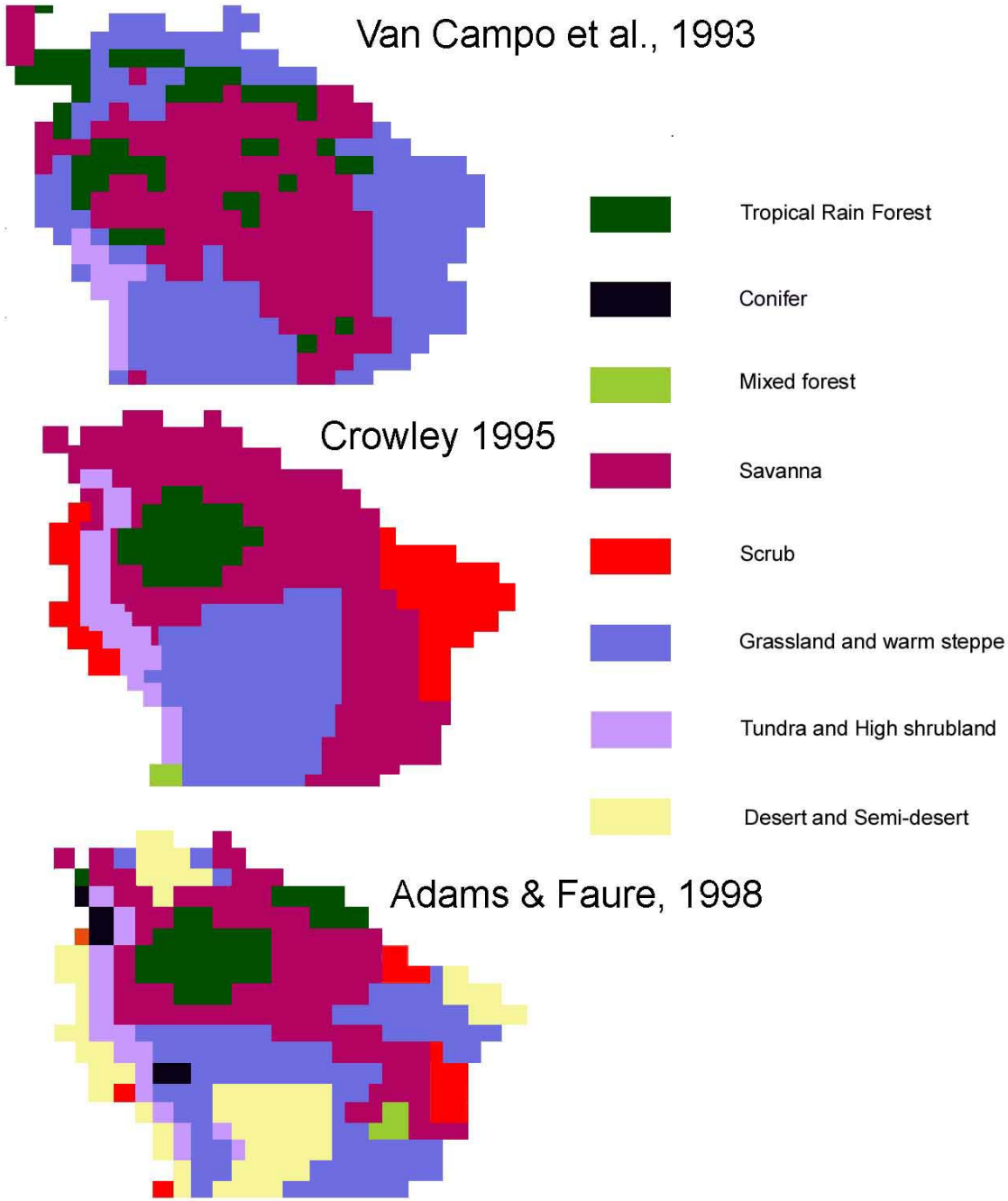
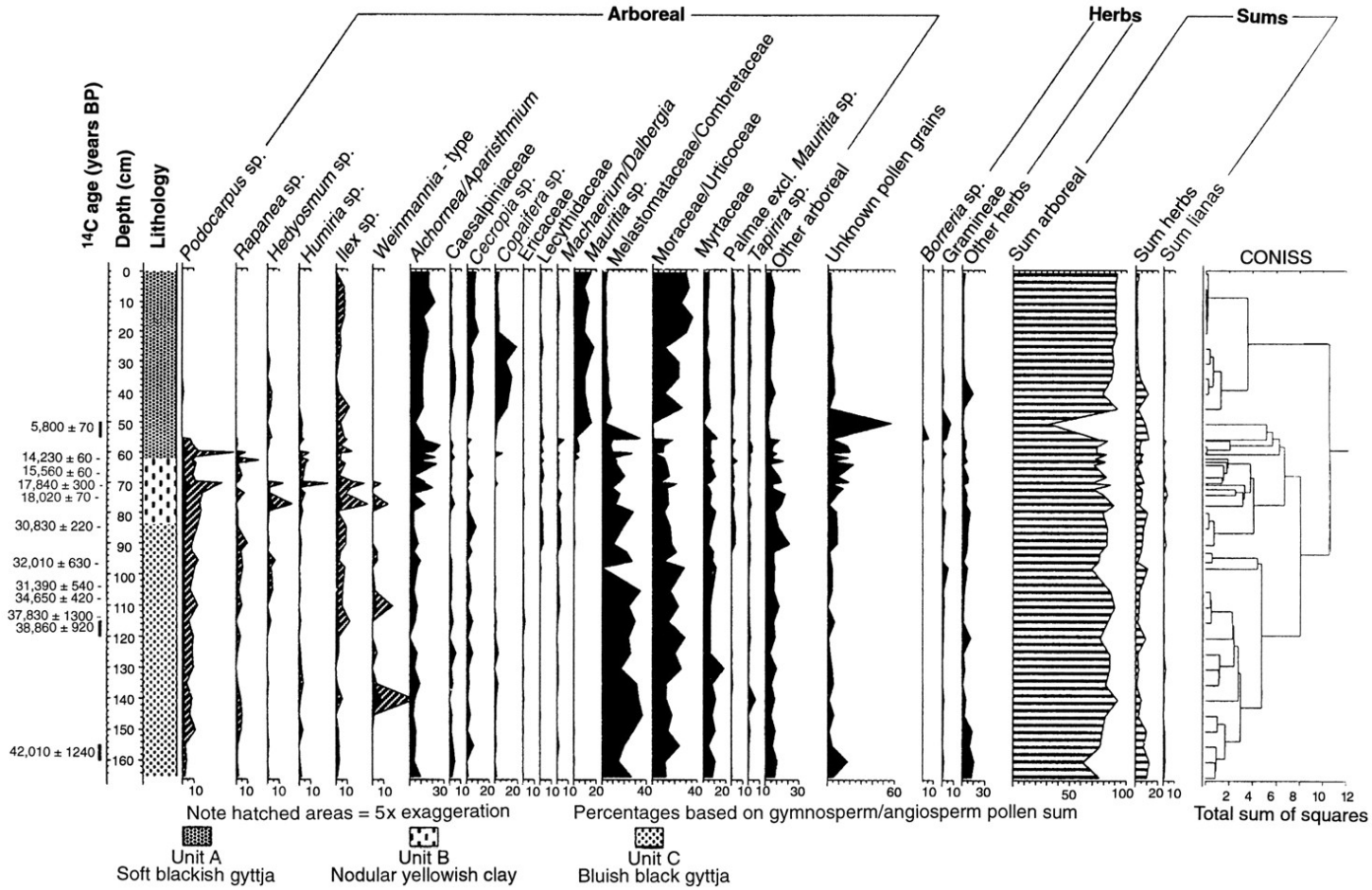
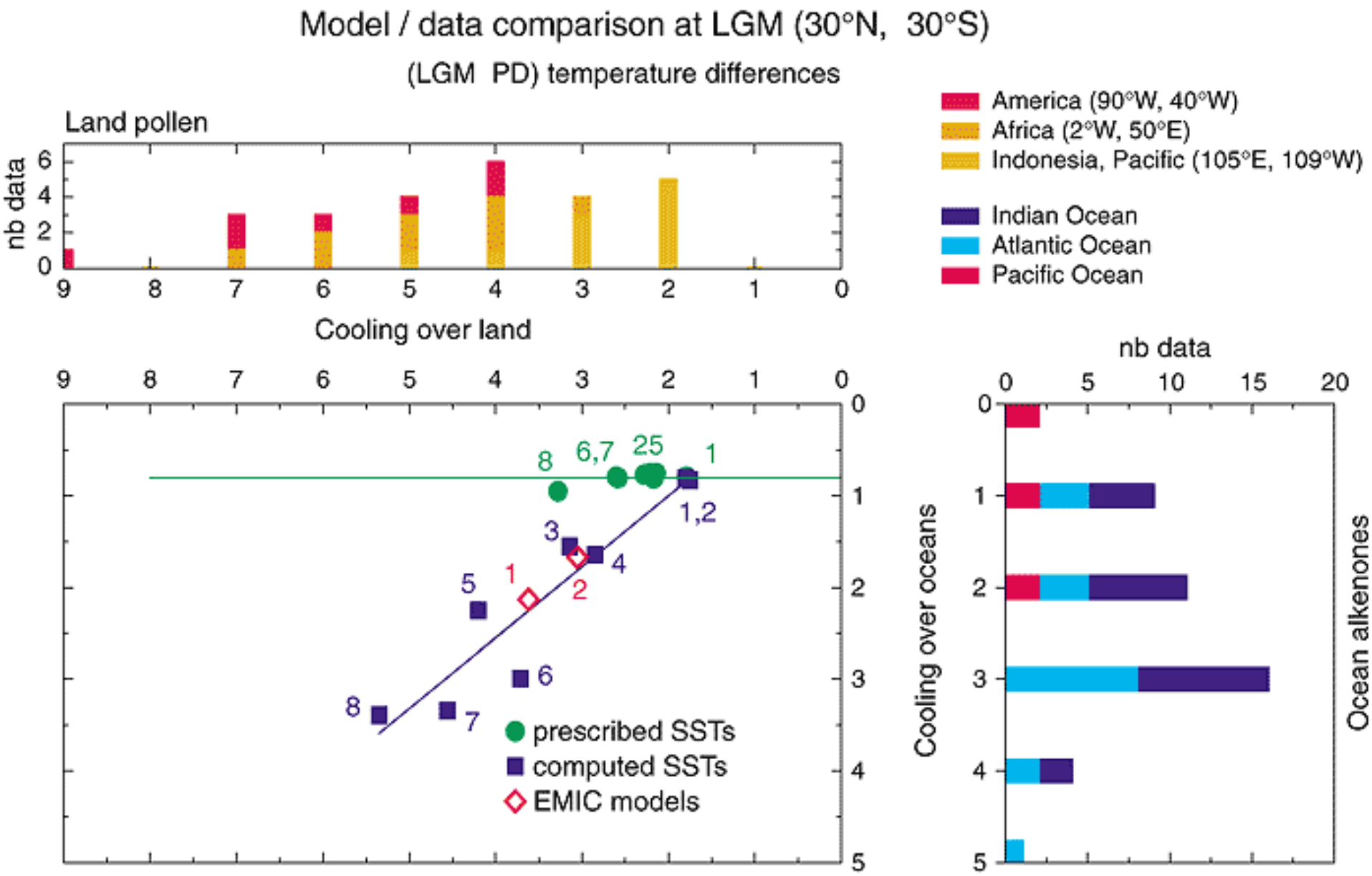
MUDANÇAS PALEOCLIMATICAS.
Um método de avaliação de modelos climaticos

Bruno Turcq, Institut de Recherche pour le Développement
Professor associado. Pos Graduação
em Geoquimica Ambiental, UFF, Niteroi.


Van Campo et al., 1993
Crowley 1995
Adams & Faure, 1998
Tropical Rain Forest
Conifer
Mixed forest
Savanna
Scrub
Grassland and warm steppe
Tundra and High shrubland
Desert and Semi-desert

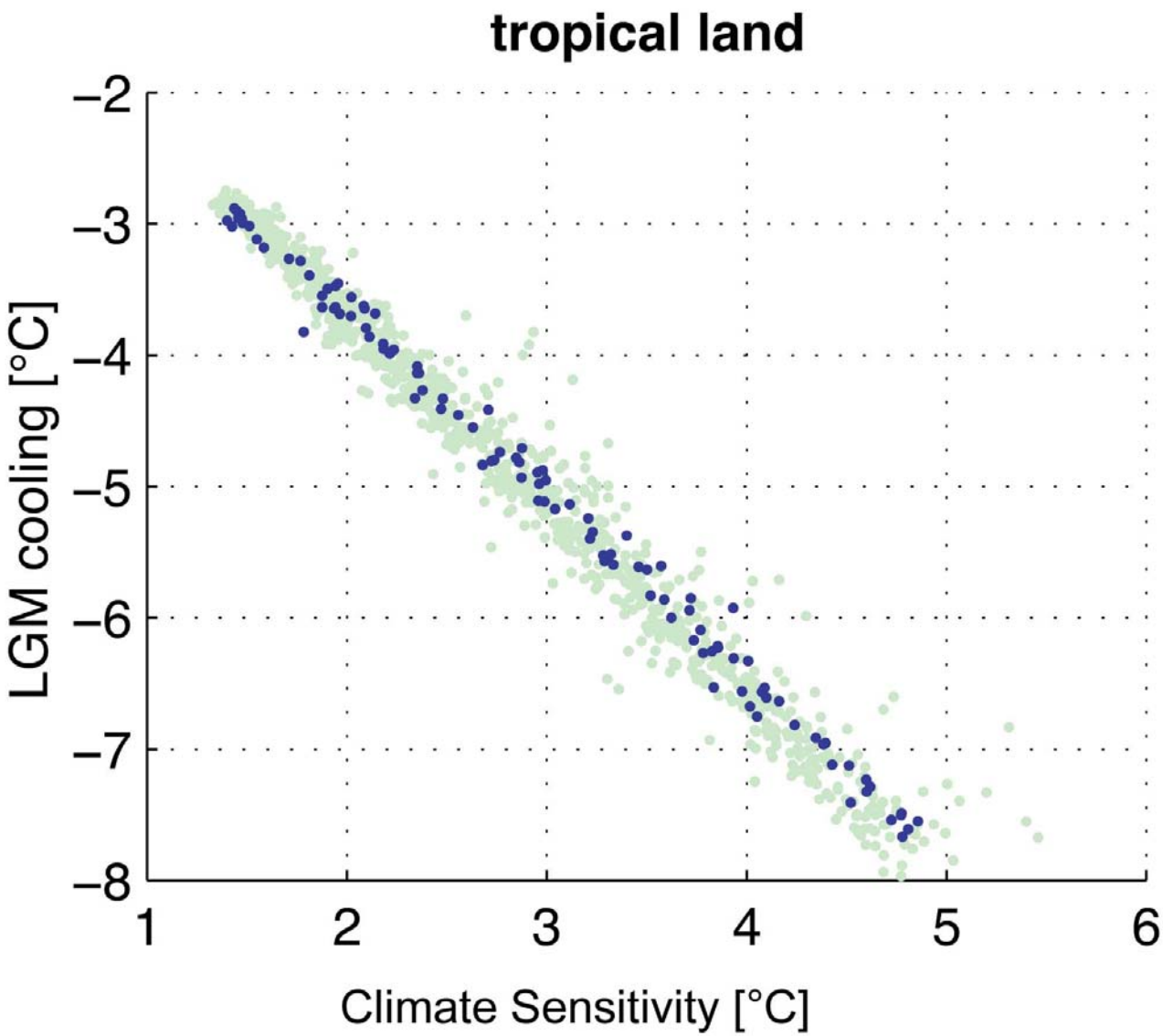
O polen como marcador de temperatura.



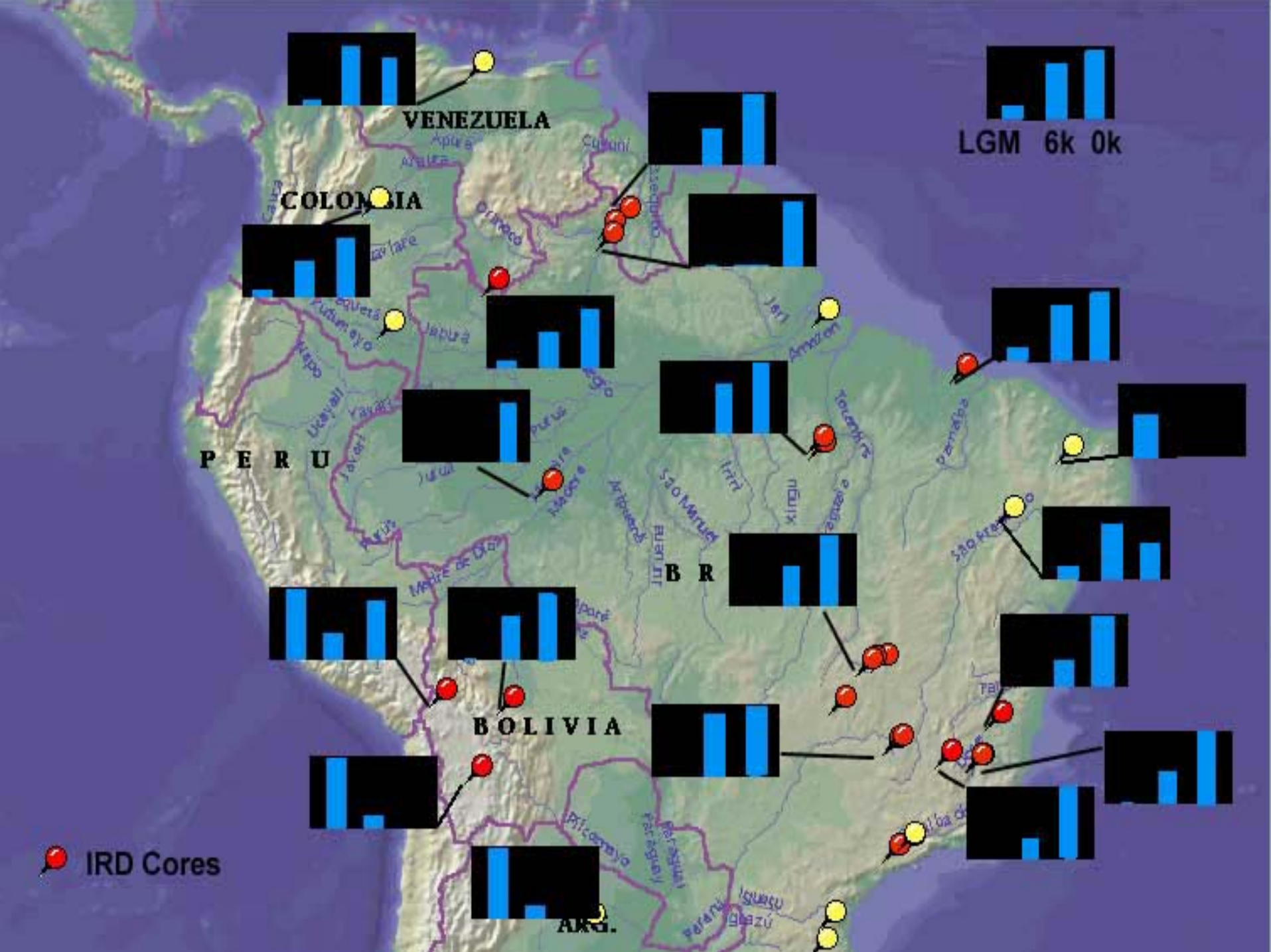


McAvaney et al., 2001, IPCC.

Schneider von Deimling et al. IPCC wks Paris July 2004



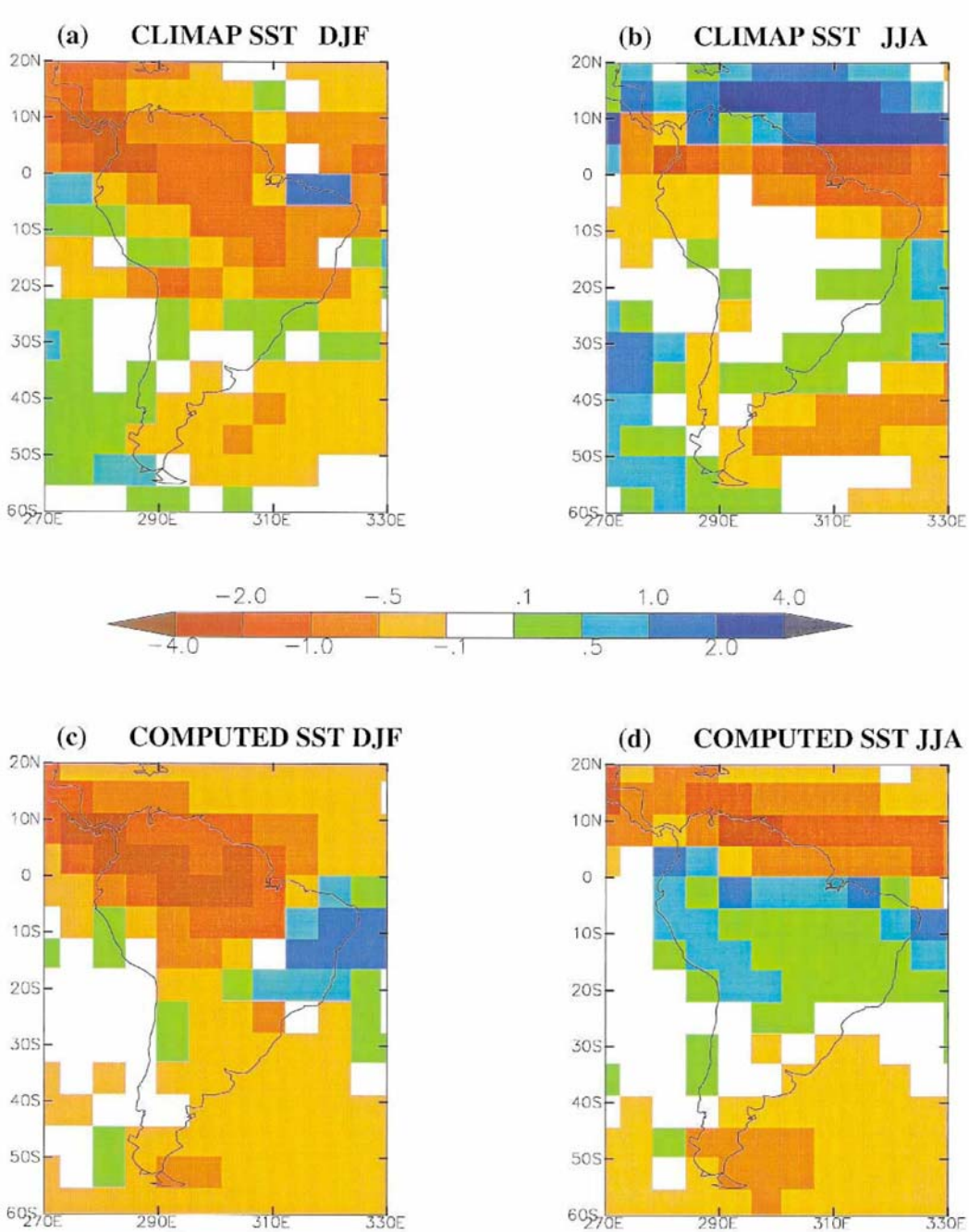

PRECIPITACAO
-
EVAPORACAO


VENEZUELA
COLOMBIA
PERU
BOLIVIA
BR
ARG.
LGM 6k 0k
IRD Cores

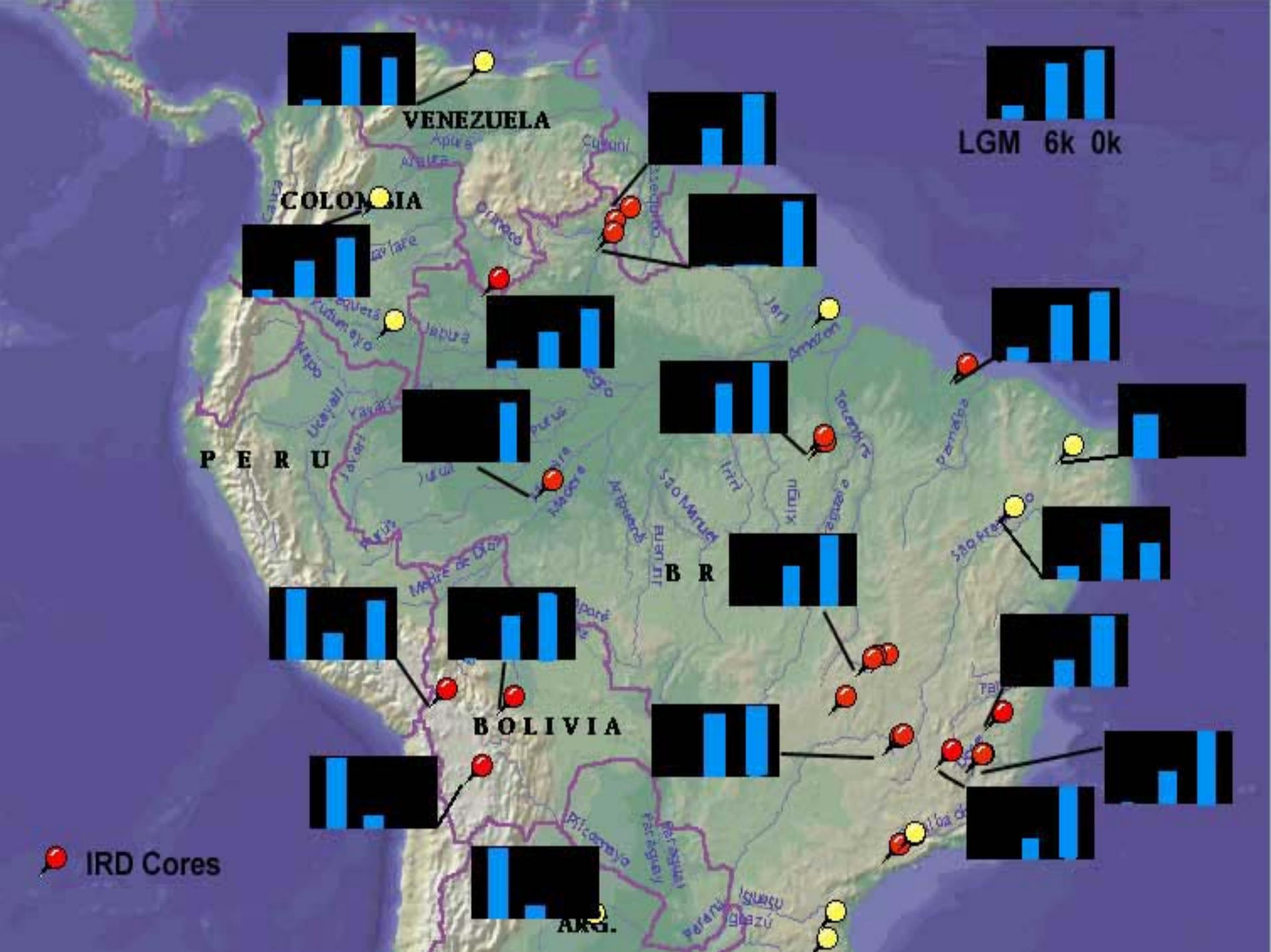
PMIP

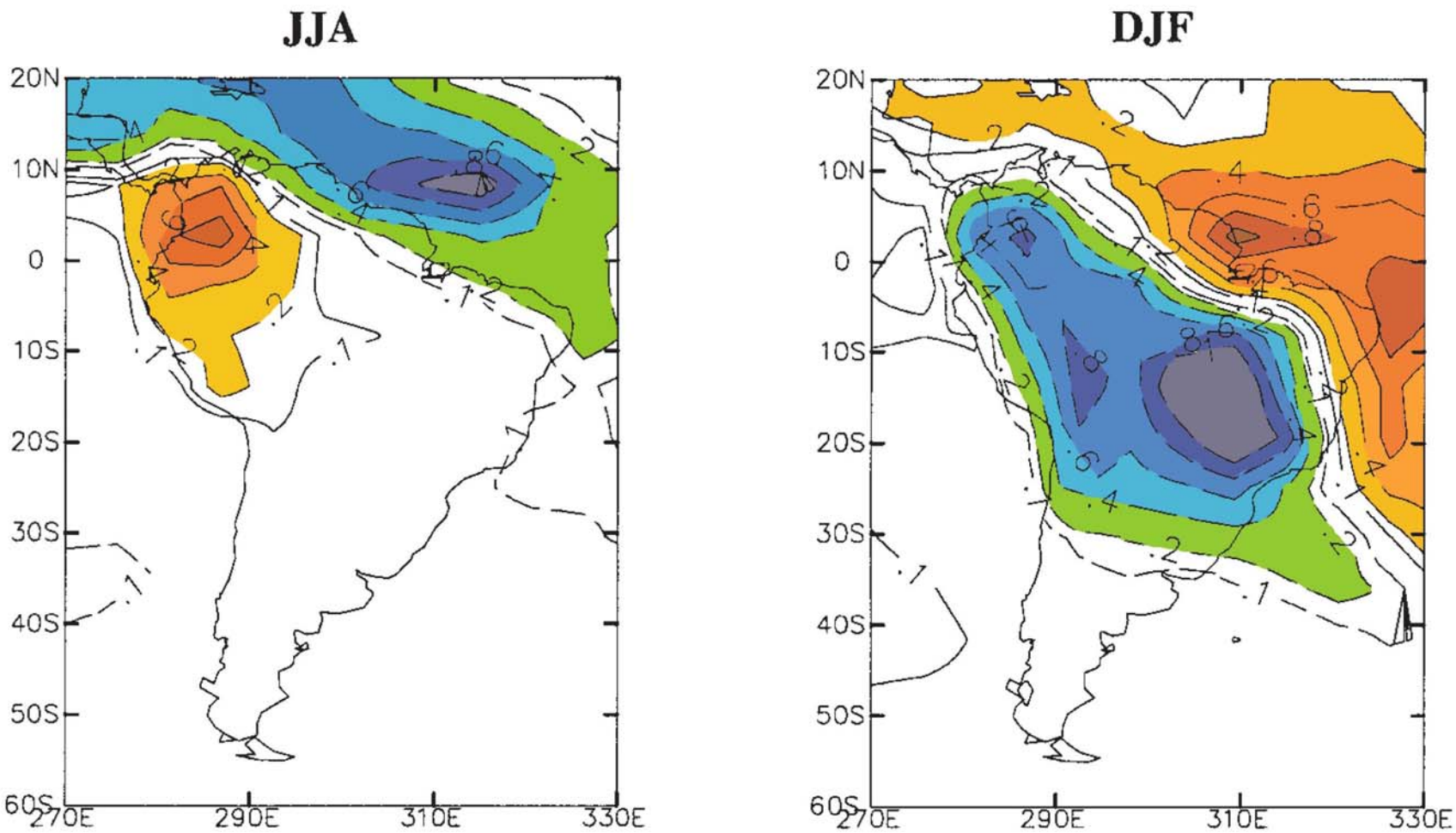
LGM -

Pre-industrial



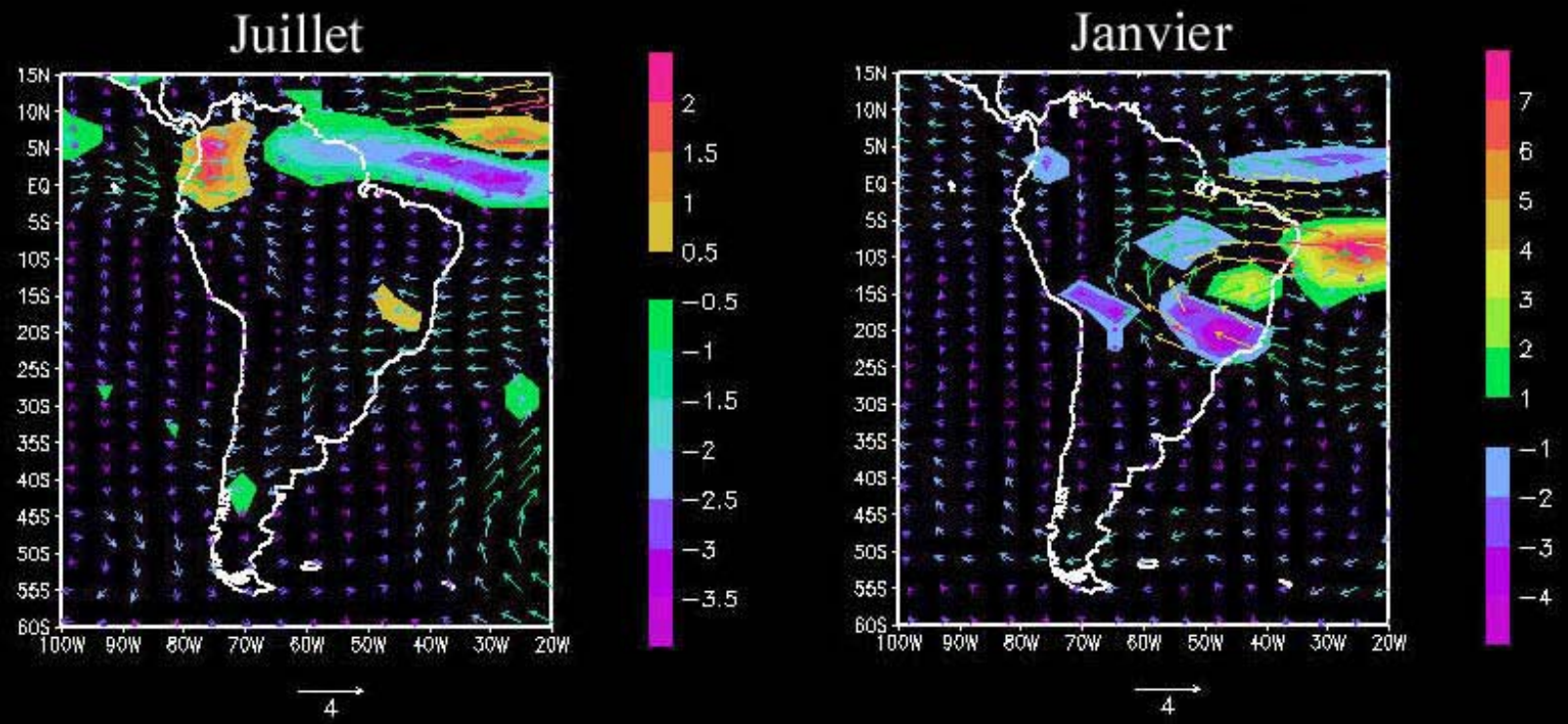
Valdes, 2000.


VENEZUELA
COLOMBIA
PERU
BOLIVIA
BR
ARG.
LGM 6k 0k
IRD Cores

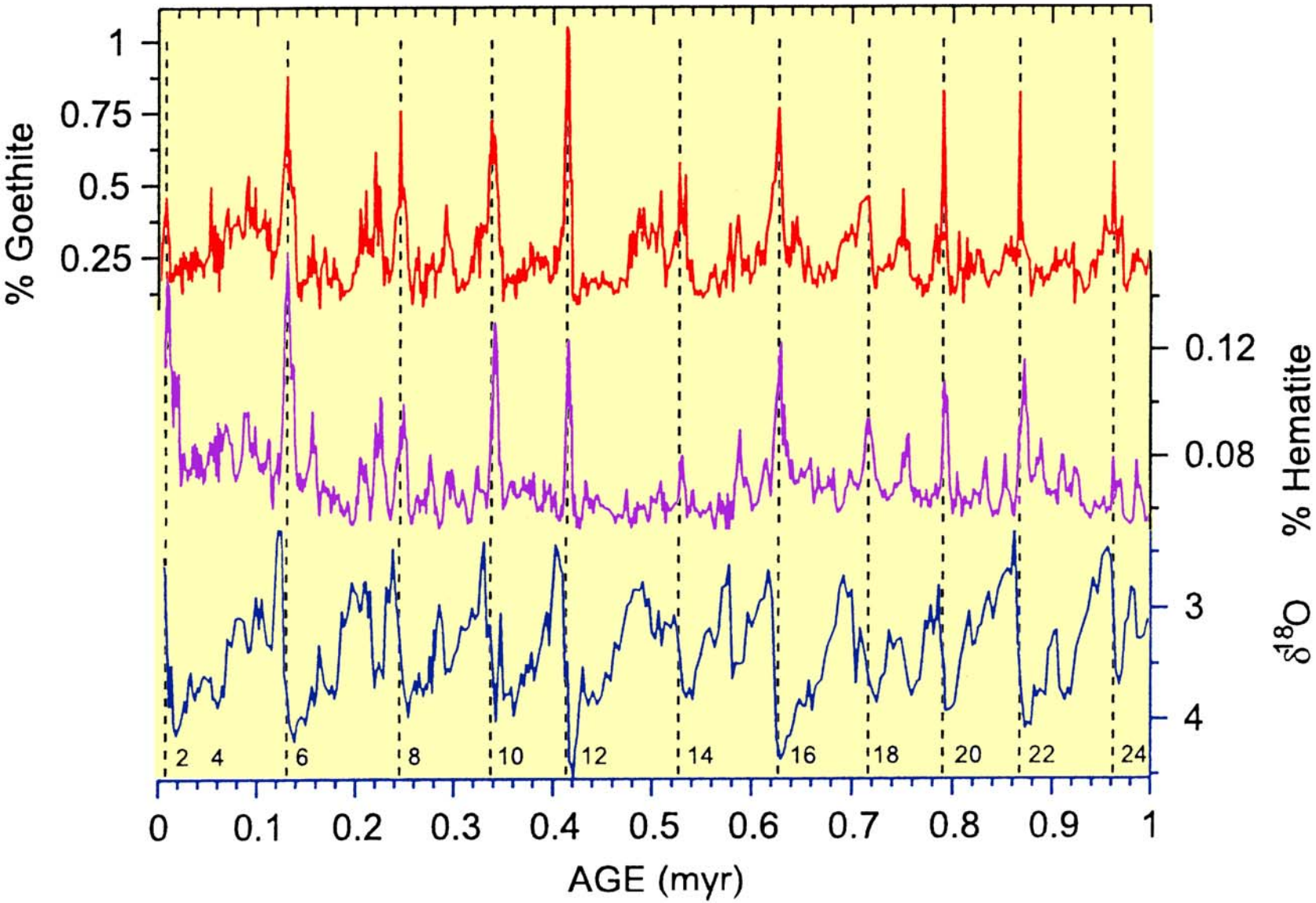


PMIP 6ka (Valdes, 2000)

O modelo acoplado IPSL: diferencia entre 6ka e pre-industrial




INTENSIDADE DA CHUVA


% Goethite
1
0.75
0.5
0.25
0.12
0.08
% Hematite
3
4
$\delta^{18}O$
2
4
6
8
10
12
14
16
18
20
22
24
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
AGE (myr)

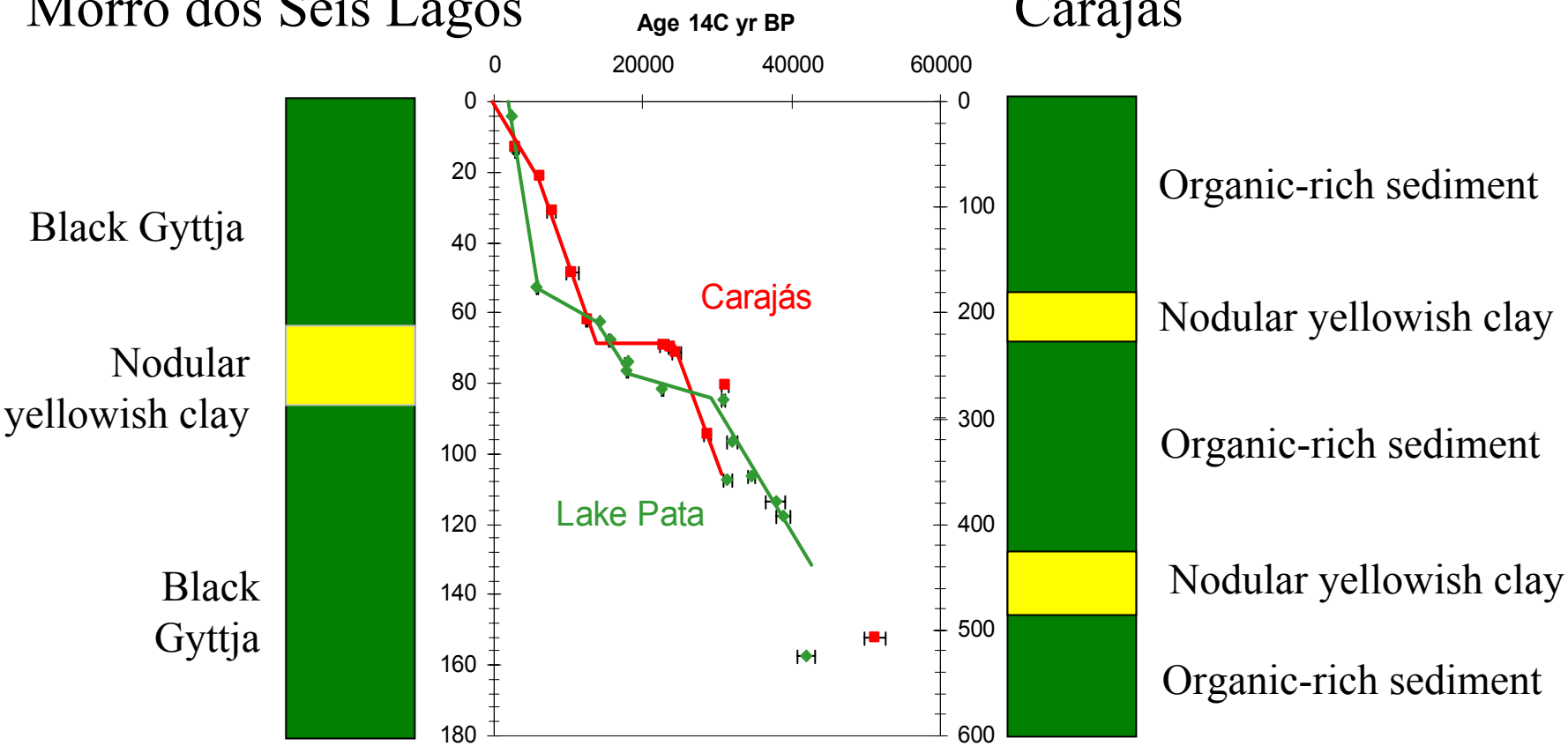

VENEZUELA
COLOMBIA
Lago Caracaranã
Morro dos Seis Lagos
Lago Caçó
Carajás
Colônia
ARG.

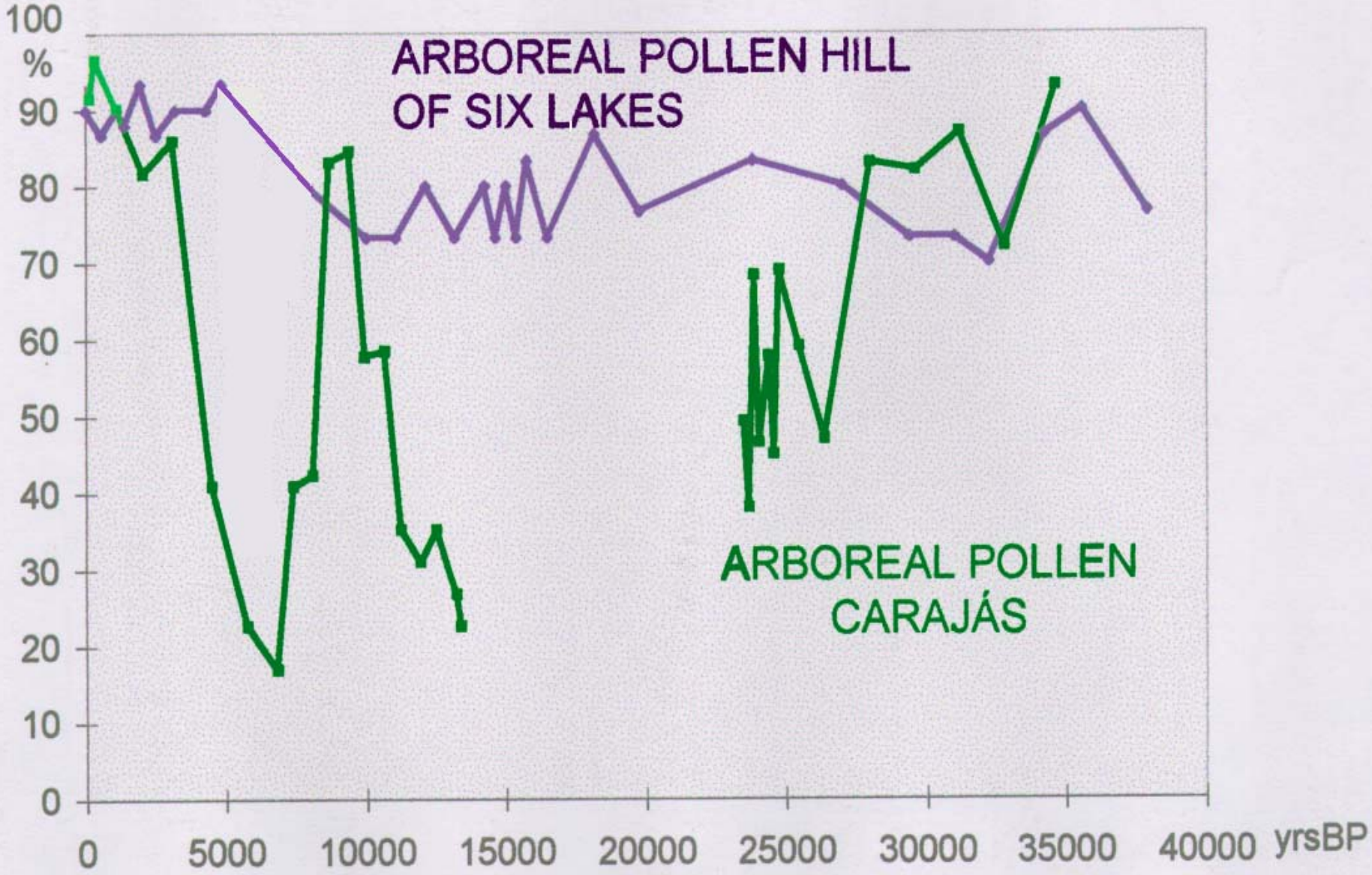
Lake Pata

Morro dos Seis Lagos

Lake n°9

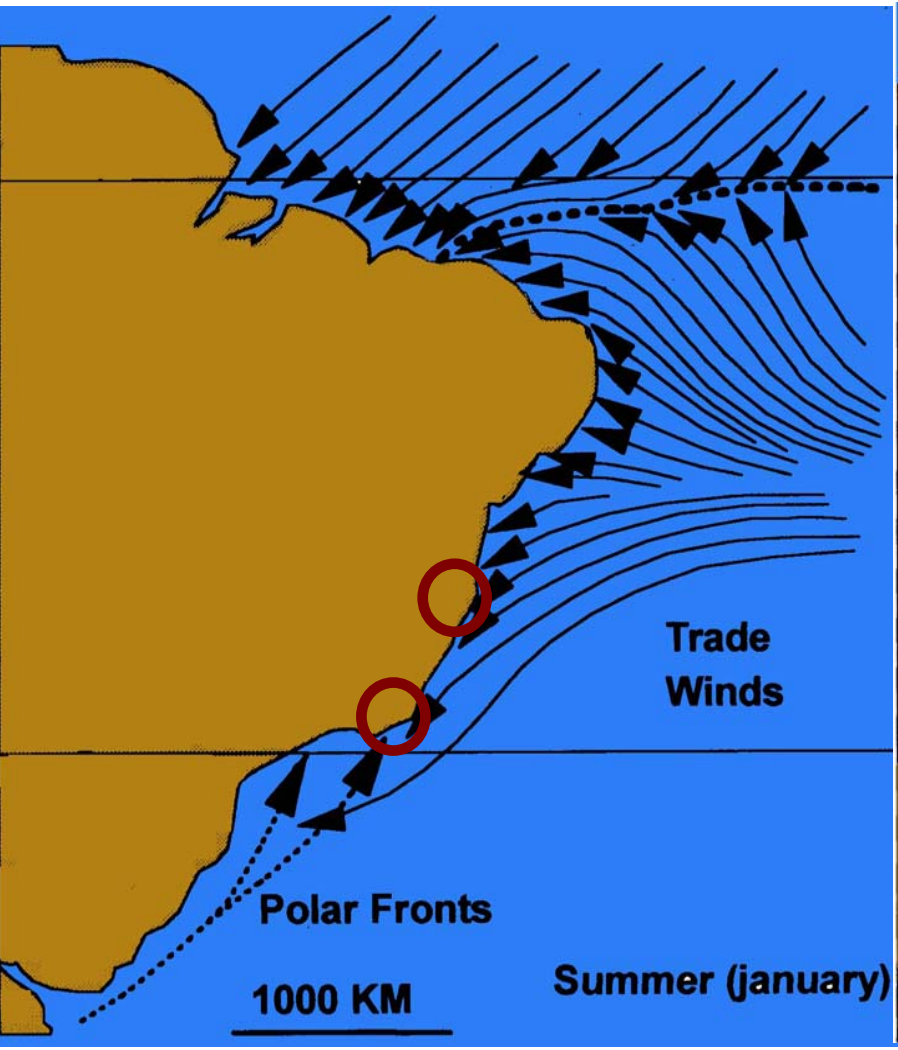
Carajas

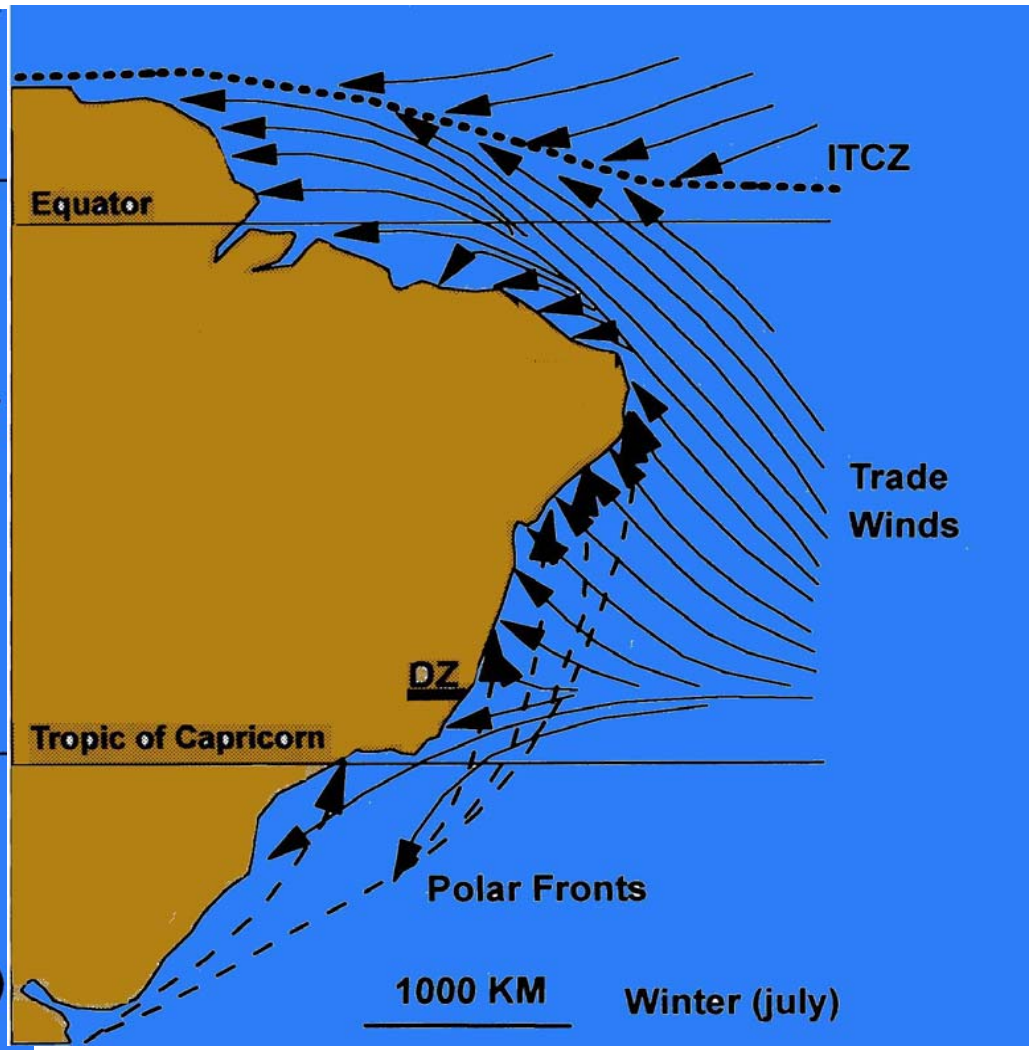


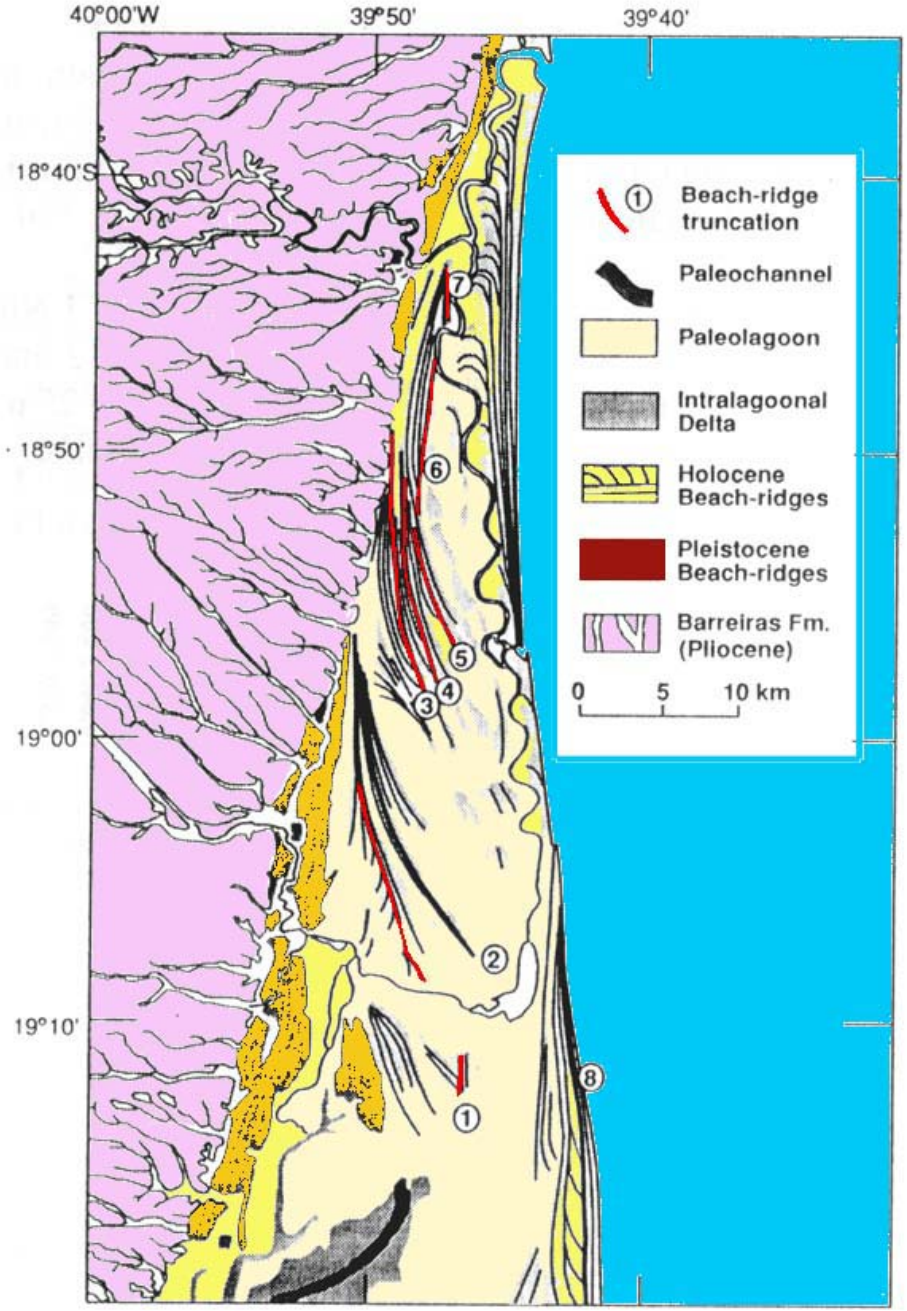


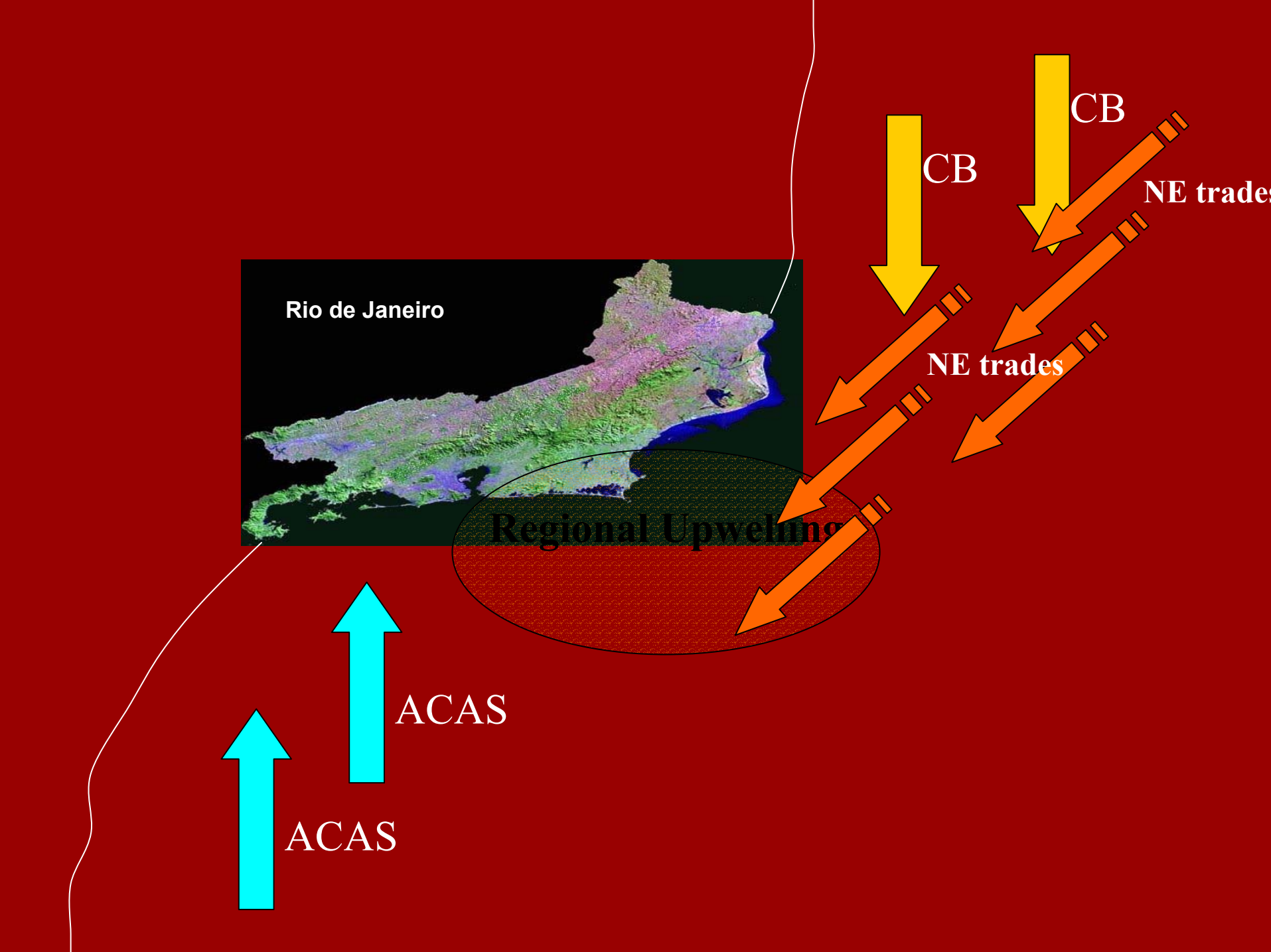
Data from Absy*et al.*, 1991, Colinvaux *et al.*, 1996

VENTOS NO HOLOCENO MEDIO





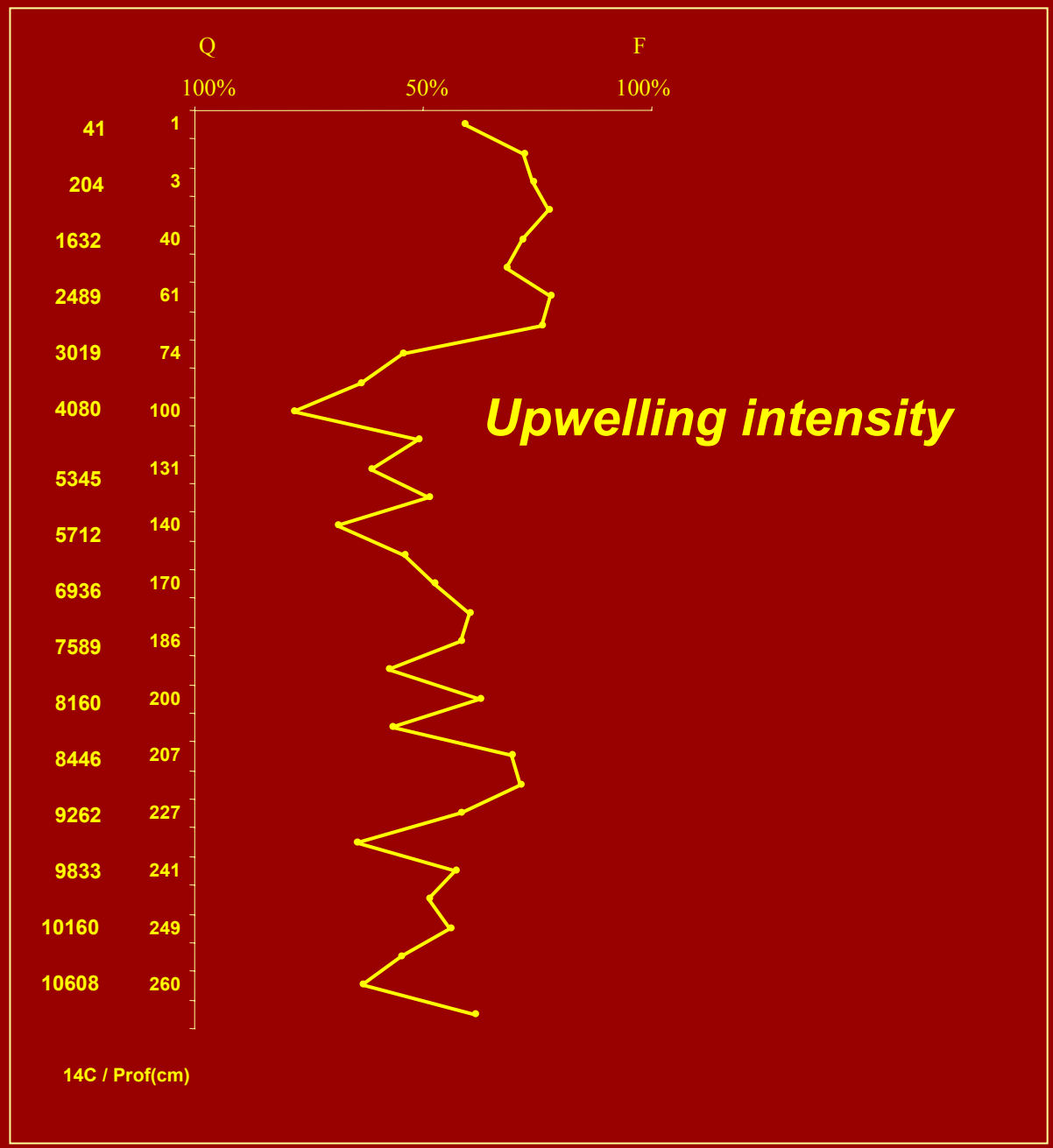

40°00'W
39°50'
39°40'
18°40'S
18°50'
19°00'
19°10'
1 Beach-ridge truncation
Paleochannel
Paleolagoon
Intralagoonal Delta
Holocene Beach-ridges
Pleistocene Beach-ridges
Barreiras Fm. (Pliocene)
0 5 10 km
1
2
3
4
5
6
7
8


CB
CB
NE trades
Rio de Janeiro
NE trades
Regional Upwelling
ACAS
ACAS

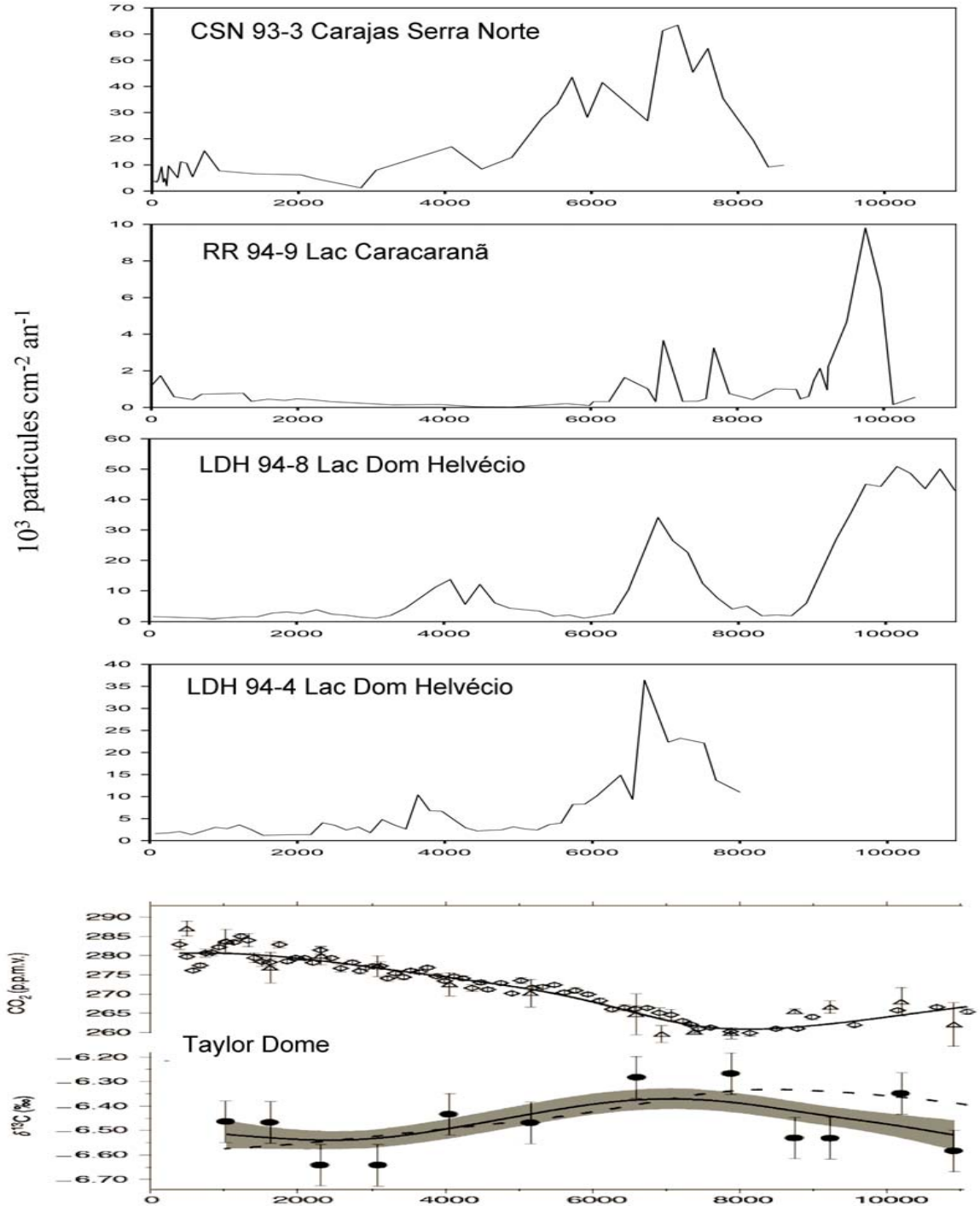
Taxa

G. bulloides:G.ruber

(Tolderlund & Bé, 1971)



INCENDIOS


CSN 93-3 Carajas Serra Norte
RR 94-9 Lac Caracaranã
LDH 94-8 Lac Dom Helvécio
LDH 94-4 Lac Dom Helvécio
10³ particules cm⁻² an⁻¹
a
b
Taylor Dome
CO2 (p.p.m.v.)
δ13C (‰)
0
2000
4000
6000
8000
10000

CONCLUSÕES

- Os dados paleoclimáticos podem ser utilizados para avaliação de modelos climáticos globais.
- Certos dados paleoclimáticos dependem de eventos extremos e são dificilmente comparados com modelos climáticos globais.
- Esses valores extremos são frequentemente responsáveis pelos impactos das mudanças climáticas.
- A utilização de um modelo regional deve abrir novas perspectivas de comparações entre dados e modelos.