

# Environmental changes in mid and late Holocene and its relations with prehistoric societies in the Brazilian Central Plateau

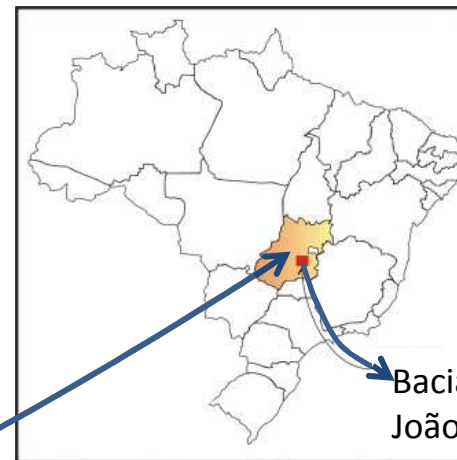
Sibeli A. Viana  
([sibeli@pucgoias.edu.br](mailto:sibeli@pucgoias.edu.br))



# Research area

River basin of the João Leite river/  
State of Goiás

## Brazilian central plateau



Bacia do Rio  
João Leite

# Brazilian Central Plateau

Main fluvial basins

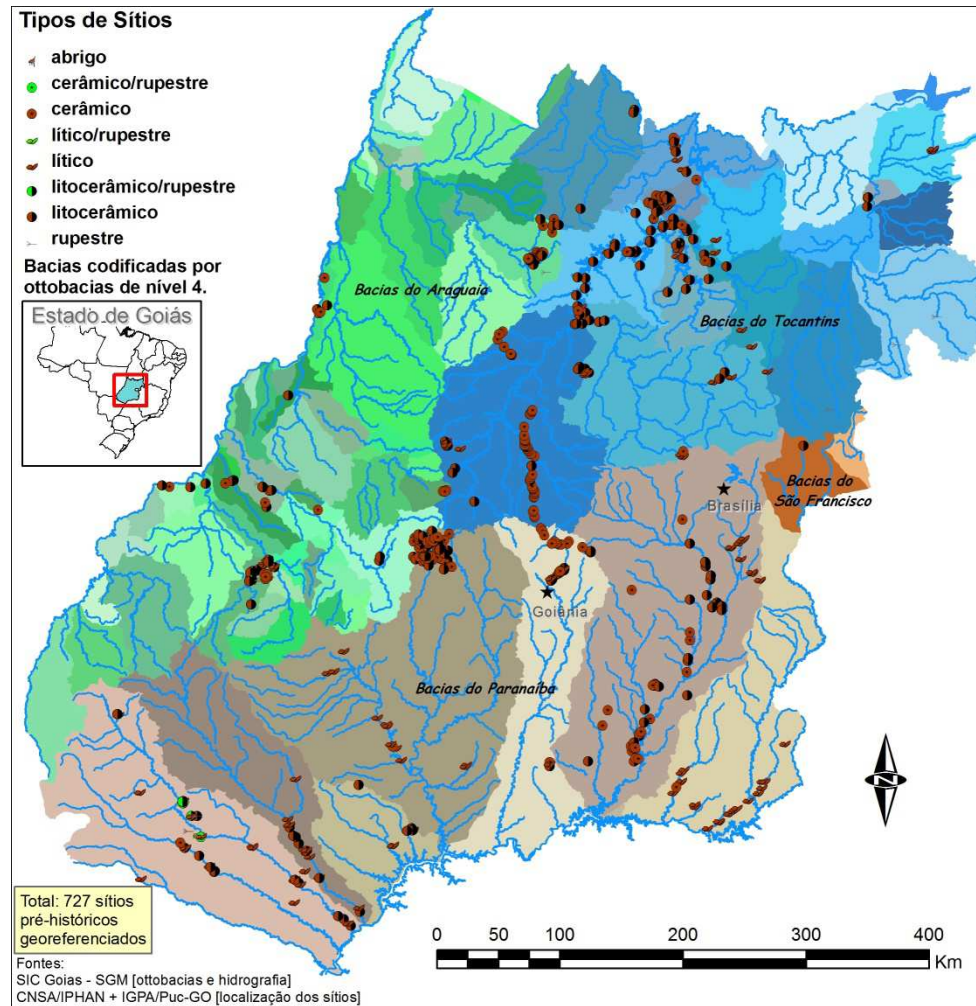


Cerrado biome

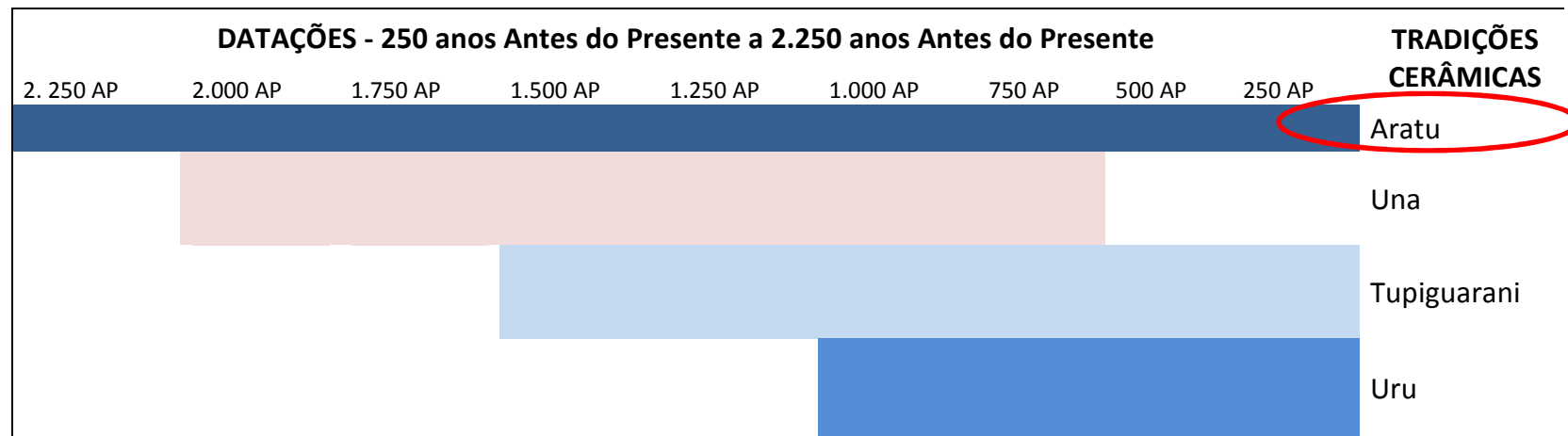


# Archaeological sites ceramists

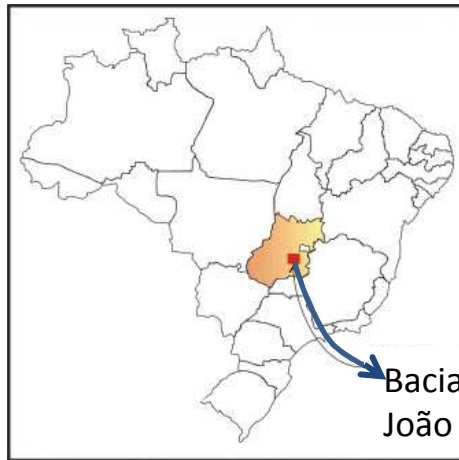
## State of Goiás



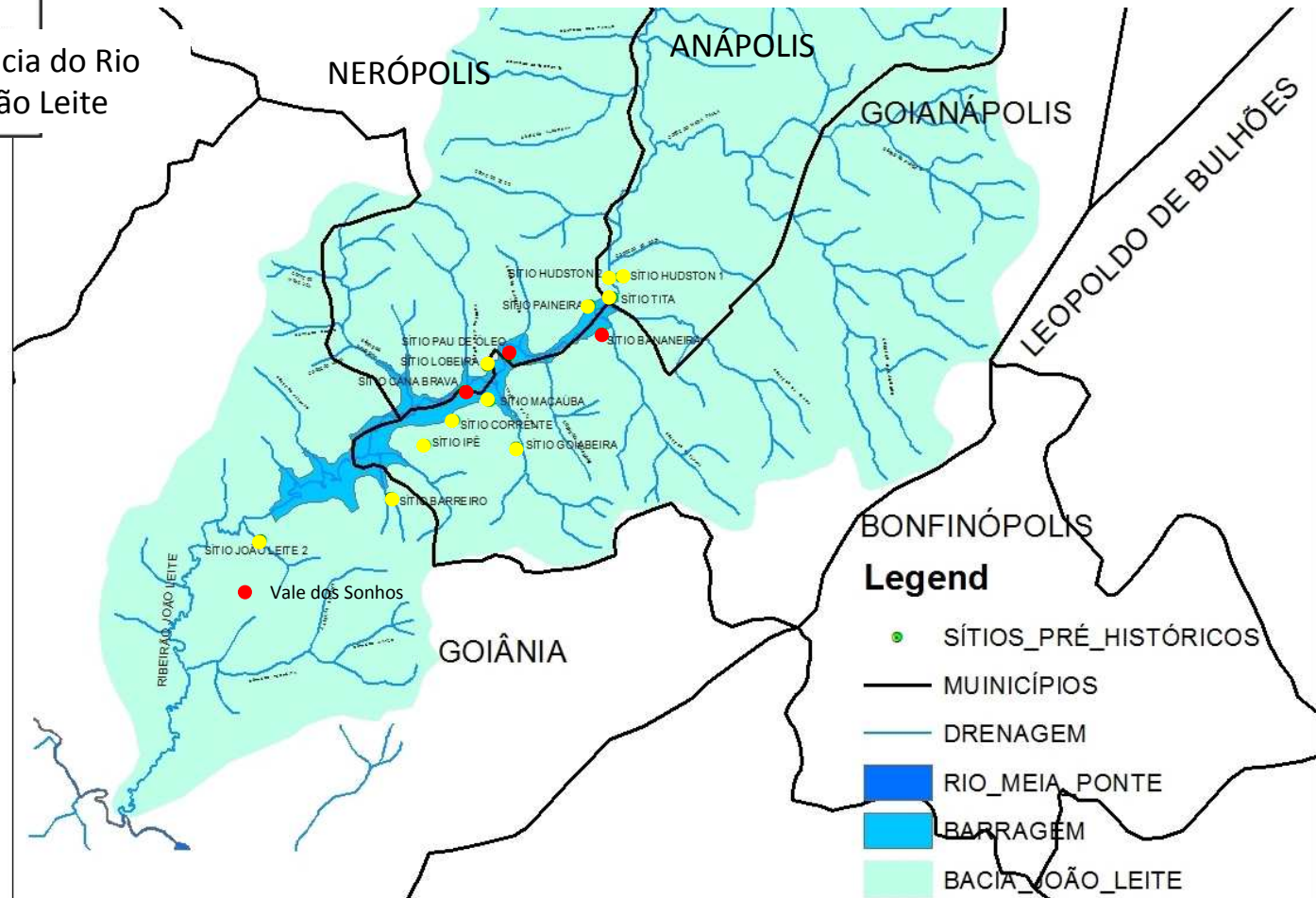
# Cultural traditions ceramists State of Goiás



# Archaeological Sites João Leite River Basin



Bacia do Rio  
João Leite



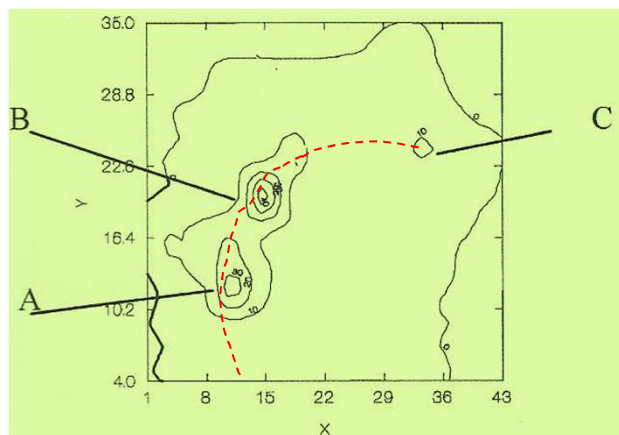
# Archaeological Sites

## João Leite River Basin

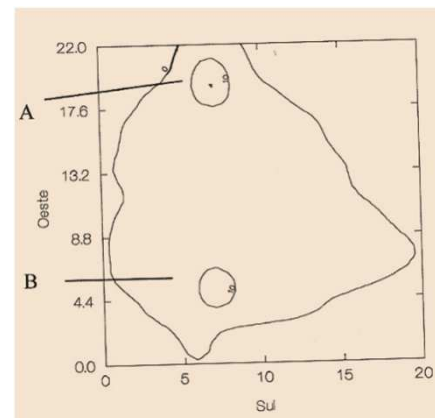
Sítio	Dimensão	datação
Bananeira	300.000 m <sup>2</sup>	630+-50 AP
Cana Brava	182.000 m <sup>2</sup>	
Barreiro	4.000 m <sup>2</sup>	
Corrente	35.800 m <sup>2</sup>	
Hudson 2	11.200 m <sup>2</sup>	
Ipê	19.150 m <sup>2</sup>	
Joao Leite 2	80.000 m <sup>2</sup>	
Lobeira	26.300 m <sup>2</sup>	880+-80 AP
Macaúba	84.900 m <sup>2</sup>	
Paineira	2.050 m <sup>2</sup>	
Pau D´Óleo	95.700 m <sup>2</sup>	830 +-60 AP
Vale dos Sonhos	350.000 m <sup>2</sup>	1.100 +- 30AP

Datações feita por C14, Laboratório Beta Analytic

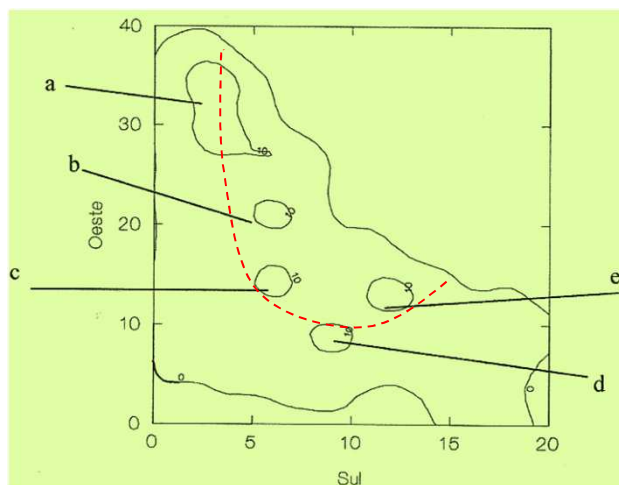
# Spatial distribution of Tradition Aratu sites from archaeological materials concentrations



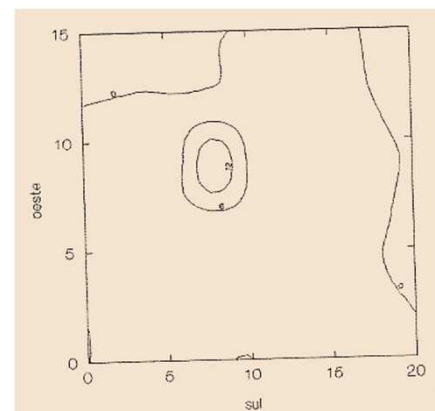
**Site Bananeira**  
Estimated area of the sites: 300.000 m<sup>2</sup>



**Site Pau D'Óleo**  
Estimated area of the sites: 85.700 m<sup>2</sup>



**Site Cana Brava**  
Estimated area of the sites: 182.000 m<sup>2</sup>

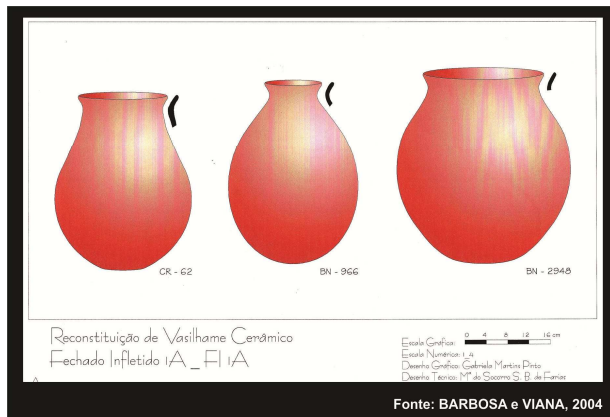


**Site Macaúba**  
Estimated area of the sites: 84.900 m<sup>2</sup>



# Domestic Ceramic

Reconstituição de vasilhames cerâmicos



Fragmentos de vasilhame cerâmico com apêndice. Sítio Macaúba



Fragmentos de bordas de vasilhames cerâmicos  
Sítio Bananeira



Roda de fuso  
Sítio Cana Brava



# Lithics instruments

Poids de filet  
Site Cana Brava



Flaked instruments, with production edge:  
Site: Bananeira e Sítio Hudson



Batedor



Raspador



Machado



# Ceremonial Objects



**Urne funéraire**  
**Sítio Vale dos Sonhos**

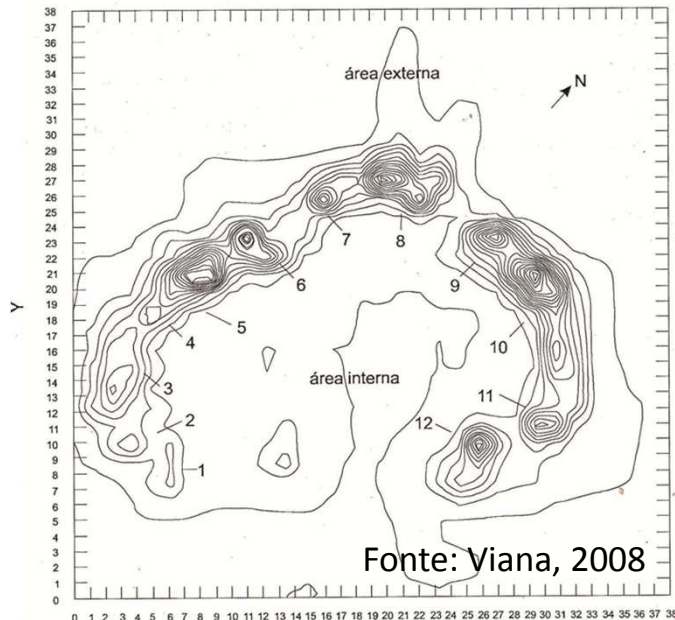


**Fragment de récipient avec des vestiges de colorant**



**Pipe**  
**Sítio Vale dos Sonhos**

**Archaeological site  
Tradition Aratu.  
Semi-circular shape, from  
archaeological material  
concentration**



Site Lourenço – rivier Meia  
Ponte/Goiás

**Aldeias Indígenas – etnia Krahó e Kaiapó,  
language family Jê**

**Krahó(TO) ethnic village.**



**Kaiapó ethnic village**



# Main biomes of Brazil

Floresta Amazônica



Caatinga



Mata Galeria



**CERRADO**

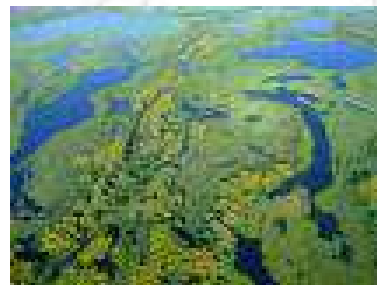


cerrado

Campos



Pantanal



# Different Cerrado Biomes



Fonte: Embrapa, 2014

# DIVERSITY OF BRAZILIAN CERRADO



Anta



Lobo Guar



Buriti



Caju



Ema



Amburana



Pequi



# FIRE ACTION IN THE CERRADO

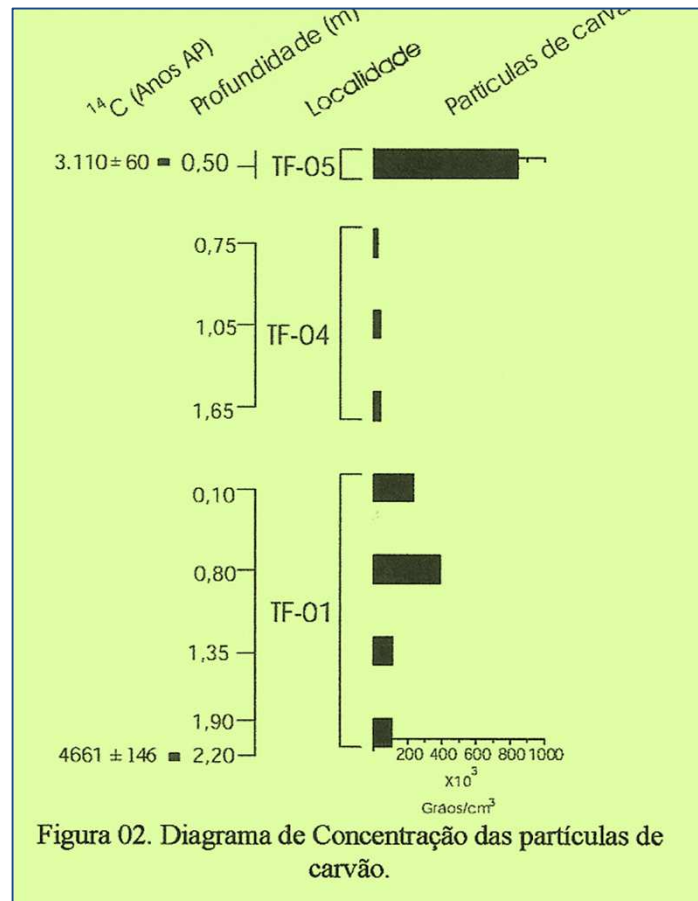


Cariólio de Ima - Serra da Calçada - Brumadinho - Minas Gerais - Brasil

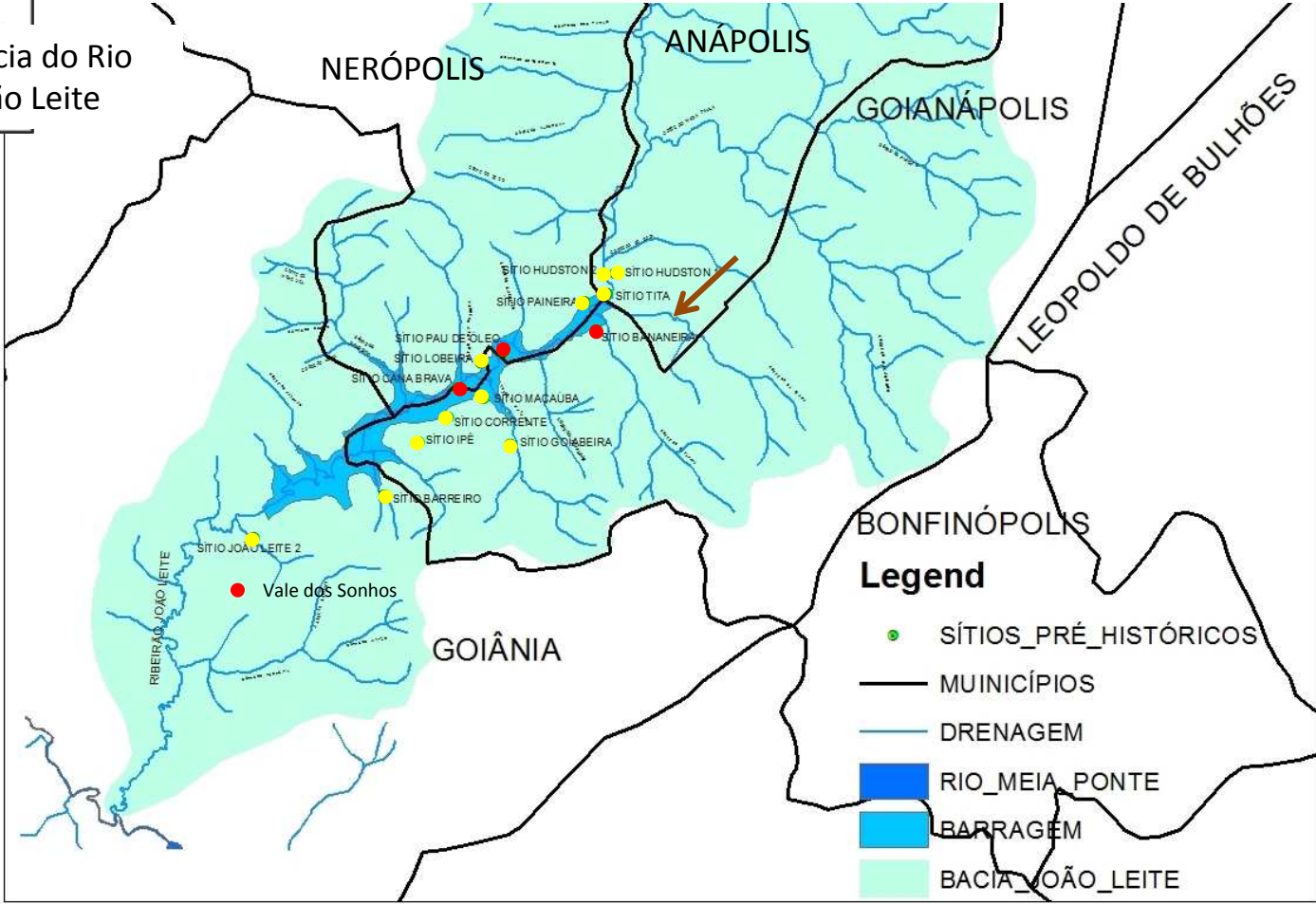
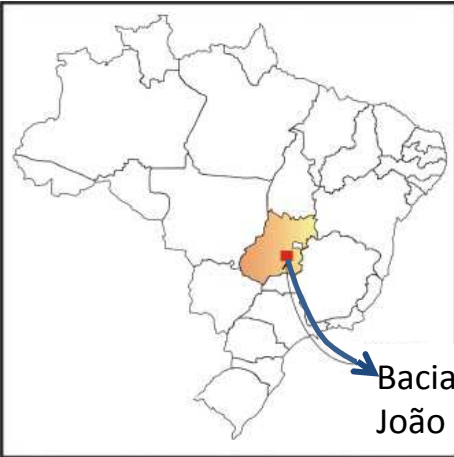




# Concentração das Partículas de Carvão Bacia do Rio Meia Ponte/GO

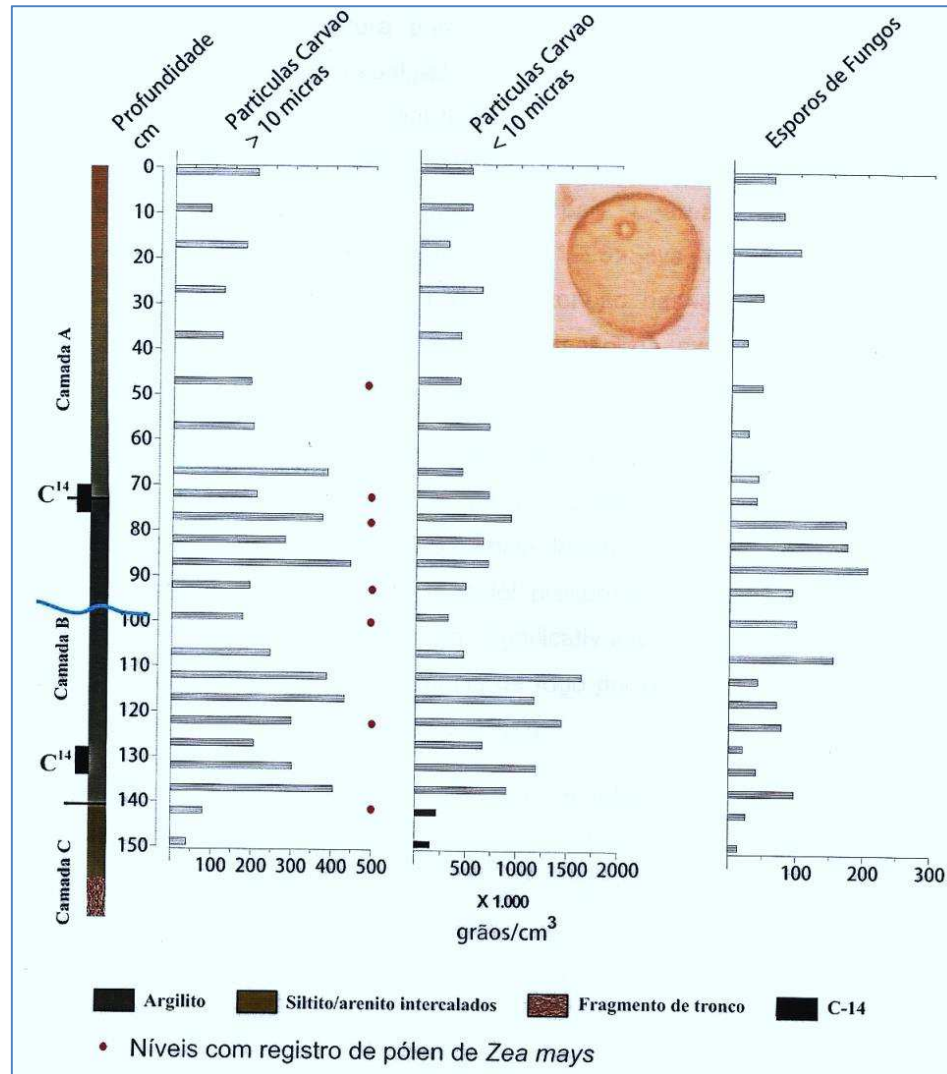


# Archaeological Sites João Leite River Basin





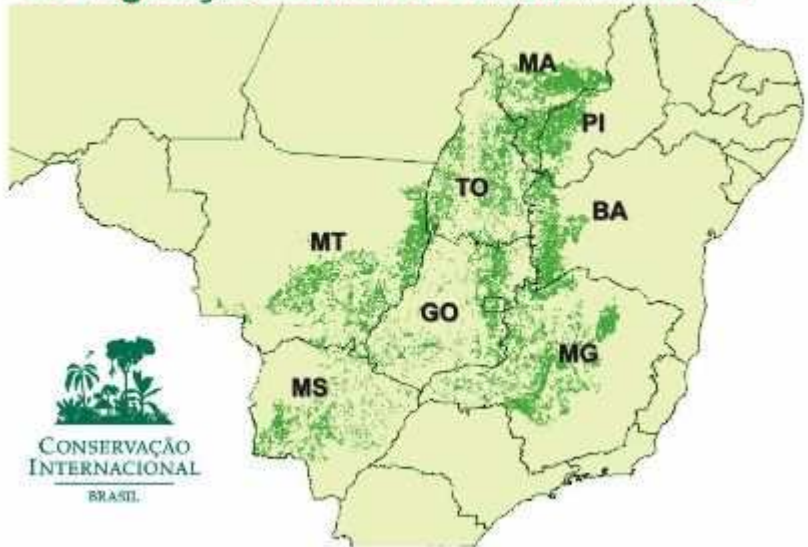
# CONCENTRATION DIAGRAM OF CARBON PARTICLES LARGER AND SMALLER THAN 10 MICRONS, FUNGAL SPORES AND POLLEN OCCURRENCE OF MAIZE (ZEA MAYS)



### Área de distribuição original do Cerrado



### Principais remanescentes de vegetação nativa de Cerrado em 2002



**Original expansion  
of the cerrado**

**Remaining  
cerrado**

**THANK YOU !!**