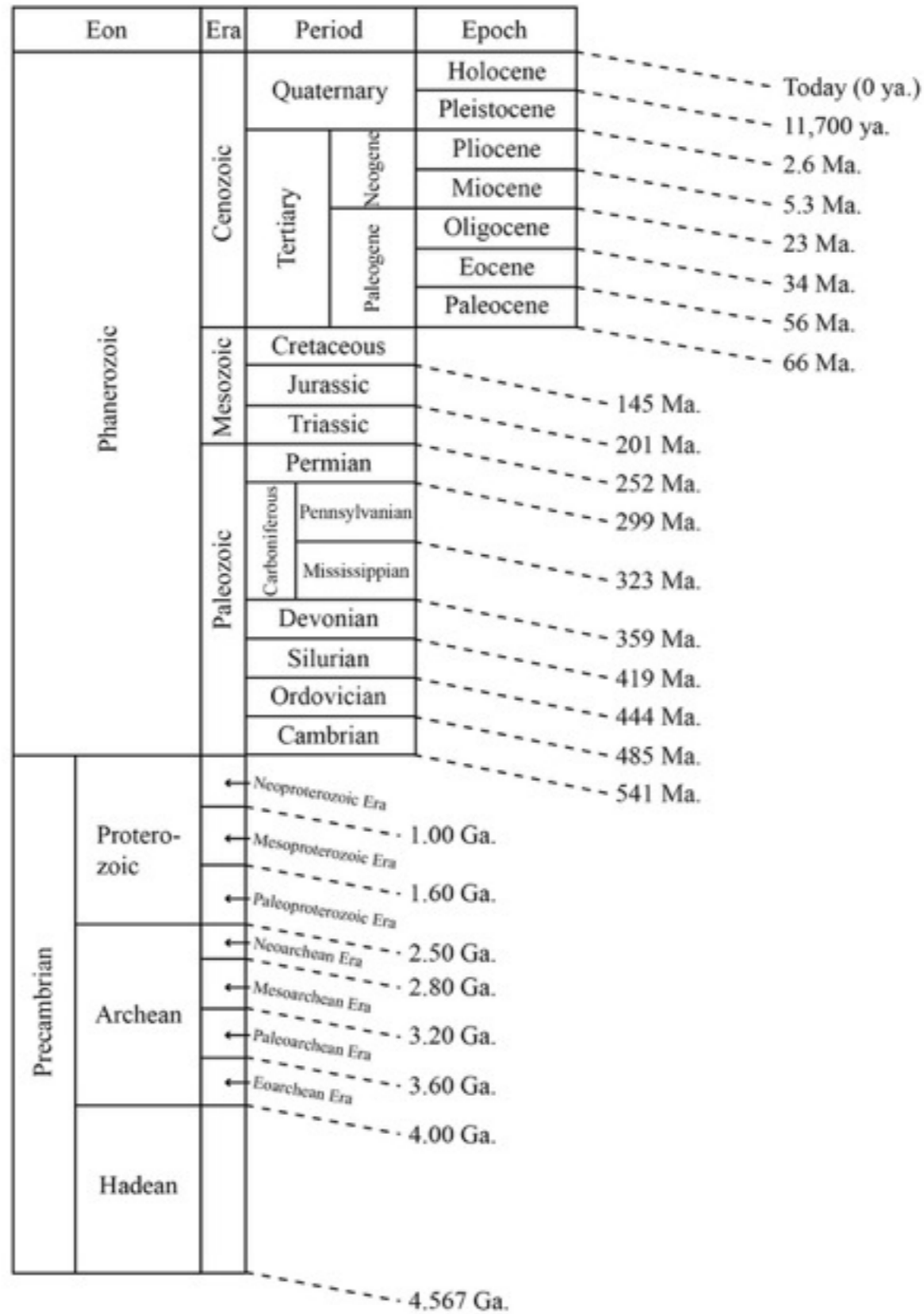


# Geologic Time Scale



# First Fossils ~ 3.5 Ga Archean Algae (??)

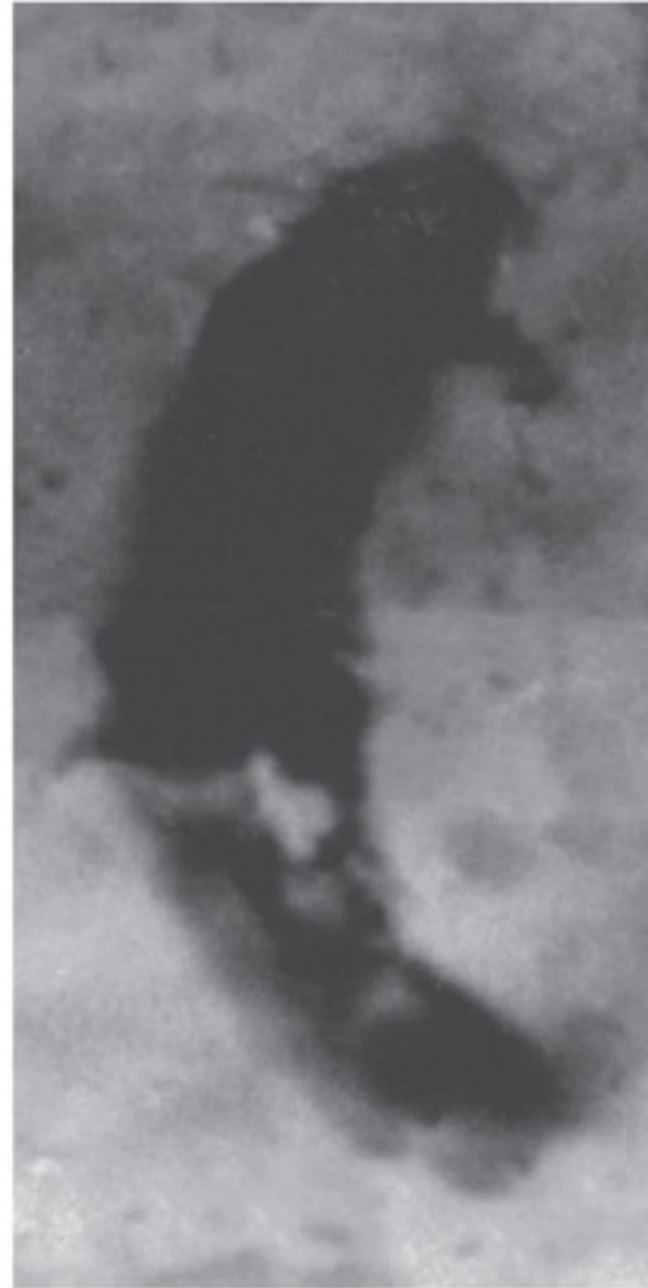


J. William Schopf

0 .01 mm



J. William Schopf



J. William Schopf

0 .01 mm





# Modern Stromatolites at Shark Bay, Western Australia





## 2.7 Ga Stromatolites from Australia



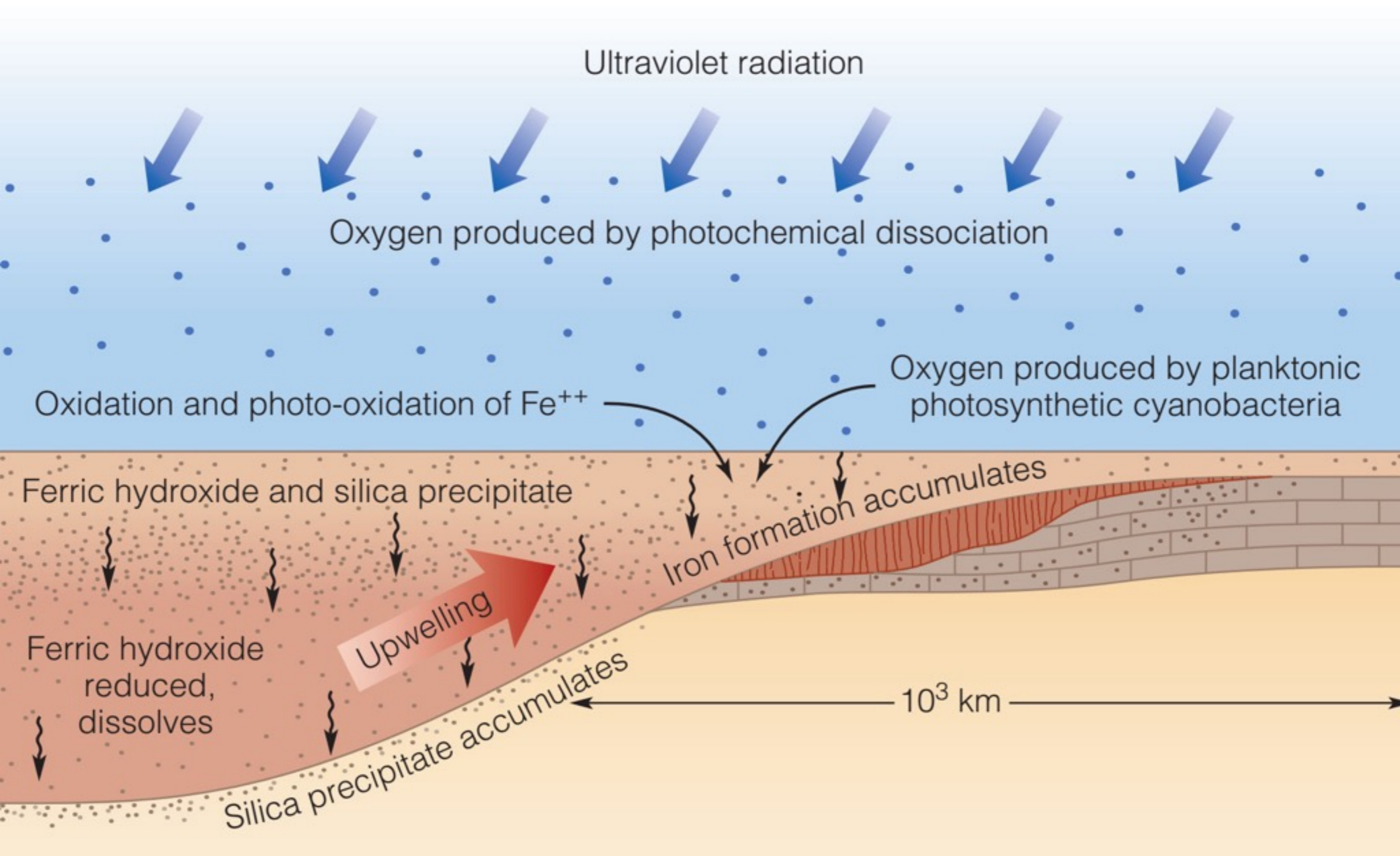


## 2.5 Ga. BIF - Banded Iron Formation





# The Formation of BIFs



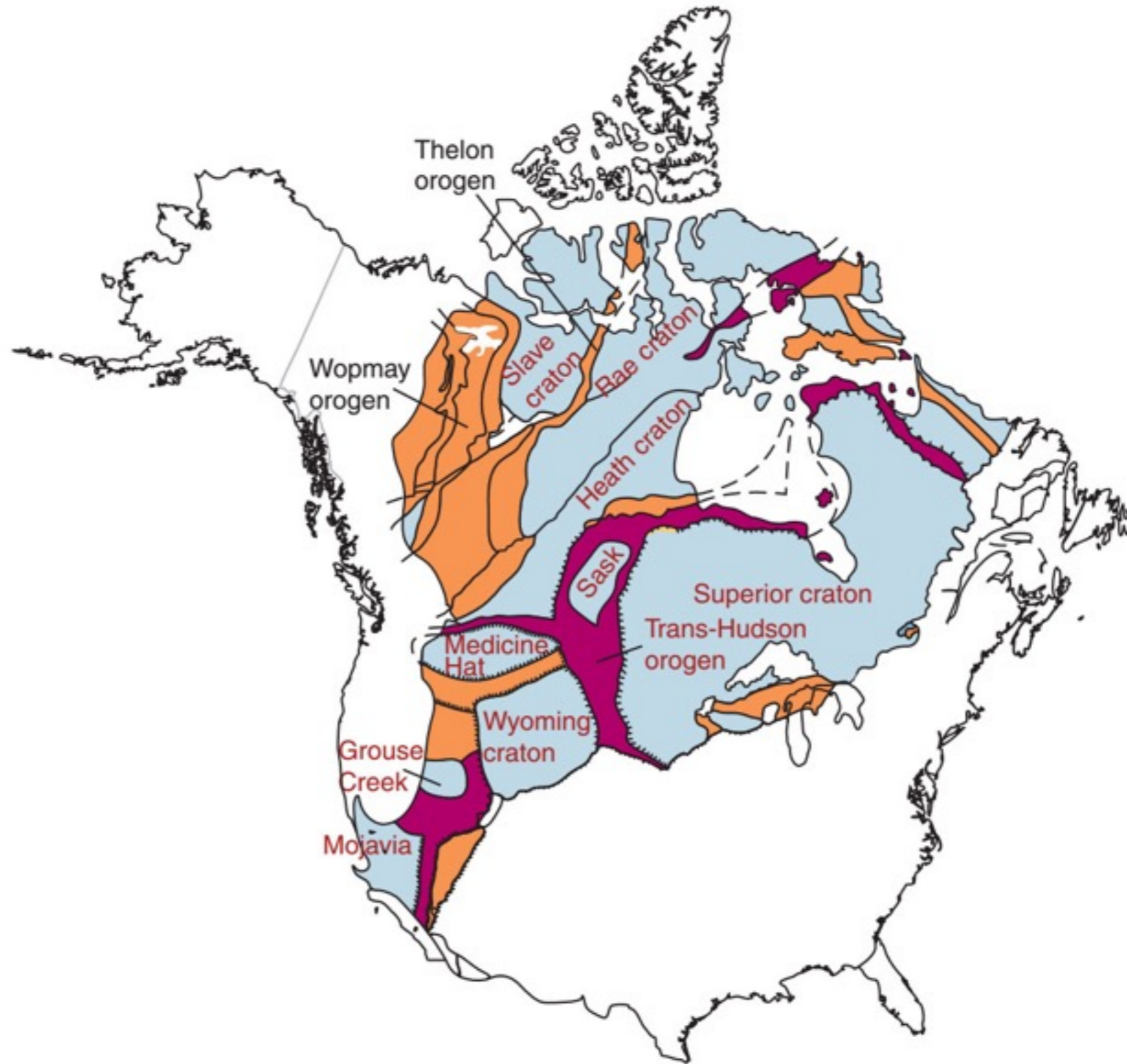


## 2.3 Ga - The Beginning of Continental Redbeds



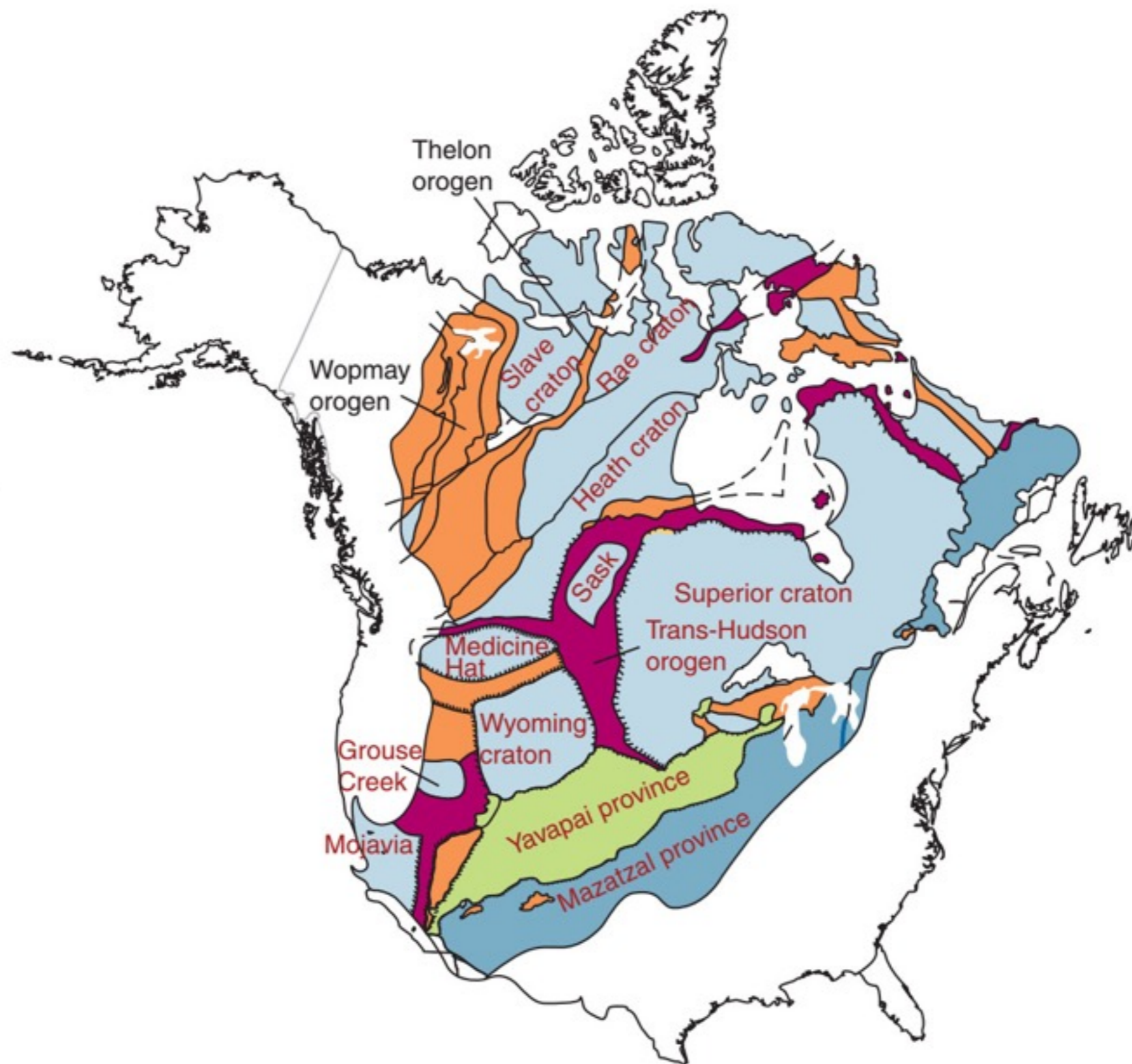


# Paleoproterozoic Laurentia



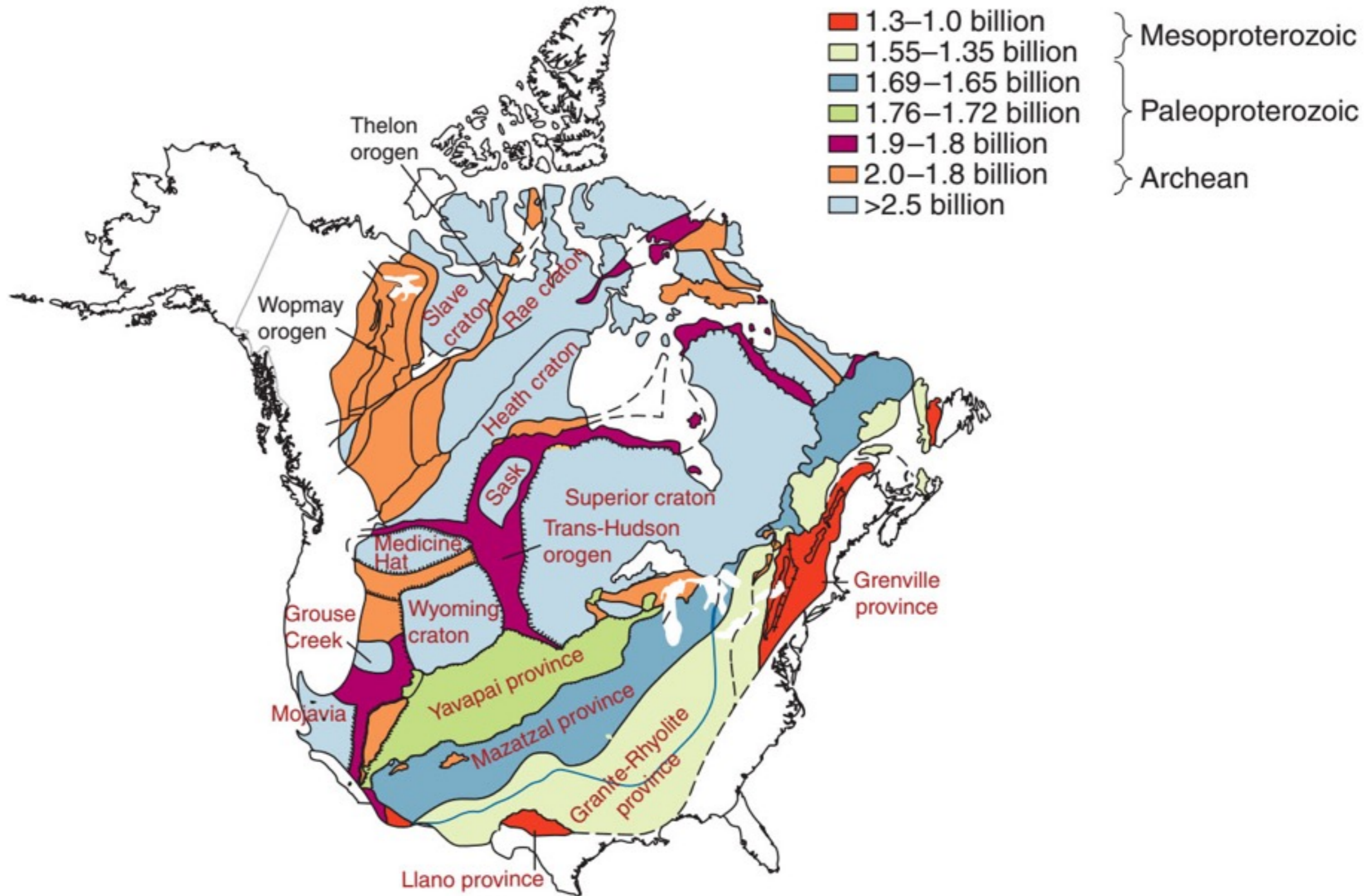


# Mesoproterozoic Laurentia





# Neoproterozoic Laurentia





# End of the Proterozoic Eon - 541 Ma.





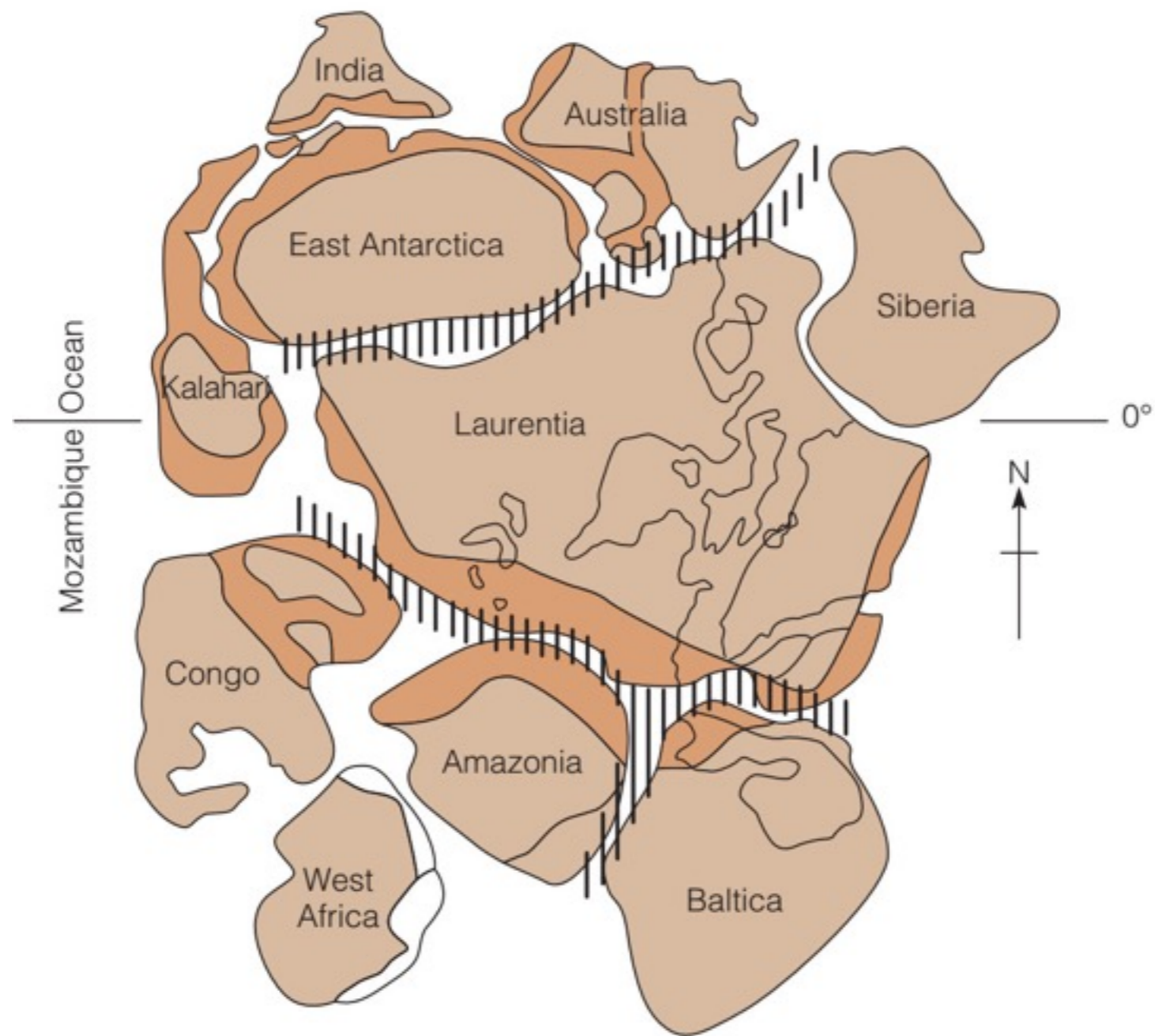
## 1.8 Ga. Nuna or Columbia Supercontinent ???




# Columbia (supercontinent)





# Supercontinent Rodinia - 750 Ma



-  Grenville orogenic belts
-  pre-Grenville cratons
-  Rifts where Rodinia started to fragment 750 million years ago

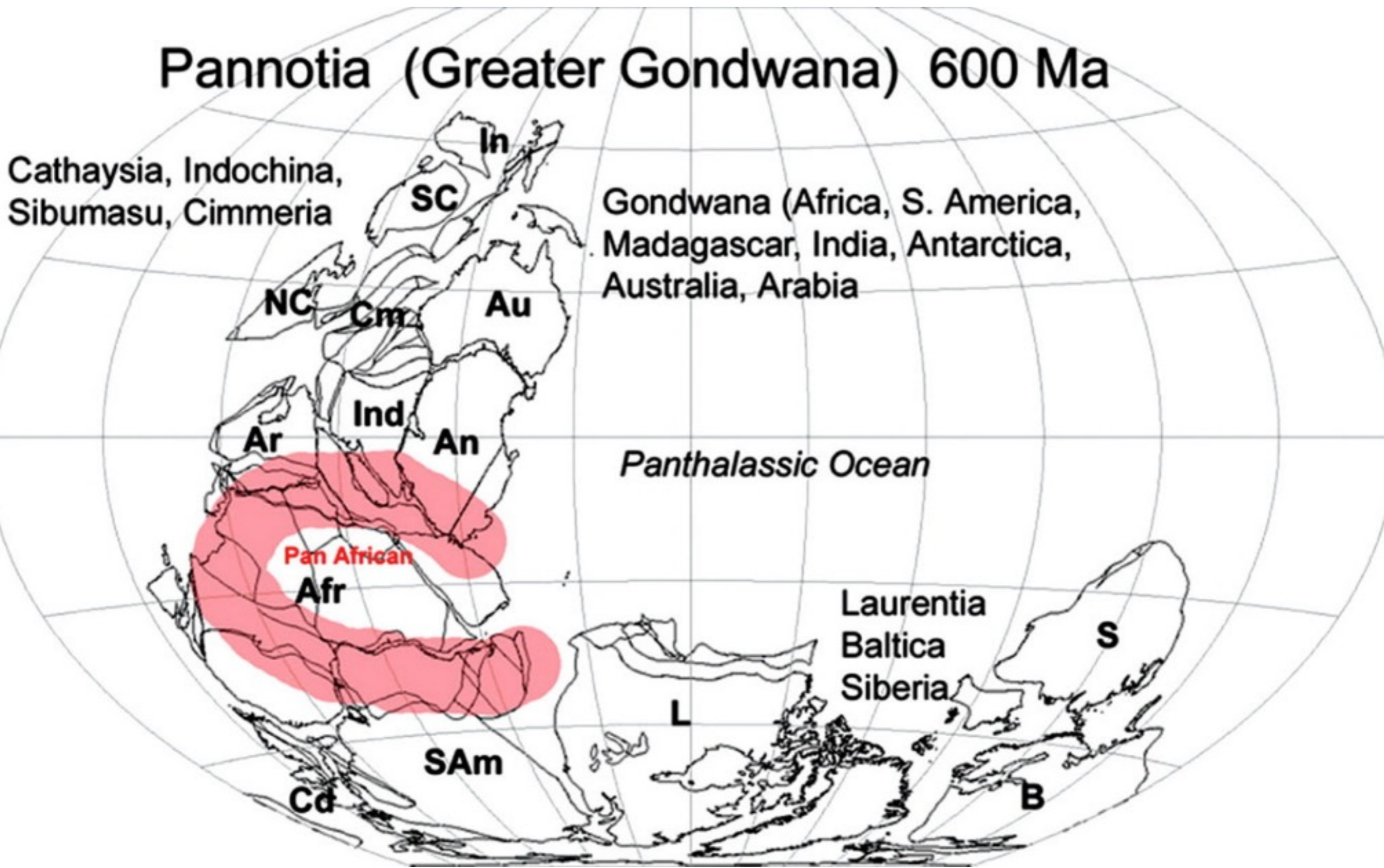


# Supercontinent Pannotia

## Pannotia (Greater Gondwana) 600 Ma

Cathaysia, Indochina,  
Sibumasu, Cimmeria

Gondwana (Africa, S. America,  
Madagascar, India, Antarctica,  
Australia, Arabia)



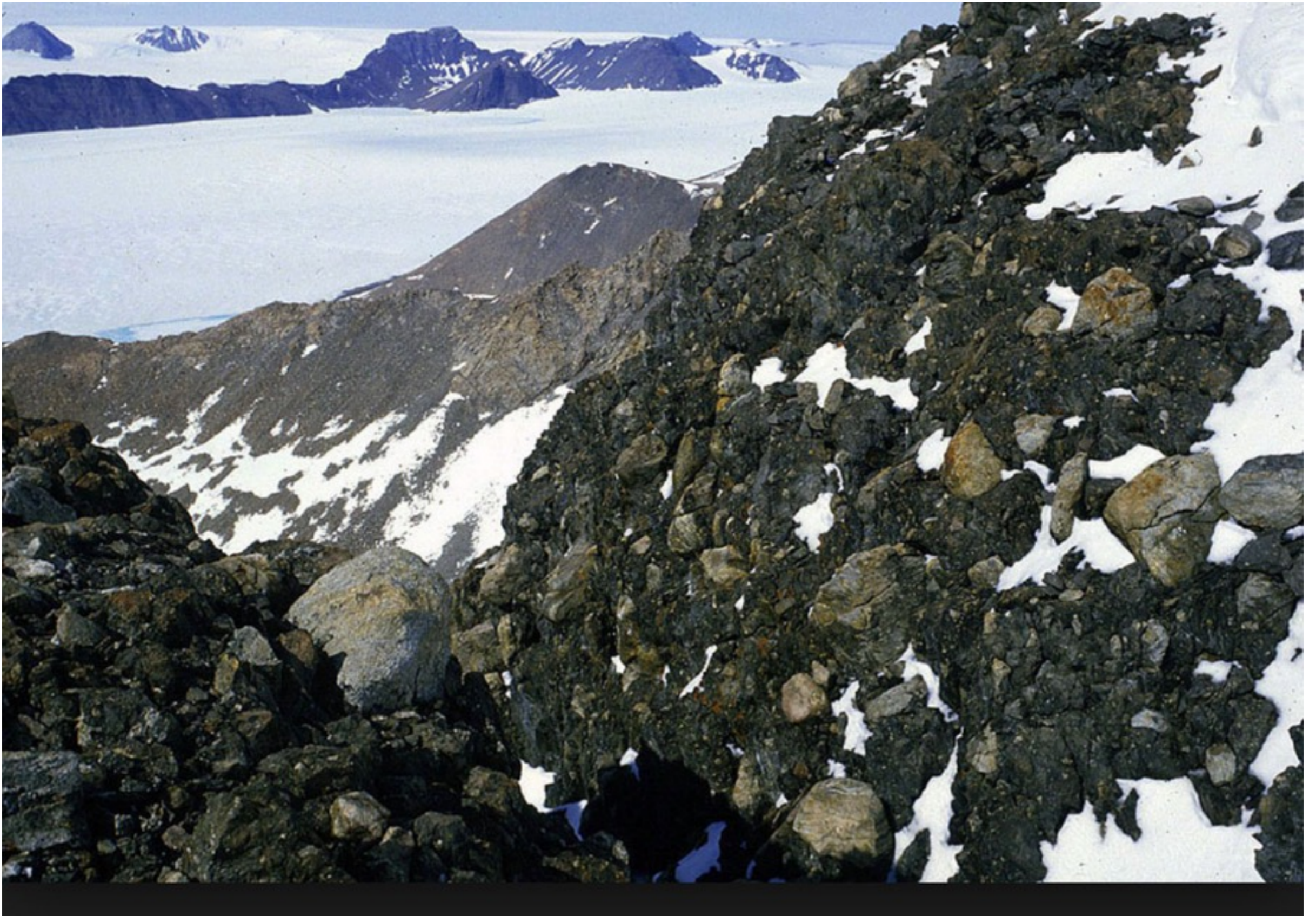


# A Valley (Alpine) Glacier





# Glacier forming Till





# Glacial Tillite





## Snowball Earth (900 and 600 Ma)





# 1.1 Ga Midcontinental Rift of Laurentia





# Leaving the Proterozoic Eon

