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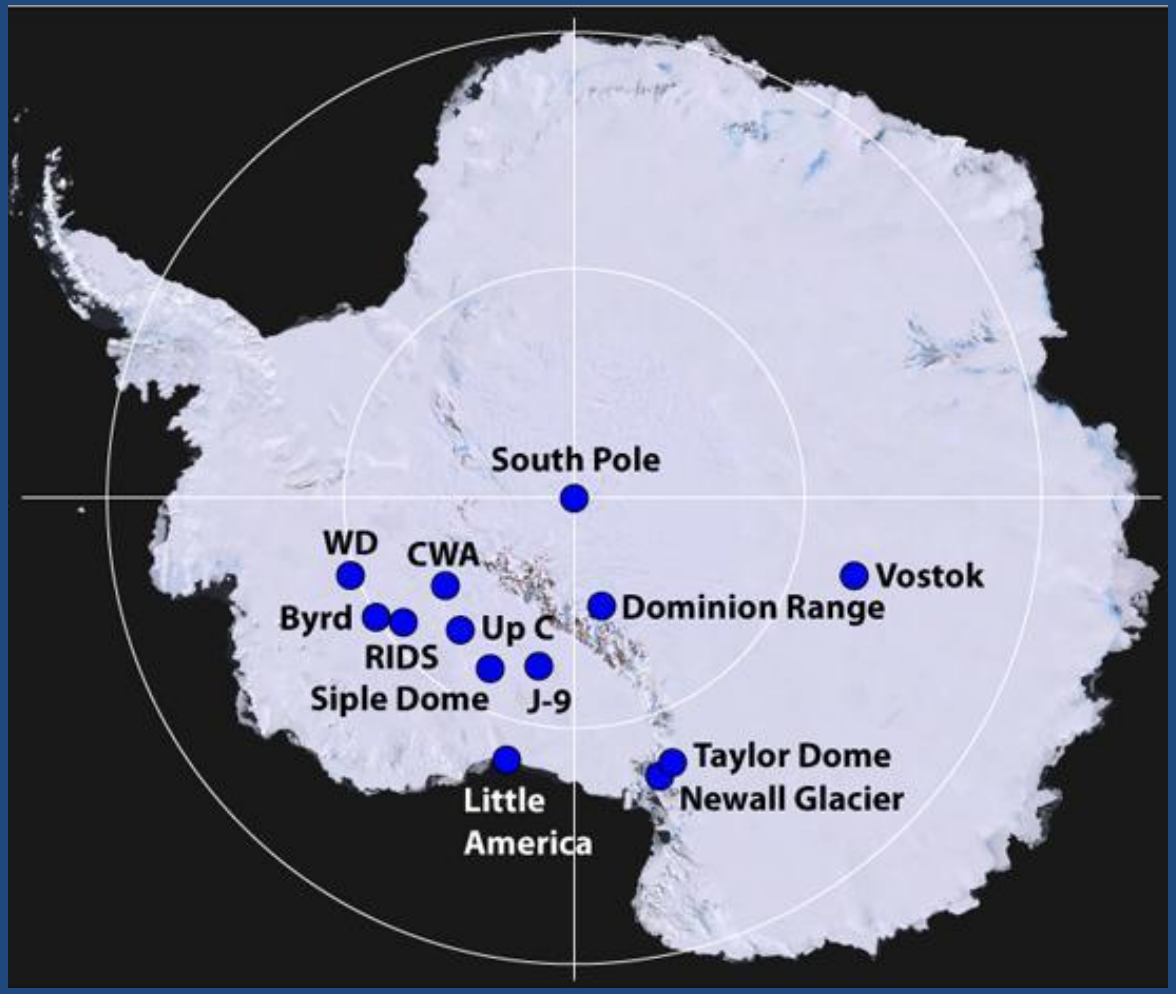
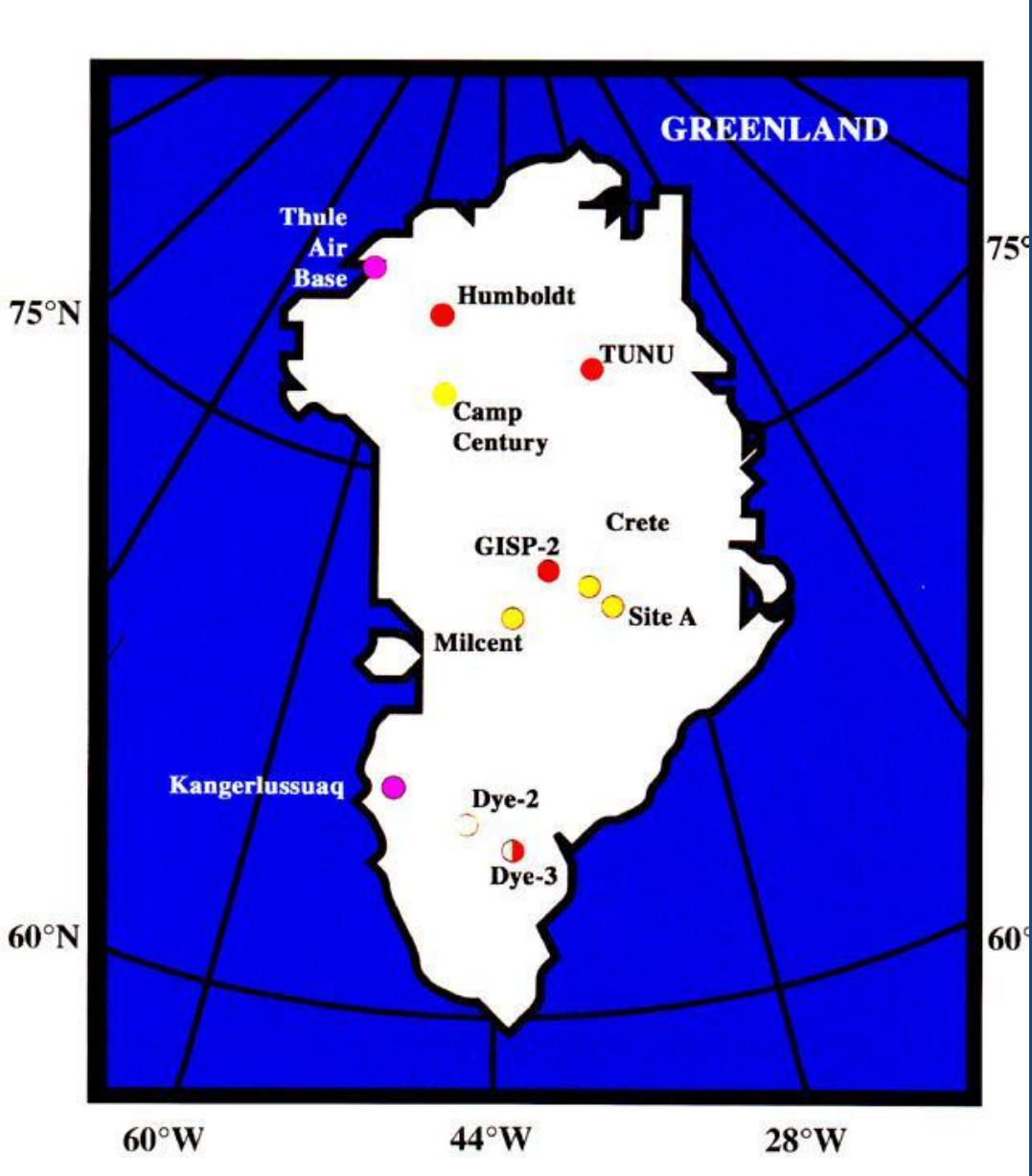
Antarctic Core Sites



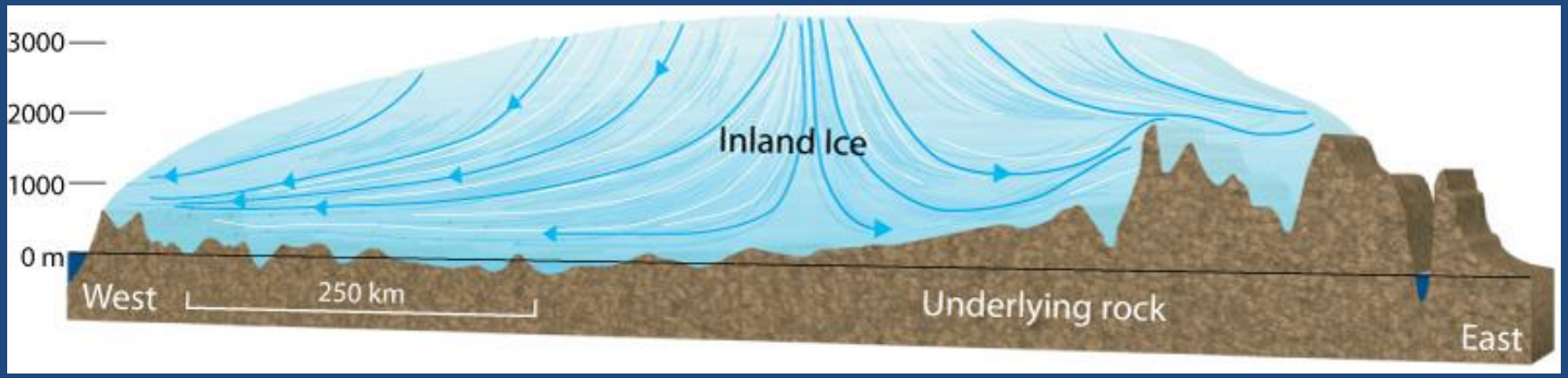
Greenland Core Sites



Source: http://www.nature.com/nature/journal/v431/n7005/fig_tab/nature02805_F1.html


Alaska
Greenland
Himalayas
Andes
Mt. Kilimanjaro
West Antarctica
East Antarctica

Site Selection

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1106


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0491


GALLEY


WAIS


8508


WDC Ø6A-R
TUBE 5/3


EXIT

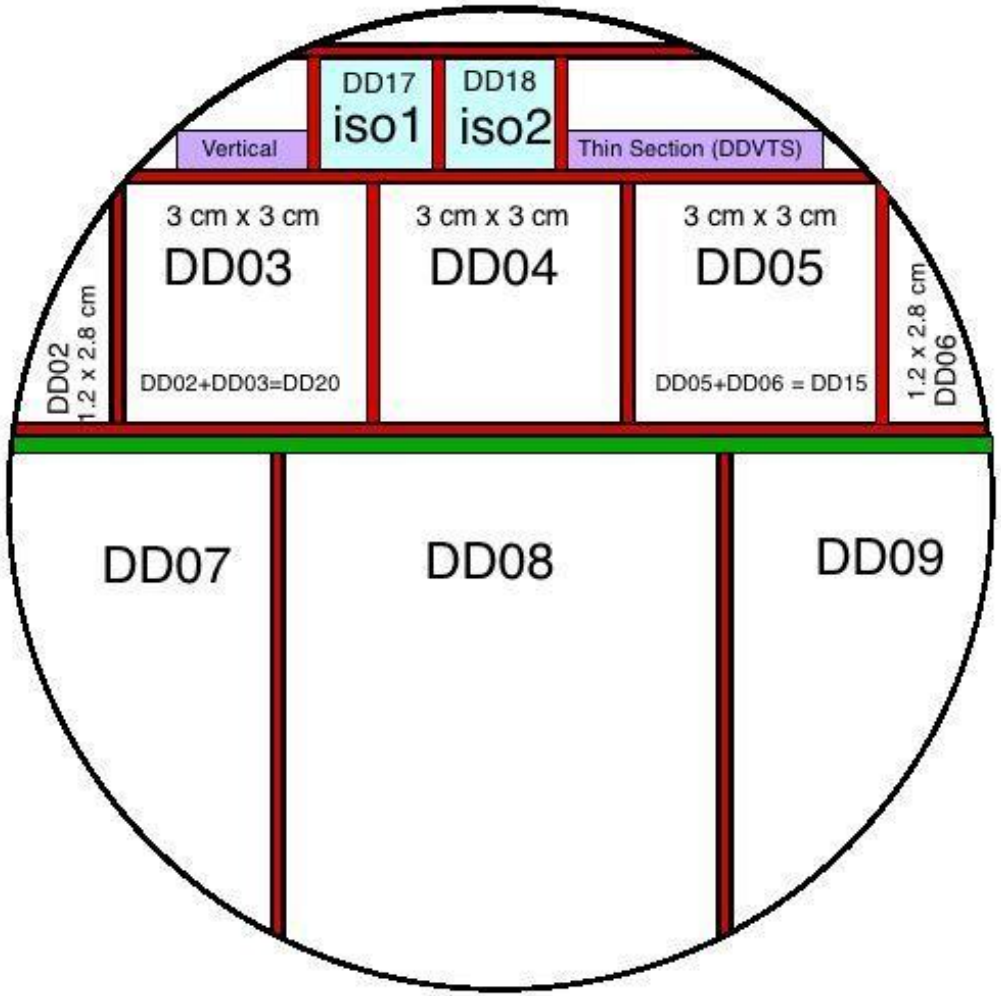

CAT
953C
LD03653


M/V AMERICAN TERN

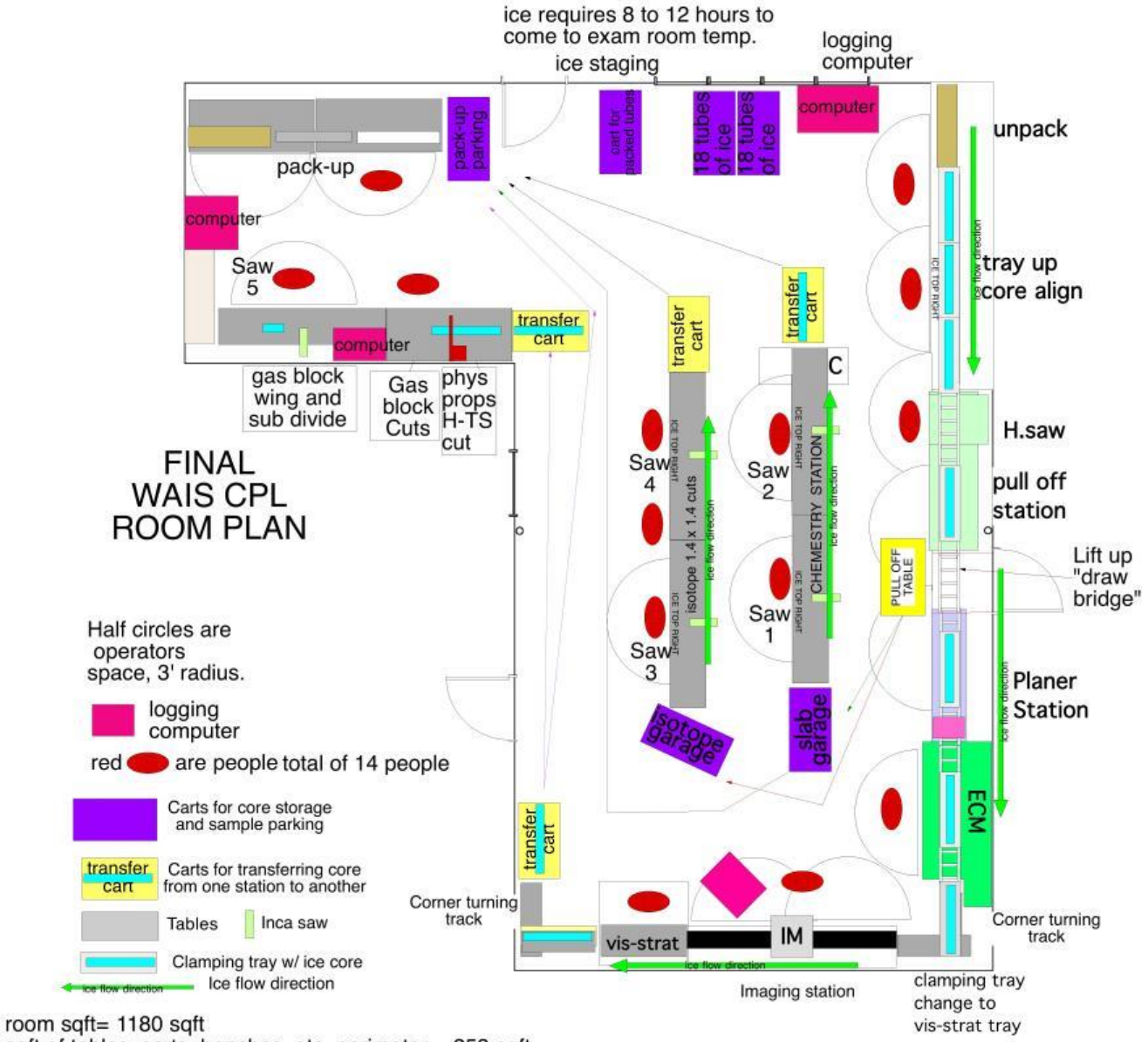

DREXEL

WAIS 2011 CUT PLAN

Kerf (Red line) = 2mm



2012 CPL LAYOUT (V-16)

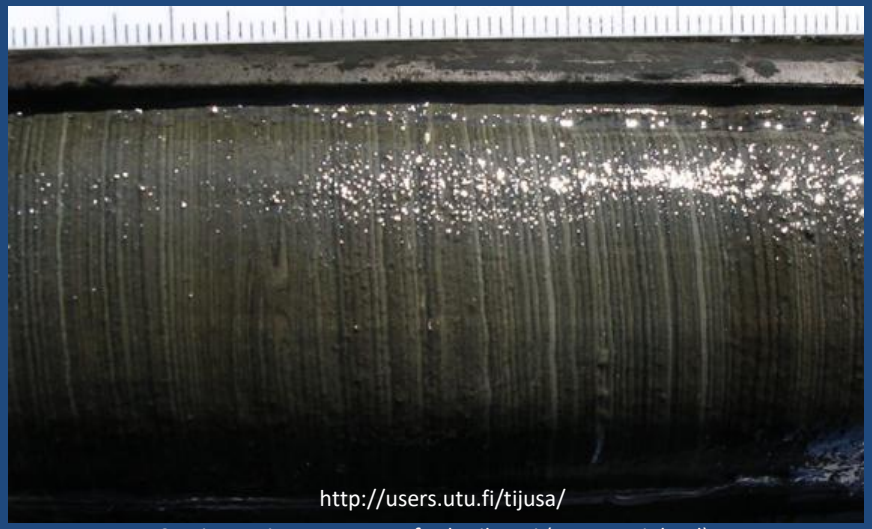


room sqft= 1180 sqft
sqft of tables, carts, benches, etc. perimeter = 253 sqft
sqft of tables carts, saw tables in center= 104 sqft
room sqft - tables sqft = 823 sqft

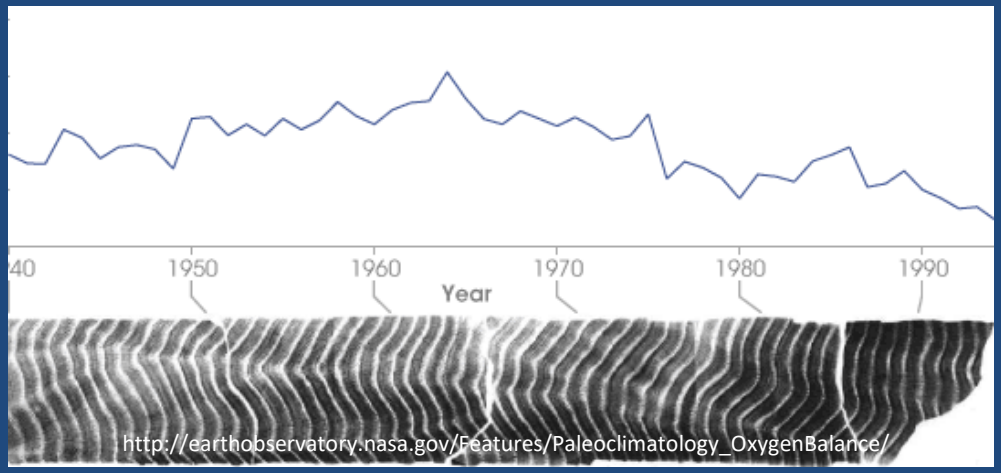
WAIS Divide
CPL
2010

National Ice Core Laboratory
Denver, CO

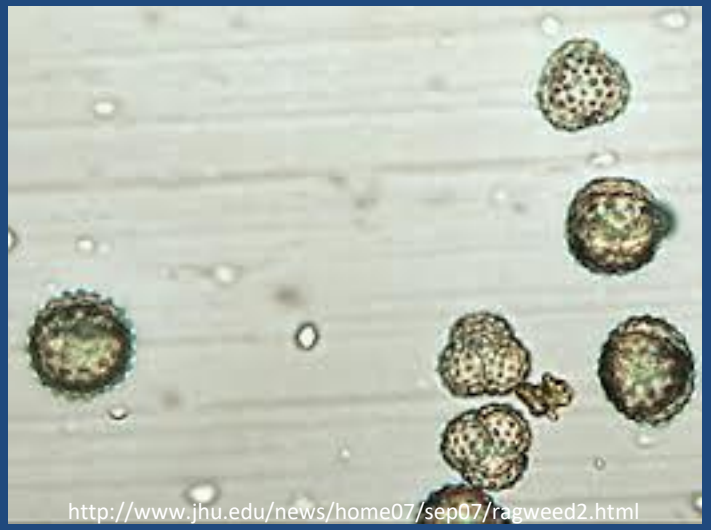
Tree rings



Saarinen, Timo J. Varves of Lehmilampi (Eastern Finland),
light layer = spring flood mineral layer, dark layer=organic summer-winter layer.



Coral growth layers



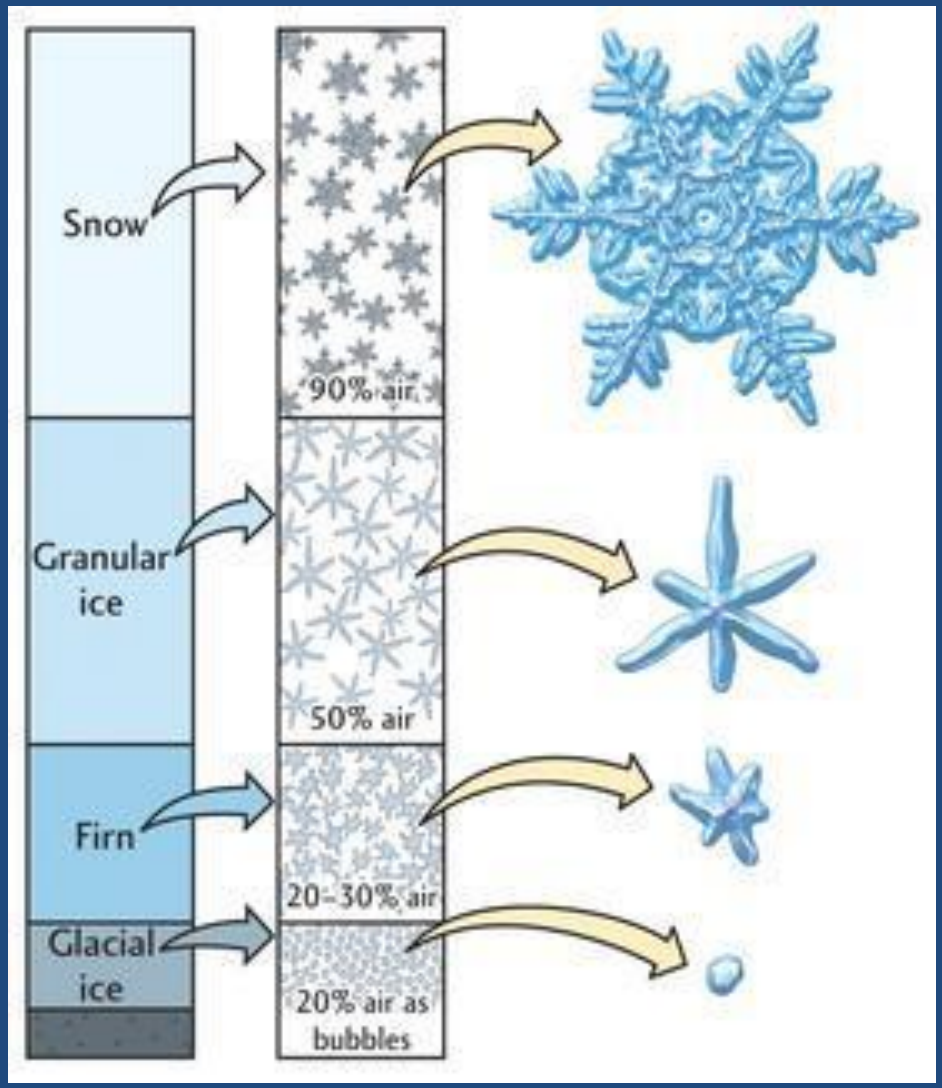
pollen

http://www.detectingdesign.org/?page_id=523

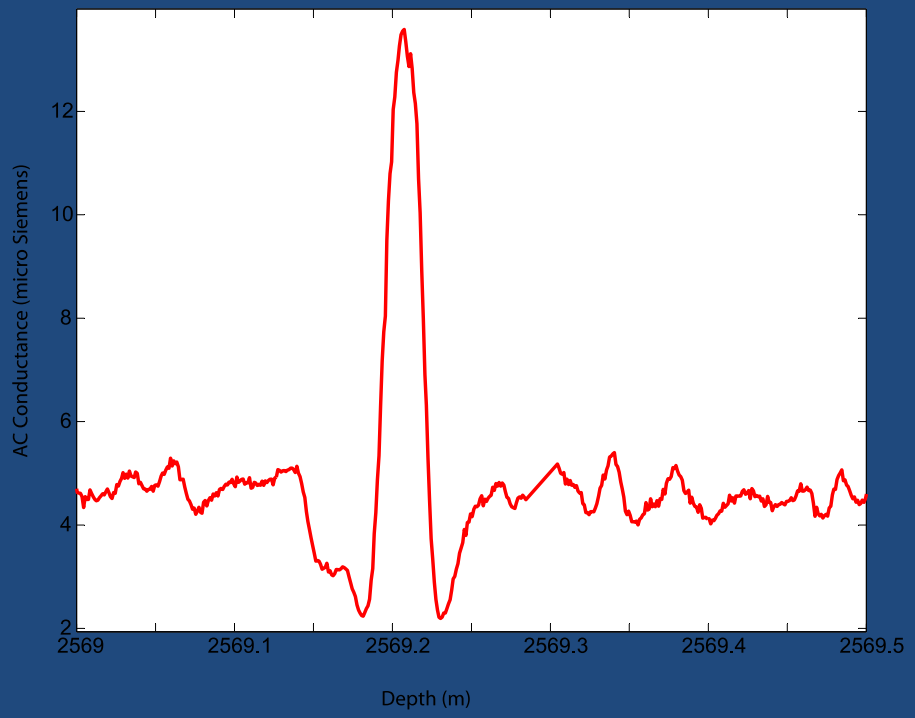
Why Ice Cores Are Such a Great Record of Past Climate

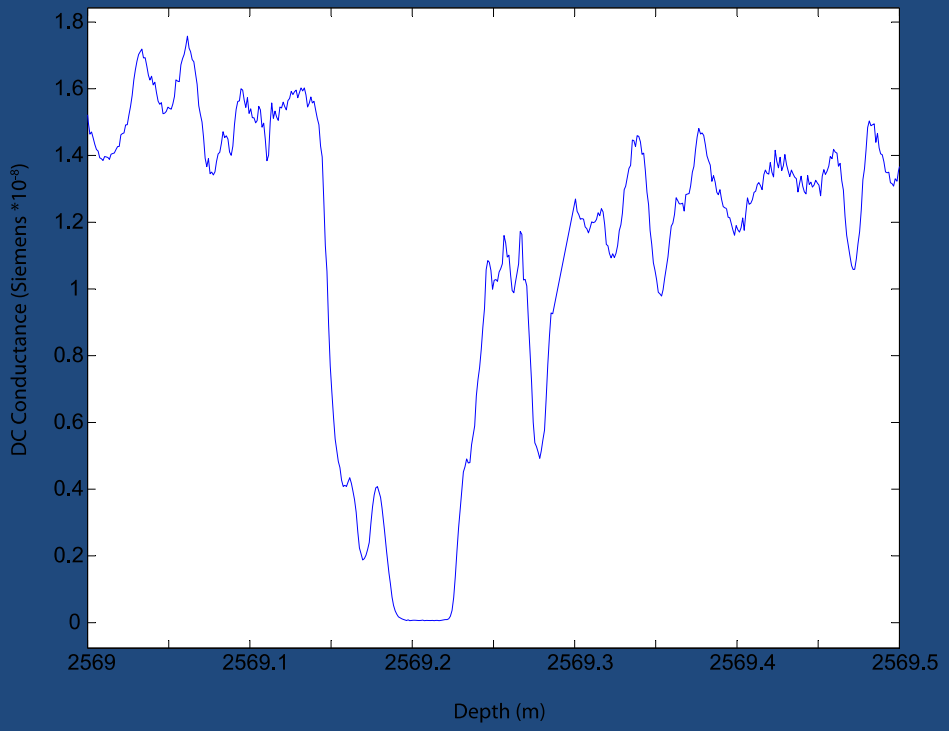
- Atmospheric Composition
  - From snowfall
  - Trapped in clathrates
- Temperature
  - Isotopes
- Dating
  - Visual Inspection of layers
  - Volcanic layers
  - ECM

Formation of Ice

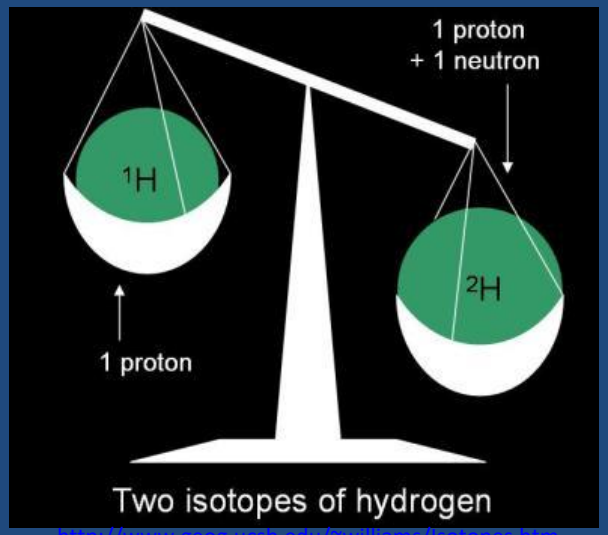


http://glaciers1011r1.wikispaces.com/Firn

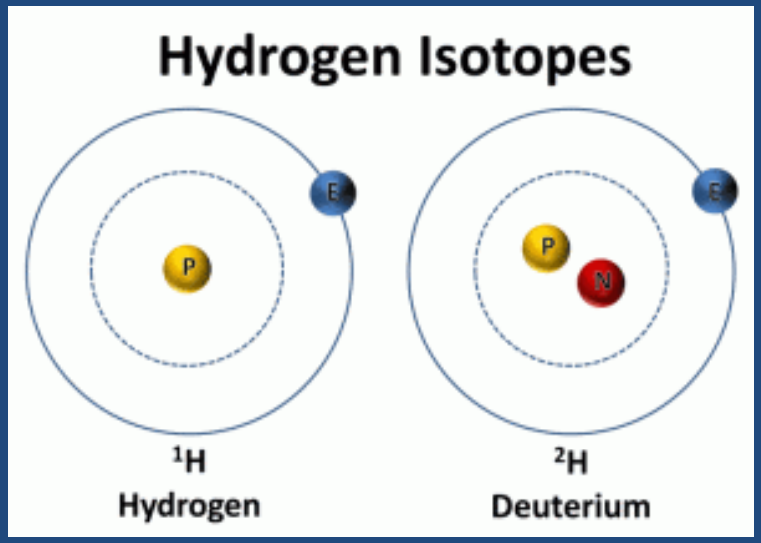

AC Conductance (micro Siemens)
12
10
8
6
4
2
2569
2569.1
2569.2
2569.3
2569.4
2569.5
Depth (m)

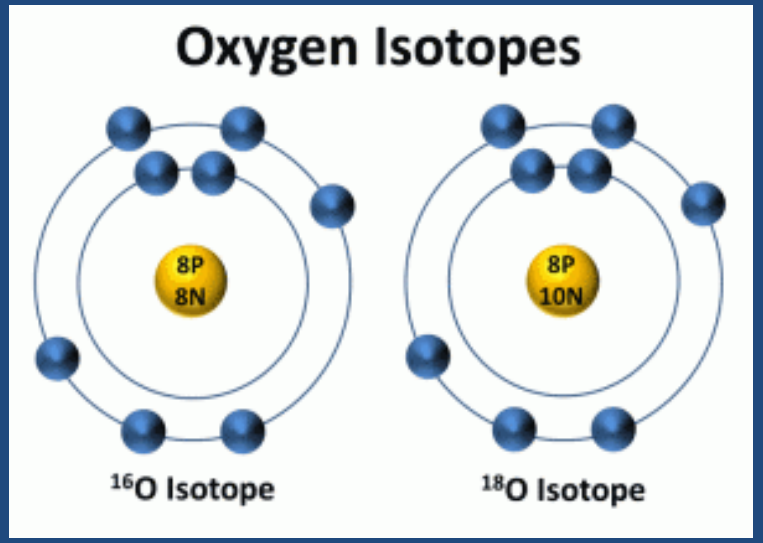

DC Conductance (Siemens *10^-8)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2569
2569.1
2569.2
2569.3
2569.4
2569.5
Depth (m)

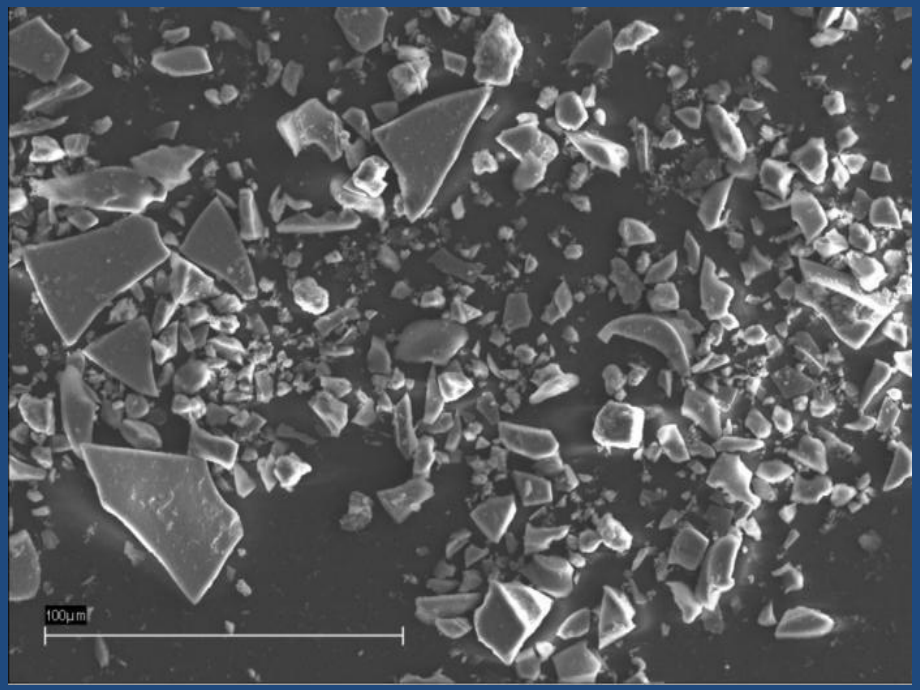
Isotopes



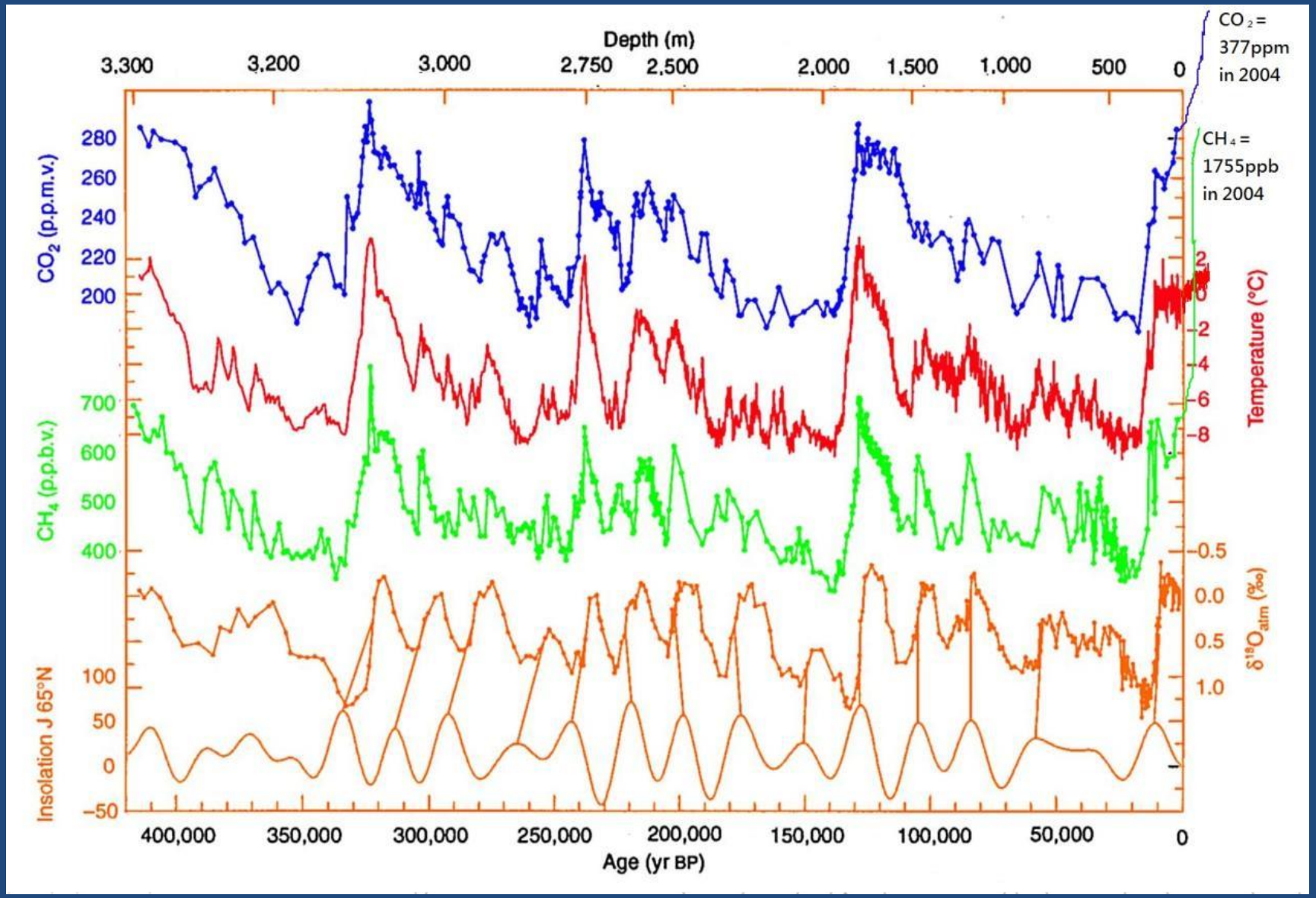
http://www.geog.ucsb.edu/~williams/Isotopes.htm



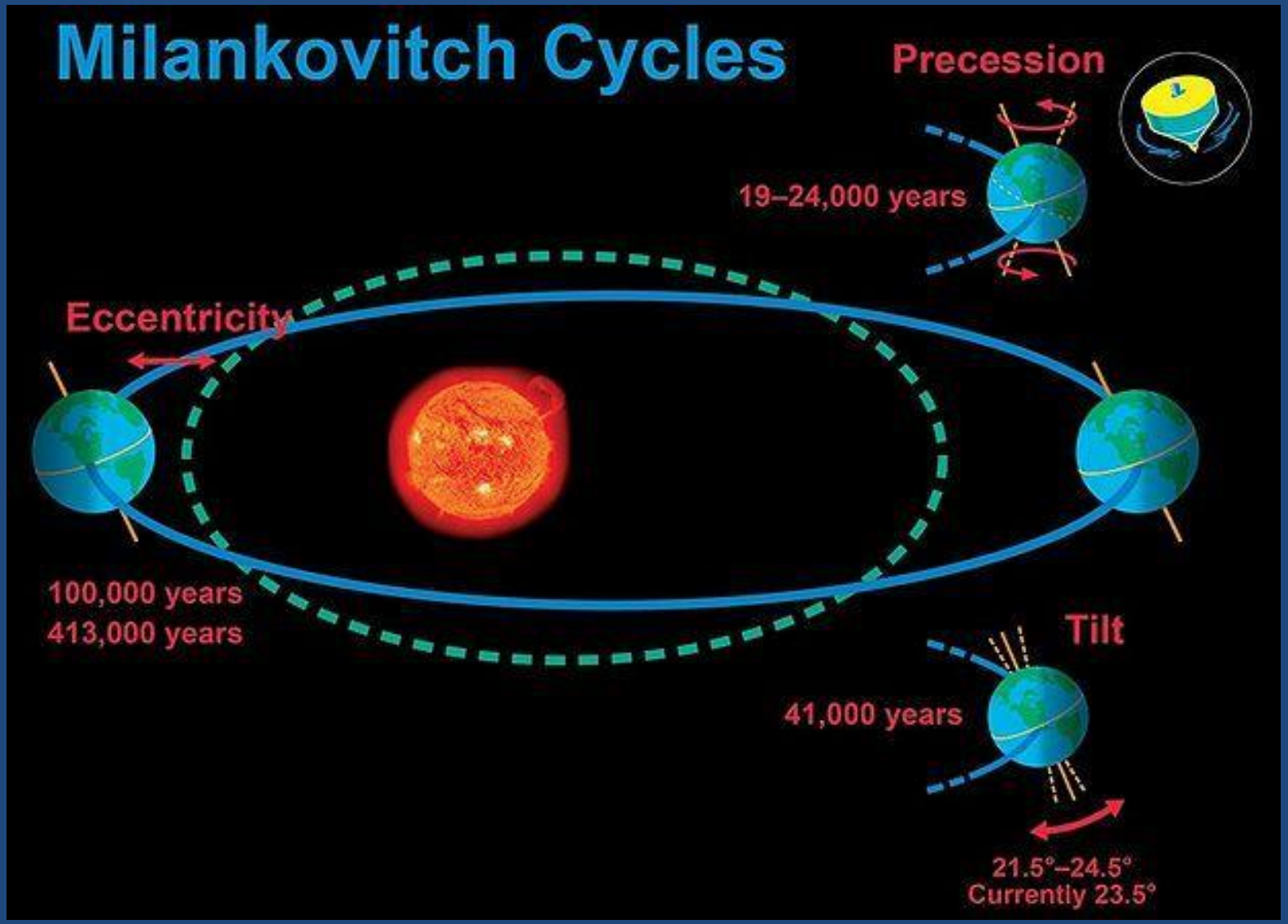




http://www.iceandclimate.nbi.ku.dk/research/strat_dating/synch_ice_core_rec/vol_ash_layer/



http://www.antarcticglaciers.org/climate-change/



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Questions?

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FRAGIL
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2005-06 Season
(~ 8-Jan-2006)
2006-07 Season
(early Nov-2006)
2007-08 Season
(early Nov-2007)
2008-09 Season
(~ 1-Nov-2008)
2009-10 Season
(early Nov-2009)
2010-11 Season
(~ 8-Nov-2010)


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