



An Estimate of Motion Between the Spin Axis and the Hotspots Over the Past Century

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*Jan will
call Jan when
approved
4-2850*



Relative to WHAT?

- ① 1 plate
- ② mean lithosphere
=no net rotation
of the plates
- ③ hotspots
- ④ mean mantle
(using a geodynamic model
of mantle convection)



differ

48 $\frac{\text{mm}}{\text{year}}$



Polar Motion

forced annual wobble

3 meter amplitude

1 year period

free Chandler wobble

3 to 6 meter amplitude

433 day period

Markowitz wobble

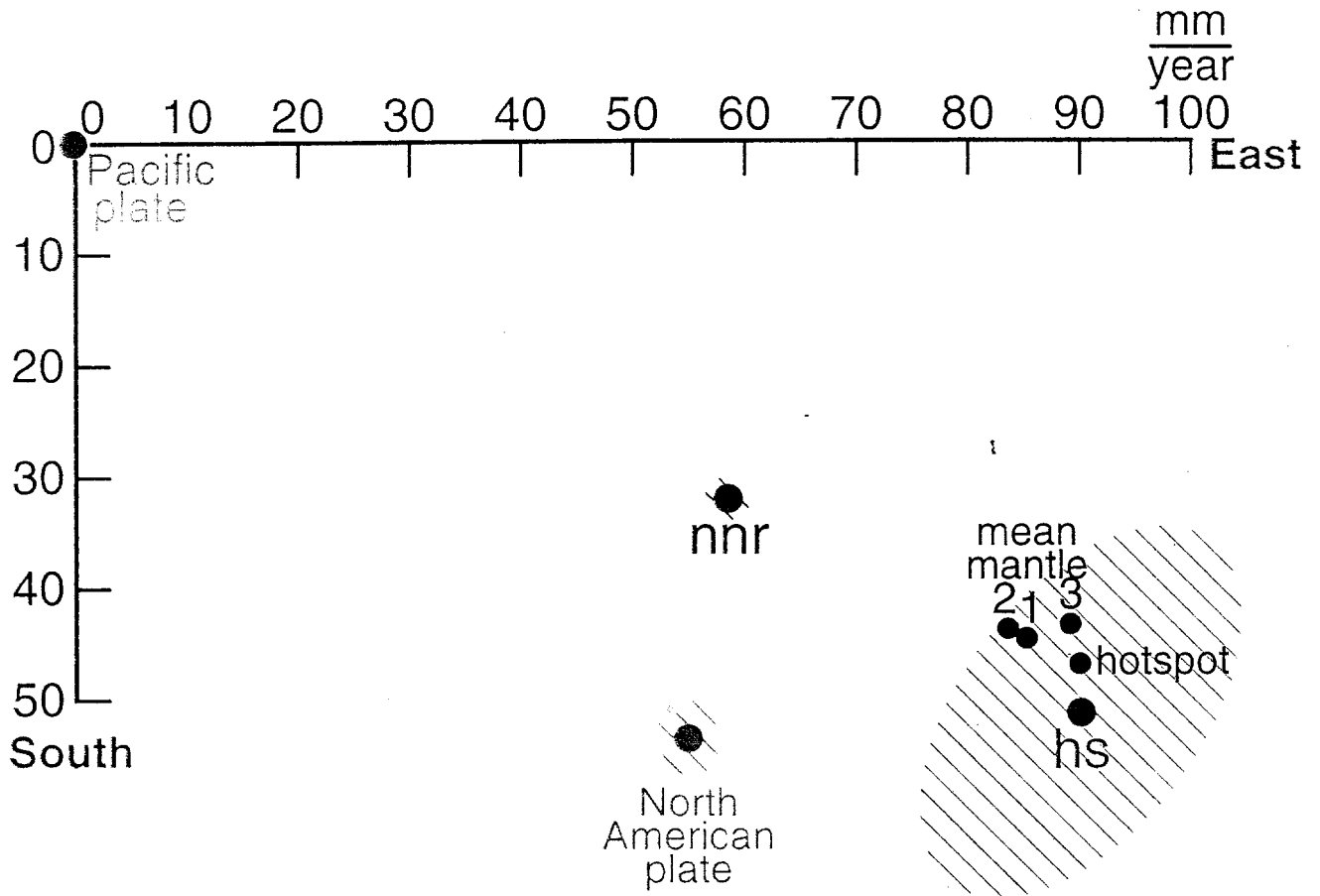
1 meter amplitude

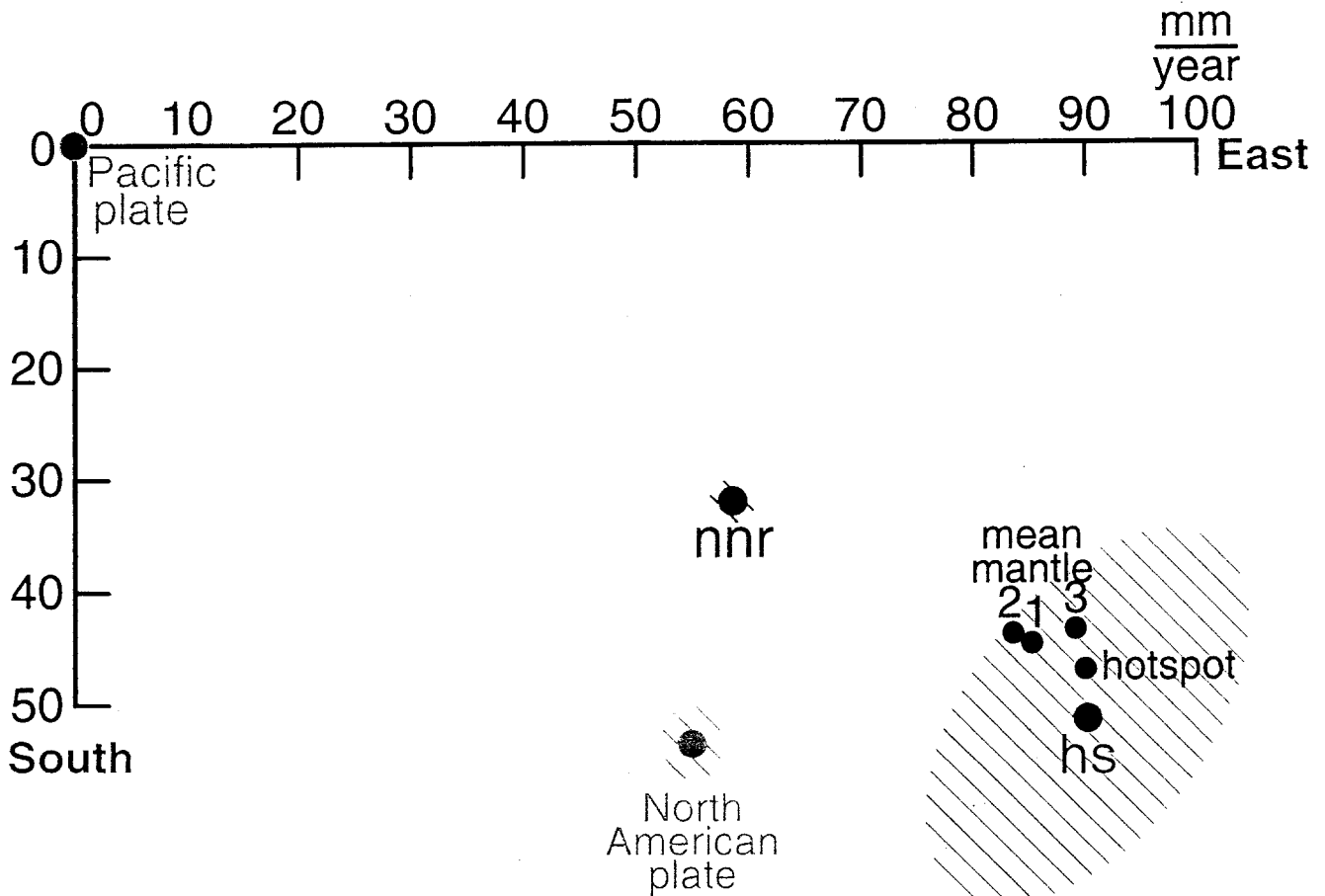
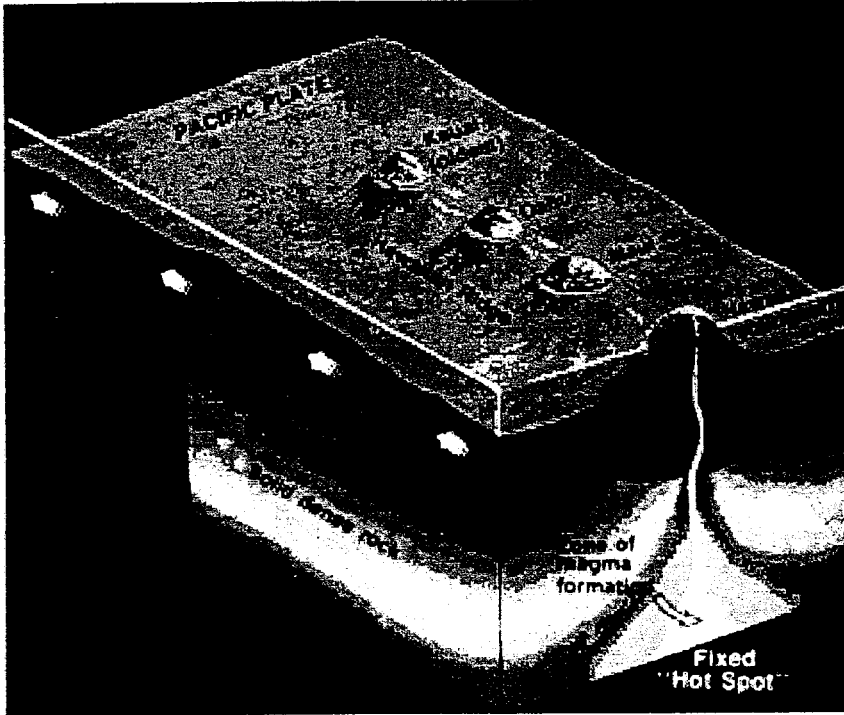
30 year? period

constant velocity

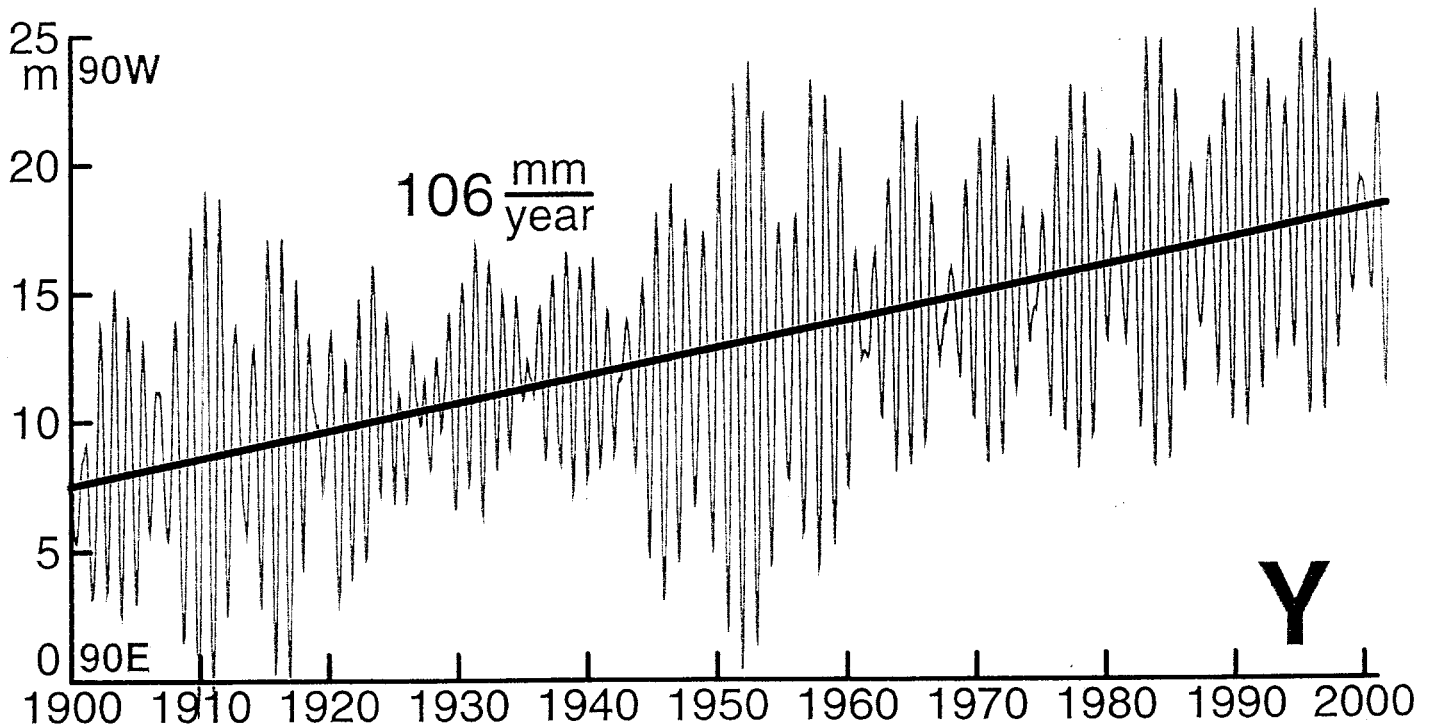
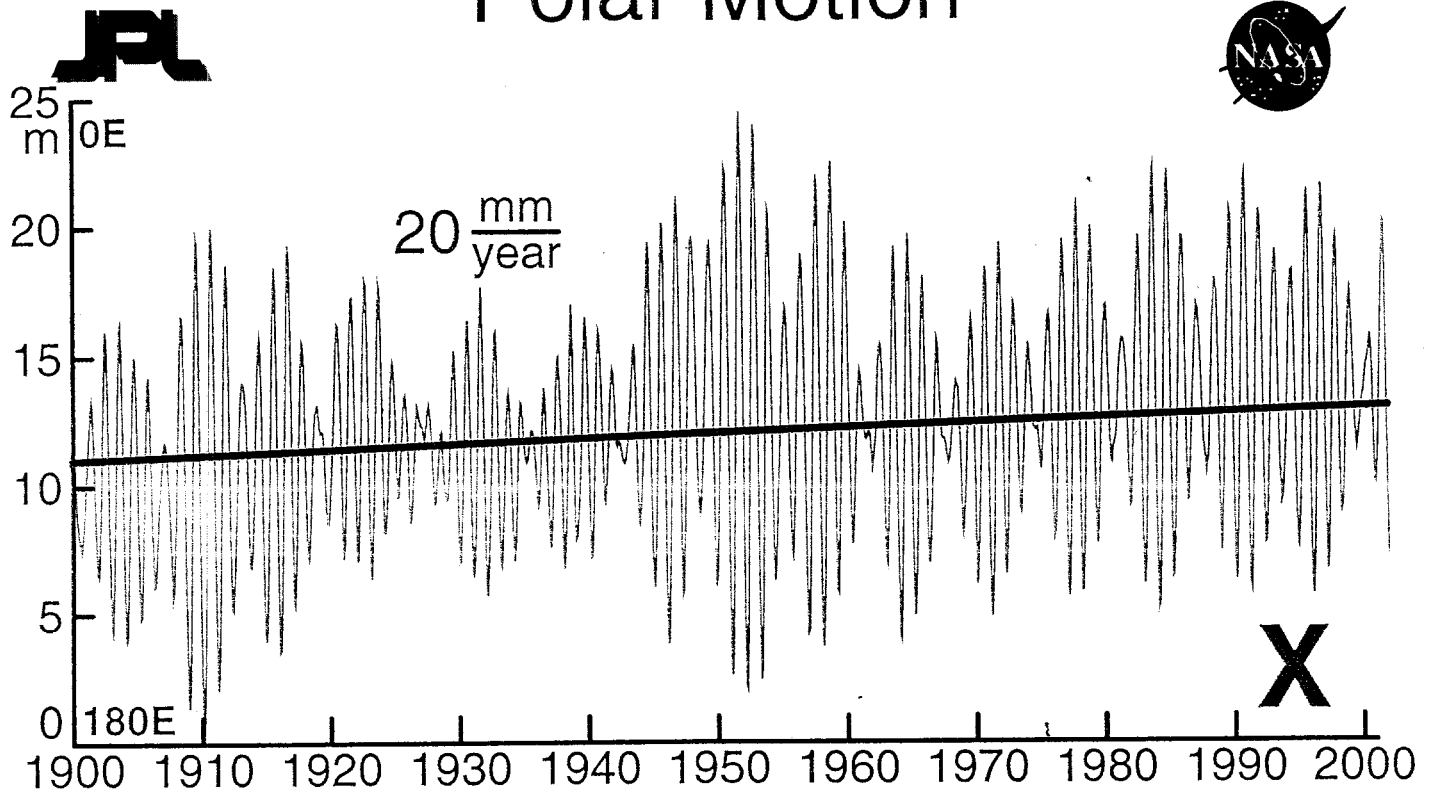
11 meter/100 year

along 75°W meridian



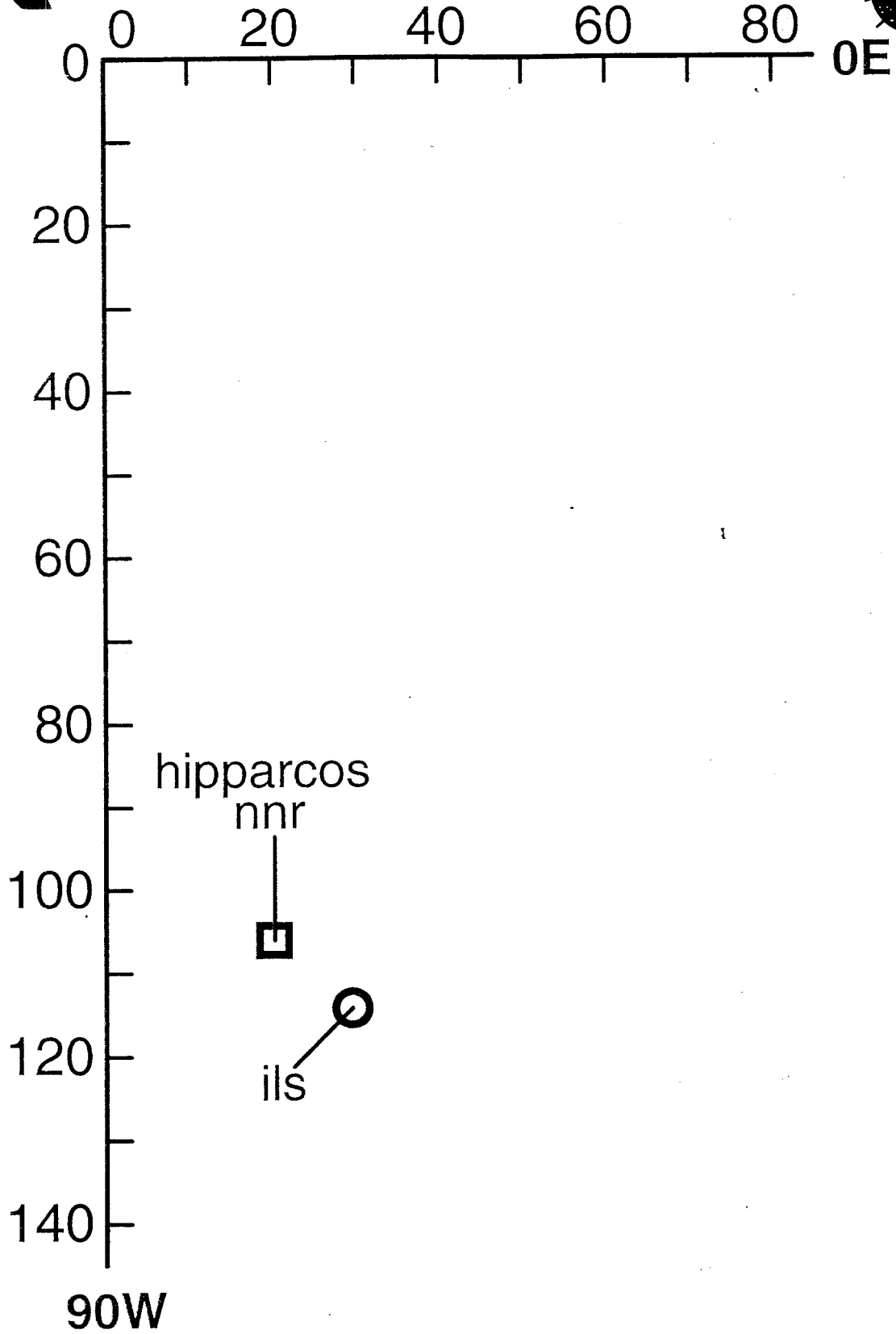


Polar Motion



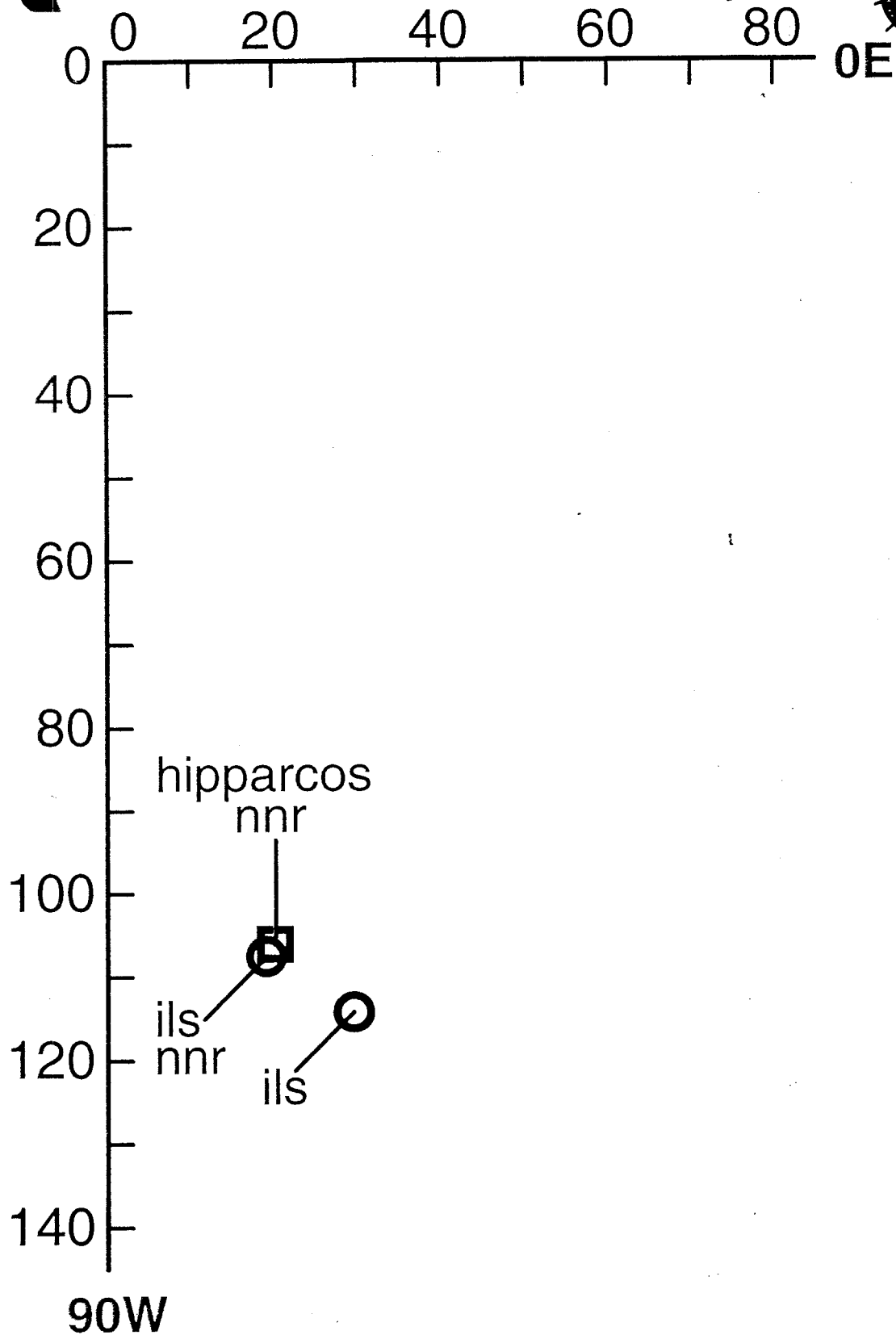


mm
year
80



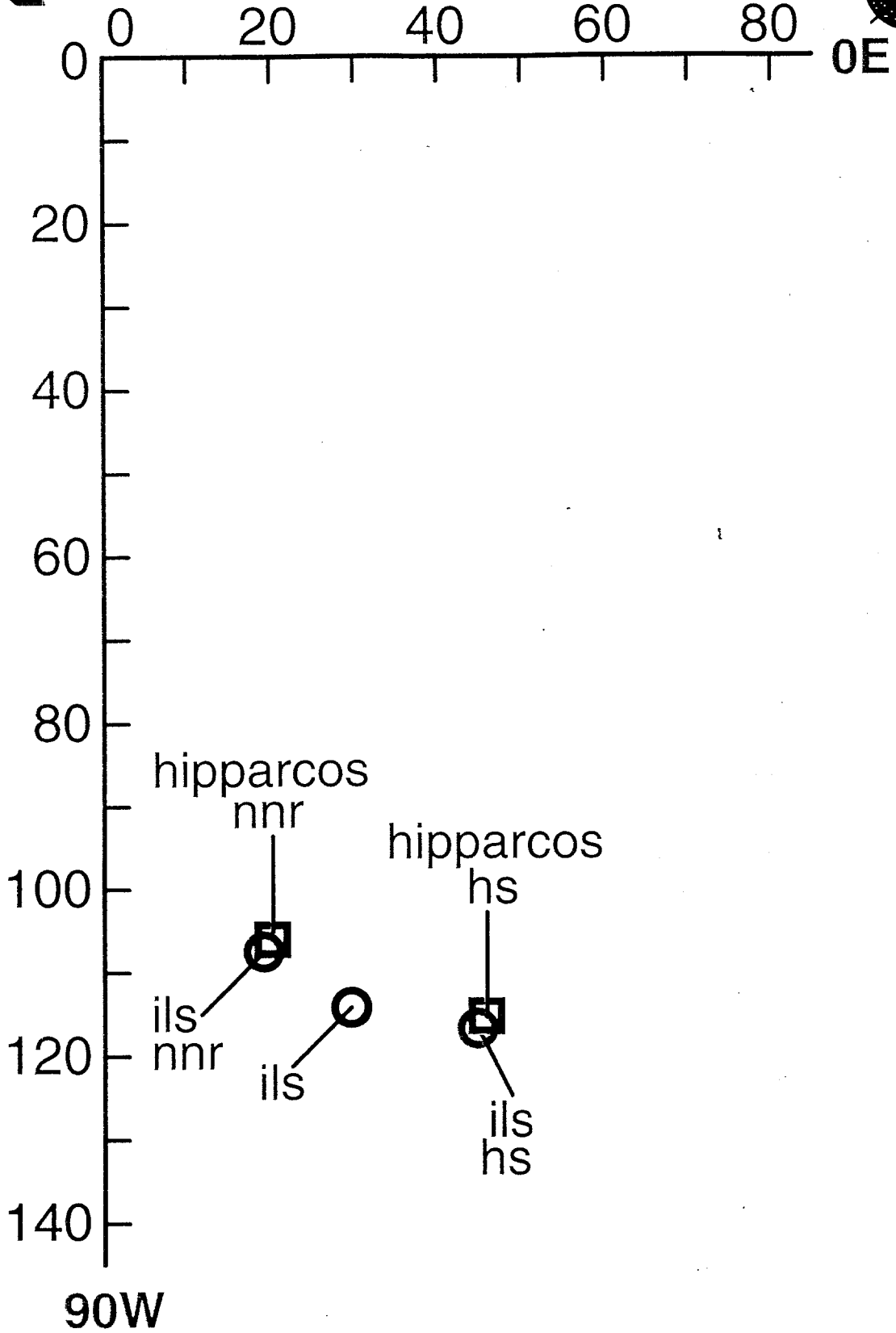


mm
year
80



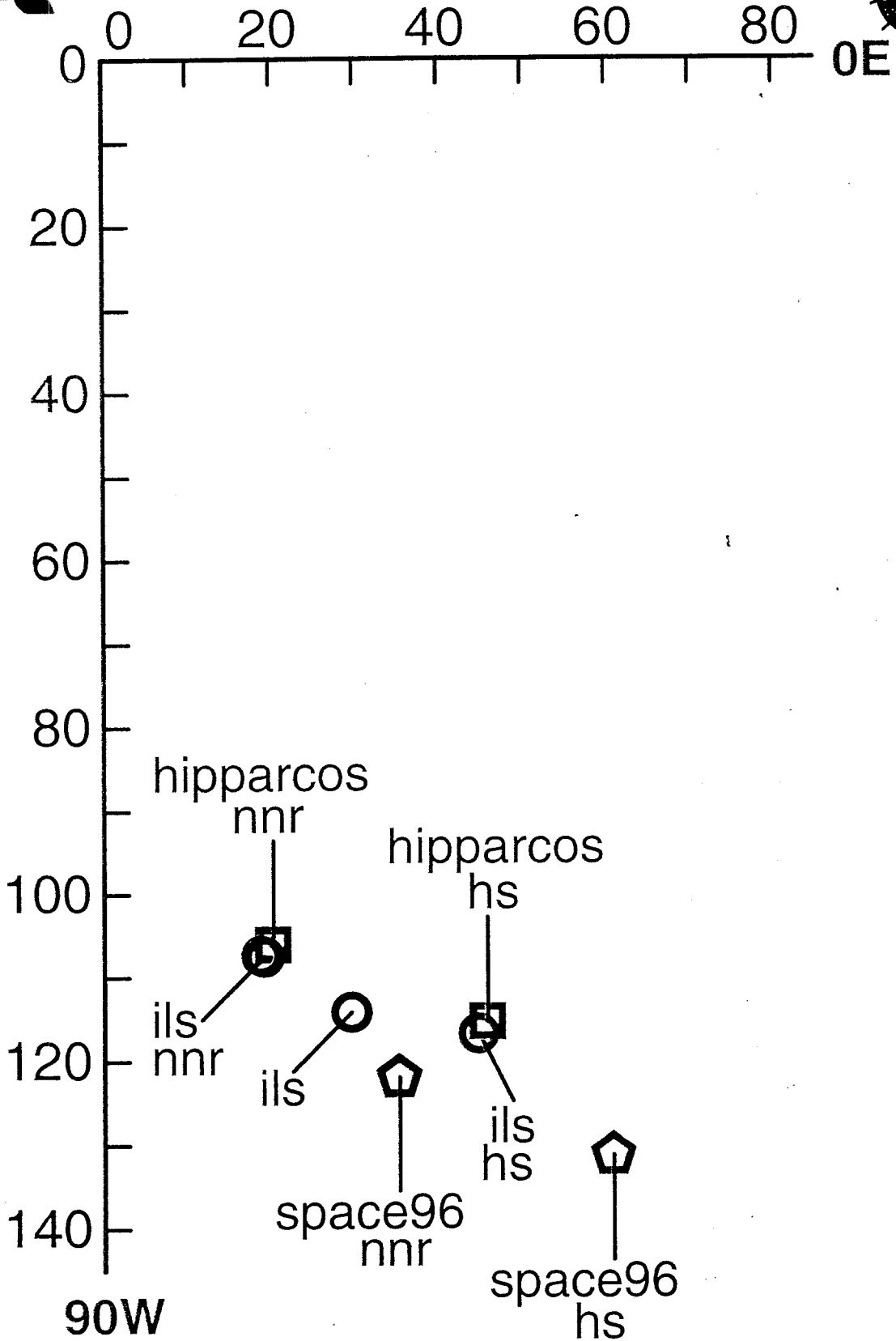


mm
year

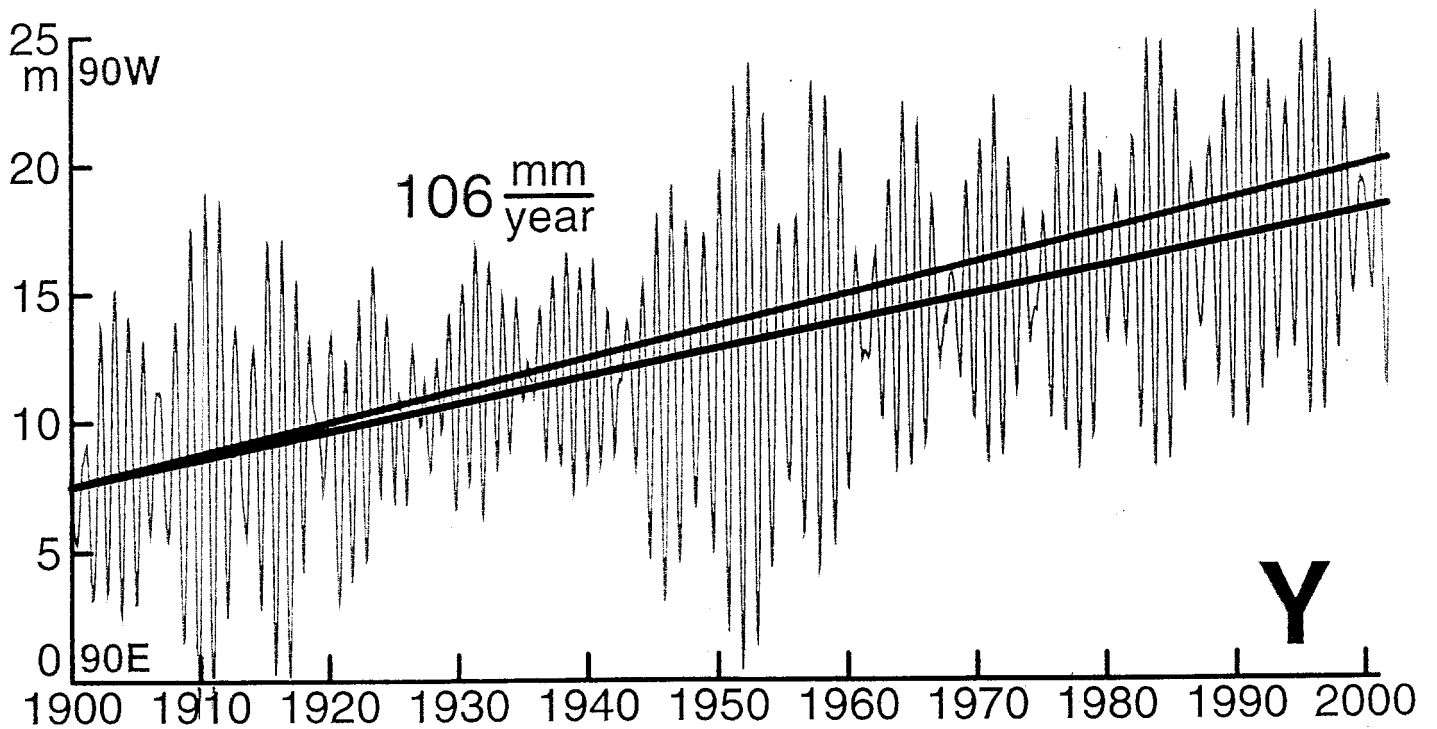
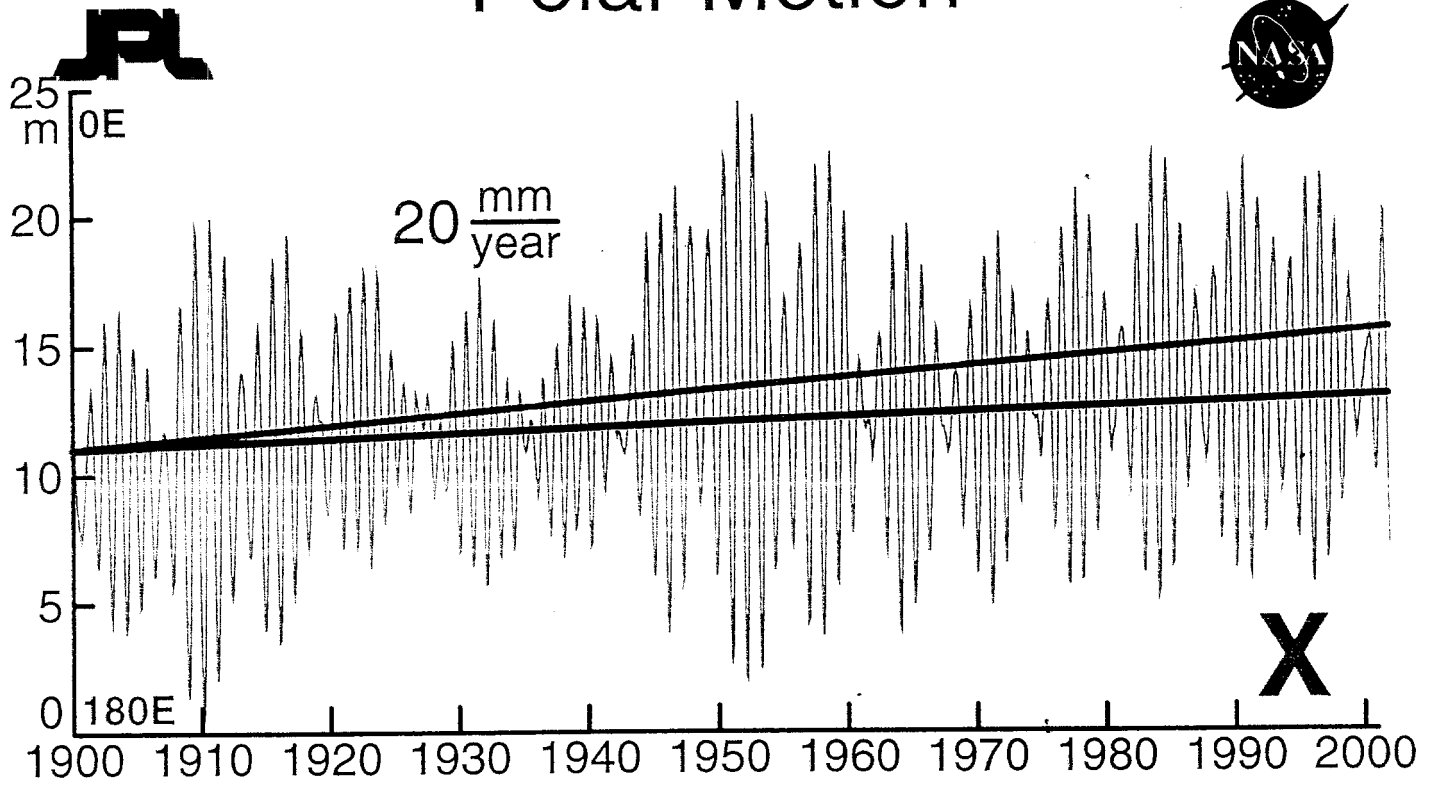




mm
year
80



Polar Motion



POLE2001

Richard Gross 2002



123 $\frac{\text{mm}}{\text{year}}$
toward 69°W

differ

27 $\frac{\text{mm}}{\text{year}}$ toward 20°W

revised input to
postglacial rebound model
of Peltier [1996]