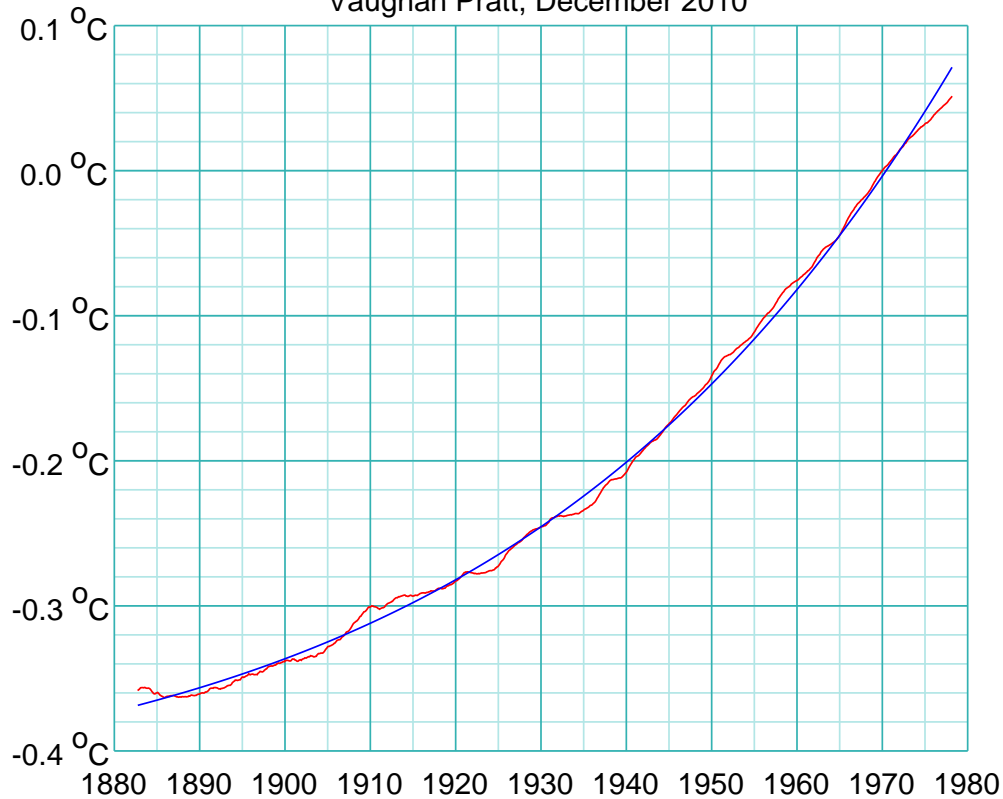


THEORETICAL vs. OBSERVED GLOBAL CLIMATE

Vaughan Pratt, December 2010



The observed red curve d (data) is <http://www.woodfortrees.org/plot/hadcrut3gl/mean:786> (clickable)

The theoretical blue curve m (model) is $s \text{ lb}(280 + 2^{(y - 1790)/32.5})$ (lb = binary log)

Parameters 280, 1790 and 32.5 specified by Hofmann, s by Gram-Schmidt fitting

FITTING PROCESS

1. Taking $s = 1$, center d and m on their respective means.
2. Smooth d and m with a moving average window of 65.5 years.
(Window size carefully chosen to eliminate the AMO and faster-moving signals.)
3. Gram-Schmidt gives climate sensitivity as $s = d.m / m.m = 9.407/4.992 = 1.88$.
(s is the only parameter determined by fitting; goodness of fit $r^2 = 0.0021$)
4. Move both curves down by same amount to uncenter observed curve.