Re: False astronomical correlation

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- *From*: oriel36 <geraldkelleher@xxxxxxxxx>
- *Date*: Mon, 03 Sep 2007 03:46:29 −0700

On Sep 3, 7:42 am, pau...@xxxxxxx (Paul Schlyter) wrote:

> In article <1188795564.357656.194...@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>,
>
> Quadibloc <jsav...@xxxxxxxxx> wrote:
>
> > The Arctic region, just like *every* other part of the Earth, is in
> > sunlight exactly half the time over the course of a year.
>
> :−) ....no!
>
> If we assume that all of the Earth is completely cloud free at all
> times, then e.g. the North Pole will receive sunlight during a longer
> time than the South Pole. Why? Because the Earth is at aphelion
> during the northern hemisphere summer, and in that part of its orbit
> the Earth moves a little bit slower. But during the southern
> hemisphere summer, the Earth is at perihelion, and in that part of its
> orbit the Earth moves a little bit faster.
>
> Due to the refraction in the Earth's atmosphere, most of the Earth is
> in sunlight a little bit more than half the time over the course of
> the year. Only parts of Antarctica (that parth which is southward of
> approximately 75 deg S latitude) will be in sunlight slightly less
> than half the time.
>
> The South Pole is in sunlight 182 days per year, while the North Pole
> is in sunlight 189.5 days per year. But the part of the Earth which
> receives sunlight for the longest time is the northern arctic circle,
> which is in sunlight 191.5 days per year if we sum it all up. The
> southern arctic circle receives sunlight 186.5 days per year.
>
> At northern midlatitudes, the Earth is in sunlight some 185 days per
> year. At the equator this has dropped to 183.5 days per year, and at
> southern midlatitudes to 183 days per year.
>
> So the northern arctic circle will receive sunlight almost 10 days
> longer than the South Pole, over the course of a year. That's
> a 2.6% difference in the time of being in sunlight, and it's

quite a large discrepancy from your claim:

The Arctic region, just like *every* other part of the Earth, is
in sunlight exactly half the time over the course of a year.

Be careful when using the word "exact"! Even of the Earth moved in a perfectly circular orbit, subjected to zero perturbation from other celestial bodies, and even if the Earth lacked an atmosphere (so that atmospheric refraction was absent), and even if the Sun was a point light source (so we wouldn't have to worry about whether sunrise and sunset should refer to the center of the solar disk or its upper limb), and even if the rotation of the Earth was perfectly uniform, every region of the Earth would still not be in sunlight *exactly* half the time! Every region would then be in sunlight slightly less than half the time. Why? Because of the solar parallax, which makes the Sun appear to be almost 9 arc seconds lower in the sky. Near the equator this would make the day only some 2.5 seconds shorter than the night − but that difference is enough to remove the exact match. To make all regions of the Earth be in sunlight exactly half the time we would also have to move the Sun to an infinite distance −− and if we did that, we'd get serious problems in making the Earth orbit the Sun, since the orbital period would then be infinitely long.... in addition we'd get serious interference from all those stars which are at finite distances, i.e. much closer than this imaginary point−like sun at infinite distance....

Astronomy is not for mediocre people who cannot make sense of modern imaging.

The solar/radiation orbital shadow boundary pivots off the Equator rather than the Earth tilts towards and away from the Sun −

http://upload.wikimedia.org/wikipedia/commons/a/a3/Seasonearth.png

There is also a longitudinal change in the solar radiation/orbital shadow boundary due to the fact that a location on the planet does not keep its same face to the Sun as you numbskulls have it −

http://www−astronomy.mps.ohio−state.edu/~pogge/Ast161/Unit2/Images/sidereal.gif

Many people like you are dead inside but hopefully there is enough youth around to see why it is important to revisit the stable working astronomical principles which existed before the dismal empirical standards hijacked astronomy.

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