

## Pathway to a better understanding of the upcoming Grand Solar Minimum

### A. Background information

- We need to understand the **Laws of Physics** and how the [Scientific Method](#) is applied to our atmosphere, weather, and climate. There is a growing body of information on why we have been misled by the IPCC.
- The IPCC model for carbon dioxide - CO<sub>2</sub> (called the Bern model) is defective.
- The **IPCC climate models** are running **too hot** and [fail validation](#) as needed by the Scientific Method. Their [prediction errors](#) are huge making the output of the General Circulation Models (GCM) worthless.
- The IPCC models use an ECS (Equilibrium Climate Sensitivity) average of 3.1°C, while it [should be under 1.5°C](#). [Full paper here](#). This alone says the IPCC models are defective and useless for predicting the future.
- The IPCC states CO<sub>2</sub> has an atmospheric residence time of over 100 years, while the papers below say it is 5 years. An error factor of 20!
- CO<sub>2</sub> is not a pollutant, but [extra CO<sub>2</sub> helps](#) with raising the [Leaf Area Index](#).
- For the last 30 years, the global Leaf Area Index has increased by 14% (2 USAs)
- People have been looking at and counting sunspots for over 400 years. Only recently have they been looking at the solar magnetic field and its variations.
- Current work at McGill and Université de Montréal are beginning to focus on [Solar Minima](#) and Maxima and a double dynamo model.
- Excellent science out of Northumbria University in the UK uses [the magnetic signature of the Sun](#) from the last 33 years to project the solar impact on our climate for the next 33 years. They are predicting a Grand Solar Minimum (GSM) starting in 2020.
- Ten years of research by a Danish team has done [theoretical, experimental and observational research on cloud formation](#) and how this is connected to incoming cosmic rays and the solar wind. This research also relates to the expected Grand Solar Minima.

Based on this and other research – I am predicting a **Cooler and Wetter Climate** for the next 3 solar cycles (33 years).

### B. Where are we now?

We are in a Solar Minimum between solar cycles 24 and 25. [solarham.net](#) shows a spotless Sun and the solar wind is well below (August 26<sup>th</sup> it was 312) its normal 650 km/s value. The Easterbrook and Zharkova presentations below have more on this, and the Grand Solar Minimum, which is expected to start next year.

1. A [recent report from John Christy](#) explains why the IPCC models are defective. [Also here](#).
2. **Why CO<sub>2</sub> is not the primary cause and driver of Climate Change.** Four papers published this summer support the assertion.

- Douglas Lightfoot – Simple procedure using a smartphone and Excel ([summary and other docs](#)). Looks at 20 different climates around the world.
- [Edwin Berry](#) – Explains why the [IPCC Bern Model of CO<sub>2</sub> is inaccurate](#). He shows the residency time for CO<sub>2</sub> is about 5 years – not 5 to 200 years
- [Hermann Harde](#) – comes to the same conclusion. Also, see a 90-minute [video](#) with Harde and Murry Salby (advanced material)
- Dr. Patrick Frank – a [new paper](#) which ends with “The unavoidable conclusion is that a temperature signal from anthropogenic CO<sub>2</sub> emissions (if any) cannot have been, nor presently can be, evidenced in climate observables. “

Analysis of millions of data points from balloons by [Connolly & Connolly](#) is available.

We are entering a Solar Minima and several researchers say it will be a Grand Solar Minimum – like the Dalton or Maunder Minimum when there was skating on the River Thames. This is called for again in 2030. See the [Easterbrook PowerPoint](#).

There is much research to support this position from the [Zharkova](#) and [Svensmark](#) research teams. *Both have extensive publications in Nature and other top journals. The Svensmark link is an easy reading 21-page summary of 97 references! The Zharkova paper has 48 technical references.*

For an analysis of a 350-year temperature record surf to [Climate Causality](#).

For my own [set of slides](#) and extensive notes (lighter reading) - please surf the link.

### C. What should we do?

- Encourage all levels of government to reduce pollution in all forms (but not CO<sub>2</sub>!)
- Encourage all levels of government to plant lots of mixed trees where appropriate
- Pull people out of poverty by giving them inexpensive, reliable, clean electricity
- Change fossil fuel power plants to [fast breeder reactors](#) as soon as possible
- Other “No Regrets” policy initiatives that will improve resilience and biodiversity

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