

Why everything about our atmosphere is Local and nothing is Global

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To understand what is so wrong with the whole concept of CAGW, global temperatures and greenhouse theory, one has first to understand difference between atoms, molecules and mixtures. The science behind those terms is taught at the first year chemistry degree and is parts of standard textbooks on Chemistry.

Atoms, Molecules and Mixtures

Everything around us is built from atoms (elements), and when two or more atoms make chemical bond they form a molecule. In other words, atoms and molecules are **unique building blocks of everything** that has mass. All our knowledge about physical matter comes from understanding of atomic and molecular structure and that knowledge comes from measuring their physico-chemical properties.

In other words, everything that has mass can be expressed as either an atom that belongs to a specific element, like H or C, or a unique molecule that consists of at **least** two atoms, like H₂, NaCl or CO₂.

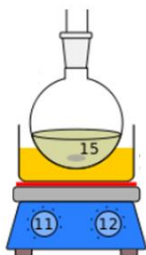
And then, there are mixtures, like the air that we breathe.

Mixture is an **abstract term** which describes a collection of molecules which do not interact with each other nor are they attached to each other by any kind of bond.

The first important fact about mixtures to know is that the mixture does not have its own physico-chemical property, but the property of any mixture can be derived as a ***sum of individual contributions of the molecules that constitute that mixture.***

The second as important fact to know about mixtures is to differentiate between homogeneous from heterogeneous mixtures.

The easiest way to understand the difference between heterogeneous and homogeneous mixture is to use example from a simple chemical experiment:



We start this hypothetical experiment by mixing 3 molecules, A, B and C, in ratio 99:0.5:0.5 in the flask. If we take, say 10 small samples from different parts of the flask and analyse them, we will probably get 10 different results and therefore that mixture is described as a heterogeneous one. In other words, the system inside that flask consists of huge number of local concentration states and we cannot predict which part of the flask contains molecules A, B and C in which ratio. If we now start to stir the mixture using magnetic stirrer, we will find that after certain time we have transformed that mixture from being heterogeneous to becoming homogeneous. If we now repeat the sampling procedure, we will find that whether we take out 10 or 100 samples, they will all have

the same ratio of molecules A, B and C. Now we can describe that system as 'global' since we can predict with 100% certainty ratio of molecules A, B and C at any grid point of that system. We 'know' that that is true, since the mixing and homogeneous mixtures are basic requirements of every chemical experiment and the very reason that the same experiment can be repeated many times with the same results.

If we now stop stirring the mixture and start to apply external heating, very soon that mixture will become heterogeneous in temperature space. If we place thermometer at different part of the reaction vessel and different depth we will get different temperature readings and will have to declare that temperature system as a heterogeneous one. And again, if we now apply external stirring, we will very quickly bring the whole of that system into 'equilibrium' and make it again a homogeneous system where a single thermometer reading represents the whole of that mixture. To summarise, if the sampling of a given system gives different values, that system is heterogeneous, and if the sampling gives the same values irrespective where those samples have been taken, than that system is homogeneous.

Sampling Air Temperatures

Let us now use scientific reasoning and workout which assumptions about air temperatures could be made and which could not and should not be made.

Below is the map of UK independent weather stations across the UK, i.e. thermometers fixed to a defined grid point:



Since most of modern thermometer-based devices have live feed to a computer, one can easily monitor current temperature readings across UK and obviously across the globe. What one can see is that sampling air temperatures even within relatively small land mass, as UK is, very clearly defines UK air temperature system as heterogeneous one, where temperatures could differ as much as 10°C at the same time period depending where one takes the sample. Since the accuracy of modern thermometers is easily within 0.1°C , those variations are real. We also know that at any given time, we can have temperatures as low as -50°C and as high as $+50^{\circ}\text{C}$ at different parts of the Earth and therefore the only sensible way to treat global temperature is as a network of huge number of local temperature patterns.

Further scientific evidence that the Earth temperature is indeed network of local temperature patterns can be found in existence of biodiversity of species, recently estimated to be at around 6,000,000. One of the key parameter that defines any living species irrespective whether it walks, swims, flies or grows from the ground is the annual temperature pattern necessary for its survival.

So, if you want to study butterflies you will not go to Antarctica but to Amazons, or if you want to study those cuddly polar bears you would not go to Sahara desert but to Antarctica.

To summarise this report, every single scientific fact that is based on observations and instrument based data tells us that the Earth's temperature system should be seen as a huge network of local temperature patterns and that to assume and define the Earth's atmosphere system as a homogeneous simply cannot be made. The sheer absurdity of building whole set of theoretical global frameworks is clearly demonstrated by huge number of papers being published that search for this non-existent 33°K that apparently has gone missing somewhere in the oceans(???) . And where is this number coming from? Well, from that mystic and non-existing single number that supposed to represent annual global temperature of course. What is also totally wrong is to assume that all the heat energy coming from the Sun during daytime should return back to space during night time and totally ignoring the fact that 70% of the Earth ground level surface is covered by oceans as deep as 10,000 meters where temperatures at the bottom are just above freezing level. Anyone with a basic knowledge of thermodynamics will tell you that there is a very strong and downward temperature gradient between the ocean's' surface and the bottom which makes them absolutely huge storage for heat energy. What the scientists who actually know about the oceans are telling us, but AGW believers ignoring, is that it could take anywhere between 500 and 1000 years for the huge masses of just above freezing layers rise to the surface and during that time absorb huge amount of heat energy.