Climate Change: The August Deadline

by GWYNNE DYER

When you spend four years writing a book on climate change, you get to know most of the leading players. I have never seen them so dismayed.

?By August, if we're still looking at record-breaking temperatures, then we really have moved into uncharted territory,? said climate scientist Gavin Schmidt in April. Well, 22 July was the hottest average global temperature ever recorded ? and 23 July promptly broke that brand new record. Here we are in August, and it is not looking promising.

Gavin Schmidt is Director of NASA's Goddard Institute for Space Studies. He was choosing his words very carefully when he used the phrase ?uncharted territory', because that is a frightening place to be.

Now, in one sense, we have been in uncharted territory for several decades: our greenhouse gas emissions are driving global temperatures higher than anything we have experienced in the past. But at least we thought we had a map of our probable future.

It was the climate scientists who drew that map, starting in the 1980s. Their knowledge of the various processes that drive the atmosphere and the oceans has expanded enormously, and the computer models they have learned to build let us predict what will happen with fairly high confidence.

We know how much stuff we are dumping into the atmosphere, we more or less know where the winds and the clouds will be, we have a real-time readout of the ocean's surface temperature (the biggest single factor), solar radiation is almost entirely predictable ? and so the climate scientists can draw us a map of the future.

That's the chart that tells us how fast the warming will be (+0.18°C per decade, or a full degree about every fifty years), and more or less what the effects will be in terms of forest-fires, mega-storms, landslides and floods, or hunger, thirst and refugee numbers.

It's a pretty daunting picture, but at least we know more or less where we are and what thresholds we absolutely must not cross if we want to preserve a habitable environment for eight billion people (or at least most of them).

This map of our climate future is fundamental to the choices we make and the decisions we take ? but suddenly it has become unreliable. What the climate has been doing over the past year is not at all what the map predicted. The scientists call it ?the anomaly?, and it puts us in uncharted territory.

Suddenly, in July of last year, the average global temperature jumped by around 0.2°C. It doesn't sound like a lot, but it's the amount of warming the climate models were predicting for an entire decade. It's like it was suddenly 2034.

?What is truly staggering is how large the difference is between the temperature of the last 13 months and the previous temperature records,? said Carlo Buontempo, the director of the European Union's Copernicus Climate Change Service. ?We are now in truly uncharted territory and as the climate keeps warming, we are bound to see new records being broken.?

There was an understandable desire among climate scientists to believe that this was just a fluke event, and that the predictions of the climate models are still fundamentally correct. Many tried to pin the blame on El Niño, a cyclical ocean event that causes higher temperatures in the eastern Pacific every three to seven years.

It was never very convincing, because El Niño only got underway months after the ?anomaly? appeared. It wasn't particularly strong, as these things go, and it was over by this April. But Gavin Schmidt suggested waiting another three months, until August, before we collectively admit that this is something different. The three months are up, and it is.

This is almost certainly connected with the far-too-early category 5 hurricane that trailed devastation across the Caribbean in June, the wildfires that are eating up whole towns in the Canadian and US west, and all the other signs and portents of a climate warming much faster than we expected.

So the scientists have to work out what is causing it, and the rest of us have to figure out what, if anything, we can do about it apart from brace ourselves. That's what ?uncharted territory? looks like.