

CLIMATE BREAKDOWN IS ACCELERATING RAPIDLY



Dr. Alan K. Betts

A new IPCC report on February 28 on the climate crisis is very bleak. It recognizes climate breakdown is accelerating rapidly. Many of the impacts will be more severe than predicted

and there is only a narrow chance left of avoiding its worst ravages. Even at current levels, human actions in heating the climate are causing dangerous and widespread disruption, threatening devastation to swathes of the natural world and rendering many areas unlivable. Key ecosystems are losing their ability to absorb carbon dioxide, turning them from carbon sinks to carbon sources. The report is a damning indictment of failed climate leadership. We talk about carbon neutrality by 2050 when we need to halve our emissions by 2030. We do not intend to do this because business-as-usual and the fossil fuel empire plan to make trillions from destroying the Earth. So, we continue to head towards high emissions trajectories.

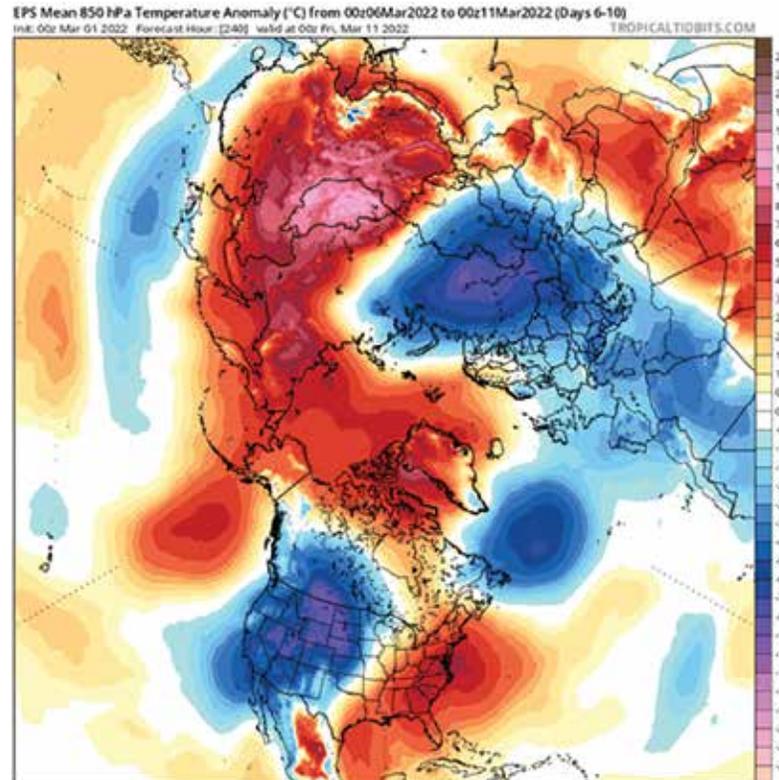
So that readers can prepare, let us discuss some broader aspects of the climate crisis. The latest crop modelling studies from NASA using a range of climate model simulations (called CMIP-6) to drive 12 state-of-the-art global crop models show a large impact as early as 2030 under high greenhouse gas emissions. Maize crop yields are projected to decline 24% as warmer tropical temperatures stress plants. Yields of wheat however may initially increase as northern mid-latitudes get warmer. The localization and diversification of our crops are key strategies, but this is another reminder that the growing global population is not sustainable. It is early March and I just watered my spinach and lettuce that are doing well under sheets of glass. Start growing your own food.

The global rise in wildfires that we have seen last year in the U.S. and Canada, Siberia and Australia is going to continue and wreak havoc on the environment,

wildlife, human health and infrastructure. In the U.S., nearly 7.7m acres (3m hectares) burned last year, and these blazes are getting increasingly hard to fight. We spend a lot of money fighting fires, but very little on planning, preparation and recovery. This is a familiar pattern as our society spends rather little on reducing climate change, since it tacitly accepts the strategy of the Fossil Empire and many business sectors to maximize their profits by burning all the fossil fuels.

The current 22-year megadrought in the southwestern U.S. continues, and water supplies are becoming critical. It has overtaken a major drought in the 1500s, and based on tree rings that go back to 800 AD it is now the most severe in 1200 years. 2021 continued a pattern of reduced rainfall in the west and increased rainfall and many storms in the east, coming from the Atlantic or the Gulf.

We are not grasping the entire picture of the economic damage to society. NOAA estimated climate disasters in the U.S. in 2021 that cost \$1 billion or more, totaled \$145 billion and killed 688 people. However, the increasing severity of storms and more frequent severe tornadoes, even into December, damaged over half a million homes with an estimated cost of \$124 billion. After striking the Gulf coast, Hurricane Ida merged with a frontal system, intensified and damaged 1.2 million homes in the north-east with estimated record reconstruction costs of \$395 billion. Yet society still refuses to bill



Here are the warm and cold temperature anomalies for the 850 hPa temperature forecast by the ECMWF model on March 1 for March 6-11. Notice the large shifts of $\pm 6^{\circ}\text{C}$ ($\pm 11^{\circ}\text{F}$) across the U.S., between cold in the west and warm in the east.

the Fossil Empire for these damages, even though the oil industry knew forty years ago that it would be responsible and has lied about this ever since. This is absurd: they should be forced to pay for the damages now.

Our weather this winter in the Northeast has shown rapid shifts in weather extremes that are referred to as weather whiplash, with changes in temperature of $\pm 50^{\circ}\text{F}$ in 24-48 hours. Recently, the daily high temperature of 55°F was at 3 a.m. with heavy rain, and temperature fell all afternoon reaching a low of 15°F the following midnight. It is hard to grasp maximum temperatures after midnight, driven by strong southerly advection all the way from the Gulf; followed by north

winds from Canada. In the big picture the polar vortex has split in two.

A critical issue for the G.E.T. community is the scale of the workforce to make the needed transformation of society in the coming decade. The workforce needed to rebuild will not appear overnight, even if Congress really passes bills to fund dealing with climate change. You all know the opposition that exists to change and the webs of lies denying that climate change is real. The struggle between the truth that sets you free to act on behalf of the living Earth, and all these lying forces determined to profit from the destruction of the Earth has to be confronted. I suggest we advertise with enthusiasm all our triumphs. Change is hard for old people (and especially old politicians). Every time I see my car salesman at the dealership, I joke that my plug-in Prius is averaging only 160 mpg on the first 50,000 miles; and that its highway range is still over 600

miles. He will mutter, "How much do you spend on electricity?" I say perhaps a few dollars a week, but my solar panels pay for that. I am wearing him down, as now he says, "When I buy my next car, I will check out a plug-in, but not now!"

This is the last decade to soften the impact of climate change. We have to choose between backing the living Earth or the criminal, lying fossil fuel empire. The choice is obvious to the sane, but not to those trapped in webs of lies and the misuse of human power. Take a breath and remember our children and all of life on Earth.

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