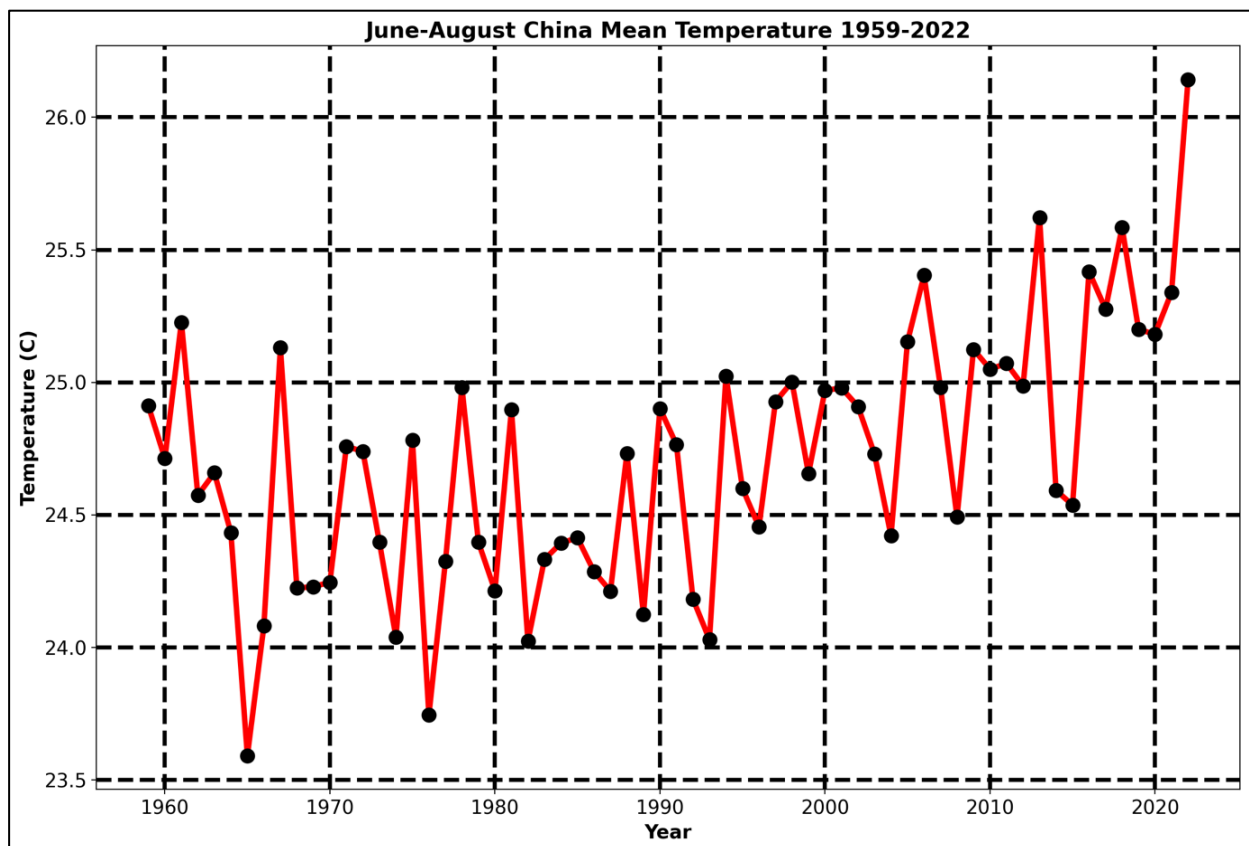


The Summer of Stress

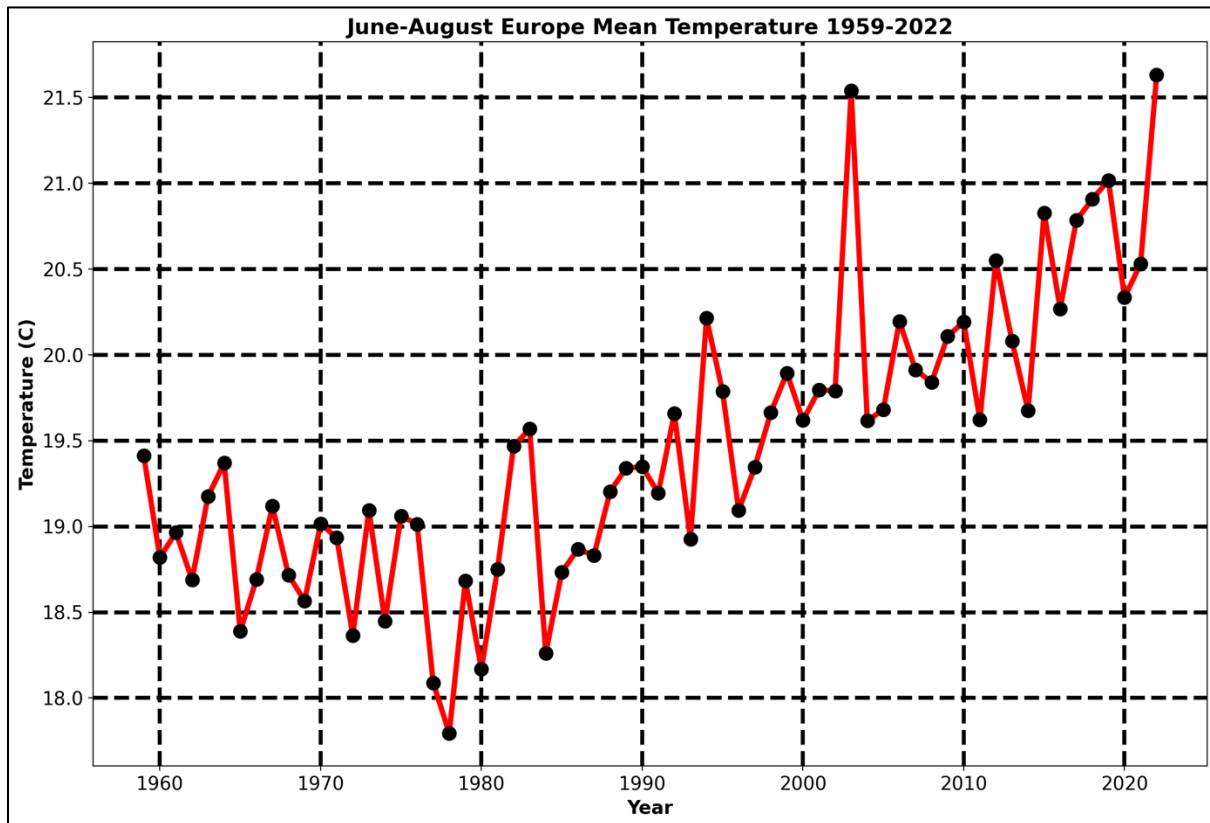
Meteorological summer (June – August) is done and in the major energy demand zones of the Northern Hemisphere, summer temperatures were extremely impressive. The data from the summer just completed shows how unusual and extreme temperatures were when comparing it to history. The 3 graphs below depict temperatures during the June – August period for every summer from 1959 to 2022; high resolution weather data globally starts in 1959. Since we wanted this report to be a general overview rather than getting into the regional details, the data is for the 3 primary energy demand zones – China, Europe, and the U.S. (lower 48). Here is the data of the summer temperatures.

China – This summer in China was by far the hottest of the past 63 years. The previous hottest summer was 2013 but this summer was a dramatic increase from that year or any year in the historical record.

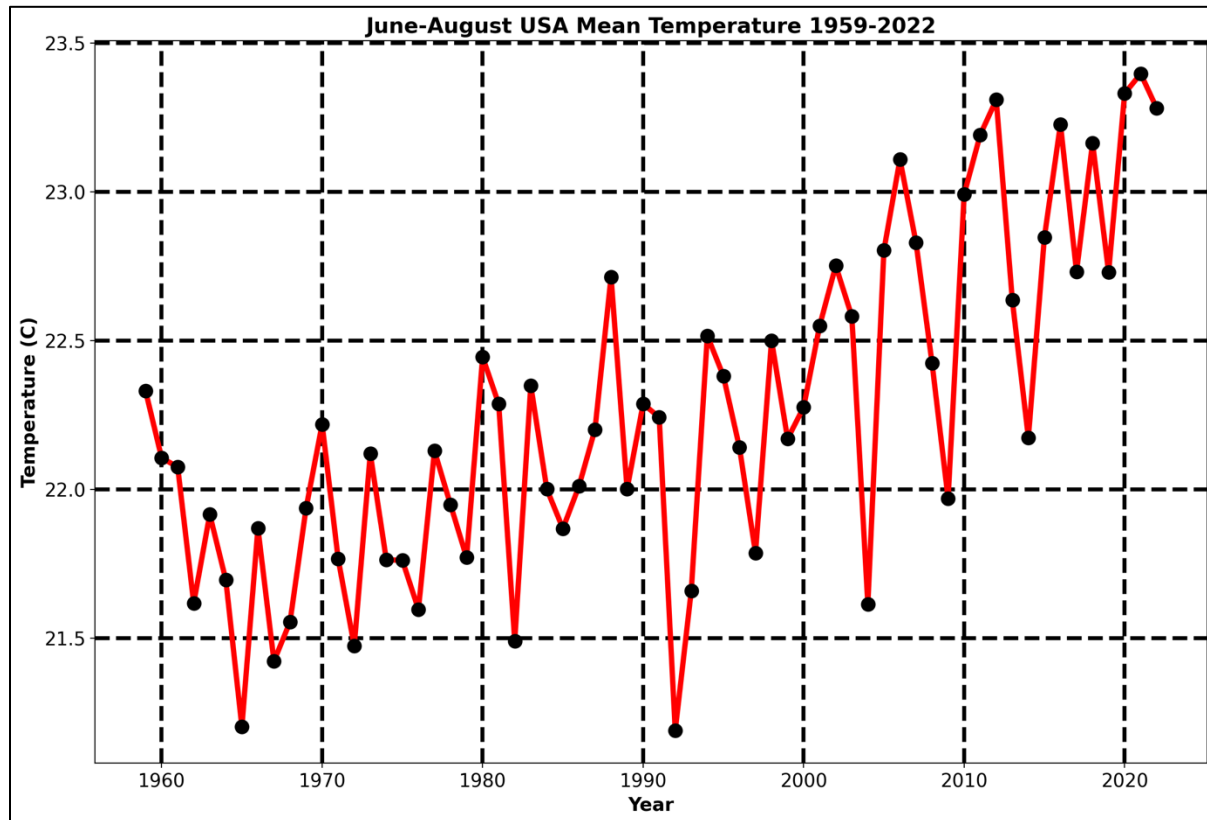


Europe – Europe recorded the hottest summer of the past 63 years. Prior to this summer, 2003 had been the benchmark year for extreme heat in Europe. This year surpassed that infamous

year, and these 2 years (2022 and 2003) are in a league of their own compared to any other summer since the middle of last Century.



United States - The summer temperature data for the U.S. is not as dramatic as in China and Europe. This summer ranked the 4th warmest summer in the past 63 years across the Lower 48, coming in behind last year (2021), 2020, and 2012.



Suffice it to say, the summer of 2022 was unprecedented. Of the core energy demand zones in the Northern Hemisphere, 2 of the 3 (China and Europe) had historic heat. The 3rd (U.S.) had a top 5 summer of heat. For reference, this data is geographically weighted (not population) and is an overview of temperatures across the entire zone – China, Europe, and the U.S. (lower 48).

The concurrent record heat waves in Europe and China are in line with recent climate trends. During the past few decades, there has been a significant rise in the size, incidence, and intensity of heat waves, especially in the Northern Hemisphere. When extremes overlap, economic losses in the entire global supply chain are significantly higher.