## EarthBeat Science



A church is pictured at sunset during a heat wave in Sancourt, France, July 12, 2023. (OSV News/Reuters/Pascal Rossignol)



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When the temperature outside is so high that even Texans joke about baking bread in their mailbox — as one Houston-area grandmother recently pretended to do, quickly going viral — it's fair to say there's perhaps more to the widespread and ongoing heat wave than typical summer doldrums.

More than 80 million Americans are currently under dangerous heat advisories. Temperatures in California's Death Valley hover around 120 degrees Fahrenheit at midnight. Setting a city record, Phoenix as of July 31 had seen 31 straight days of heat over 110 F, the cause of 25 deaths, as confirmed by health officials July 22.

Spain, Greece and Italy have recorded all-time high temperatures. In several Middle Eastern countries, the heat index mid-July reached 152 F, considered almost at the limit for human survival.

Bizarrely enough, a 16th-century Catholic church — almost entirely submerged in a Chiapas, Mexico, reservoir since 1966 — is now a completely exposed tourist attraction due to lack of rain, high temperatures and falling water levels, Mexican officials say.

But how do thermometer-bursting digits relate to wider concerns about climate change, a warming earth, and the call to action of Pope Francis' encyclical *Laudato* Si' — and can individual Catholics make a difference?

"If you want proof of what the significance of the phenomenon is," José Aguto told OSV News, "I would welcome everyone, if they have trust in the scientific evidence of a thermometer, to look at the temperatures that have been charted from at least the 1900s until now, and see the increase that has happened." Aguto is executive director of Catholic Climate Covenant — a Washington-based consortium of 20 national organizations formed in 2006 with the help of the U.S. Conference of

Catholic Bishops.

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According to the National Oceanic and Atmospheric Administration, the earth's temperature has risen by an average of 0.14 Fahrenheit, or 0.08 Celsius, "per decade since 1880," or about 2 F in total." However, NOAA observes that "the rate of warming since 1981 is more than twice as fast": 0.32 F (0.18 C) per decade and "the 10 warmest years in the historical record have all occurred since 2010."

"So this is our future unless we dramatically reduce the burning of fossil fuels," Aguto cautioned. "We do not have time for political self-interest and financial self-interest to be the determining drivers of how we, as a civilization, are to chart our future."

Those interests include the projected costs of transitioning to renewable energy models.

Nonetheless, the World Economic Forum voiced its concerns about the "need to transition to clean, reliable and climate-neutral energy sources" in an April 2023 article on the organization's website. "It is simply not good enough to dig more coal or burn more natural gas," it stated; "we must find a way to deliver energy security without endangering the planet and those that live on it."

Swiss Reinsurance Company Ltd. — one of the world's largest reinsurers — likewise issued a 2021 report titled, "The economics of climate change: no action not an option," noting that natural disasters exacerbated by climate change could cost the U.S. economy nearly \$2 trillion a year by 2050, and shrink the global economy 10% by the same date.

Looking to future generations, Aguto reflected, "If we as Catholics believe in the fundamental life and dignity of every human person, we then have an obligation to protect the life and dignity of every human person — and that includes assuring a stable, thriving earth for them."



Jillian Andrews and her husband, Douglas Andrews, share water at the Courtyard Homeless Resource Center during an excessive heat warning in Las Vegas July 17, 2023. (OSV News/Reuters/Bridget Bennett)

Pope Francis referenced the recent heat headlines during his July 23 Sunday Angelus message in Rome, while making a global plea.

"I renew my appeal to world leaders to do something more concrete to limit polluting emissions," he said. "It is an urgent challenge, it cannot be postponed, and it concerns everyone. Let us protect our common home."

The pope's choice of words reflects the title of his 2015 encyclical, "Laudato Si', On Care for Our Common Home," in which he said the "climate is a common good, belonging to all and meant for all."

The Associated Press, reporting data from an October 2022 Global Carbon Project study, whose figures are seconded by the International Energy Agency — indicates "the top three most polluting places on Earth are responsible for 53% of all carbon dioxide (CO2) emissions released into the atmosphere for more than 60 years." They are the United States (21.5%); China (16.5%); and the European Union (15%).

As NASA notes, "Carbon dioxide in the atmosphere warms the planet, causing climate change. Human activities have raised the atmosphere's carbon dioxide content by 50% in less than 200 years."

Steven Coleman, a retired mechanical engineer living in Marshall, Wisconsin, has been advocating for the climate since before the release of *Laudato Si'* and penned a widely used guidebook, "A Catholic Response to Global Warming." A leader of the Catholic Action Team for the Citizens' Climate Lobby and the Care for Creation Team at Madison's St. Dennis Catholic Parish, Coleman admitted that at the parish level, "initially, it was difficult to have that conversation — because you didn't know how divisive it was going to be with people." But he has "seen a significant change in that over eight years."

According to a February 2023 Pew Research Center study, 57% of Catholics say global climate change is "an extremely or very serious problem."



When challenged that global warming can't be regarded as critical since the earth's temperature has only risen a couple of degrees in the last approximately 140 years,

Coleman asks listeners to contemplate a biological equivalent: "That doesn't seem like much — but if you consider it like the human body, if your temperature goes up a couple of degrees, you have a fever," said Coleman. "Similarly in our climate, if the average global temperature goes up a couple of degrees, that's a big deal also — because it's a very finely-tuned system."

While both Coleman and Aguto told OSV News that small, individual efforts — carpooling, recycling, water conservation, limiting use of plastics, promoting energy efficiency with adjusted thermostats — are important, discussion is at the top of their climate engagement lists.

"Have the courage to talk about it," Coleman advised, "even though there are some people that are going to find it politically divisive, the reality is that we've got this global heat and people are suffering and dying because of it. So talk about it. Second, talk to your legislators. Make sure they understand that this is important to you. ... It does make a difference."

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Among the top-10 volumes on The New York Times Hardcover Nonfiction bestseller list is *The Heat Will Kill You First: Life and Death on a Scorched Planet* by Jeff Goodell.

"I wrote this book almost as a survival guide to the 21st century," Goodell told OSV News. "I want to help educate people about the risk of heat, and make it personal — and that's why the title is so personal."

Goodell is nonetheless realistic.

"The blunt truth is there's never going to be a universal consensus on this — that's just not going to happen," he said. "But what we need is a stronger political consensus to take action; a stronger sense of urgency among the people who do understand this ... and the typical person who walks into a bookstore and thinks that this is not their problem."

And yet it is potentially their problem — because as Goodell explained, "compared to other climate and weather impacts, heat kills by far more people than any other event."

"People don't understand the risk," he said. "They don't understand what to do when it's hot; we have poor messaging about it. There's little infrastructure built specifically for heat. We've not understood the immediate threat that heat poses to us."

Goodell fears a population that will "just adapt to the fact that tens of thousands of people die every summer because of extreme heat, and that becomes part of how we think the world works," he said. "We'll just accept that this extreme climate that we're moving into is the way things are — and not understand that this is the world that we created, and we still have a lot of control over what it looks like."

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