

## ESTATÍSTICAS DO CALOR

**30 milhões:** Luke Kemp *et al.* “Climate Endgame: Exploring Catastrophic Climate Change Scenarios”, *Proceedings of the National Academy of Sciences* 119, no. 34 (2022), e2108146119.

<https://www.pnas.org/doi/10.1073/pnas.2108146119>

**2 mil milhões:** *Ibid.*

**1600 metros por ano:** Colin Carlson *et al.* “Climate Change Increases Cross-Species Viral Transmission Risk”, *Nature* 607 (2022), 555–562.

<https://doi.org/10.1038/s41586-022-04788-w>

**4 quilómetros por ano:** *Ibid.*

**210 milhões:** “Global Food Crisis.” Website do Programa Alimentar Mundial. Consultado em outubro de 2022.

<https://www.wfp.org/emergencies/global-food-crisis>

**21 por cento:** Ariel Ortiz-Bobea *et al.* “Anthropogenic Climate Change has Slowed Global Agricultural Productivity Growth”, *Nature Climate Change* 11 (2021), 306–312.

<https://doi.org/10.1038/s41558-021-01000-1>

**250 mil:** Meghan Werbick *et al.* “Firearm Violence: A Neglected ‘Global Health’ Issue”, *Global Health* 17, no. 120 (2021) 120.

<https://doi.org/10.1186/s12992-021-00771-8>

**489 mil:** Qi Zhao *et al.* “Global, Regional, and National Burden of Mortality Associated With Non-Optimal Ambient Temperatures from 2000 to 2019: a Three-Stage Modelling Study”, *The Lancet Planetary Health*, vol.5, número 7 (julho 2021), 415-425.

## PRÓLOGO: A ZONA GOLDBLOCKS

**Jennifer Vines:** James Ross Gardner. “Seventy-Two Hours Under the Heat Dome”, *The New Yorker*, 11 de outubro de 2021.

<https://www.newyorker.com/magazine/2021/10/18/seventy-two-hours-under-the-heat-dome>

**24,5 para 45,5 graus:** Comunicação pessoal com o gabinete em Portland do Serviço Meteorológico Nacional, outubro de 2022.

**ouvir as árvores a chorar:** Bob Berwyn. “‘We Need to Hear These Poor Trees Scream’: Unchecked Global Warming Means Big Trouble for Forests”, *Inside Climate News*, 25 de abril de 2020.

<https://insideclimatenews.org/news/25042020/forest-trees-climate-change-deforestation/>

**Muitos saltaram:** Hannah Knowles. “‘Hawkpocalypse’: Baby birds of prey have leaped from their nests to escape West’s extreme heat.”, *The Washington Post*, 17 de julho de 2021.

<https://www.washingtonpost.com/nation/2021/07/17/heat-wave-baby-hawks/>

**encheram de gelo sacos para cadáveres:** JoNel Aleccia. “As Extreme Heat Becomes More Common, ERs Turn to Body Bags to Save Lives”, *Kaiser Health News*, 22 de julho de 2021.

<https://khn.org/news/article/killer-heat-body-bags-ice-heatstroke-emergency-treatment-climate-change/>

**recordou Shandas:** comunicação pessoal com o autor, outubro de 2021.

**37,2 graus:** *Ibid.*

**Oficialmente, foram mil mortes:** Kristie L. Ebi. “Managing Climate Change Risks is Imperative for Human Health”, *Nature Reviews Nephrology* 18, vol. 2 (2021), 74–75.

<http://doi.org/10.1038/s41581-021-00523-2>

**Rosemary Anderson:** Jaelen Ogadhoh. “14 in Clackamas County Die So Far in Summer Heat Waves”, *Canby Herald*, 10 de agosto de 2021.

<https://pamplinmedia.com/wlt/95-news/518067-413985-14-in-clackamas-county-die-so-far-in-summer-heat-waves>

**Jollene Brown:** Gardner, “Seventy-Two Hours Under the Heat Dome”

**Que estranho...:** Vjosa Isai. “Heat Wave Spread Fire That ‘Erased’ Canadian Town”, *The New York Times*, 10 de julho de 2021.

<https://www.nytimes.com/2021/07/10/world/canada/canadian-wildfire-british-columbia.html>

**gato na transportadora:** Norimitsu Onishi. “After Deadly Fires and Disastrous Floods, a Canadian City Moves to Sue Big Oil”, *The New York Times*, 19 de agosto de 2022.

<https://www.nytimes.com/2022/08/29/world/canada/vancouver-floods-fires-lawsuit.html>

**“Dez minutos depois”:** Cathy Kearney. “B.C. Man Says He Watched in Horror as Lytton Wildfire Claimed the Lives of his Parents”, *CBC News*, 2 de julho de 2021.

<https://www.cbc.ca/news/canada/british-columbia/son-recounts-horror-of-losing-parents-in-lytton-b-c-fire-1.6088297>

**mais de mil milhões de criaturas marinhas:** Valerie Yurk. “Pacific Northwest Heat Wave Killed More Than a Billion Sea Creatures”, *E&E News*, 15 de julho de 2001.

<https://www.scientificamerican.com/article/pacific-northwest-heat-wave-killed-more-than-1-billion-sea-creatures/>

**o frio extremo também mata:** A comparação entre as mortes causadas por frio extremo e calor extremo não é fácil. Em primeiro lugar, segundo Kristie Ebi, uma epidemiologista da Universidade de Washington, as provas de que as pessoas morrem de calor estão bem documentadas. “Mas a investigação sobre mortes provocadas realmente pelo frio é dispersa e nada sólida”, afirma. Muitos estudos apontam que as doenças cardiovasculares aumentam no inverno, mas é um desafio distinguir as temperaturas frias de fatores sazonais. “No inverno, em média, aumentam a pressão sanguínea, a viscosidade do sangue e o colesterol”, explica Ebi. “Mas não sabemos quanto pode dever-se apenas à temperatura, isolada de alterações comportamentais, da duração do dia e de outros fatores.” Em segundo lugar, as comparações entre mortalidade por frio e mortalidade por calor avaliam com frequência as mortes no inverno com as mortes durante ondas de calor, que é o mesmo que comparar maçãs com laranjas (o inverno é uma estação do ano, uma onda de calor é um episódio meteorológico). Em terceiro lugar, à medida que o mundo aquece todas as projeções indicam que a mortalidade relacionada com o calor vai aumentar – algumas das questões-chave são saber quem e onde vai matar. Quanto à ideia de que, mesmo num mundo em aquecimento, menos mortes por frio de alguma forma compensam mais mortes causadas pelo calor, Ebi observa: “No seu núcleo, este argumento implica que é aceitável a tia Harriet morrer de calor porque o tio Joe não morrerá de frio. Ignora, portanto, as implicações morais a nível individual.”

**se eram mais ou menos “hot”:** Elaina Dockterman. “How ‘Hot or Not’ Created the Internet We Know Today”, *Time*, 18 de junho de 2014.

<https://time.com/2894727/hot-or-not-internet/>

**“o calor elementar do sémen”:** Danielle Jacquart e Claude Thomasset. *Sexuality and Medicine in the Middle Ages* (Princeton, NJ: Princeton University Press, 1988).

**900 milhões de pessoas:** Dennis Wong e Han Huang “China’s Record Heat Wave, Worst Drought in Decades”, *South China Morning Post*, 31 de agosto de 2022.

<https://multimedia.scmp.com/infographics/news/china/article/3190803/china-drought/index.html>

**“história climática do mundo”:** citado por Michael Le Page, em “Heatwave in China is the Most Severe Ever Recorded in the World”, *New Scientist*, 23 de agosto de 2022.

<https://www.newscientist.com/article/2334921-heatwave-in-china-is-the-most-severe-ever-recorded-in-the-world/>

**Heather McTeer Toney:** Depoimento na Comissão Especial da Câmara de Representantes sobre a Crise Climática. “Making the Case for Climate Action: The Growing Risks and Costs of Inaction”, 15 de abril de 2021.

<https://docs.house.gov/meetings/CN/CN00/20210415/111445/HHRG-117-CN00-Wstate-McTeerToneyH-20210415.pdf>

**investigadores em Dartmouth:** Christopher W. Callahan e Justin S. Mankin. “Globally Unequal Effect of Extreme Heat on Economic Growth”, *Science Advances*, Vol. 8, n.º. 43 (2022).

<https://www.science.org/doi/10.1126/sciadv.add3726>.

**faz baixar as notas escolares:** Christopher Flavelle. “Hotter Days Widen Racial Gap in U.S. Schools, Data Shows”, *The New York Times*, 5 de outubro de 2020.

<https://www.nytimes.com/2020/10/05/climate/heat-minority-school-performance.html>

**risco de interrupções de gravidez:** Bruce Bekkar *et al.* “Association of Air Pollution and Heat Exposure With Preterm Birth, Low Birth Weight, and Stillbirth in the US: A Systematic Review”, *JAMA Network Open* 3, no. 6 (2020).

**doenças cardíacas e renais:** Barrak Alahmad *et al.* “Associations Between Extreme Temperatures and Cardiovascular Cause-Specific Mortality: Results From 27 Countries”, *Circulation* vol. 147, n.º 1 (2023), 35-46.

<https://www.doi.org/10.1161/CIRCULATIONAHA.122.061832>

e Woo-Seok Lee *et al.* “High Temperatures and Kidney Disease Morbidity: A Systematic Review and Meta-analysis”, *Journal of Preventative Medicine & Public Health* 52, vol. 1 (2019), 1-13.

<https://doi.org/10.3961%2Fjpmph.18.149>

**mais impulsivas:** Yoonhee Kim *et al.* “Suicide and Ambient Temperature: A Multi-Country Multi-City Study”, *Environmental Health Perspectives* 127, vol. 11 (2019).

**com tendência para entrar em conflito:** Andreas Miles-Novelo e Craig A. Anderson. “Climate Change and Psychology: Effects of Rapid Global Warming on Violence and Aggression”, *Current Climate Change Reports* 5 (2019) 36–46.

<https://doi.org/10.1007/s40641-019-00121-2>

**insultos racistas:** Annika Stechemesser *et al.* “Temperature Impacts on Hate Speech Online: Evidence from 4 Billion Geolocated Tweets from the USA”, *The Lancet Planetary Health* 6, no. 9 (2022), 714–725.

[https://doi.org/10.1016/S2542-5196\(22\)00173-5](https://doi.org/10.1016/S2542-5196(22)00173-5)

**Os suicídios aumentam:** Kim *et al.*

**A violência com armas de fogo também:** Damian Carrington. “Almost 8,000 US Shootings Attributed to Unseasonable Heat”, *The Guardian*, 16 de dezembro de 2022.

<https://www.theguardian.com/world/2022/dec/16/almost-8000-us-shootings-attributed-to-unseasonable-heat-study>

**mais violações:** Josephus Daniel Perry e Miles E. Simpson. “Violent Crimes in a City: Environmental Determinants”, *Environmental Behavior* 19, n.º 1 (1987).

<https://doi.org/10.1177/0013916587191004>

**guerra civil:** Marshall B. Burke *et al.* “Warming Increases the Risk of Civil War in Africa”, *Proceedings of National Academy of Sciences* 106, no. 49 (2009), 20670–20674.

<https://doi.org/10.1073/pnas.0907998106>

**489 mil pessoas:** Katrin G Burkart *et al.* “Estimating the Cause-Specific Relative Risks of Non-Optimal Temperature on Daily Mortality: a Two-Part Modelling Approach Applied to the Global Burden of Disease Study.” *The Lancet* 398, no. 10301 (2021), 685–697.

[https://doi.org/10.1016/S0140-6736\(21\)01700-1](https://doi.org/10.1016/S0140-6736(21)01700-1)

**260 mil e 600 mil:** Rebecca R. Buchholz *et al.* “New Seasonal Pattern of Pollution Emerges from Changing North American Wildfires”, *Nature Communications* 13, no. 2043 (2022).

<https://doi.org/10.1038/s41467-022-29623-8>

**picos de hospitalizações:** Megan Sever. “Western Wildfires’ Health Risks Extend Across the Country”, *ScienceNews*, 17 de junho de 2022.

<https://www.sciencenews.org/article/wildfire-health-risks-air-smoke-west-east-united-states>

**600 metros de gelo:** William J. Broad. “How the Ice Age Shaped New York”, *The New York Times*, 5 de junho de 2018.

<https://www.nytimes.com/2018/06/05/science/how-the-ice-age-shaped-new-york.html>

**há 125 mil anos:** Andrew Dessler. *Introduction to Modern Climate Change* (Cambridge, Inglaterra: Cambridge University Press, 2022).

**período histórico comparável de quarenta anos:** “Global Warming of 1.5°C”, Relatório Especial do Painel Intergovernamental sobre Alterações Climáticas, 2018.

<https://www.ipcc.ch/sr15/>

**os oito anos entre 2015 e 2022:** Robert Rohde. “Global Temperature Report for 2022”, *site da Berkeley Earth*, 12 de janeiro de 2023.

<https://berkeleyearth.org/global-temperature-report-for-2022/>

**850 milhões de pessoas:** *Ibid.*

**mais longas, mais quentes:** *Attribution of Extreme Weather Events in the Context of Climate Change* (Washington, D. C.: National Academies Press, 2016), 91.

**150 vezes:** “Western North American Extreme Heat Virtually Impossible Without Human-Caused Climate Change”, *World Weather Attribution*, 7 de julho de 2021.

<https://www.worldweatherattribution.org/western-north-american-extreme-heat-virtually-impossible-without-human-caused-climate-change/>

**a temperatura dos oceanos:** Damian Carrington. “Oceans Were Hottest Ever Recorded in 2022, Analysis Shows”, *The Guardian*. 11 de janeiro de 2023.

<https://www.theguardian.com/environment/2023/jan/11/oceans-were-the-hottest-ever-recorded-in-2022-analysis-shows>

**38 graus:** Jason Samenow e Kasha Patel. “It’s 70 Degrees Warmer than Normal in Eastern Antarctica. Scientists are Flabbergasted”, *The Washington Post*, 18 de março de 2022.

<https://www.washingtonpost.com/weather/2022/03/18/antarctica-heat-wave-climate-change/>

**três mil milhões de pessoas:** Chi Xu *et al.* “Future of the Human Climate Niche”, *Proceedings of the National Academy of Sciences* 117, no. 21 (2020).

<https://doi.org/10.1073/pnas.1910114117>

**condições de calor e humidade potencialmente letais:** Camilo Mora *et al.* “Global Risk of Deadly Heat”, *Nature Climate Change* 7 (2017), 501–506.

<https://doi.org/10.1038/nclimate3322>

**“mais robusto dos humanos”:** Eun-Soon Im, Jeremy S. Pal e Elfatih A. B. Eltahir. “Deadly Heat Waves Projected in the Densely Populated Agricultural Regions of South Asia”, *Science Advances*, Vol. 3, n.º 8 (2017).

<http://doi.org/10.1126/sciadv.1603322>

**“Zona Goldilocks”:** Andrew May. “The Goldilocks Zone: The Place in a Solar System that’s Just Right”, *Live Science*, 1 de abril de 2022.

<https://www.livescience.com/goldilocks-zone>

## CAPÍTULO 1. UMA HISTÓRIA A SERVIR DE AVISO

**“uma família muito ativa”**: Relatório do xerife do condado de Mariposa, caso número MG2100896. 18 de agosto de 2021, Anexo 01, 1.

**“Olá, digam por favor...”**: publicação no Facebook visto em outubro de 2022.  
[www.facebook.com/sjeffe](http://www.facebook.com/sjeffe)

**“terra remexida”**: Relatório do xerife do condado de Mariposa, 19 de agosto de 2021. Anexo 06, 2

**“Apaixonaram-se pela zona”**: Steve Rubenstein. “Remote Hiking Area Where Northern California Family Was Found Dead Treated as a Hazmat Site”, *San Francisco Chronicle*, 18 de agosto de 2021.  
[www.sfchronicle.com/bayarea/article/Remote-hiking-area-where-Northern-California-16395803.php](http://www.sfchronicle.com/bayarea/article/Remote-hiking-area-where-Northern-California-16395803.php)

**escreveu Richard, numa descrição da sua infância**: “Down and Out: A Collection of Tales from my 20 Years as a Cave Explorer.” Publicado por Richard Gerrish no seu *site*. Consultado em outubro de 2022.  
[richardgerrish.weebly.com/down-and-out.html](http://richardgerrish.weebly.com/down-and-out.html)

**“mais felizes do que o Jonny”**: comunicação pessoal com o autor, setembro de 2022.

**“muito abafado”**: Relatório do xerife do condado de Mariposa. Anexo 10, 1.

**dezas seis caminhadas**: publicação no AllTrails, consultado em julho de 2022.

**“pessoas da cidade”**: Relatório do xerife do condado de Mariposa. Anexo 10, 1.

**Incêndio de Ferguson, em 2018**: Jose A. Del Rio. “Ferguson Fire Forces Largest Closing of Yosemite in Decades”, *The New York Times*, 26 de julho de 2018.  
[www.nytimes.com/2018/07/26/us/california-today-ferguson-fire-yosemite.html](http://www.nytimes.com/2018/07/26/us/california-today-ferguson-fire-yosemite.html)

**“um trilho horrível”**: publicação no AllTrails, consultado em julho de 2022.

**“não quero fazer isto num dia quente”**: *Ibid.*

**temperatura de bulbo húmido de 35 graus:** Steven C. Sherwood e Matthew Huber. “An Adaptability Limit to Climate Change Due to Heat Stress”, *Proceedings of the National Academy of Sciences* 107, no. 21 (2010) 9552–9555.

<https://doi.org/10.1073/pnas.0913352107>

**Kelly Watt:** Amby Burfoot. “The Last Run”, *Runner’s World*, 18 de janeiro de 2007.

<https://www.runnersworld.com/runners-stories/a20801399/the-dangers-of-running-in-the-heat/>

**Philip Kreycik:** Sarah Trent. “Philip Kreycik Wasn’t Supposed to Die This Way”, *Outside*, 27 de maio de 2022.

[www.outsideonline.com/outdoor-adventure/environment/heat-related-illness-trail-running-death-philip-kreycik/](http://www.outsideonline.com/outdoor-adventure/environment/heat-related-illness-trail-running-death-philip-kreycik/)

**Michael Popov:** Gordon Wright. “Michael Popov’s Last Run”, *Outside*, 15 de agosto de 2012.

[www.outsideonline.com/health/running/michael-popovs-last-run-coming-grips-sudden-death-exceptional-ultrarunner/#close](http://www.outsideonline.com/health/running/michael-popovs-last-run-coming-grips-sudden-death-exceptional-ultrarunner/#close)

**um estudo realizado no Montana:** John S. Cuddy e Brent S. Rudy. “High Work Output Combined With High Ambient Temperatures Caused Heat Exhaustion in a Wildland Firefighter Despite High Fluid Intake”, *Wilderness & Environmental Medicine* 22, n.º 2 (2011), 122–125.

<https://doi.org/10.1016/j.wem.2011.01.008>

**“Tanto a exaustão por calor como a insolação”:** comunicação pessoal com o autor, abril de 2022.

**“atividade moderada”:** *Ibid.*

**doenças cardíacas e renais:** Cecilia Sorensen, MD, e Ramon Garcia-Trabanino, MD. “A New Era of Climate Medicine —Addressing Heat Triggered Renal Disease”, *New England Journal of Medicine* 381, n.º 8 (2019), 693–696.

<http://doi.org/10.1056/NEJMp1907859>

**tentou enviar uma mensagem:** Joshua Bote. ““Can you help us’: Final Text from California Family Found Dead on Hike Near Yosemite Released”, *SFGate*, 18 de fevereiro de 2022.

[www.sfgate.com/bayarea/article/Final-texts-released-Chung-Gerrish-deaths-16930376.php](http://www.sfgate.com/bayarea/article/Final-texts-released-Chung-Gerrish-deaths-16930376.php)

**27 minutos seguintes:** *Ibid.*

**“respostas fisiológicas”:** Nigel A. S. Taylor “Human Heat Adaptation”, *Comprehensive Physiology* 4 (2014), 325–365.

<https://doi.org/10.1002/cphy.c130022>



**“quando se sai do calor”**: comunicação pessoal com o autor, abril de 2022.

**uma “desnaturação”**: Veronique Greenwood. “Why Does Heat Kill Cells?” *The Atlantic*, 11 de maio de 2017.

[www.theatlantic.com/science/archive/2017/05/heat-kills-cells/526377/](http://www.theatlantic.com/science/archive/2017/05/heat-kills-cells/526377/)

**nenhuma causa de morte evidente**: “Federal officials close river after mysterious deaths of California family and their dog”, *CBS News*, 6 de setembro de 2021.

[www.cbsnews.com/news/john-gerrish-ellen-chung-daughter-deaths-merced-river-closed/](http://www.cbsnews.com/news/john-gerrish-ellen-chung-daughter-deaths-merced-river-closed/)

**“situação de monóxido de carbono”**: Michelle Blade. “Carbon monoxide Could Have Killed Lancaster Man and His Family on California Hiking Trail”, *Lancaster Guardian*, 19 de agosto de 2021.

[www.lancasterguardian.co.uk/news/people/carbon-monoxide-could-have-killed-lancaster-man-and-his-family-on-california-hiking-trail-3352070](http://www.lancasterguardian.co.uk/news/people/carbon-monoxide-could-have-killed-lancaster-man-and-his-family-on-california-hiking-trail-3352070)

**anatoxina A**: Relatório do xerife do condado de Mariposa, 26 de agosto de 2021. Anexo 16, 1.

**“Nunca vi mortes assim”**: Adrian Thomas. “Mariposa County Sheriff: ‘I’ve Never Seen a Death Like This’”, *Yourcentralvalley.com*, 18 de agosto de 2021.

[www.yourcentralvalley.com/news/local-news/mariposa-county-sheriff-ive-never-seen-a-death-like-this/](http://www.yourcentralvalley.com/news/local-news/mariposa-county-sheriff-ive-never-seen-a-death-like-this/)

**cães são vulneráveis ao calor**: Emily J. Hall *et al.* “Incidence and Risk Factors for Heat-Related Ill-ness (Heatstroke) in UK Dogs Under Primary Veterinary Care in 2016”, *Scientific Reports* 10, n.º 9128 (2020).

<https://doi.org/10.1038/s41598-020-66015-8>

**“os galgos”**: Eric Roston. “These Very Good Dogs Will Suffer Most From a Warming Climate”, *Bloomberg Green*, 19 de junho de 2020.

[www.bloomberg.com/news/photo-essays/2020-06-19/these-dog-breeds-are-the-most-vulnerable-to-heat-climate-change](http://www.bloomberg.com/news/photo-essays/2020-06-19/these-dog-breeds-are-the-most-vulnerable-to-heat-climate-change)

**crianças prepubescentes**: Leigh Arlegui *et al.* “Body Mapping of Sweating Patterns of Pre-Pubertal Children During Intermittent Exercise in a Warm Environment”, *European Journal of Applied Physiology* 121(2021).

<https://hdl.handle.net/2134/16831309.v1>

**“corpo de paizão”**: comunicação pessoal com o autor, abril de 2022.

**fase lútea do ciclo menstrual:** Nisha Charkoudian e Nina S. Stachenfeld. “Reproductive Hormone Influences on Thermoregulation in Women”, *Comprehensive Physiology* 4, n.º 2 (2014).

<https://doi.org/10.1002/cphy.c130029>

**pílula anticoncepcional:** Nisha Charkoudian *et al.* “Autonomic Control of Body Temperature and Blood Pressure: Influences of Female Sex Hormones”, *Clinical Autonomic Research* 27 (2017).

<https://doi.org/10.1007/s10286-017-0420-z>

**“A causa da morte”:** Relatório do xerife do condado de Mariposa, 19 de outubro de 2021. Anexo 50, 1

## CAPÍTULO 2: COMO O CALOR NOS CRIOU

**teoria mais aceite:** Carl Zimmer. *Life’s Edge: The Search for What It Means to Be Alive* (Nova Iorque: Dutton, 2021).

**“Quando chegaram ao mar”:** *Ibid.*

**há cerca de 260 milhões de anos:** Kévin Rey *et al.* “Oxygen Isotopes Suggest Elevated Thermometabolism Within Multiple Permo-Triassic Therapsid Clades”, *eLife* 6 (2017).

<https://doi.org/10.7554/eLife.28589>

**trinta vezes menos energia:** Michael Logan. “Did Pathogens Facilitate the Rise of Endothermy?”, *Ideas in Ecology and Evolution*, 12 (2019), 1–8.

<https://doi.org/10.24908/iee.2019.12.1.n>

**“Imagine uma iguana...”:** comunicação pessoal com o autor, abril de 2021.

**Lucy:** Lewis Dartnell. *Origens: Como a Terra nos Criou* (Lisboa: Planeta, 2019).

**um bebé da evolução:** Outras descobertas arqueológicas situam ainda mais atrás a data do bipedismo. As pegadas Laetoli, descobertas na Tanzânia por Louis Leakey em 1976, foram datadas em 3,7 milhões de anos. Em 1994, os fósseis *Ardipithecus ramidus* que foram encontrados sugerem que a origem do bipedismo pode ter sido há mais de 4,4 milhões de anos. Ver também Clare Wilson, “Human Ancestors May Have Walked on Two Legs 7 Million Years Ago”, *New Scientist*, 24 de agosto de 2022.

**o que fez Lucy erguer-se:** Daniel E. Liberman. “Human Locomotion and Heat Loss: An Evolutionary Perspective”, *Comprehensive Physiology* 5, (2015), 99–117.

<http://doi.org/10.1002/cphy.c140011>

**elefantes:** Robin C. Dunkin *et al.* “Climate Influences Thermal Balance and Water Use in African and Asian Elephants: Physiology can Predict Drivers of Elephant Distribution”, *Journal of Experimental Biology* 216, n.º 15 (2013) 2939–2952.

<http://doi.org/10.1242/jeb.080218>

**formiga prateada do Sara:** Jake Buehler. “World’s Fastest Ants Found Racing Across the Sahara”. *National Geographic*, 16 de outubro de 2019.

<https://www.nationalgeographic.com/animals/article/silver-saharan-ants-fastest-desert>

**camelos:** Mulu Gebreselassie Gebreyohanes e Awol Mohammed Assen. “Adaptation Mechanisms of Camels (*Camelus dromedarius*) for Desert Environment: A Review”, *Journal of Veterinary Science & Technology* 8, n.º 6 (2017).

<http://doi.org/10.4172/2157-7579.1000486>

**chimpanzês de Fongoli:** Carl Zimmer. “Hints of Human Evolution in Chimpanzees That Endure a Savanna’s Heat”, *The New York Times*, 27 de abril de 2018.

<https://www.nytimes.com/2018/04/27/science/chimpanzees-savanna-evolution.html>

**O Rei Leão:** Dartnell, *Origens*.

**bipedismo:** Kevin Hunt. *Chimpanzee: Lessons from Our Sister Species* (Cambridge, Inglaterra: Cambridge University Press, 2021).

**o gosto por alimentos condimentados:** Rick Weiss. “Healthy Hypothesis Curries Favor in Evolution of Spice”, *The Washington Post*, 2 de março de 1998.

<https://www.washingtonpost.com/archive/politics/1998/03/02/health-hypothesis-curries-favor-in-evolution-of-spice/e025c5ab-76c4-4d71-b1bc-9b36cef22bc0/>

### CAPÍTULO 3: ILHAS DE CALOR

**começa a adiar voos:** “Phoenix Flights Cancelled Because It’s Too Hot for Planes”, *BBC News*, 20 de junho de 2017.

<https://www.bbc.com/news/world-us-canada-40339730>

**mais 10/11 graus:** comunicação pessoal com o gabinete do Serviço Meteorológico Nacional em Phoenix, maio de 2022.

**pode ser 10 graus superior:** “Cool Neighborhoods NYC: A Comprehensive Approach to Keep Cities Cool in Extreme Heat”, Relatório do gabinete do presidente da câmara de Nova Iorque.

[https://www1.nyc.gov/assets/orr/pdf/CoolNeighborhoods\\_NYC\\_Report.pdf](https://www1.nyc.gov/assets/orr/pdf/CoolNeighborhoods_NYC_Report.pdf)

**339 mortes relacionadas com o calor:** Departamento de Saúde Pública do condado de Maricopa. “Heat-Associated Deaths in Maricopa County, AZ Final Report for 2021.”

[www.maricopa.gov/ArchiveCenter/ViewFile/Item/5494](http://www.maricopa.gov/ArchiveCenter/ViewFile/Item/5494)

**70 mil pessoas:** Friederike Otto. *Angry Weather: Heat Waves, Floods, Storms and the New Science of Climate Change* (Berkeley/Vancouver: Greystone, 2020).

**1700 milhões de pessoas:** Cascade Tuholske *et al.* “Global Urban Population Exposure to Extreme Heat”, *Proceedings of the National Academy of Sciences*, 118 (2021).

<https://doi.org/10.1073/pnas.2024792118>

**70 por cento:** “68% of the World Population Projected to Live in Urban Areas by 2050, Says UN”, site das Nações Unidas, 16 de maio de 2018, consultado em outubro de 2022.

<https://www.un.org/development/desa/en/news/population/2018-revision-of-world-urbanization-prospects.html>

**furacão Katrina:** Serviço Meteorológico Nacional dos EUA. “Extremely Powerful Hurricane Katrina Leaves a Historic Mark on the Northern Gulf Coast”.

<https://www.weather.gov/mob/katrina>

**um funcionário que procedia a uma manutenção:** Marty Graham. “Power Restored in Southwest, Mexico After Outage”, *Reuters*, 8 de setembro de 2011.

<http://www.reuters.com/article/us-outage-california/power-restored-in-southwest-mexico-after-outage-idUSTRE7880FW20110909>

**Frederic Tudor:** A. S. Ganesh. “The Ice King of the Past”, *The Hindu*, 13 de setembro de 2020.

<http://www.thehindu.com/children/the-ice-king-of-the-past/article32529190.ece>

**260 quilómetros quadrados:** Bloomberg News. “How One of the World’s Wettest Major Cities Ran Out of Water”, *Bloomberg News*, 3 de fevereiro de 2021.

<http://www.bloomberg.com/news/features/2021-02-03/how-a-water-crisis-hit-india-s-chennai-one-of-the-world-s-wettest-cities>

**não apenas através do calor, mas da água:** *Ibid.*

**50,5 graus:** Mujib Mashal. “India Heat Wave, Soaring Up to 123 Degrees, Has Killed at Least 36”, *The New York Times*, 13 de junho de 2019.

<http://www.nytimes.com/2019/06/13/world/asia/india-heat-wave-deaths.html>

**deficiências no armazenamento:** Bloomberg News. “How One of the World’s Wettest Major Cities Ran Out of Water”,

**Um jornalista assinalou:** *Ibid.*

**habitações “mais seguras”:** R. K. Radhakrishnan. “Flood of Troubles”, *Frontline*, 27 de maio de 2016.  
<https://frontline.thehindu.com/the-nation/flood-of-troubles/article8581086.ece>

**Stephanie Pullman:** Elizabeth Whitman. “On 107-Degree Day, APS Cut Power to Stephanie Pullman’s Home. She Didn’t Live”, *Phoenix New Times*, 3 de junho de 2019.  
<https://www.phoenixnewtimes.com/content/printView/11310515>

*Phoenix New Times: Ibid.*

**110 mil vezes:** *Ibid.*

**mais de 39 mil:** *Ibid*

## CAPÍTULO 4: A VIDA EM FUGA

**a “estrada-mãe”:** Rickie Longfellow. “Route 66: the Mother Road”, site do Departamento dos Transportes dos EUA, consultado em outubro de 2022.  
<https://www.fhwa.dot.gov/infrastructure/back0303.cfm>

**40 e 70 por cento:** Sonia Shah. *The Next Great Migration: The Beauty and Terror of Life on the Move* (Nova Iorque: Bloomsbury, 2020).

**quase 20 quilómetros:** *Ibid.*

**quatro vezes mais depressa:** *Ibid.*

**bacalhau do Atlântico:** *Ibid.*

**rãs e espécies de fungos:** *Ibid.*

**pólipos de coral:** *Ibid.*

**mais de 3 quilómetros por década:** James Bridle. “The Speed of a Tree: How Plants Migrate to Outpace Climate Change”, *Financial Times*, 1 de abril de 2022.  
<https://www.ft.com/content/7d7621cd-7bb5-4f97-94f1-6985ce038e13>

**pinheiro-do-canadá:** *Ibid.*

**airo de Brünnich:** Emily S. Choy *et al.* “Limited Heat Tolerance in a Cold-Adapted Seabird: Implications of a Warming Arctic”, *Journal of Experimental Biology* 224, no. 13 (2021).

<https://doi.org/10.1242/jeb.242168>

**“barreira à migração”:** Matthew L. Keefer *et al.* “Thermal Exposure of Adult Chinook Salmon and Steelhead: Diverse Behavioral Strategies in a Large and Warming River System”, *PLoS One* 13, no. 9 (2018).

<http://doi.org/10.1371/journal.pone.0204274>

**transportar em tanques refrigerados os salmões jovens:** Christian Martinez. “Wildlife Officials Truck Chinook Salmon to Cooler Waters in Emergency Move to Help Them Spawn”, *Los Angeles Times*, 20 de maio de 2022.

<https://www.latimes.com/california/story/2022-05-19/northern-california-chinook-salmon-trucked-to-cooler-waters>

**“Os abelhões estão a desaparecer”:** Citado por Bob Brewyn em “Bumblebee Decline Linked With Extreme Heat Waves”, *Inside Climate News*, 6 de fevereiro de 2020.

<https://insideclimatenews.org/news/06022020/bumblebee-climate-change-heat-decline-migration/>

**dez vezes maiores:** comunicação pessoal com o autor, outubro de 2022.

**uma das taxas de crescimento populacional mais elevadas:** Departamento do Censo dos EUA. “More Than Half of U.S. Counties Were Smaller in 2020 Than in 2010”, *site* do Departamento do Censo, consultado em outubro de 2022.

<https://www.census.gov/library/stories/2021/08/more-than-half-of-united-states-counties-were-smaller-in-2020-than-in-2010.html>

**Dust Bowl:** Richard Hornbeck. “The Enduring Impact of the American Dust Bowl: Short- and Long-Run Adjustments to Environmental Catastrophe”, *American Economic Review*, American Economic Association 102, no. 4 (2012) 1477–1507.

<https://www.nber.org/papers/w15605>

**8 milhões de pessoas:** Grupo do Banco Mundial. “Groundswell: Preparing for Internal Climate Migration”, relatório do Banco Mundial, 2018.

<https://www.worldbank.org/en/news/infographic/2018/03/19/groundswell-preparing-for-internal-climate-migration>

**“fuga a climas quentes”:** Abrahm Lustgarten. “The Great Climate Migration”, *The New York Times*, 23 de agosto de 2020.

<https://www.nytimes.com/interactive/2020/07/23/magazine/climate-migration.html>

**inundações catastróficas no Paquistão:** Christina Goldbaum e Zia ur-Rehman. “In Pakistan’s Record Floods, Villages Are Now Desperate Islands”, *The New York Times*, 14 de setembro de 2022.

<https://www.nytimes.com/2022/09/14/world/asia/pakistan-floods.html>

**os 50 condados dos EUA:** Lily Katz e Sebastian Sandoval-Olascoaga. “More People Are Moving In Than Out of Areas Facing High Risk From Climate Change.” *Redfin News*, 25 de agosto de 2021.

<https://www.redfin.com/news/climate-migration-real-estate-2021/>

**Um relatório de 2020:** Gabinete de Responsabilização do Governo dos EUA. “Climate Change: A Climate Migration Pilot Program Could Enhance the Nation’s Resilience and Reduce Federal Fiscal Exposure”. Relatório solicitado pelo Congresso, julho de 2020.

<https://www.gao.gov/assets/gao-20-488.pdf>

**tempestades:** Katz e Sandoval-Olascoaga, “More People Are Moving In than Out”.

**o mais atrativo lugar quente:** *Ibid.*

**“Quem vive no Kansas”:** citado por Saul Elbein em “Five Reasons Extreme Weather is Bigger in Texas”, *The Hill*, 1 de setembro de 2022.

<https://thehill.com/policy/equilibrium-sustainability/3622655-five-reasons-extreme-weather-is-bigger-in-texas/>

**um livro que escrevi antes:** Jeff Goodell, *The Water Will Come: Rising Seas, Sinking Cities, and the Remaking of the Civilized World* (Nova Iorque: Little, Brown, 2017.)

**bizarra tempestade de gelo:** morreram na tempestade 246 (o número total será provavelmente muito mais alto), muitos deles por congelamento nas duas casas ou na rua. Patrick Svitek. “Texas Puts Final Estimate of Winter Storm Death Toll at 246”, *Texas Tribune*, 2 de janeiro de 2022.

<https://www.texastribune.org/2022/01/02/texas-winter-storm-final-death-toll-246/>

**um lugar assombrado:** os fantasmas de viajantes perdidos estão por todo lado em *The Devil’s Highway: A True Story*, de Luis Alberto Urrea (Nova Iorque: Little, Brown, 2004).

**mais de nove mil pessoas:** Jason Motlagh. “The Deadliest Crossing”, *Rolling Stone*, 30 de setembro de 2019.

<https://www.rollingstone.com/politics/politics-features/border-crisis-arizona-sonoran-desert-882613/>

**Gurupreet Kaur:** Sugam Pokharel e Catherine E. Shoichet. “This 6-Year-Old From India Died in the Arizona Desert. She Loved Dancing and Dreamed of Meeting Her Dad”, *CNN*, 12 de julho de 2019.

<https://www.cnn.com/2019/07/12/asia/us-border-death-indian-girl-family/index.html>

## CAPÍTULO 5: ANATOMIA DE UM LOCAL DE CRIME

**“física, aspirante a bailarina...”:** Simon Levey. “Climate Scientist in TIME100 Most Influential List to Join Imperial”. Imperial College London, *News*, 15 de setembro de 2021.

<https://www.imperial.ac.uk/news/229993/climate-scientist-time100-most-influential-list/>

**Os egípcios:** Joshua J. Mark. “Ancient Egyptian Warfare”, *World History Encyclopedia*.

[https://www.worldhistory.org/Egyptian\\_Warfare/](https://www.worldhistory.org/Egyptian_Warfare/)

**No hinduísmo:** “tapas,” *Encyclopedia Britannica*, 28 de fevereiro de 2011.

<https://www.britannica.com/topic/tapas>.

**nativos da América do Norte:** Joseph Bruchag. *The Native American Sweat Lodge: History and Legends* (Freedom, CA: Crossing Press, 1993), 24–29.

**“calor e fogo...”:** Martin Goldstein e Inge F. Goldstein. *The Refrigerator and the Universe: Understanding the Laws of Energy* (Cambridge, MA: Harvard University Press, 1993).

**“O calor acontece aqui”:** *Ibn-Sina–Al-Biruni Correspondence* (Alberta, Canada: Center for Islam and Science, 2003).

**“raios que se desprenderam do sol”:** Razaullah Ansari. “On the Physical Researches of Al-Biruni.” *International Journal of Health Sciences* 10, n.º 2 (1975), 198–217.

**Galileu:** Martin Goldstein e Inge F. Goldstein, *The Refrigerator and the Universe*.

**Fahrenheit:** Phil Jaekl. “Melting Butter, Poisonous Mushrooms and the Strange History of the Invention of the Thermometer.” *Time*, 1 de junho de 2021.

<https://time.com/6053214/thermometer-history/>

**conde Rumford:** Para contar a vida e obra do conde Rumford, recorri em boa medida ao trabalho de G. I. Brown *Scientist, Soldier, Statesman, Spy: Count Rumford, the Extraordinary Life of a Scientific Genius* (Reino Unido: Sutton Publishing, 1999), e de Sanborn C. Brown, *Benjamin Thompson, Count Rumford* (Cambridge, MA: MIT Press, 1981). Também foi muito útil o trabalho de Hans Christian von Baeyer *Warmth Disperses and Time Passes: The History of Heat* (Nova Iorque: Modern Library, 1999).

**biógrafo um tanto entusiasmado:** Jane Merrill. *Sex and the Scientist: The Indecent Life of Benjamin Thompson, Count Rumford (1753–1814)* (Jefferson, North Carolina: McFarland & Company, 2018).

**“agitação trémula”:** D. S. L. Cardwell. *From Watt to Clausius: The Rise of Thermodynamics in the Early Industrial Age* (Ithaca, NI: Cornell University Press, 1971).



**teoria calórica:** Martin Goldstein e Inge F. Goldstein, *The Refrigerator and the Universe*.

**“mas matar franceses”:** Von Baeyer, *Warmth Disperses and Time Passes*.

**“Seria difícil descrever”:** Brown, *Scientist, Soldier, Statesman, Spy*.

**“riso a percorrer uma multidão”:** Brian Greene. *Até ao Fim dos Tempos* (Lisboa: Desassossego, 2021).

**“climas mais uniformes e melhores”:** Fred Pearce. “Land of the Midnight Sums.” *New Scientist*, 25 de janeiro de 2003.

<https://www.newscientist.com/article/mg17723795-300-land-of-the-midnight-sums/>

**“Ninguém se preocupou com os impactos”:** Spencer R. Weart. *The Discovery of Global Warming* (Cambridge, MA: Harvard University Press, 2008). Consultado *online* em outubro de 2022.

<https://history.aip.org/climate/impacts.htm>

**“um efeito violento”:** *Ibid.*

**“autênticos desertos”:** Revelle na Câmara de Representantes do Congresso dos Estados Unidos, *Report on the International Geophysical Year* (Washington, D. C.: Departamento de Imprensa do Governo, 1957).

**depoimento no Congresso do cientista da NASA James Hansen:** Philip Shabecoff. “Global Warming Has Begun, Expert Tells Senate”, *The New York Times*, 24 de junho de 1988.

**matou 70 mil pessoas:** Otto, *Angry Weather*.

**“Sou um cientista do clima...”:** Myles Allen. “Liability for Climate Change”, *Nature* 421 (2003), 891–892.

<https://doi.org/10.1038/421891a>

**“pelo menos duplicado o risco”:** Peter Stott *et al.* “Human Contribution to the European Heatwave of 2003”, *Nature* 432 (2004) 610–614.

<https://doi.org/10.1038/nature03089>

**mais de 55 mil pessoas:** Hannah Hoag. “Russian Summer Tops ‘Universal’ Heatwave Index”, *Nature*, 29 de outubro de 2014.

<https://doi.org/10.1038/nature.2014.16250>

**“variabilidade atmosférica interna natural”**: Otto, *Angry Weather*, 64.

**probabilidade de 80 por cento**: *Ibid.*

**“íamos instalar candeeiros”**: *Ibid.*

**“três ou quatro vezes a probabilidade”**: *Ibid.*

**Bangladesh**: Sjoukje Philip *et al.* “Attributing the 2017 Bangladesh floods from Meteorological and Hydrological Perspectives.” *Hydrology and Earth System Sciences*, 23 (2019), 1409–1429.

<https://doi.org/10.5194/hess-23-1409-2019>

**“praticamente impossível”**: Sjoukje Philip *et al.* “Rapid attribution analysis of the extraordinary heatwave on the Pacific Coast of the US and Canada June 2021.” Autopublicado pela World Weather Attribution.

<https://www.worldweatherattribution.org/wp-content/uploads/NW-US-extreme-heat-2021-scientific-report-WWA.pdf>

**“Europa é um ponto fulcral de ondas de calor”**: Efi Rousi, Kai Kornhuber, *et al.* “Accelerated Western European Heatwave Trends Linked to More-Persistent Double Jets Over Eurasia.” *Nature Communications* 13, n.º 3851 (2022).

<https://doi.org/10.1038/s41467-022-31432-y>

**“Estamos todos realmente preocupados”**: Chelsea Harvey. “Heat Wave ‘Virtually Impossible’ Without Climate Change.” *E&E News*, 8 de julho de 2021.

<https://www.eenews.net/articles/heat-wave-virtually-impossible-without-climate-change/>

**ExxonMobil**: “Update of Carbon Majors 1965–2018”, Climate Accountability Institute, 20 de dezembro de 2020.

<https://climateaccountability.org/pdf/CAI%20PressRelease%20Dec20.pdf>

## CAPÍTULO 6: O VALE MÁGICO

**“seco, poeirento, a estalar”**: Monique Brand. “As Temperatures Rise, Agriculture Industry Suffers”, *Lampasas Dispatch Record*, 25 de julho de 2022.

<https://www.lampasasdispatchrecord.com/news/temperatures-rise-agriculture-industry-suffers>

**42 por cento das culturas de milho do Texas**: Bob Sechler. “‘Difficult times’: Heat, Drought Bringing Pain for Texas Farmers and Ranchers”, *Austin American-Statesman*, 25 de julho de 2022.

<https://www.statesman.com/story/business/economy/2022/07/25/texas-weather-heat-drought-farmers-ranchers-impact-bringing-pain/65377249007/>

**“Quando não tens milho para vender”:** *Ibid.*

**Em três décadas:** Megan Durisin. “Smallest French Corn Crop Since 1990 Shows Drought’s Huge Toll”, *Bloomberg*, 13 de setembro de 2022.

<https://www.bloomberg.com/news/articles/2022-09-13/smallest-french-corn-crop-since-1990-show-s-drought-s-huge-toll>

**“Vejam o que a onda de calor fez”:** Arshad R. Zargar. “Wheat Prices Hit Record High as India’s Heat Wave-driven Export Ban Compounds Ukraine War Supply Woes”, *CBS News*, 17 de maio de 2022.

<https://www.cbsnews.com/news/india-heat-wave-wheat-prices-soar-climate-change-ukraine-war-supplies/>

**20 milhões de toneladas:** Wailin Wong. “Russia has Blocked 20 Million Tons of Grain from Being Exported from Ukraine”, *All Things Considered*, 3 de junho de 2022.

<https://www.npr.org/2022/06/03/1102990029/russia-has-blocked-20-million-tons-of-grain-from-being-exported-from-ukraine>

**mais de 60 por cento:** *Ibid.*

**mais 23 milhões de pessoas:** Eyder Peralta. “Drought and Soaring Food Prices from Ukraine War Leave Millions in Africa Starving.” *NPR*, 18 de maio de 2022.

<https://www.npr.org/2022/05/18/1099733752/famine-africa-ukraine-invasion-drought>

**na origem de revoltas:** Jen Kirby. “Sri Lanka’s protests are just the beginning of global instability”, *Vox*, 16 de julho de 2022.

<https://www.vox.com/23211533/sri-lanka-protests-food-fuel-ukraine-war>

**“Ao atacar a Ucrânia”:** Edward Wong e Ana Swanson. “How Russia’s War on Ukraine is Worsening Global Starvation”, *The New York Times*, 2 de janeiro de 2023.

<https://www.nytimes.com/2023/01/02/us/politics/russia-ukraine-food-crisis.html>

**de 135 milhões para 345 milhões:** Yuka Hayashi. “Ukraine War Creates Worst Global Food Crisis Since 2008, IMF Says”, *The Wall Street Journal*, 20 de setembro de 2022.

<https://www.wsj.com/articles/ukraine-war-creates-worst-global-food-crisis-since-2008-imf-says-11664553601>

**são desperdiçados:** “Food Loss and Waste.” *Site da FDA, US Food & Drug Administration*, consultado em outubro de 2022.

<https://www.fda.gov/food/consumers/food-loss-and-waste>

**12 milhões de hectares:** Michael Grunwald. “Biofuels are accelerating the food crisis — and the climate crisis, too”, *Canary Media*, 19 de abril de 2022.

<https://www.canarymedia.com/articles/food-and-farms/biofuels-are-accelerating-the-food-crisis-and-the-climate-crisis-too>

**90 centímetros por ano:** Elizabeth Kolbert. “Building a Better Leaf”, *The New Yorker*, 6 de dezembro de 2021.

<https://www.newyorker.com/magazine/2021/12/13/creating-a-better-leaf>

**Instituto dos Recursos Mundiais:** Tim Searchinger *et al.* “Creating a Sustainable Food Future”, World Resources Report, 2019.

<https://research.wri.org/wrr-food>

**21 por cento inferior:** Ariel Ortiz-Bobea *et al.* “Anthropogenic Climate Change has Slowed Global Agricultural Productivity Growth”, *Nature Climate Change* 11 (2021), 306–312.

<https://doi.org/10.1038/s41558-021-01000-1>

**por cada grau de aumento:** Chuang Zhao *et al.* “Temperature Increase Reduces Global Yields of Major Crops in Four Independent Estimates”, *Proceedings of the National Academy of Sciences* 114, n.º 35 (2017), 9326–9331.

<https://doi.org/10.1073/pnas.1701762114>

**“Para ter uma ideia de como a temperatura é importante”:** David Lobell. “Heat and Hunger”, palestra na Universidade do Arizona, 25 de março de 2013.

<https://sustainability-innovation.asu.edu/media/video/david-lobell/>

**perto de 15 mil litros por dia:** Eric J. Wallace. “Americans Have Planted So Much Corn That It’s Changing the Weather”, *Atlas Obscura*, 3 de dezembro de 2018.

<https://www.atlasobscura.com/articles/corn-belt-weather>

**calor seco é muito mais prejudicial:** Mingfang Ting *et al.* “Contrasting Impacts of Dry Versus Humid Heat on US Corn and Soybean Yields”, *Scientific Reports* 13, article 710 (2023).

<https://doi.org/10.1038/s41598-023-27931-7>

**arsênio:** E. Marie Muehe *et al.* “Rice Production Threatened by Coupled Stresses of Climate and Soil Arsenic”, *Nature Communications* 10, n.º 4985 (2019).

<https://doi.org/10.1038/s41467-019-12946-4>

**cancros da mama e da bexiga:** “Rice Consumption and Cancer Risk”, Columbia Public Health, consultado em outubro de 2022.

<https://www.publichealth.columbia.edu/research/niehs-center-environmental-health-northern-manhattan/rice-consumption-and-cancer-risk>

**vantagens de um CO<sub>2</sub> mais elevado:** Chunwu Zhu *et al.* “Carbon Dioxide (CO<sub>2</sub>) Levels This Century Will Alter the Protein, Micronutrients, and Vitamin Content of Rice Grains with Potential Health Consequences for the Poorest Rice-Dependent Countries”, *Science Advances* 4, n.º 5 (2018).

<https://doi.org/10.1126/sciadv.aag1012>

**Vale Mágico:** Naveena Sadasivam. “The Making of the ‘Magic Valley’”, *Texas Observer*, 21 de agosto de 2018.

<https://www.texasobserver.org/the-making-of-the-magic-valley/>

**nos últimos cem anos:** A. Park Williams *et al.* “Rapid intensification of the emerging southwestern North American megadrought in 2020–2021”, *Nature Climate Change* 12 (2022), 232–234.

<https://doi.org/10.1038/s41558-022-01290-z>

**“seca extrema”:** US Drought Monitor, consultado em fevereiro de 2022.

<https://droughtmonitor.unl.edu>

**suster a respiração:** University of California Davis Botanical Conservatory. “The Genus *Aloe*.” *Botanical Notes* 1, no. 1 julho de 2009.

[https://greenhouse.ucdavis.edu/files/botnot\\_01-01.00.pdf](https://greenhouse.ucdavis.edu/files/botnot_01-01.00.pdf)

**hibernação temporária:** *Ibid.*

**a vaga de frio que atingiu o Texas:** Jeff Goodell. “Is Texas’ Disaster a Harbinger of America’s Future?”, *Rolling Stone*, 17 de fevereiro de 2021.

<https://www.rollingstone.com/culture/culture-news/austin-texas-ice-storm-climate-change-1129183/>

**vale do Rio Balsas:** Anthony J. Ranere *et al.* “The Cultural and Chronological Context of Early Holocene Maize and Squash Domestication in the Central Balsas River Valley, Mexico”, *Proceedings of the National Academy of Sciences* 106, n.º 13 (2009), 5014–5018.

<https://doi.org/10.1073/pnas.0812590106>

**metade do milho cultivado no Iowa:** Aaron Viner. “Ethanol Continues to Sustain Corn Prices”, *Iowa Farmer Today*, 26 de maio de 2022.

[https://www.agupdate.com/iowafarmertoday/news/state-and-regional/ethanol-continues-to-sustain-corn-prices/article\\_2ed66ffc-aabe-11ec-9e9c-cb70dac4ee17.html](https://www.agupdate.com/iowafarmertoday/news/state-and-regional/ethanol-continues-to-sustain-corn-prices/article_2ed66ffc-aabe-11ec-9e9c-cb70dac4ee17.html)

**Revolução Francesa:** Lisa Bramen. “When Food Changed History: The French Revolution”, *Smithsonian*, 14 de julho de 2010.

<https://www.smithsonianmag.com/arts-culture/when-food-changed-history-the-french-revolution-93598442>

**Revolução Russa de 1917:** “Russian Revolution of 1917”, *Encyclopedia Britannica*, consultada em outubro de 2022.

<https://www.britannica.com/summary/Russian-Revolution>

**Primavera Árabe:** Joshua Keating. “A Revolution Marches on its Stomach”, *Slate*, 8 de abril de 2014.

<https://slate.com/technology/2014/04/food-riots-and-revolution-grain-prices-predict-political-instability.html>

**“novas espécies de culturas”:** citado por John McCracken, em “The Corn Belt Will Get Hotter. Farmers Will Have to Adapt”, *Grist*, 23 de setembro de 2022.

<https://grist.org/agriculture/the-corn-belt-will-get-hotter-farmers-will-have-to-adapt/>

**capitalização de 500 milhões:** A Appharvest (APPH) tem andado aos altos e baixos, com uma capitalização que atingiu cerca de 3400 milhões de dólares pouco depois de a empresa ser cotada em bolsa, no início de 2021, e um baixo de 172 milhões em outubro de 2022.

**milhares de vacas morreram:** “Heat Stress Blamed for Thousands of Cattle Deaths in Kansas”, *PBS News Hour*, 17 de junho de 2022.

<https://www.pbs.org/newshour/economy/heat-stress-blamed-for-thousands-of-cattle-deaths-in-kansas>

**regresso da febre do gado:** Rob Williams, “Texas Cattle Fever Back With a Vengeance”, *Texas A&M AgriLife Communications*, 2 de fevereiro de 2017.

<https://entomology.tamu.edu/2017/02/02/texas-cattle-fever-ticks-are-back-with-a-vengeance/>

**cozidas vivas:** Latika Bourke, “‘Boiled Alive’: New Footage Shows Full Scale of Live Exports Horror”, *Sydney Morning Herald*, 5 de maio de 2018.

<https://www.smh.com.au/politics/federal/boiled-alive-new-footage-shows-full-scale-of-live-exports-horror-20180503-p4zd9q.html>

**proteínas com base em fungos:** “Everything You Need to Know about Fungi-based Proteins”, *site da Nature’s Fynd*, consultado em outubro de 2022.

<https://www.naturesfynd.com/blog/fungi-based-protein>

**criações de gafanhotos:** Rebecca Zandbergen, “Massive Cricket-Processing Facility Comes Online in London, Ont.”, *CBC News*, 1 de julho de 2022.

<https://www.cbc.ca/news/canada/london/cricket-farm-london-ontario-1.6506606>

## CAPÍTULO 7: O BLOB

**uma crista de altas pressões:** “Looking Back at the Blob: Record Warming Drives Unprecedented Ocean Change”, NOAA Fisheries News, 26 de setembro de 2019.

<https://www.fisheries.noaa.gov/feature-story/looking-back-blob-record-warming-drives-unprecedented-ocean-change>

**uma alcunha: Blob:** *Ibid.* Ver também o “Blob Tracker”, criado pela organização de investigação científica California Current Integrated Assessment.

<https://www.integratedecosystemassessment.noaa.gov/regions/california-current/cc-projects-blobtracker>

**focas e leões-marinhos:** Jon Brooks, “How ‘The Blob’ Has Triggered Disaster for California Seals”, KQED, 23 de novembro de 2015.

<https://www.kqed.org/science/373789/how-warmer-waters-have-led-to-emaciated-seals-on-california-beaches>

**pesca de bacalhau no Alasca:** “Alaska Cod Populations Plummeted During the Blob Heatwave”, NOAA Fisheries News, 8 de novembro de 2019.

<https://www.fisheries.noaa.gov/feature-story/alaska-cod-populations-plummeted-during-blob-heatwave-new-study-aims-find-out-why>

**florestas de algas kelp:** Meredith L. McPherson *et al.* “Large-Scale Shift in the Structure of a Kelp Forest Ecosystem Co-Occurs with an Epizootic and Marine Heatwave”, *Communications in Biology* 4, n.º 298 (2021).

<https://doi.org/10.1038/s42003-021-01827-6>

**um milhão de aves marinhas:** Adam Vaughan. “Marine Heatwave Known as ‘the Blob’ Killed a Million US Seabirds”, *New Scientist*, 15 de janeiro de 2020.

<https://www.newscientist.com/article/2229980-marine-heatwave-known-as-the-blob-killed-a-million-us-seabirds>

**incêndio de Camp:** Stella Chan e Joe Sterling, “Death Toll in Camp Fire Revised Down by one to 85”, *CNN*, 8 de fevereiro de 2019.

<https://www.cnn.com/2019/02/08/us/camp-fire-deaths>

**asteroides e cometas gelados:** Conel M. O’D. Alexander. “The origin of inner Solar System water”, *Philosophical Transactions of the Royal Society* 375.

<http://dx.doi.org/10.1098/rsta.2015.0384>

**Neil Shubin:** comunicação pessoal com o autor, 14 de janeiro de 2020.

**80 por cento:** “How Much of the Ocean Have We Explored?”, NOAA Ocean Facts, consultado em outubro de 2022.

<https://oceanservice.noaa.gov/facts/exploration.html>

**grandes peixes:** Bob Holmes. “Ocean’s Great Fish All But Gone”, *New Scientist*, 14 de maio de 2003.

<https://www.newscientist.com/article/dn3731-oceans-great-fish-all-but-gone/>

**mais plástico do que peixes:** Sarah Kaplan, “By 2050, There Will be More Plastic than Fish in the Ocean, Study Says”, *The Washington Post*, 20 de janeiro de 2016.

<https://www.washingtonpost.com/news/morning-mix/wp/2016/01/20/by-2050-there-will-be-more-plastic-than-fish-in-the-worlds-oceans-study-says/>

**sete anos mais quentes:** Oliver Milman, “Hottest ocean temperatures in history recorded last year”, *The Guardian*, 11 de janeiro de 2022.

<https://www.theguardian.com/environment/2022/jan/11/oceans-hottest-temperatures-research-climate-crisis>

**os oceanos atingiram a sua temperatura mais elevada:** Chris Mooney e Brady Dennis. “Oceans Surged to Another Record-High Temperature in 2022”, *The Washington Post*, 11 de janeiro de 2023.

<https://www.washingtonpost.com/climate-environment/2023/01/11/ocean-heat-climate-change/>

**a camada superficial de mais ou menos 1500 metros dos oceanos:** Lijing Cheng *et al.* “Past and Future Ocean Warming”, *Nature Reviews Earth & Environment* (2022).

<https://doi.org/10.1038/s43017-022-00345-1>

**cem aparelhos micro-ondas:** Lijing Cheng *et al.* Upper Ocean Temperatures Hit Record High in 2020. *Advances in Atmospheric Science* 38 (2021), 523–530.

<https://doi.org/10.1007/s00376-021-0447-x>

**“rios atmosféricos”:** National Oceanic and Atmospheric Association. “Atmospheric Rivers: What Are They and How Does NOAA Study Them?”, *NOAA Research News*, 11 de janeiro de 2023.

<https://research.noaa.gov/article/ArtMID/587/ArticleID/2926/Atmospheric-Rivers-What-are-they-and-how-does-NOAA-study-them>

**“uma consequência direta”:** citado por Chris Mooney e Brady Dennis, em “Oceans Surged to Another Record-High Temperature in 2022”.

**62 mil trabalhadores:** “The Economic Value of Alaska’s Seafood Industry”, Relatório do Instituto de Marketing de Marisco do Alasca, janeiro de 2022.

[https://www.alaskaseafood.org/wp-content/uploads/MRG\\_ASMI-Economic-Impacts-Report\\_final.pdf](https://www.alaskaseafood.org/wp-content/uploads/MRG_ASMI-Economic-Impacts-Report_final.pdf)



**1,8 milhões de pessoas:** “Fisheries Economics of the United States Report, 2019”, NOAA Fisheries.  
<https://www.fisheries.noaa.gov/resource/document/fisheries-economics-united-states-report-2019>

**255 mil milhões:** *Ibid.*

**A mensagem básica do relatório:** *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate* (Cambridge, Inglaterra: Cambridge University Press, 2019).  
<https://doi.org/10.1017/9781009157964>.

**ondas de calor no Mediterrâneo:** Jon Henley. “Mediterranean Ecosystem Suffering ‘Marine Wildfire’ as Temperatures Peak”, *The Guardian*, 29 de julho de 2022.  
<https://www.theguardian.com/profile/jonhenley/2022/jul/29/all>

**“incêndios submarinos”:** *Ibid.*

**costa da Tasmânia:** Darryl Fears. “On Land, Australia’s Rising Heat is ‘Apocalyptic.’ In the Ocean, it’s Worse”, *The Washington Post*, 27 de dezembro de 2019.  
<https://www.washingtonpost.com/graphics/2019/world/climate-environment/climate-change-tasmania/>

**costa do Uruguai:** Chris Mooney e John Muyskens. “Dangerous New Hot Zones Are Spreading Around the World”, *The Washington Post*, 11 de setembro de 2019.  
<https://www.washingtonpost.com/graphics/2019/national/climate-environment/climate-change-world/>

**os países nos trópicos:** Kimberly L. Oremus *et al.* “Governance Challenges for Tropical Nations Losing Fish Species Due to Climate Change”, *Nature Sustainability* 3 (2020).  
<https://doi.org/10.1038/s41893-020-0476-y>

**“Quando se sabe que se vai perder uma reserva”:** citado por Harrison Tusoff, em “Fleeing Fish.” *The Current*, 24 de fevereiro de 2020.  
<https://www.news.ucsb.edu/2020/019806/fleeing-fish>

**seis eventos de branqueamento:** Damien Cave. “‘Can’t Cope’: Australia’s Great Barrier Reef Suffers 6th Mass Bleaching Event”, *The New York Times*, 25 de março de 2022.  
<https://www.nytimes.com/2022/03/25/world/australia/great-barrier-reef-bleaching.html>

**93 por cento:** Terry P. Hughes *et al.* “Emergent Properties in the Responses of Tropical Corals to Recurrent Climate Extremes”, *Current Biology* 31, no. 23 (2021), 5393–5399.  
<https://doi.org/10.1016/j.cub.2021.10.046>

**Plano Recife 2050:** Reef 2050 Long-Term Sustainability Plan 2021–2025, Commonwealth of Australia 2021. Commonwealth of Australia, consultado em outubro de 2022.

<https://www.dcceew.gov.au/parks-heritage/great-barrier-reef/long-term-sustainability-plan>

**artigo de opinião de 2021:** Terry Hughes. “The Great Barrier Reef Actually is ‘in Danger’”, *The Hill*, 26 de julho de 2021.

<https://thehill.com/opinion/energy-environment/564778-the-great-barrier-reef-actually-is-in-danger/>

**lançar pastilhas probióticas sobre recifes:** Nicola Jones. “Finding Bright Spots in the Global Coral Reef Catastrophe.” *Yale e360*, 21 de outubro de 2021.

<https://e360.yale.edu/features/finding-bright-spots-in-the-global-coral-reef-catastrophe>

## CAPÍTULO 8: A ECONOMIA DO SUOR

**Sebastian Pérez estava sozinho a trabalhar:** O relato da vida e morte de Perez nas páginas seguintes resulta de dezenas de entrevistas com familiares e amigos. Muitos falaram comigo sob anonimato por causa da sua situação com a imigração.

**15 milhões de pessoas:** Jen M. Cox-Ganser *et al.* “Occupations by Proximity and Indoor/Outdoor Work: Relevance to COVID-19 in All Workers and Black/Hispanic Workers”, *American Journal of Preventative Medicine* 60, no. 5 (2021), 621–628.

<http://doi.org/10.1016/j.amepre.2020.12.016>

**Kenton Scott Krupp:** Umair Irfan. “Extreme Heat is Killing American Workers”, *Vox*, 21 de julho de 2021.

<https://www.vox.com/22560815/heat-wave-worker-extreme-climate-change-osha-workplace-farm-re-restaurant>

**um operário que assentava um telhado morreu:** Jamie Goldberg. “Two Oregon Businesses Whose Workers Died During Heat Wave Fight State Fines”, *Oregonian*, 6 de maio de 2002.

<https://www.oregonlive.com/business/2022/05/two-oregon-businesses-whose-workers-died-during-heat-wave-fight-state-fines.html>

**partilharam nas redes sociais fotografias:** Publicação no Twitter da organização Teamsters for a Democratic Union, 2 de agosto de 2022.

[https://twitter.com/JimCShields/status/1554827644230717441?s=20&t=\\_998pFBIDu2EiowCl7z9g](https://twitter.com/JimCShields/status/1554827644230717441?s=20&t=_998pFBIDu2EiowCl7z9g)

**“As pessoas andam a cair como moscas”:** Livia Albeck-Ripka, “UPS Drivers Say ‘Brutal’ Heat Is Endangering Their Lives”, *The New York Times*, 20 de agosto de 2022.

<https://www.nytimes.com/2022/08/20/business/ups-postal-workers-heat-stroke-deaths.html>

**Qatar:** Annie Kelly, Niamh McIntyre e Pete Pattison. “Revealed: Hundreds of Migrant Workers Dying of Heat Stress in Qatar Each Year”, *The Guardian*, 2 de outubro 2019.

<https://www.theguardian.com/global-development/2019/oct/02/revealed-hundreds-of-migrant-workers-dying-of-heat-stress-in-qatar-each-year>.

**Ver também:** “World Cup 2022: How Many Workers Have Died in Qatar?”, *Reuters*, 14 de dezembro de 2022.

<https://www.reuters.com/lifestyle/sports/world-cup-2022-how-many-migrant-workers-have-died-qatar-2022-11-24/>

**Ken Caldeira:** citado por Andrew Freedman e Jason Samenow, em “Humidity and Heat Extremes Are on the Verge of Exceeding Limits of Human Survivability, Study Finds”, *The Washington Post*, 8 de maio de 2020.

<https://www.washingtonpost.com/weather/2020/05/08/hot-humid-extremes-un survivable-global-warming/>

**probabilidade de morrerem de calor é 35 vezes maior:** Diane M. Gubernot. “Characterizing Occupational Heat-Related Mortality in the United States, 2000–2010: An Analysis Using the Census of Fatal Occupational Injuries Database”, *American Journal of Industrial Medicine* 58, n.º 2 (2015), 203–211.

<https://doi.org/10.1002/ajim.22381>

**inquérito (...) junto de 2176 trabalhadores rurais:** “Farm Workers and Advocates on Heat Wave Affecting Ag Workers and the Urgency for Citizenship”, comunicado à imprensa da Fundação United Farm Worker, 7 de julho de 2021.

[https://www.ufwfoundation.org/farm\\_workers\\_and\\_advocates\\_heat\\_wave\\_affecting\\_ag\\_workers\\_adds\\_urgency\\_to\\_citizenship\\_push](https://www.ufwfoundation.org/farm_workers_and_advocates_heat_wave_affecting_ag_workers_adds_urgency_to_citizenship_push)

**doença renal crônica:** Richard J. Johnson. “Chronic Kidney Disease of Unknown Cause in Agricultural Communities”, *New England Journal of Medicine* 380 (2019), 1843–1852.

<http://doi.org/10.1056/NEJMra1813869>

**Um artigo no *New England Journal of Medicine*:** Cecilia Sorensen, MD, e Ramon Garcia-Trabanino, MD. “A New Era of Climate Medicine — Addressing Heat-Triggered Renal Disease”, *New England Journal of Medicine* 381 (2019), 693–696.

<http://doi.org/10.1056/NEJMp1907859>

**mais 20 mil lesões por ano:** Christopher Flavelle. “Work Injuries Tied to Heat Are Vastly Undercounted, Study Finds”, *The New York Times*, 17 de julho de 2021.

<https://www.nytimes.com/2021/07/15/climate/heat-injuries.html>

**cem mil milhões de dólares em 2020:** “Extreme Heat: the Economic and Social Consequences for the United States”, relatório da Vivid Economics e do Centro de Resiliência da Fundação Adrienne Arsht-Rockefeller, agosto de 2021, consultado em outubro de 2022.

<https://www.atlanticcouncil.org/wp-content/uploads/2021/08/Extreme-Heat-Report-2021.pdf>

**Daca:** “Hot Cities, Chilled Economies”, relatório da Vivid Economics e do Centro de Resiliência da Fundação Adrienne Arsht-Rockefeller, agosto de 2022, consultado em outubro de 2022.

<https://onebillionresilient.org/hot-cities-chilled-economies-dhaka/>

**“pele escura e pele clara”:** Nina Jablonski. *Skin: A Natural History*. (Los Angeles e Berkeley: University of California Press, 2013).

**um abolicionista observou:** Walter Johnson. *River of Dark Dreams: Slavery and Empire in the Cotton Kingdom* (Cambridge, Massachusetts: Harvard University Press, 2013).

**Samuel Cartwright:** Johnson, *River of Dark Dreams*.

**“A prática dos negros”:** Alan Derickson. “A Widespread Superstition: The Purported Invulnerability of Workers of Color to Occupational Heat Stress”, *American Journal of Public Health* 109, no. 10 (2019), 1329–1335.

<http://doi.org/10.2105/AJPH.2019.305246>

**“o trabalho que exige exposição”:** *Ibid.*

**“protegido pela própria natureza”:** *Ibid.*

**“O crânio do negro”:** *Ibid.*

**“A cabeça [do negro]”:** *Ibid.*

**“Deus adaptou-o”:** *Ibid.*

**Um investigador observou:** *Ibid.*

**os estereótipos de 36 grupos:** *Ibid.*

**“os mexicanos”:** *Ibid.*

**“O Sul não era devidamente adequado”:** *Ibid.*

**“é uma planta de calor”:** *Ibid.*

**a OSHA denunciou a empresa:** Associated Press. “Farm Where Worker Died Cited Earlier for Safety Violations”, *Seattle Times*, 2 de julho de 2021.

<https://www.seattletimes.com/seattle-news/farm-where-worker-died-earlier-cited-for-safety-violations/>

**[A Ernst] foi também denunciada:** Jamie Goldberg. “Marion County Farm Where Worker Died was Previously Cited for Workplace Safety Violations”, *Oregonian*, 1 de julho de 2001.

<https://www.oregonlive.com/business/2021/07/marion-county-farm-where-worker-died-was-previously-cited-for-workplace-violations.html>

## CAPÍTULO 9: GELO NO FIM DO MUNDO

**projeto de investigação conjunta:** A Colaboração Internacional para o Glaciar Thwaites é uma iniciativa de investigação partilhada entre a Fundação Nacional de Ciência dos EUA e o Conselho de Investigação do Ambiente Natural do Reino Unido.

<https://thwaitesglacier.org/>

**Glaciar do Dia do Juízo Final:** Jeff Goodell. “The Doomsday Glacier.” *Rolling Stone*, 9 de maio de 2017.

<https://www.rollingstone.com/politics/politics-features/the-doomsday-glacier-113792/>

**uma espessura de quase 5 quilómetros:** “Quick Facts.” Site do Centro Nacional de Dados sobre Neve e Gelo, consultado em outubro de 2022.

<https://nsidc.org/learn/parts-cryosphere/ice-sheets/ice-sheet-quick-facts>

**36 para 97 centímetros:** IPCC. *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge: Cambridge University Press, 2021).

**uma ressalva:** *Ibid.*

**três metros até 2100:** Jeff Goodell. “Will We Miss Our Last Chance to Save the World from Climate Change?” *Rolling Stone*, 22 de dezembro de 2016.

<https://www.rollingstone.com/politics/politics-features/will-we-miss-our-last-chance-to-save-the-world-from-climate-change-109426/>

**seis metros mais altos:** Andrea Dutton *et al.* “Sea-level Rise Due to Polar Ice-sheet Mass Loss During Past Warm Periods.” *Science* 349, no. 6244 (2015).

<https://doi.org/10.1126/science.aaa4019>

**plataforma de gelo Larsen B:** Sabrina Shankman. “Trillion-Ton, Delaware-Size Iceberg Breaks Off Antarctica’s Larsen C Ice Shelf.” *Inside Climate News*, 12 de julho de 2017.

<https://insideclimatenews.org/news/12072017/antarctica-larsen-c-ice-shelf-breaks-giant-iceberg>

**Imagens de satélite:** Eric Rignot *et al.* “Four decades of Antarctic Ice Sheet Mass Balance from 1979–2017.” *Proceedings of the National Academy of Sciences* 116, n.º 4 (2019), 1095–1103.

<https://doi.org/10.1073/pnas.1812883116>

**em meados da década de 1960:** “The Scientist Who Predicted Ice Sheet Collapse — 50 Years Ago.” *Nature* 554 (2018), 5–6.

<https://doi.org/10.1038/d41586-018-01390-x>

**instabilidade dos lençóis de gelo marinhos:** John Mercer. “West Antarctic Ice Sheet and CO2 Greenhouse Effect: a Threat of Disaster.” *Nature* 271 (1978) 321–325.

<https://doi.org/10.1038/271321a0>

**Em 1978, num artigo científico:** *Ibid.*

“um desastre importante”: *Ibid*

## CAPÍTULO 10: O MOSQUITO É O MEU VETOR

**metade de todas as pessoas:** Timothy C. Winegard. *The Mosquito: A Human History of Our Deadliest Predator* (Nova Iorque: Dutton, 2019).

**navios de escravos:** Joshua Sokol. “The Worst Animal in the World.” *The Atlantic*, 20 de agosto de 2020.

<https://www.theatlantic.com/health/archive/2020/08/how-aedes-aegypti-mosquito-took-over-world/615328/>

**Ka-dinga pepo:** J. G. Rigau-Pérez. “The Early Use of Break-Bone Fever (Quebranta huesos, 1771) and Dengue (1801) in Spanish”, *American Journal of Tropical Medicine and Hygiene* 59, n.º 2 (1998) 272–274.

<http://doi.org/10.4269/ajtmh.1998.59.272>

**apenas nove países:** Organização Mundial de Saúde. “Dengue and Severe Dengue”, folha informativa da OMS.

<https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue>

**está presente em uma centena de países:** *Ibid.*

**390 milhões de pessoas:** *Ibid.*

**5 mil milhões de pessoas:** Simon Hales *et al.* “Potential Effect of Population and Climate Changes on Global Distribution of Dengue Fever: na Empirical Model”. *Lancet* 360, n.º 9336 (2002), 830–834.

[https://doi.org/10.1016/S0140-6736\(02\)09964-6](https://doi.org/10.1016/S0140-6736(02)09964-6)

**o número anual de mortes chega aos 10 mil:** Jane P. Messina *et al.* “The Current and Future Global Distribution and Population at Risk of Dengue”, *Nature Microbiology* 4 (2019) 1508–1515.

<https://doi.org/10.1038/s41564-019-0476-8>

**tornaram piores mais de metade:** Camilo Mora *et al.* “Over Half of Known Human Pathogenic Diseases can be Aggravated by Climate Change”, *Nature Climate Change* 12 (2022) 869–875.

<https://doi.org/10.1038/s41558-022-01426-1>

**“Entrámos numa era pandémica”:** David M. Morens, Anthony S. Fauci. “Emerging Pandemic Diseases: How We Got to COVID-19”, *Cell* 182, n.º 5 (2020), 1077–1092.

<https://doi.org/10.1016/j.cell.2020.08.021>

**680 milhões:** Organização Mundial de Saúde. Portal da OMS para o Coronavírus (COVID-19). Consultado em outubro de 2022.

<https://covid19.who.int/>

**quase 7 milhões de mortes:** *Ibid.*

**50 milhões de pessoas:** “1918 Pandemic (H1N1 virus)”, *site* do CDC, Centros para o Controlo de Doenças dos EUA, consultado em outubro de 2022.

<https://www.cdc.gov/flu/pandemic-resources/1918-pandemic-h1n1.html>

***Vibrio vulnificus*:** Ali Raj *et al.* “Deadly bacteria lurk in coastal waters. Climate change increases the risks”, *site* do Centro para Integridade Pública dos EUA, 20 de outubro de 2020.

<https://publicintegrity.org/environment/hidden-epidemics/vibrio-deadly-bacteria-coastal-waters-climate-change-health/>

**depois da passagem do furacão Ian:** Frances Stead Sellers and Sabrina Malhi. “In Florida, Flesh-Eating Bacteria Follow in Hurricane Ian’s Wake”, *The Washington Post*, 18 de outubro de 2022.

<https://www.washingtonpost.com/health/2022/10/18/flesh-eating-bacteria-florida/>

**os movimentos de quatro mil espécies:** Craig Welch. “Half of all Species on the Move — and We’re Feeling it”, *National Geographic*, 26 de abril de 2017.

<https://www.nationalgeographic.com/science/article/climate-change-species-migration-disease>

**“um êxodo da vida selvagem”:** Shah, *The Next Great Migration*.

**simulação de grande dimensão:** Colin Carlson *et al.* “Climate Change Increases Cross-Species Viral Transmission Risk”, *Nature* 607 (2022), 555-562.

<https://doi.org/10.1038/s41586-022-04788-w>

**“perturbadora”** Ed Yong. “We Created the ‘Pandemicene’”, *The Atlantic*, 28 de abril de 2022.

<https://www.theatlantic.com/science/archive/2022/04/how-climate-change-impacts-pandemics/629699/>

**na pequena cidade de Hendra:** David Quammen. *Spillover: Animal Infections and the Next Human Pandemic* (Nova Iorque: W. W. Norton & Company, 2012).

**mercado de animais selvagens em Wuhan:** Michael Worobey *et al.* “The Huanan Seafood Wholesale Market in Wuhan was the early epicenter of the COVID-19 pandemic”, *Science* 377 no. 6609 (2022), 951–959.

<https://doi.org/10.1126/science.abp8715>

**trinta anos de trabalho de detetive:** Elahe Izadi. “Tracing the Long, Convoluted History of the AIDS Epidemic”, *The Washington Post*, 24 de fevereiro de 2015.

<https://www.washingtonpost.com/news/to-your-health/wp/2015/02/24/tracing-the-long-convoluted-history-of-the-aids-epidemic/>

**inicialmente isolado:** Quammen, *Spillover*.

**300 casos em humanos:** *Ibid.*

**248 casos de Nipah:** *Ibid.*

**cerca de três mil espécies de mosquitos:** Emily S. Rueb. “Peril on Wings: 6 of America’s Most Dangerous Mosquitoes”, *The New York Times*, 28 de junho de 2016.

<https://www.nytimes.com/2016/06/29/nyregion/mosquitoes-diseases-zika-virus.html>

**“antropofílico de uma forma única”:** David M. Morens, Anthony S. Fauci *et al.* “Eastern Equine Encephalitis Virus — Another Emergent Arbovirus in the United States”, *New England Journal of Medicine* 381 (2019), 1989–1992.

<http://doi.org/10.1056/NEJMp1914328>

**Nepal:** “Dengue Fever — Nepal”, Alerta de surto de doença da OMS, consultado em outubro de 2022.

<https://www.who.int/emergencies/disease-outbreak-news/item/2022-DON412>

**600 mil pessoas:** “Malaria”, folha informativa da OMS, consultada em outubro de 2022.

<https://www.who.int/news-room/fact-sheets/detail/malaria>



**regiões mais altas e mais frescas:** Colin Carlson *et al.* “Climate Change Increases Cross-Species Viral Transmission Risk”, *Nature* 607 (2022), 555–562.

<https://doi.org/10.1038/s41586-022-04788-w>

**mais 76 milhões:** Sadie Ryan *et al.* “Shifting Transmission Risk for Malaria in Africa with Climate Change: a Framework for Planning and Intervention”, *Malaria Journal* 19, no. 170 (2020).

<https://doi.org/10.1186/s12936-020-03224-6>

**geneticamente modificados:** Emily Waltz. “Biotech Firm Announces Results from First US Trial of Genetically Modified Mosquitoes”, *Nature News*, 18 de abril de 2022.

<https://www.nature.com/articles/d41586-022-01070-x>

**“acesso potencial a milhares de milhões de humanos”:** David M. Morens, Anthony S. Fauci *et al.* “Eastern Equine Encephalitis Virus — Another Emergent Arbovirus in the United States”, *New England Journal of Medicine* 381 (2019).

<http://doi.org/10.1056/NEJMp1914328>

**carraças Hialoma a correrem atrás de pessoas (visto em outubro de 2022):**

[https://www.youtube.com/watch?v=R\\_kGHqNpOQM](https://www.youtube.com/watch?v=R_kGHqNpOQM)

**taxa de mortalidade da CCHF:** “Crimean-Congo Haemorrhagic Fever”, folha informativa da OMS, consultada em outubro de 2022.

<https://www.who.int/health-topics/crimean-congo-haemorrhagic-fever>

**700 casos de CCHF:** comunicação pessoal com o autor, dezembro de 2020.

**vinte patógenos diferentes:** *Ibid.*

**“ameaça sem paralelo”:** Meghan O’Rourke. “Lyme Disease is Baffling, Even to Experts”, *The Atlantic*, setembro de 2019.

<https://www.theatlantic.com/magazine/archive/2019/09/life-with-lyme/594736/>

**referenciadas pela primeira vez em 2017:** “What You Need to Know About Asian Longhorned Ticks — A New Tick in the United States”, Centros para o Controlo e Prevenção de Doenças, consultado em outubro de 2022.

<https://www.cdc.gov/ticks/longhorned-tick/index.html>

**reduziram a produção de gado leiteiro:** Ben Beard *et al.* “Multistate Infestation with the Exotic Disease–Vector Tick *Haemaphysalis longicornis*”, *Morbidity and Mortality Weekly Report* 67 (2018), 1310–1313.

<http://dx.doi.org/10.15585/mmwr.mm6747a3external> icon

## CAPÍTULO 11: AR FRIO BARATO

**“A Broadway tinha *trolleys* abertos”:** Arthur Miller. “Before Air-Conditioning”, *The New Yorker*, 14 de junho de 1998.

<https://www.newyorker.com/magazine/1998/06/22/before-air-conditioning>

**os “miasmas”:** Salvatore Basile. *Cool: How Air-conditioning Changed Everything* (Nova Iorque: Fordham University Press, 2014).

**“Gorrie fez experiências”:** *Ibid.*

**“John Gorrie tinha na realidade criado”:** *Ibid.*

**“Se nos países quentes construirmos as casas da mesma maneira”:** Eric Dean Wilson. *After Cooling: On Freon, Global Warming, and the Terrible Cost of Comfort* (Nova Iorque: Simon & Schuster, 2021).

**“condicionar” o ar:** *Ibid.*

**“consegue ganhar aqui 10 milhões”:** Thomas Thompson. *Blood and Money: A True Story of Murder, Passion, and Power* (Nova Iorque: Doubleday, 1976).

**a agência federal da Habitação começou a incluir:** Wilson, *After Cooling*.

**30 por cento das casas no Texas:** *Ibid.*

**entre a população negra só 10 por cento:** *Ibid.*

**“O facto crucial do dia”:** William Styron. “As He Lay Dead, a Bitter Grief”, *Life*, 20 de julho de 1962.

**“Deixou de haver estações do ano”:** William Faulkner. *The Reivers* (Nova Iorque: Random House, 1962).

**presidente Franklin Delano Roosevelt:** Joel D. Treese. “Keeping Cool in the White House”, *site da White House Historical Association*, consultado em outubro de 2022.

<https://www.whitehousehistory.org/keeping-cool-in-the-white-house>

**presidente Lyndon Johnson:** *Ibid.*

**Aretha Franklin:** Michael Simon. “Why Aretha Franklin Didn’t Rehearse for Her VH1 ‘Divas Live’ Performance”, *Hollywood Reporter*, 11 de agosto de 2018.

<https://www.hollywoodreporter.com/tv/tv-news/why-aretha-franklin-didnt-rehearse-her-vh1-divas-live-performance-1136286/>

**entre 1940 e 1980:** Steven Johnson. *How We Got to Now: Six Inventions That Made the Modern World* (Nova Iorque: Riverhead Books, 2014).

**Richard Nixon:** Angie Maxwell. “What We Get Wrong About the Southern Strategy”, *The Washington Post*, 16 de julho de 2019.

<https://www.washingtonpost.com/outlook/2019/07/26/what-we-get-wrong-about-southern-strategy/>

**até quinze mil vezes:** “Control of HFC-23 Emissions”, *site da EPA*, consultado em outubro de 2022.

<https://www.epa.gov/climate-hfcs-reduction/control-hfc-23-emissions>

**quase 20 por cento da eletricidade total:** Agência Internacional de Energia. *The Future of Cooling* (Paris: IEA, 2019).

<https://www.iea.org/reports/the-future-of-cooling>

**vendeu-a por 3700 milhões:** Yoshiyuki Osada. “Daikin Buys Goodman for \$3.7 Billion, Gains North America Reach”, *Reuters*, 29 de agosto de 2012.

<https://www.reuters.com/article/us-goodman-daikin/daikin-buys-goodman-for-3-7-billion-gains-north-america-reach-idUSBRE87S0A820120829>

**Comfortplex:** Distribuidores HVAC. “Daikin’s New Comfortplex Texas Facility Closer to Completion”, *HVAC News*, 11 de fevereiro de 2016.

<https://hvacdistrib.com/daikins-new-comfortplex-texas-facility-closer-to-completion/>

**mais de mil milhões de aparelhos:** Sneha Sachar, Iain Campbell e Ankit Kalanki. “Solving the Global Cooling Challenge: How to Counter the Climate Threat from Room Air Conditioners”, Rocky Mountain Institute report, 2018, consultado em outubro 2022.

[http://www.rmi.org/insight/solving\\_the\\_global\\_cooling\\_challenge](http://www.rmi.org/insight/solving_the_global_cooling_challenge).

**4500 milhões de aparelhos:** *Ibid.*

**“em Pequim, numa onda de calor [em 2018]”:** citado por Stephen Buranyi em “The Air-conditioning Trap: How Cold Air is Heating the World”, *The Guardian*, 29 de agosto de 2019.

<https://www.theguardian.com/environment/2019/aug/29/the-air-conditioning-trap-how-cold-air-is-heating-the-world>

**“Estava visivelmente mais quente”:** audiência administrativa na Flórida. “State of Florida, Agency of Health Care Administration vs. Rehabilitation Center at Hollywood Hills, LLC”, caso 17-005769, apresentado em 16 de julho de 2018.

**“Dá-se valor ao conforto”:** Daniel A. Barber. “After Comfort.” *Log* 47.

**“O conforto está a destruir o futuro”:** *Ibid.*

## CAPÍTULO 12: SE NÃO SE VÊ, É PORQUE NÃO FAZ MAL

**uma das localidades mais quentes do planeta:** Aryn Baker. “What It’s Like Living in One of the Hottest Cities on Earth — Where It May Soon Be Uninhabitable”, *Time*, 12 de setembro de 2019.  
<https://time.com/longform/jacobabad-extreme-heat/>

**menos de um milhão:** Zofeen Ebrahim, “How Will Pakistan Stay Cool While Keeping Emissions in Check?”, *The Third Pole*, 11 de março de 2022.  
<https://www.thethirdpole.net/en/climate/pakistan-cooling-action-plan/>

**um quinze avo:** “CO<sub>2</sub> Emissions Per Capita”, *site* do Worldometer, consultado em outubro de 2022.  
<https://www.worldometers.info/co2-emissions/co2-emissions-per-capita/>

**um berlim azul:** “Blue Marble — The Image of Earth from Apollo 17”, *site* da NASA, consultado em outubro de 2022.  
<https://www.nasa.gov/content/blue-marble-image-of-the-earth-from-apollo-17>

**Universidade de Kent:** Bob Dyer. “Iconic Image from Kent State Shootings Stokes the Fires of Anti-Vietnam War Sentiment”, *Akron Beacon Journal*, 4 de maio de 2020.  
<https://www.cincinnati.com/in-depth/news/history/2020/05/01/kent-state-shooting-photos-mary-an-n-vecchio-impacts-nation-jeffrey-miller-john-filo/3055009001/>

**“Homem em Queda”:** Tom Junod. “Who Was the Falling Man?” *Esquire*, 9 de setembro de 2021.  
<https://www.esquire.com/news-politics/a48031/the-falling-man-tom-junod/>

**marcha entre Selma e Montgomery:** “From Selma to Montgomery: Stephen Somerstein’s Photographs of the 1965 Civil Rights March”, *site* da Sociedade Histórica e Biblioteca de Nova Iorque, consultado em outubro de 2022.  
<https://www.nyhistory.org/blogs/from-selma-to-montgomery-stephen-somersteins-photographs-of-the-1965-civil-rights-march>

**Sahiwal:** Baker, “What It’s Like Living in One of the Hottest Cities”.

**A fotografia capta a brutalidade do calor:** a imagem encontra-se no *site* do autor.  
[www.jeffgoodellwriter.com](http://www.jeffgoodellwriter.com).

**quando as temperaturas em Austin:** Christopher Adams. “Austin Just Experienced its Hottest Seven Day Stretch in History”, blogue do tempo da KXAN, consultado em julho de 2022.

<https://www.kxan.com/weather/weather-blog/austin-just-experienced-its-hottest-7-day-stretch-in-history/>

**cartoon publicado pela revista *New Yorker*:** Tristan Crocker. “Daily Cartoon: Thursday, May 12”, site da *The New Yorker*, consultado em outubro de 2022.

<https://www.newyorker.com/cartoons/daily-cartoon/thursday-may-12th-dragon-warming>

**a semelhança mais aproximada encontra-se na África Oriental:** Michael G. Just *et al.* “Human Indoor Climate Preferences Approximate Specific Geographies”, *Royal Society Open Science* 6 (2019).

<https://doi.org/10.1098/rsos.180695>

**“recua cem mil anos”:** citado por Nala Rogers, em “Americans Make Their Homes Feel Like the African Savannah Where Humans First Evolved”, *Inside Science*, 19 de março de 2019.

<https://www.insidescience.org/news/americans-make-their-homes-feel-african-savannah-where-humans-first-evolved>

**RealFeel:** “What is the AccuWeather RealFeel Temperature?”, *AccuWeather News*, 18 de junho de 2014.

<https://www.accuweather.com/en/weather-news/what-is-the-accuweather-realfeel-temperature/156655#>

**ultrapassar os 61,5 quilômetros por hora:** NOAA, “Why Do We Name Tropical Storms and Hurricanes?”, site da NOAA, consultado em outubro de 2022.

<https://oceanservice.noaa.gov/facts/storm-names.html>

**Charles Richter:** “Richter Scale”, site da US Geological Survey, consultado em outubro de 2022.

<https://earthquake.usgs.gov/learn/glossary/?term=richter%20scale>

**três categorias:** National Weather Service. “Heat Watch vs. Warning”, site do NWS, consultado em outubro de 2022.

<https://www.weather.gov/safety/heat-ww>

**Alerta de Calor Excessivo:** “WFO Non-Precipitation Weather Products (NPW) Specification”, instruções do NWS, 27 de dezembro de 2019, consultadas em outubro de 2022.

<https://www.nws.noaa.gov/directives/sym/pd01005015curr.pdf>

**Um estudo de 2018:** David Hondula *et al.* “Spatial Analysis of United States National Weather Service Excessive Heat Warnings and Heat Advisories”, *Bulletin of the American Meteorological Society* 103, no. 9 (2022) E2017–E2031.

<https://doi.org/10.1175/BAMS-D-21-0069.1>

**Como observava o estudo:** *Ibid.*

**“uma experiência radical”:** Caitlin Einhorn e Christopher Flavelle. “A Race Against Time to Rescue a Reef Against Climate Change”, *The New York Times*, 5 de dezembro de 2020.

<https://www.nytimes.com/2020/12/05/climate/Mexico-reef-climate-change.html>

**Tempestade Solano:** John Sledge. “Solano’s Storm”, *Mobile Bay*, 3 de setembro de 2020.

<https://mobilebaymag.com/solanos-storm/>

**Furacão da Grande Miami de 1926:** Eric Jay Dolin, *A Furious Sky: the Five Hundred Year History of America’s Hurricanes* (Nova Iorque: Liveright, 2020).

**dar nomes de mulher a furacões:** *Ibid.*

**discriminação de gênero e misógina:** *Ibid.*

**“him-icane”:** *Ibid.*

**“No Mississípi”:** “Names for Heat Waves”, *Northside Sun*, 5 de novembro de 2021.

<https://www.northsidesun.com/editorials-local-news-opinion/editorial-names-heatwaves>

**Lucifer:** “Europe Swelters Under a Heat Wave Called ‘Lucifer’”, *The New York Times*, 6 de agosto de 2017.

<https://www.nytimes.com/2017/08/06/world/europe/europe-heat-wave.html>

**“Blisterer, Scorcher”:** Barbara Marshall. “European Heat Wave Called Lucifer: What Should We Call South Florida’s?”, *Palm Beach Post*, 8 de agosto de 2017.

<https://www.palmbeachpost.com/story/lifestyle/2017/08/08/european-heat-wave-called-lucifer/6763660007/>

**“Dar nome às ondas de calor”:** Jason Samenow. “Heat Wave ‘Hugo?’ New Coalition Seeks to Name Hot Weather Like Hurricanes”, *The Washington Post*, 6 de agosto de 2020.

<https://www.washingtonpost.com/weather/2020/08/06/naming-heat-waves/>

**quarenta e dois investigadores do calor:** Carta a Baughman McLeod e membros do Centro de Resiliência da Fundação Adrienne Arsht-Rockefeller, 17 de agosto de 2020.

**classificação sinóptica espacial:** Laurence Kalkstein *et al.* “A New Spatial Synoptic Classification: Application To Air-Mass Analysis”, *International Journal of Climatology* 16, n.º 9 (1996), 983–1004.  
[https://doi.org/10.1002/\(SICI\)1097-0088\(199609\)16:9<983:AID-JOC61>3.0.CO;2-N](https://doi.org/10.1002/(SICI)1097-0088(199609)16:9<983:AID-JOC61>3.0.CO;2-N)

**Em Sevilha, responsáveis municipais comprometeram-se:** Ashifa Kassam. “Seville to Name and Classify Heat Waves in Effort to Protect Public”, *The Guardian*, 26 de junho de 2022.  
<https://www.theguardian.com/world/2022/jun/26/seville-name-classify-heatwaves-effort-to-protect-public>

**uma das ondas de calor registadas mais cedo no ano:** Marco Trujillo. “Spain Melts Under the Earliest Heat Wave in Over 40 Years”, *Reuters*, 14 de junho de 2022.

<https://www.reuters.com/world/europe/spain-melts-under-earliest-heat-wave-over-40-years-2022-06-13/>

**andorinhas:** Ashifa Kassam. “‘They’re Being Cooked’: Baby Swifts Die Leaving Nests as Heatwave Hits Spain”, *The Guardian*, 16 de junho de 2022.

<https://www.theguardian.com/world/2022/jun/16/spain-heatwave-baby-swifts-die-leaving-nest>

**centenas de pássaros-bebé:** citado em *Ibid.*

**Onda de Calor Zoe:** Ciara Nugent. “Zoe, the World’s First Named Heat Wave, Arrives in Seville”, *Time*, 25 de julho de 2022.

<https://time.com/6200153/first-named-heat-wave-zoe-seville/>

**um inquérito que a Arsht-Rock encomendou:** investigação não publicada partilhada com o autor, outubro de 2022.

**embaixadas começaram a fazer tweets:** Akshaya Jha e Andrea La Nauze. “US Embassy Air-Quality Tweets Led to Global Health Benefits”, *Proceedings of the National Academy of Sciences* 199, no. 44 (2022), e2201092119.

<https://doi.org/10.1073/pnas.2201092119>

**A OMM publicou um relatório técnico:** OMM. “Considerations Regarding the Naming of Heat Waves”, outubro de 2022.

[https://library.wmo.int/index.php?lvl=notice\\_display&id=22190](https://library.wmo.int/index.php?lvl=notice_display&id=22190)

**sistema de classificação de ondas de calor assente no seu impacto sobre a saúde:** Ashley R. Williams. “California Becomes First US State to Begin Ranking Extreme Heat Wave Events”, *USA Today*, 12 de setembro de 2022.

<https://www.usatoday.com/story/news/nation/2022/09/12/california-becomes-first-state-start-rank-ing-extreme-heat-waves/8061975001/>

## **CAPÍTULO 13: “PODEMOS TORRAR, FUGIR – OU ENTÃO FAZER ALGUMA COISA”**

**A dimensão completa da tragédia:** Um relato excelente e completo da onda de calor de 2003 pertence a Richard Keller, no seu livro *Fatal Isolation: The Devastating Heat Wave of 2003* (Chicago: University of Chicago Press, 2015).

“um engarrafamento maciço”: Keller, *Fatal Isolation*.

“Num camiãõ”: *Ibid.*

**15 mil pessoas:** “Report on Behalf of the Commission of Inquiry on the Health and Social Consequences of the Heat Weather”, Assembleia Nacional Francesa, No. 1455, Vol. 1.

[https://www.assemblee-nationale.fr/12/rap-enq/r1455-t1.asp#P201\\_9399](https://www.assemblee-nationale.fr/12/rap-enq/r1455-t1.asp#P201_9399)

“uma poça de sangue seco”: Keller, *Fatal Isolation*.

“Na hora azul de fim da tarde”: Alexandra Schwartz. “Paris Reborn and Destroyed”, *The New Yorker*, 19 de março de 2014.

<https://www.newyorker.com/culture/culture-desk/paris-reborn-and-destroyed>

**No último dia [da cimeira do clima]:** Jeff Goodell. “Will the Paris Climate Deal Save the World?”, *Rolling Stone*, 13 de janeiro de 2016.

<https://www.rollingstone.com/culture/culture-news/will-the-paris-climate-deal-save-the-world-56071/>

**o equivalente a uma cidade de Nova Iorque:** Helene Chartier. “The Built Environment Industry Has a Huge Responsibility in the Climate Crisis”, *ArchDaily*, 22 de setembro de 2022.

<https://www.archdaily.com/989430/the-built-environment-industry-has-a-huge-responsibility-in-the-climate-crisis>

**mais de um milhão de árvores:** Dana Rubenstein. “A Million More Trees for New York City: Leaders Want a Greener Canopy”, *The New York Times*, 12 de fevereiro de 2022.

<https://www.nytimes.com/2022/02/12/nyregion/trees-parks-nyc.html>

**Em Sevilha:** Laura Millan Lombrana. “One of Europe’s Hottest Cities Is Using 1,000-Year-Old Technology to Combat Climate Change”, *Bloomberg News*, 18 de agosto de 2022.

<https://www.bloomberg.com/news/articles/2022-08-18/one-of-europe-s-hottest-cities-has-a-climate-change-battle-plan>



**Em Freetown:** Peter Yeung. “Africa’s First Heat Officer Faces a Daunting Task”, *Bloomberg News*, 21 de janeiro de 2022.

<https://www.bloomberg.com/news/features/2022-01-21/how-africa-s-first-heat-officer-confronts-climate-change>

**Em Los Angeles:** Christina Capatides. “Los Angeles Is Painting Some of Its Streets White and the Reasons Why Are Pretty Cool”, *CBS News*, 9 de abril de 2018.

<https://www.cbsnews.com/news/los-angeles-is-painting-some-of-its-streets-white-and-the-reasons-why-are-pretty-cool/>

**Na Índia:** “Green Roofs are Sprouting in India”, *Times of India*, vídeo publicado no site em 26 de abril de 2018, consultado em outubro de 2022.

<https://timesofindia.indiatimes.com/videos/city/chennai/green-roofs-are-sprouting-in-chennai/video-show/63929209.cms?from=mdr>

**autor de um livro influente:** Franck Lirzin. *Paris face au changement climatique* (Paris: l’Aube, 2022).

**“uma cidade gasta, destroçada e exausta”:** Alistair Horne. *Seven Ages of Paris* (Nova Iorque: Vintage Books, 2004).

**Uma grande epidemia de cólera:** *Ibid.*

**Hausmann:** *Ibid.*

**“um artista da demolição”:** *Ibid.*

**400 mil árvores:** Henry W. Lawrence. *City Trees: A Historical Geography from the Renaissance through the Nineteenth Century* (Charlottesville: University of Virginia Press, 2006).

**“numa qualquer Babilônia americana”:** Joan DeJean. *How Paris Became Paris: The Invention of the Modern City* (Nova Iorque: Bloomsbury, 2014).

**Émile Zola:** Horne, *Seven Ages of Paris*.

**quase 80 por cento dos edifícios:** “Les Toits de Paris”, relatório do Atelier Parisian D’Urbanisme, outubro de 2022, consultado em novembro de 2022.

[https://www.apur.org/sites/default/files/bd\\_toitures\\_paris.pdf](https://www.apur.org/sites/default/files/bd_toitures_paris.pdf)

**mais de cem mil [edifícios]:** *Ibid.*

**para a UNESCO os classificar como Património da Humanidade:** David Chazan. “Paris Wants Its ‘Unique’ Rooftops to Be Made UNESCO World Heritage Site”, *The Telegraph*, 28 de janeiro de 2015.  
<https://www.telegraph.co.uk/news/worldnews/europe/france/11375145/Paris-wants-its-unique-rooftops-to-be-made-Unesco-world-heritage-site.html>

**90 graus:** comunicação pessoal com Jacque Frier, dezembro de 2022.

**Pintar de branco os telhados:** Nadia Razzhigaeva. “Are Cool Roofs the Future for Australian Cities?”, comunicado de imprensa da UNSW Sydney, 12 de junho de 2022.  
<https://newsroom.unsw.edu.au/news/art-architecture-design/are-cool-roofs-future-australian-cities>

**palazzos do século xv:** Goodell, *The Water Will Come*.

**Fechou quase quatro quilómetros de ruas:** Lauren Ro e Alissa Walker. “Paris’s Plan to Ban Cars from the Seine Holds up in Court”, *Curbed*, 25 de outubro de 2018.  
<https://archive.curbed.com/2016/9/27/13080078/paris-bans-cars-seine-right-bank-air-pollution-mayor-anne-hidalgo>

**400 quilómetros de vias para bicicletas:** Madeline Schwartz. “Bike Lane to the Élysée”, *New York Review*, 24 de março de 2022.  
<https://www.nybooks.com/articles/2022/03/24/bike-lane-to-the-elysee-une-femme-francaise-hidalgo/>

**“O meu trabalho é transformar”:** Kim Willsher. “Anne Hidalgo: ‘Being Paris Mayor Is Like Piloting a Catamaran in a Gale’”, *The Guardian*, 3 de março de 2020.  
<https://www.theguardian.com/world/2020/mar/03/anne-hidalgo-paris-mayor-second-term-interview>

**apenas 9 por cento:** *site* da Treepedia, consultado em outubro de 2022.

**42,6 graus:** Anthony Cuthbertson. “Europe Heatwave: Paris Records its Hottest Temperature in History”, *The Independent*, 25 de julho de 2019.  
<https://www.independent.co.uk/news/world/europe/paris-hottest-temperature-record-europe-heat-wave-france-latest-a9019716.html>

**170 mil árvores novas:** Vivian Song. “Admiring the Trees of Paris”, *The New York Times*, 9 de agosto de 2022.  
<https://www.nytimes.com/2022/08/09/travel/paris-trees.html>

**300 mil árvores por ano:** Marcus Fairs. “Forestami Project Will See ‘One Tree for Every Inhabitant’ Planted in Milan”, *Dazeen*, 24 de setembro de 2021.

<https://www.dezeen.com/2021/09/24/forestami-project-trees-planted-milan/>

**três mil bilhões de árvores:** Elizabeth Pennisi. “Earth Home to 3 Trillion Trees, Half as Many as When Human Civilization Arose”, *Science*, 2 de setembro de 2015.

<https://www.science.org/content/article/earth-home-3-trillion-trees-half-many-when-human-civilization-arose>

**balanço negativo líquido anual:** Ibid.

**56 graus:** Manuel Ausloos. “Heatwave in Paris Exposes City’s Lack of Trees.” *Reuters*, 4 de agosto de 2022.

<https://www.reuters.com/world/europe/heatwave-paris-exposes-citys-lack-trees-2022-08-04/>

**4351,12 dólares para plantar uma árvore:** Katherine McNenney. “It Costs \$4,351.12 to Plant One Tree in LA”, *City Watch*, 1 de dezembro de 2022.

<https://www.citywatchla.com/index.php/neighborhood-politics/26031-it-costs-4-351-12-to-plant-one-tree-in-la>

**de 12 para 25 por cento:** “Tree and Shade Master Plan”, Município de Phoenix, 2010, consultado em novembro de 2022.

[https://www.phoenix.gov/parkssite/Documents/PKS\\_Forestry/PKS\\_Forestry\\_Tree\\_and\\_Shade\\_Master\\_Plan.pdf](https://www.phoenix.gov/parkssite/Documents/PKS_Forestry/PKS_Forestry_Tree_and_Shade_Master_Plan.pdf)

**amoreiras:** Nick Kampouris. “Athens’ Unique Mulberry Trees on the Brink of Extinction Due to Insect Damage”, *Greek Reporter*, 11 de fevereiro de 2020.

<https://greekreporter.com/2020/02/11/athens-unique-mulberry-trees-on-the-brink-of-extinction-due-to-insect-damage/>

**Chicago e Milwaukee:** Patty Wetli. “The Ash Trees Last Stand, and Why It Matters”, *WTTW News*, 10 de março de 2020.

<https://news.wttw.com/2020/03/04/ash-tree-last-stand-chicago-and-why-it-matters>

**1,4 milhões de árvores:** Elizabeth Gamillo. “1.4 Million Trees May Fall to Invasive Insects by 2050”, *Smithsonian*, 17 de março de 2022.

<https://www.smithsonianmag.com/smart-news/14-million-urban-trees-may-fall-to-invasive-insects-by-2050-180979752/>

**o Carvalho do Tratado (...) foi envenenado:** Rosie Ninesling. “The Year a Love-Sick Occultist Poisoned Austin’s Treaty Oak”, *Austin Monthly*, março de 2022.

<https://www.austinmonthly.com/the-year-a-love-sick-occultist-poisoned-austins-treaty-oak/>

**“Que Planta Onde”:** *site* da Universidade de Macquarie, consultado em novembro de 2022.

<https://www.whichplantwhere.com.au/>

**como um deus caído:** Zach Hope. “Amid the Mourning, New Life for One of Melbourne’s Most-Loved Trees”, *The Age*, 27 de junho de 2020.

<https://www.theage.com.au/national/victoria/amid-the-mourning-new-life-for-one-of-melbourne-s-most-loved-trees-20200619-p5545i.html>

**matou 10 por cento das árvores:** “Texas Tree Death Toll from Drought Hits 5.6 Million, says Forest Service”, *Houston Chronicle*, 17 de fevereiro de 2012.

<https://www.chron.com/neighborhood/champions-klein/news/article/Texas-tree-death-toll-from-drought-hits-5-6-9505128.php>

**provável que três quartos das árvores morram:** Manuel Esperon-Rodriguez *et al.* “Climate Change Increases Global Risk to Urban Forests”, *Nature Climate Change* 12 (2022), 950–955.

<https://doi.org/10.1038/s41558-022-01465-8>

**a cobertura de árvores mais desigual:** American Forests Tree Equity Score. *Site* da American Forests, consultado em outubro de 2022.

<https://www.americanforests.org/tools-research-reports-and-guides/tree-equity-score/>

**um curso de água, o Cheonggyecheon:** Colin Marshall. “Story of Cities #50: The Reclaimed Stream Bringing Life to the Heart of Seoul”, *The Guardian*, 25 de maio de 2016.

<https://www.theguardian.com/cities/2016/may/25/story-cities-reclaimed-stream-heart-seoul-cheonggyecheon>

**a cidade mais verde da Terra:** Brian Barth. “Curitiba: the Greenest city on Earth”, *The Ecologist*, 15 de março de 2004.

<https://theecologist.org/2014/mar/15/curitiba-greenest-city-earth>

**“Projetámos espaço para a natureza”:** comunicação pessoal com o autor, julho de 2022.

**“um caso de biodiversidade Gucci”:** Jared Green. “Earth Day Interview with Richard Weller: A Hopeful Vision for Global Conservation”, *The Dirt*, 18 de abril de 2022.

<https://dirt.asla.org/2022/04/18/earth-day-interview-with-richard-weller-a-bold-vision-for-global-conservation/>

**“um dos marcos fundadores”:** Comité para os Campos Elíseos. “The Champs-Élysées — History & Perspectives”, exposição no Pavilhão do Arsenal, 14 de fevereiro a 13 de setembro de 2020.

<https://www.pavillon-arsenal.com/fr/expositions/11463-champs-elysees.html>

**um plano de 300 milhões:** Nadja Sayej. “Paris’s Champs-Élysées Is Getting a Major Makeover — But What Does That Mean for the Locals?”. *Architectural Digest*, 29 de janeiro de 2021.

<https://www.architecturaldigest.com/story/pariss-champs-elysees-getting-major-makeover-what-does-that-mean-locals>

**“um jardim extraordinário”:** Kim Willsher. “Paris Agrees to Turn Champs-Élysées into ‘Extraordinary Garden’”, *The Guardian*, 10 de janeiro de 2021.

<https://www.theguardian.com/world/2021/jan/10/paris-approves-plan-to-turn-champs-elysees-into-extraordinary-garden-anne-hidalgo>

**Lacaton & Vassal:** Tom Ravenscroft. “Anne Lacaton and Jean-Philippe Vassal Win Pritzker Architecture Prize 2021”, *Dazeen*, 16 de março de 2021.

<https://www.dezeen.com/2021/03/16/anne-lacaton-jean-philippe-vassal-pritzker-architecture-prize-2021/>

**expandir a linha de metro:** Shefali Anand. “With Grand Paris Express, Paris Hopes to Expand Its Borders — And Metropolitan Might”, *The Wall Street Journal*, 2 de julho de 2018.

<https://www.wsj.com/articles/with-grand-paris-express-paris-hopes-to-expand-its-borders-and-metropolitan-might-1530553113>

**“Paris com 50 graus”:** Emeline Cazi e Audrey Garric. “How Paris Is Preparing for Life ‘at 50°C’”, *Le Monde*, 17 de julho de 2022.

[https://www.lemonde.fr/en/environment/article/2022/07/17/how-paris-is-preparing-for-life-under-50-c\\_5990462\\_114.html](https://www.lemonde.fr/en/environment/article/2022/07/17/how-paris-is-preparing-for-life-under-50-c_5990462_114.html)

## CAPÍTULO 14: O URSO BRANCO

**“para derreter todo o gelo no Ártico”:** Roni Dengler. “Ancient Mosses Suggest Canada’s Baffin Island is the Hottest It’s Been in 45,000 Years”, *Science News*, 30 de outubro de 2017.

<https://www.science.org/content/article/ancient-mosses-suggest-canada-s-baffin-island-hottest-it-s-been-45000-years>

**Foi visto mais de dois milhões de vezes:** Ashifa Kassam. “‘Soul-crushing’ Video of Starving Polar Bear Exposes Climate Crisis, Experts Say”, *The Guardian*, 8 de dezembro de 2017.

<https://www.theguardian.com/environment/2017/dec/08/starving-polar-bear-arctic-climate-change-video>

**“arranca-nos o coração do peito”:** Matt Stevens. “Video of Starving Polar Bear ‘Rips Your Heart Out of Your Chest’”, *The New York Times*, 11 de dezembro de 2017.

<https://www.nytimes.com/2017/12/11/world/canada/starving-polar-bear.html>

**“Importamo-nos com os ursos-polares”:** Citado por Katharine Hayhoe, em “Yeah, the Weather Has Been Weird”, *Foreign Policy*, 31 de maio de 2017.

<https://foreignpolicy.com/2017/05/31/everyone-believes-in-global-warming-they-just-dont-realize-it/>

**“nem velejar nem caminhar”:** Katheryn Schultz. “Literature’s Arctic Obsession”, *The New Yorker*, 17 de abril de 2017.

<https://www.newyorker.com/magazine/2017/04/24/literatures-arctic-obsession>

**“num tempo em que Aristóteles”:** *Ibid.*

**“o Norte Longínquo”:** *Ibid.*

**“boas, honrosas e sublimes”:** Herman Melville. *Moby Dick: or, the Whale* (Berkeley: University of California Press, 1983), 196.

**“ferocidade irresponsável”:** *Ibid.*, 197.

**Sir Wally Herbert:** Wally Herbert e Roy M. Koerner. “The First Surface Crossing of the Arctic Ocean”, *Geographical Journal* 136, n.º 4 (1970), 511–533.

<https://doi.org/10.2307/1796181>

**vinte e cinco vezes mais poderoso:** EPA. “Importance of Methane.” *Site* da Global Methane Initiative, consultado em outubro de 2022.

<https://www.epa.gov/gmi/importance-methane>

**quando fiz uma reportagem sobre geoengenharia:** Jeff Goodell. “Can Geoengineering Save the World?”, *Rolling Stone*, 4 de outubro de 2011.

<https://www.rollingstone.com/politics/politics-news/can-geoengineering-save-the-world-238326/>

**15 milhões de toneladas de dióxido de enxofre:** NASA “2018’s Biggest Volcanic Eruption of Sulfur Dioxide”, *site* da NASA, consultado em outubro de 2022.

<https://www.nasa.gov/feature/goddard/2019/2018-s-biggest-volcanic-eruption-of-sulfur-dioxide>

**mata todos os anos até 10 milhões de pessoas:** David Wallace-Wells. “Air Pollution Kills Ten Million People a Year. Why Do We Accept That As Normal?”, *The New York Times*, 8 de julho de 2022.

<https://www.nytimes.com/2022/07/08/opinion/environment/air-pollution-deaths-climate-change.html>

**dez a cem vezes maiores:** David Keith. “What’s the Least Bad Way to Cool the Planet?”, *The New York Times*, 1 de outubro de 2022.

<https://www.nytimes.com/2021/10/01/opinion/climate-change-geoengineering.html>

**36 mil milhões de toneladas:** Agência Internacional de Energia. “Global CO<sub>2</sub> Emissions Rebounded to Their Highest Level in History in 2021”, comunicado de imprensa de 8 de março de 2022.

<https://www.iea.org/news/global-co2-emissions-rebounded-to-their-highest-level-in-history-in-2021>

“os machos quase adultos”: comunicação pessoal com o autor, julho de 2021.

**Doug Peacock:** Doug Peacock. *Grizzly Years: In Search of the American Wilderness* (Nova Iorque: Holt Paperbacks, 1996).

## EPÍLOGO: PARA ALÉM DE GOLDILOCKS

**Presidente Lyndon B. Johnson:** Dana Nuccitelli. “Scientists Warned the US President About Global Warming 50 Years Ago Today”, *The Guardian*, 15 de novembro de 2015.

<https://www.theguardian.com/environment/climate-consensus-97-percent/2015/nov/05/scientists-warned-the-president-about-global-warming-50-years-ago-today>

**ExxonMobil:** Neela Banerjee, Lisa Song e David Hasemyer. “Exxon’s Own Research Confirmed Fossil Fuels’ Role in Global Warming Decades Ago”, *Inside Climate News*, 16 de setembro de 2015.

<https://insideclimatenews.org/news/16092015/exxons-own-research-confirmed-fossil-fuels-role-in-global-warming/>

**a Covid chegou a fazer mil mortes por dia:** Holly Yan e Christina Maxouris. “The US Just Topped 1,100 Coronavirus Deaths a Day. One State Is Getting National Guard Help, and Others Keep Breaking Records”, *CNN*, 22 de outubro de 2020.

<https://www.cnn.com/2020/10/22/health/us-coronavirus-thursday/index.html>

**43 mil mortes anuais:** “Newly Released Estimates Show Traffic Fatalities Reached a 16-Year High in 2021”, comunicado de imprensa da Administração Nacional do Trânsito nas Autoestradas nos EUA, 17 de maio de 2022.

<https://www.nhtsa.gov/press-releases/early-estimate-2021-traffic-fatalities>

“Estamos confrontados simultaneamente”: Brink Lindsey. “What Is the Permanent Problem?”, *site* de Brink Lindsey, 28 de setembro de 2022.

<https://brinklindsey.substack.com/p/what-is-the-permanent-problem>

“A humanidade mantém um enorme controlo”: David Wallace-Wells. “Beyond Catastrophe A New Climate Reality is Coming into View”, *New York Times Magazine*, 26 de outubro de 2022.

<https://www.nytimes.com/interactive/2022/10/26/magazine/climate-change-warming-world.html>

“o **Expresso para Vénus**”: James Hansen. *Storms of My Grandchildren: The Truth About the Coming Climate Catastrophe and Our Last Chance to Save Humanity* (Nova Iorque: Bloomsbury, 2009).

“os **caminhos evolucionários**”: Elizabeth Kolbert. *A Sexta Extinção* (Lisboa: Elsinore, 2019).

“**vagas de calor de 60 graus**”: Peter Brannen. *The Ends of the World: Volcanic Apocalypses, Lethal Oceans, and Our Quest to Understand Earth’s Past Mass Extinctions* (Nova Iorque: Ecco, 2017).

“a **lava projetada foi suficiente**”: *Ibid.*

“**Como enfrentamos a verdade**”: “Dr. Ayana Elizabeth Johnson: Hope is Courage and Taking Action Together. *The Jane Goodall Hopecast*”, 31 de maio de 2021.

<https://news.janegoodall.org/2021/06/01/jane-goodall-hopecast-podcast-ep-15-dr-ayana-elizabeth-johnson/>

## NOTAS AO POSFÁCIO

**1,48 graus Celsius**: Copernicus Climate Change Service. “Copernicus: 2023 is the Hottest Year on Record, with Global Temperatures Close to the 1.5°C Limit”, comunicado de imprensa, 9 de janeiro de 2024.

<https://climate.copernicus.eu/copernicus-2023-hottest-year-record>

“**francamente espantado**”: Rebecca Hersher. “Frankly Astonished: 2023 was Significantly Hotter Than Any Other Year on Record”. *NPR news*, 12 de janeiro de 2024.

<https://www.npr.org/2024/01/12/1224398788/frankly-astonished-2023-was-significantly-hotter-than-any-other-year-on-record>

“**um disparate absurdo**”: Damian Carrington. “‘Gobsmackingly Bananas’: Scientists Stunned by Planet’s Record September Heat”, *The Guardian*, 4 de outubro de 2023.

<https://www.theguardian.com/environment/2023/oct/05/gobsmackingly-bananas-scientists-stunned-by-planets-record-september-heat>

**cor-de-laranja igual ao do filme *Blade Runner***: Michael Wilson. “Orange Skies and Burning Eyes as Smoke Shrouds New York City”, *The New York Times*, 7 de junho de 2023.

<https://www.nytimes.com/2023/06/07/nyregion/nyc-wildfire-smoke-scenes.html>

**38,3 graus**: Dinah Voyles Pulver. “101.1 Degrees? Water Temperatures off Florida Keys Among the Hottest in the World”. *USA Today*, 25 de julho de 2023.

<https://www.usatoday.com/story/news/nation/2023/07/25/water-temperatures-in-florida/70463489007/>



**ciclone de maior duração:** “Cyclone Freddy Among Africa’s Deadliest Storms”. *Reuters*, 20 de março de 2023.

<https://www.reuters.com/business/environment/cyclone-freddy-among-africas-deadliest-storms-2023-03-15/>

**mortes provocadas pelo calor:** Maricopa County. 2023 Weekly Heat Mortality/Morbidity Reports. Consultado em janeiro de 2024.

<https://www.maricopa.gov/1858/Heat-Surveillance>

**teve uma paragem cardíaca:** Rodrigo Viga Gaier. “Taylor Swift Fan Died of Heat Exhaustion at Rio Concert, Police Say”, *Reuters*, 27 de dezembro de 2023.

<https://www.reuters.com/world/americas/taylor-swift-fan-died-heat-exhaustion-rio-concert-police-say-2023-12-27/>

**“intervalos de confiança”:** Zeke Hausfather. “State of the Climate: 2023 Smashes Records for Surface Temperature and Ocean Heat”. *Carbon Brief*, 12 de janeiro de 2024.

<https://www.carbonbrief.org/state-of-the-climate-2023-smashes-records-for-surface-temperature-and-ocean-heat/>

**cinco fatores:** NASA Earth Observatory. “Five Factors to Explain the Record Heat of 2023”, 13 de janeiro de 2024.

<https://earthobservatory.nasa.gov/images/152313/five-factors-to-explain-the-record-heat-in-2023>

**temperatura de base:** Ibid.

**“a acelerar”:** Ibid.

**“uma exceção singular”:** Jonathan Watts. “World Will Look Back at 2023 as Year Humanity Exposed its Inability to Tackle Climate Crisis, Scientists Say”, *The Guardian*, 29 de dezembro de 2023.

<https://www.theguardian.com/environment/2023/dec/29/world-will-look-back-at-2023-as-year-humanity-exposed-its-inability-to-tackle-climate-crisis>

**“o mundo com mais um grau e meio”:** Oliver Milman. “Global Heating Will Pass 1.5C Threshold This Year, Top Ex-NASA Scientist Says”, *The Guardian*, 8 de janeiro de 2024.

<https://www.theguardian.com/environment/2024/jan/08/global-temperature-over-1-5-c-climate-change>

**“um dos anos mais frescos”:** Damian Carrington. “2023 Smashes Record for the World’s Hottest Year by Huge Margin”, *The Guardian*, 9 de janeiro de 2024.

<https://www.theguardian.com/environment/2024/jan/09/2023-record-world-hottest-climate-fossil-fuel>

**Lei de Redução da Inflação:** Nathaniel Meyersohn. “Biden’s Climate Law has Led to 86,000 New Jobs and \$132 Billion in Investment, New Report Says”, CNN, 14 de agosto de 2023.

<https://www.cnn.com/2023/08/14/business/climate-clean-energy-jobs-biden/index.html>

**ritmo mais acelerado:** Agência Internacional de Energia. “Electricity 2024”, janeiro de 2024.

<https://www.iea.org/reports/electricity-2024>

**veículos elétricos:** Dan Neil. “You’ve Formed Your Opinion on EVs. Now Let Me Change It”, *The Wall Street Journal*, 19 de janeiro de 2024.

[https://www.wsj.com/lifestyle/cars/youve-formed-your-opinion-on-evs-now-let-me-change-it-6c6fd1c1?mod=hp\\_trending\\_now\\_article\\_pos3](https://www.wsj.com/lifestyle/cars/youve-formed-your-opinion-on-evs-now-let-me-change-it-6c6fd1c1?mod=hp_trending_now_article_pos3)

**258 milhões de pessoas:** “UN: 258 Million People Faced Acute Food Insecurity in 2022”, *AP*, 3 de maio de 2023.

<https://apnews.com/article/un-hunger-ukraine-covid-f4c0eda5f48eee25163ab14e835e666d>

**“soluções tecnológicas”:** Michael Grunwald. “Why Vertical Farming Just Doesn’t Work”, Canary Media, 28 de junho de 2023.

<https://www.canarymedia.com/articles/food-and-farms/why-vertical-farming-just-doesnt-work>

**vacinação em massa:** Paul Njie and Natasha Booty. “Cameroon Starts World-First Malaria Mass Vaccine Rollout”, *BBC News*, 22 de janeiro de 2024.

<https://www.bbc.com/news/world-africa-68037008>

**3.900 milhões:** Organização Mundial de Saúde. “Dengue and Severe Dengue”, folha informativa da OMS, 17 de março de 2023.

<https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue>

**derretimento acelerado:** Kaitlin Naughten et al. “Unavoidable Future Increase in West Antarctic Ice-Shelf Melting Over the Twenty-First Century”, *Nature Climate Change* 13, 1222–1228 (2023).

<https://doi.org/10.1038/s41558-023-01818-x>

**“perdemos o controle”:** Clive Cookson. “‘It Looks Like We’ve Lost Control’ of Our Ice Sheets”, *Financial Times*, November 30, 2023.

<https://www.ft.com/content/87695156-d715-4cd7-8621-0dc3858a4965>

**30 milhões de toneladas:** Damien Carrington. “Greenland Losing 30m Tonnes of Ice an Hour, Study Reveals”, *The Guardian*, 17 de janeiro de 2024.

<https://www.theguardian.com/environment/2024/jan/17/greenland-losing-30m-tonnes-of-ice-an-hour-study-reveals?>

**Circulação Meridional do Atlântico:** Rene M. Van Westen et al. “Physics-based Early Warning Signal Shows that AMOC is on Tipping Course”, *Science Advances*, vol. 10, issue 6 (2024).

<https://doi.org/10.1126/sciadv.adk1189>

**“vai ser o fim do negócio”:** Bob Berwyn. “Extreme Climate Impacts From Collapse of a Key Atlantic Ocean Current Could be Worse Than Expected, a New Study Warns”, *Inside Climate News*, 4 de fevereiro de 2024.

<https://insideclimatenews.org/news/09022024/climate-impacts-from-collapse-of-atlantic-meridional-overturning-current-could-be-worse-than-expected/>

**“Até que os combustíveis fósseis sejam descontinuados”:** Damian Carrington. “Failure of Cop28 on Fossil Fuel Phase-out is ‘Devastating’, Say Scientists”, *The Guardian*, 14 de dezembro de 2023.

<https://www.theguardian.com/environment/2023/dec/14/failure-cop28-fossil-fuel-phase-out-devastating-say-scientists>

**49 por cento:** The AP-NORC Center for Public Affairs Research. “Americans’ Views on Climate, Energy Policy and Electric Vehicles”, comunicado de imprensa, abril de 2023.

<https://apnorc.org/projects/americans-views-on-climate-energy-policy-and-electric-vehicles/>

**“pode estar tudo acabado para a humanidade”:** Andrew Dessler. “‘Where is Everybody?’: The Fermi Paradox, the Drake Equation, and Climate Change”, *The Climate Brink*, 4 de janeiro de 2024.

<https://www.theclimatebrink.com/p/where-is-everyone-the-fermi-paradox>

**“começávamos a tirar água”:** Zoë Schlanger. “Prepare for a ‘Gray Swan’ Climate”, *The Atlantic*, 22 de janeiro de 2024.

<https://www.theatlantic.com/science/archive/2024/01/climate-change-acceleration-nonlinear-gray-swan/677201/>

**“come with our age”:** W. S. Merwin. Poema “To the New Year”, do livro *Present Company* (Port Townsend, Washington: Copper Canyon Press, 2005)