

Global Warming, Public Health, and Human Futures: Thoughts on Scheffler's "Afterlife" Thesis

Kirk R. Smith

Professor of Global Environmental Health

University of California, Berkeley

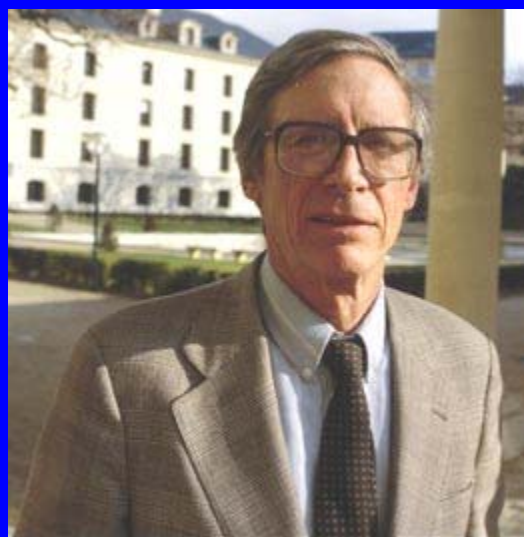
**The Ohio State University Center for Historical Research
Lecture Series in
Health, Disease, and Environment in World History
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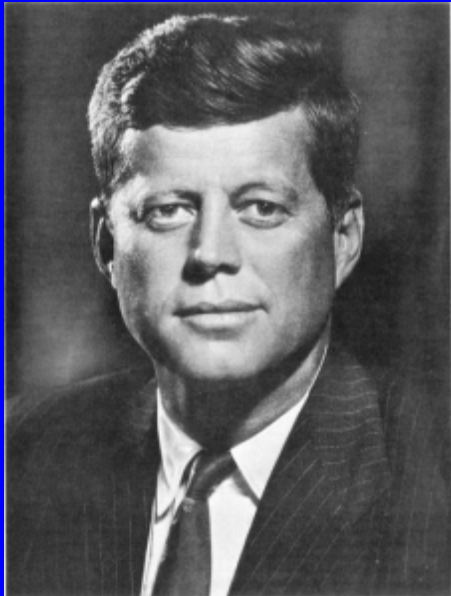
Reconciliation

- I would like to show my respect and acknowledge the traditional custodians of the land on which this meeting takes place, including the Shawnee, Kickapoo, and Eire Tribes
- Also, to elders past and present.

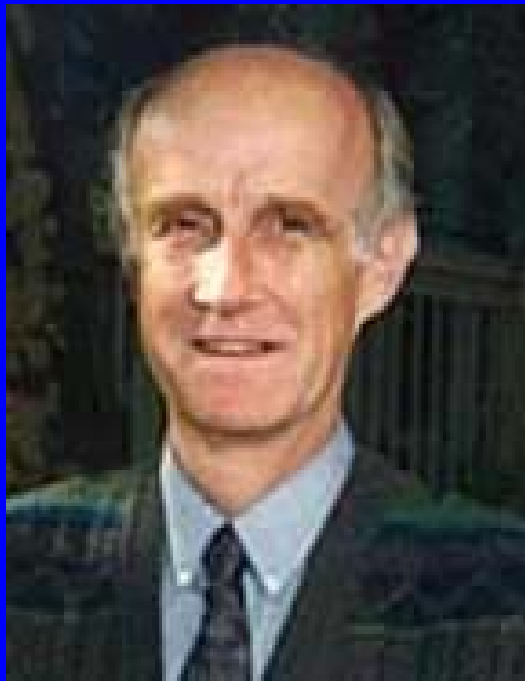


Elders and Allies



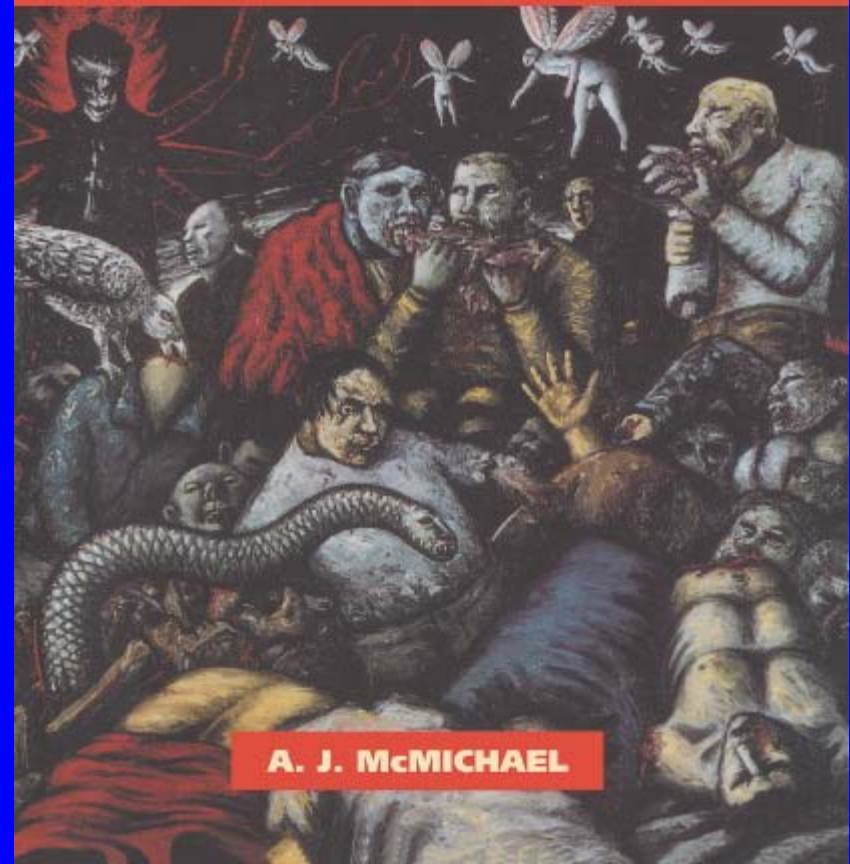


The human species faces many threats to its health - perhaps to its survival.*Planetary Overload* forcefully points out the consequences to human health of ongoing degradation of Earth's ecosystems.



PLANETARY OVERLOAD

Global Environmental Change and
the Health of the Human Species



A. J. McMICHAEL

1993

A primary premise behind this work and
all of the literature on the long-term
impacts of climate change
is that the future should matter

But does it matter to people?

“Defective Telescopic Faculty”

- No philosophical basis, but people do not value the future as they should
- Society consequently devotes too few resources to investment for the future



Pigou, 1920

“Golden Rule of Investment”

“... select that value of the variable under your control which *maximizes the present value* of the investment account”



Samuelson, 1966

Present value – discount the future

- Even at modest economic discount rates, costs and benefits in the far future count little
- \$100 in 2100 counts as only 50 cents today at a 6% annual discount rate.
- Even the so-called natural discount rate based on genetic rules – 50% per generation or 3%/year --produces little present value today for \$100 of costs in 2100 – \$7
- The near-term dominates.

Does Discount Rate Matter?

- Discount rate was the most important single difference between the Nordhaus and Stern economic assessment of climate change, perhaps the two most well known
- They each answered the question of whether present investments to avoid climate change were worthwhile based on the avoided costs
- Both used the present value framing
- At 0.1%, Stern found that it was well worth investing today to avoid future costs
- Nordhaus, at 3%, found the reverse – not worth doing so



Samuel Scheffler
New York University

The Afterlife

**Lectures given
at major universities
around the world
2010-2012**

**Including Berkeley,
Mar 2012**

Futures

Number One, The Baseline:

In time, you die and everyone you know dies

Number Two: The Patient Asteroid

Number Three: The Empty Crib

Number Two: The Patient Asteroid

- 30 days after your natural death, an asteroid will strike Earth destroying everything and everyone.
- Would it change what you do and value today?

Number Three: The Empty Crib

- Knowing that all whom we love would die in #2 would distress us, thus consider #3 instead
- Everyone alive has a normal lifetime, but no children are born
- Would it change what you do and value today?
- Yes, profoundly

Children of Men



PD James

The book, 1992



Clive Owen/Alfonso Cuarón

The movie, 2006

From the Novel

“...those who lived gave way to the almost universal negativism, what the French named *ennui universel*. It came upon us like an insidious disease; indeed, it was a disease, with its soon-familiar symptoms of lassitude, depression, ill-defined malaise, a readiness to give way to minor infections, a perpetual disabling headache.”

From the Novel

“Without the hope of posterity, for our race if not for ourselves, without the assurance that we being dead yet live, all pleasures of the mind and senses sometimes seem to me no more than pathetic and crumbling defenses shored up against our ruins”

From Scheffler

“...James’s speculations invite us to consider the possibility that our conception of “a human life as a whole” relies on an implicit understanding of such a life as itself occupying a place in an ongoing human history, in a temporally extended chain of lives and generations.”

From Scheffler

“If this is so, then, perhaps, we cannot simply take it for granted that the activity of, say, reading *The Catcher in the Rye* or trying to understand quantum mechanics or even eating an excellent meal would have the same significance for people, ... in a world that was known to be deprived of a human future.”

“We cannot assume that we know what the constituents of a good life would be in such a world, nor can we even be confident that there is something that we would be prepared to count as a good life.”

“So, like the biblical Moses denied access to the Promised Land, we stand gazing through the lens of shared values and history toward a future we will not enter.” (Scheffler)

More Scheffler

“Every single person now alive will be dead in the not-too-distant future. This fact is universally accepted and is not seen as remarkable, still less as an impending catastrophe. There are no crisis meetings of world leaders to consider what to do about it, no outbreaks of mass hysteria, no outpourings of grief, no demands for action.

More Scheffler

“This does not mean that individuals do not fear their own deaths. To the contrary, many people are terrified of death and wish desperately to survive for as long as possible. Despite this, neither the recognition of their own mortality nor the prospect that everyone now alive will soon die leads most people to conclude that few of their worldly activities are important or worth pursuing.”

The Afterlife Conjecture

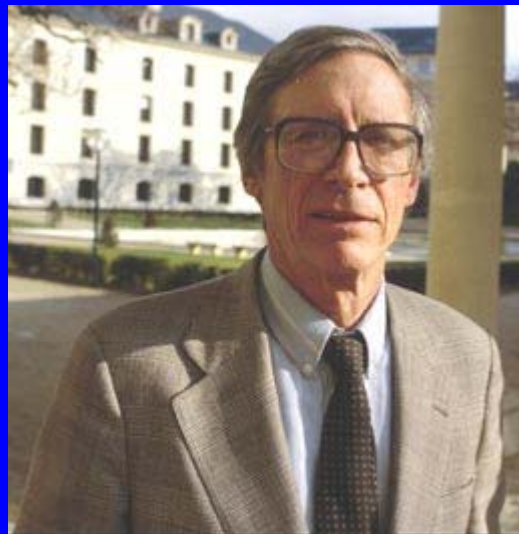
- “The fact that we and everyone we love will cease to exist matters less to us than would the non-existence of future people whom we do not know and who, indeed, have no determinate identities.”
- “Or to put it more positively, the coming into existence of people we do not know and love matters more to us than our own survival and the survival of the people we do know and love.”

What does the Afterlife say about discounting?

- “the fact that, in certain respects, we care less about our own survival than about the survival of humanity shows something important and insufficiently appreciated about the limits of our egoism.” (Scheffler)
- “Egoism” here, perhaps being represented by maximizing present value – pleasuring ourselves.

Another Option: Veil of Ignorance

“...no one knows his place in society, his class position or social status; nor does he know his fortune in the distribution of natural assets and abilities, his intelligence and strength, and the like.”



Rawls, 1971

Intergenerational Skype Call

- “The idea then, is to render moot those personal considerations that are morally irrelevant to the justice or injustice of principles meant to allocate the benefits of social cooperation.” (Rawls)
- One’s location on the continuum of human history is another “personal consideration” that should be blinded to make just social decisions with long-term implications.

Our place in the historical continuum

- In Kafka's story, "He", the protagonist is on the road of time.
- He finds value in using the future as an ally in his battle with the past
- But also turns around to battle the future using the past as an ally



Kafka, 1924

What does the Afterlife say?

- “The point has not been that we are more highly motivated to advance the interests of future generations, but rather that we are in certain ways more dependent on them. If we find this surprising, it is less because we have been blinded to our own altruism than because we have overestimated our independence and self-sufficiency.” (Scheffler)

What about Kafka's Other Ally, the Past?

- “Beforelife” needed as well – missing in Scheffler
- Traditions recognize this, for example the Mexican Day of the Dead – displays of those now dead who still are a valued part of our lives



How far back?

"All the News
That's Fit to Print"

The New York Times.

LATE CITY EDITION

U. S. Weather Bureau Report (Base 60° Forecast):
Cloudy, windy, chance of showers
today and tonight. Cold tomorrow.
Temp. Range: 62-54; yesterday: 64-51.

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© 1963 by The New York Times Company
Times Square, New York 36, N. Y.

NEW YORK, SATURDAY, NOVEMBER 23, 1963.

TEN CENTS

KENNEDY IS KILLED BY SNIPER AS HE RIDES IN CAR IN DALLAS; JOHNSON SWORN IN ON PLANE

TEXAN ASKS UNITY

Congressional Chiefs
of 2 Parties Give
Promise of Aid

By FELIX BELAIR Jr.
Special to The New York Times
WASHINGTON, Nov. 22—
Lyndon B. Johnson returned to
a stunned capital this evening
to assume the duties of the
Presidency.
The new President asked for
and received from Congressional
leaders of both parties their
"united support in the face of
the tragedy which has befallen
our country." He said it was
"more essential than ever be-
fore that this country be united."

Partisan differences disap-
peared in the chorus of assur-
ances with which the Congress-



REUTERS

LEFTIST ACCUSED

Figure in a Pro-Castro
Group Is Charged—
Policeman Slain

By GLADWIN HILL
Special to The New York Times
DALLAS, Saturday, Nov. 23—
Lee Harvey Oswald, a 24-
year-old warehouse worker who
once lived in the Soviet Union,
was charged late last night
with assassinating President
Kennedy.
Oswald was arrested at 2:15
yesterday afternoon, nearly two
hours after the assassination of
the President, as the suspected
killer of a policeman on the
street in the Oak Cliff district,
three miles from where the Pres-
ident was shot.
Chief of Police Jesse Curry
announced that Oswald had



Gov. Connally Shot; Mrs. Kennedy Safe

President Is Struck Down by a Rifle Shot
From Building on Motorcade Route—
Johnson, Riding Behind, Is Unhurt

By TOM WICKER

Special to The New York Times

DALLAS, Nov. 22—President John Fitz-
gerald Kennedy was shot and killed by an as-
sassin today.

He died of a wound in the brain caused by
a rifle bullet that was fired at him as he was
riding through downtown Dallas in a motorcade.

Vice President Lyndon Baines Johnson,
who was riding in the third car behind Mr.
Kennedy's, was sworn in as the 36th President

The Afterlife Paradox

- In order to feel responsibility to the future
- One has to feel some control over it
- To feel the future is controlled by the past, however
- We must in turn feel bound by the past.
- Obviously there are limits, but nevertheless
- Institutions that bind us to the past, paradoxically, also help us deal with the future: allies for Kafka's "He"

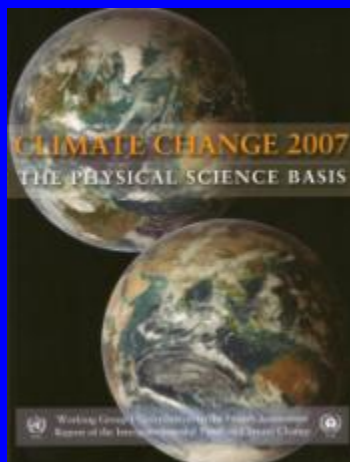
Bound by the past



Archbishop Desmond Tutu, Chair of South Africa's
Truth and Reconciliation Commission

What does this have to do with
Planetary Overload?

Take climate change as an example



2007 IPCC Fourth Assessment Report (AR4)

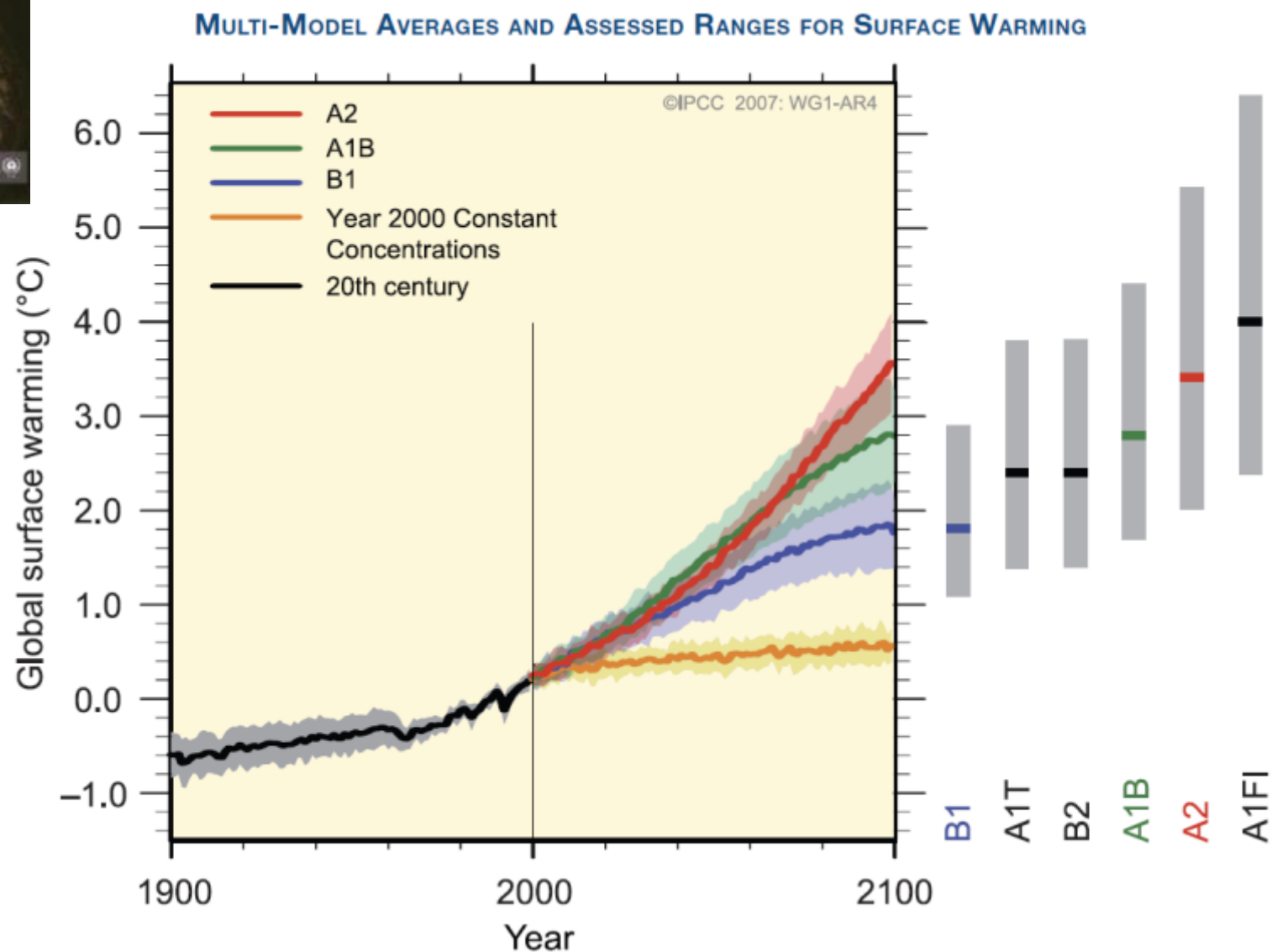


Table 1 | The four RCPs

Name	Radiative forcing
RCP8.5	>8.5 W m ⁻² at s
RCP6.0	~6 W m ⁻² at s
RCP4.5	~4.5 W m ⁻² at
RCP2.6	Peak at ~3 W m ⁻² the

Table TS.5. Best estimate, likely ranges and very likely lower bounds of global mean equilibrium surface temperature increase (°C) over pre-industrial temperatures for different levels of CO₂-equivalent radiative forcing, as derived from the climate sensitivity.

Max temps committed but not yet reached by 2100

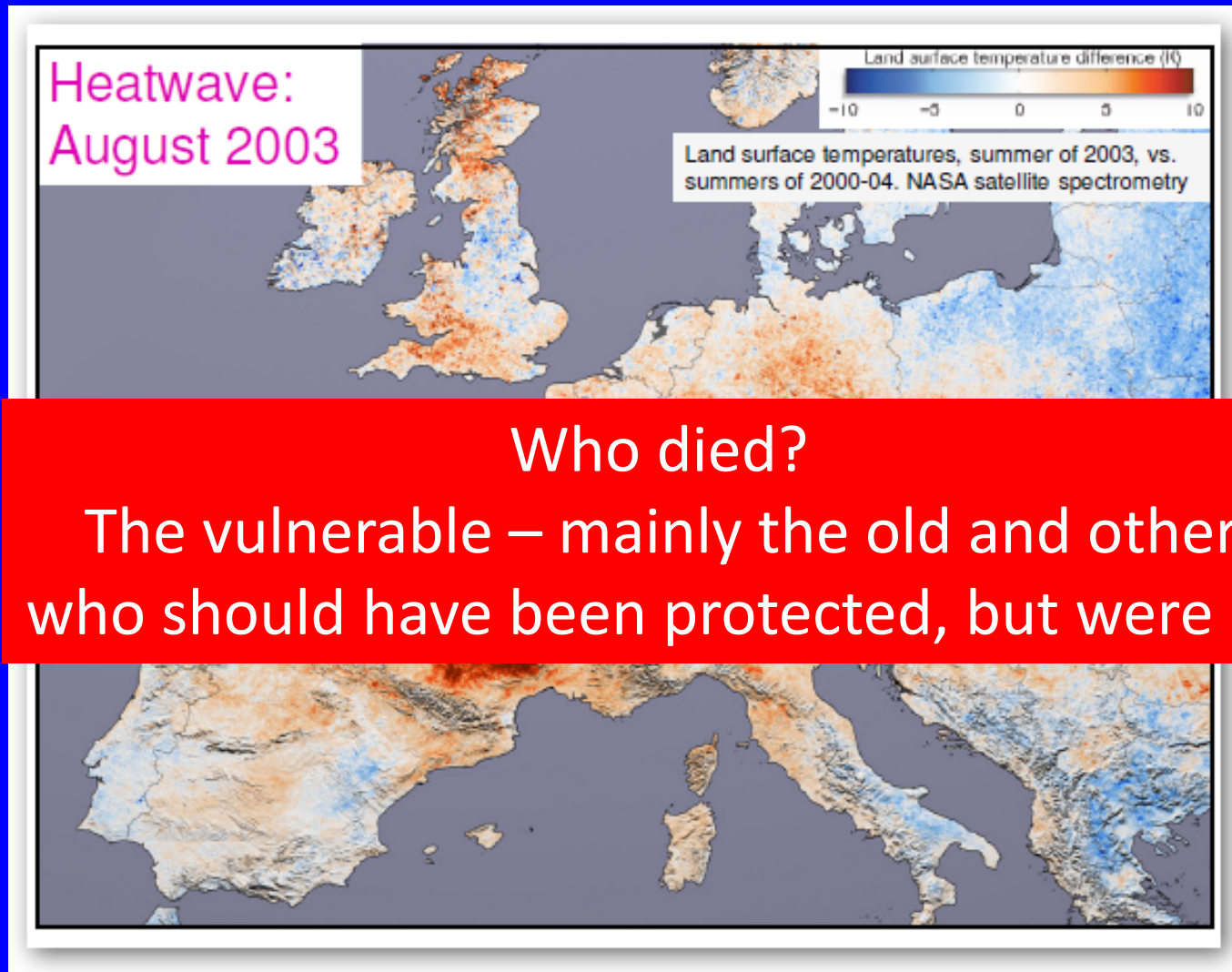
Equilibrium CO ₂ -eq (ppm)	Temperature Increase (°C)		
	Best Estimate	Very Likely Above	Likely in the Range
350	1.0	0.5	0.6–1.4
450	2.1	1.0	1.4–3.1
550	2.9	1.5	1.9–4.4
650	3.6	1.8	2.4–5.5
750	4.3	2.1	2.8–6.4
1000	5.5	2.8	3.7–8.3
1200	6.3	3.1	4.2–9.4

Draft IPCC Fifth Assessment

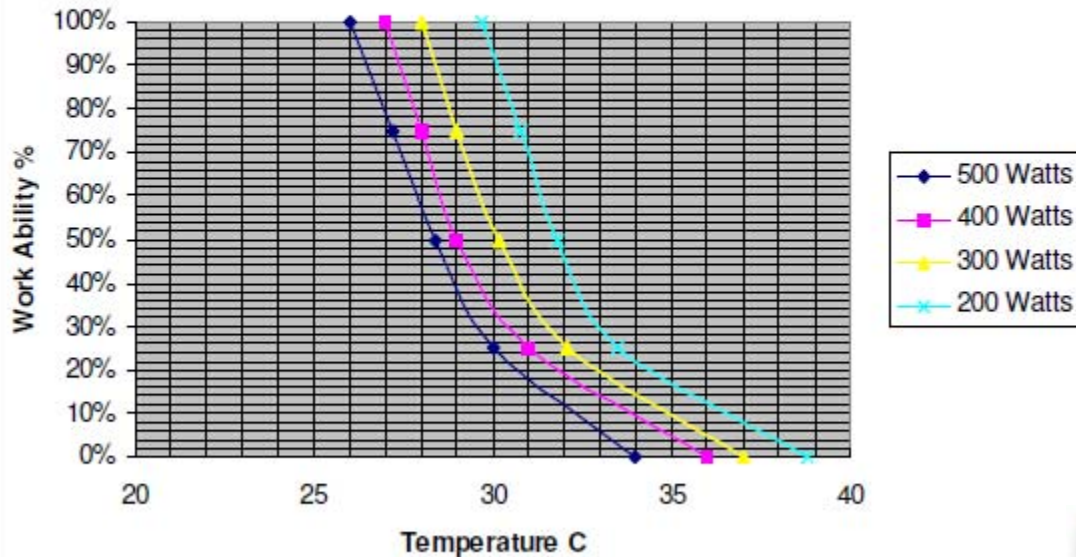
Is there a limit?

- Obviously human society cannot exist on Venus, with 460 degree temperatures (860 F)
- But what is the temperature threshold between that on Earth (14 C, 57 F) and Venus where human society as we know it ceases?
- When even the most healthy and least vulnerable populations cannot be protected?

What most people consider with heat stress



Work ability (%) as a function of WBGT (degr.C)
at 4 work intensities (Watts), acclimatized



Wet Bulb Globe Temperature =

Function of

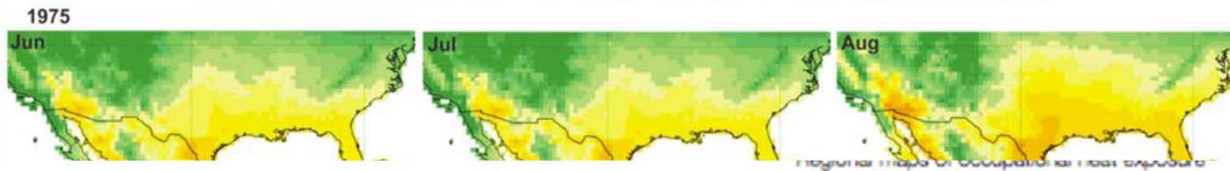
- temperature,
- humidity,
- wind speed, and
- radiative energy, e.g., sunlight

Effects of heat exposure

- ⑩ Sweating, dehydration, salt loss
- ⑩ Loss of ability to work intensively
- ⑩ Loss of perceptual motor performance
- ⑩ Increased accident risk
- ⑩ Increased body temperature (>38 °C)
- ⑩ Heat stroke
- ⑩ Unconsciousness
- ⑩ Death

- Not epidemiologically based
- Basic thermodynamics and human physiology from exposure chamber studies
- The science is 60 years old – US military research in the 1950s and much since
- **Refers to healthy workers – not the most vulnerable**

WBGT indoors or outside in shade, during the hottest part of the day



South Asia WBGT indoors or outside in shade, during the hottest part of the day

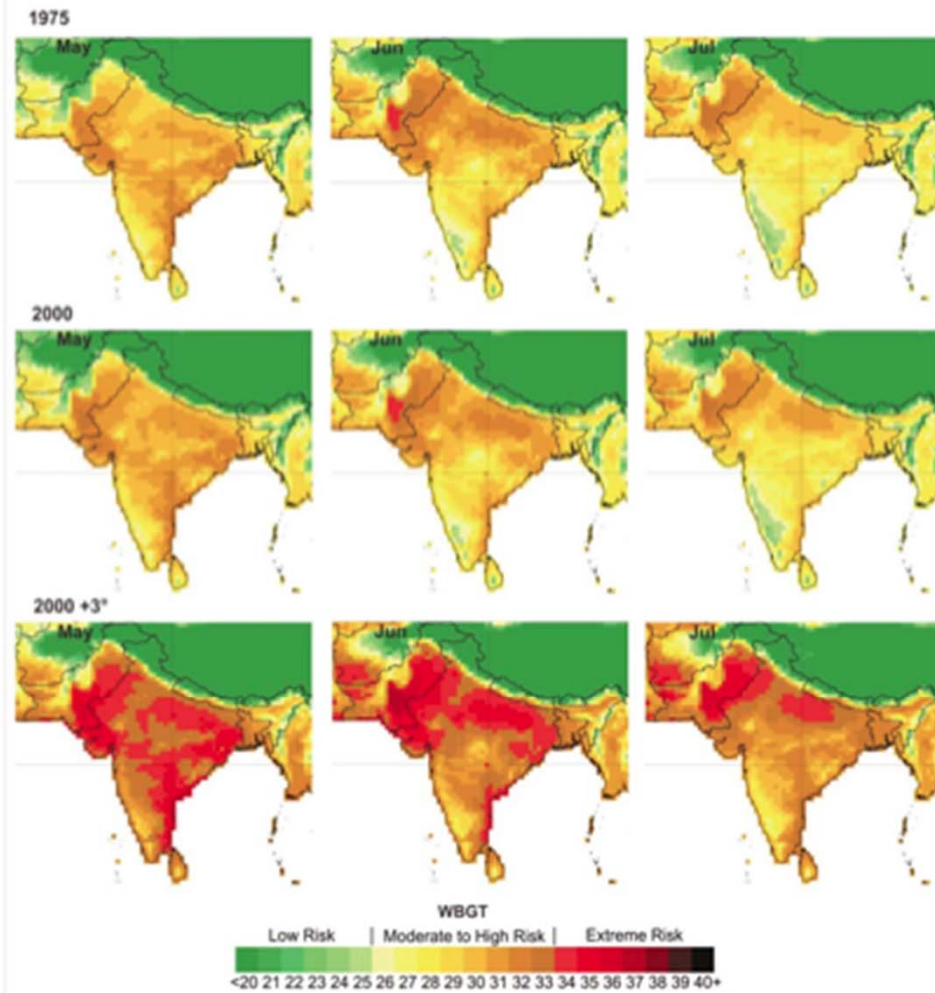


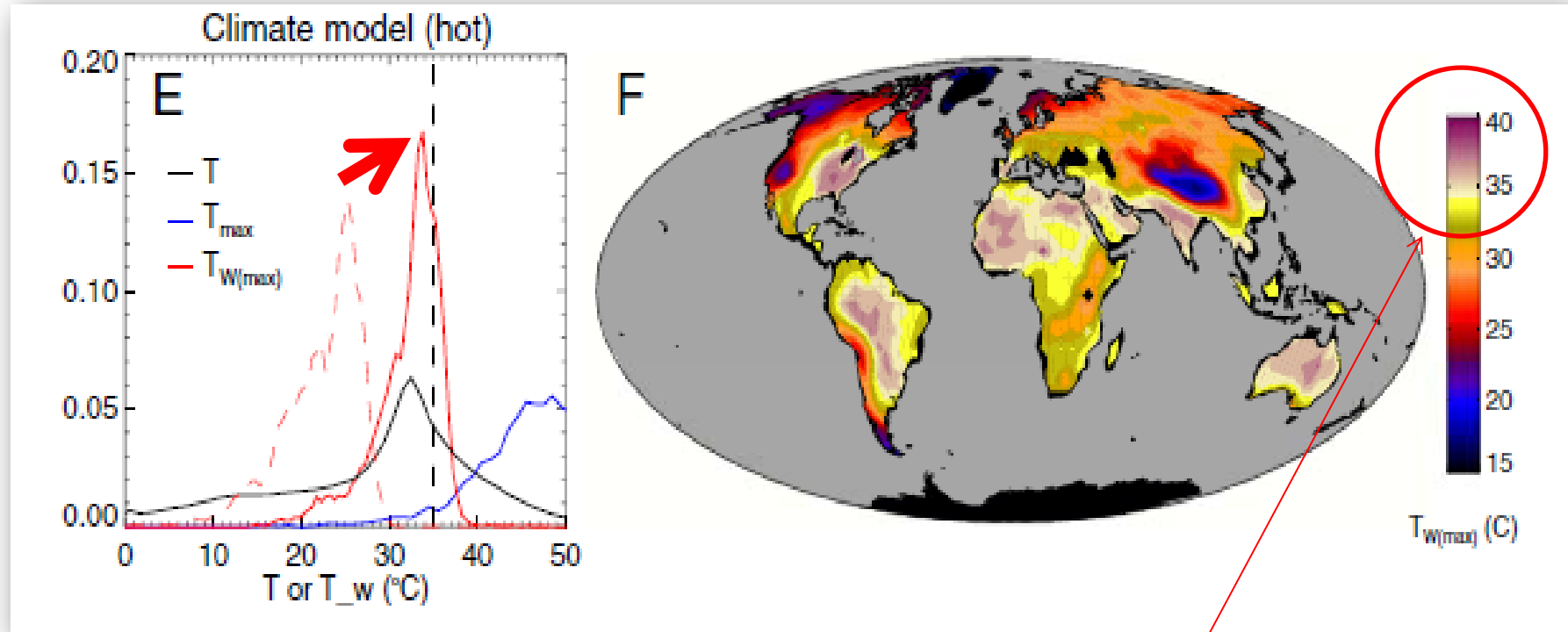
Fig. 2. WBGT (indoors and outside in the shade) for South Asia in 1975, 2000, and a scenario where WBGT is increased by 3° from the year 2000.

Here is what happens at 3 degrees

What about 6 or 9 degrees?

Hyatt, Lernke, Kellstrom, 2010

Approximate 10-deg world



Places where people cannot work outdoors

Sherwood & Huber, PNAS, 2010

What is coming?

- Very few places exist on Earth now where people cannot work outdoors every day of the year
- More and more of them with global warming
- When in major populated areas will it be possible only to work in winter or at night?
- Then only in the winter at night?
- Then?
- When do these low probability – high consequence futures cross the Afterlife criterion?

**Science Fiction has many examples
of colonies on other planets**



Colony on Extraterrestrial Planet in *Aliens II*

Do we face

- The possibility of needing to build these on our own planet or abandon great portions of it?
- Indeed, the colony in *Aliens II* may be even more prescient.
- It was a Terra-forming colony – operating a giant machine changing the atmosphere to make the alien planet inhabitable
- To deal seriously with CO₂ may take more than emissions reductions – may take Terra-reforming – making our own planet inhabitable again

Caveats

- Climate models do not handle the extreme scenarios well – few try and they do not agree
- Currently, these high temperature scenarios are low probability
- But high consequence and we are doing little to reduce their probability
- But at least they are far off in the future – 2100+
- Or are they?

2100 – is it even the future?



Yui Honda, Born Oct 26, 2012
One week ago

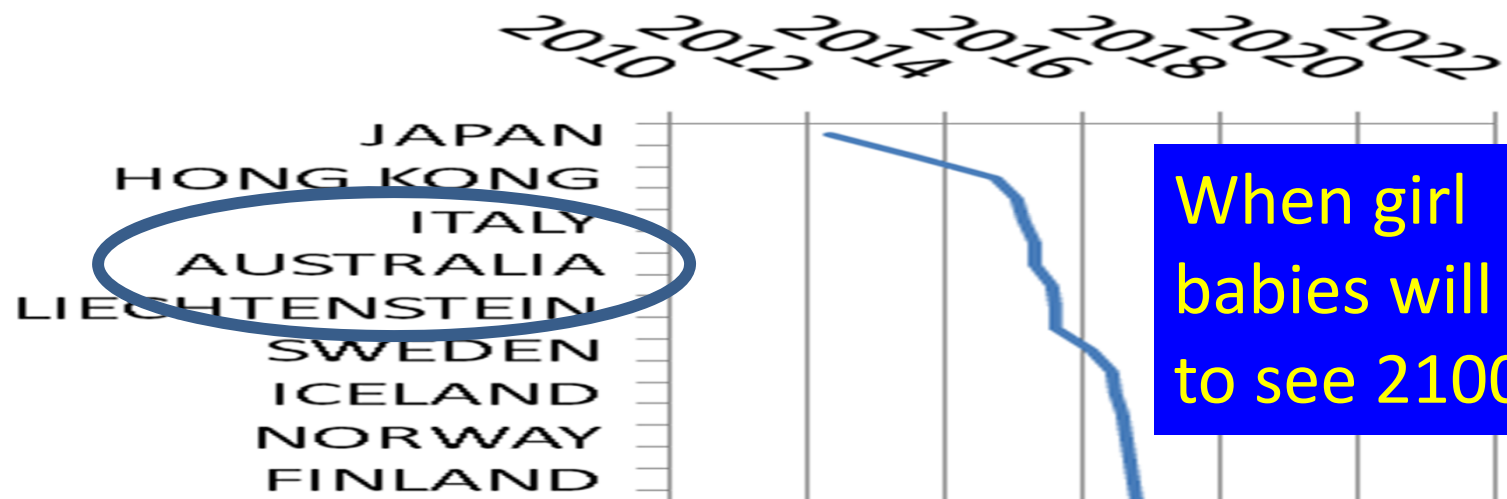
Japanese girl babies have the longest life expectancy on Earth

87.4 years

Thus, Yui will very likely live to see 2100

She is among the very first members of
Earth's 22C Club

Twenty-second Century Club



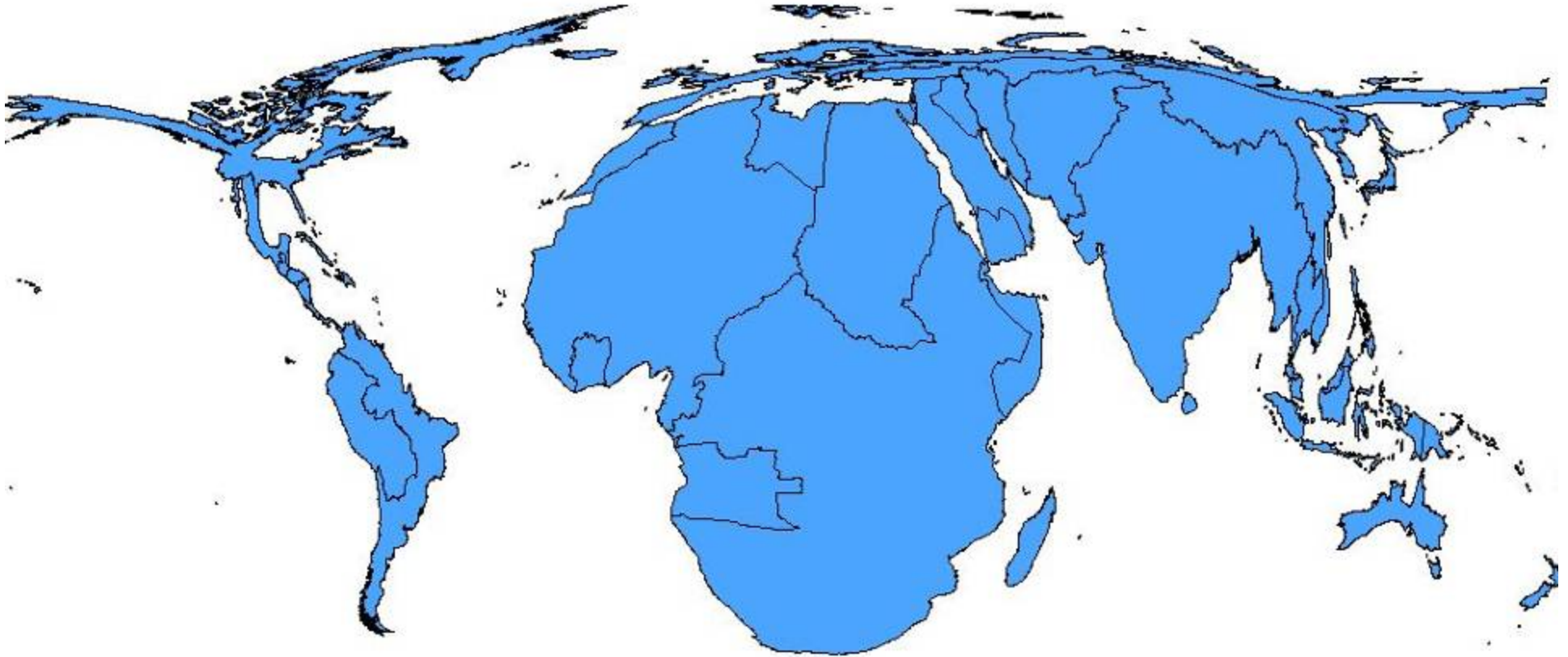
When girl babies will live to see 2100

Before 2022 baby Chinese girls will live to see 2100

Well before 2030, baby Indian girls too

CZECH REPUBLIC
COSTA RICA
ALBANIA
POLAND
CUBA
QATAR
DOMINICAN...
MEXICO
UNITED ARAB...

Climate-related Mortality (per million pop) yr. 2000

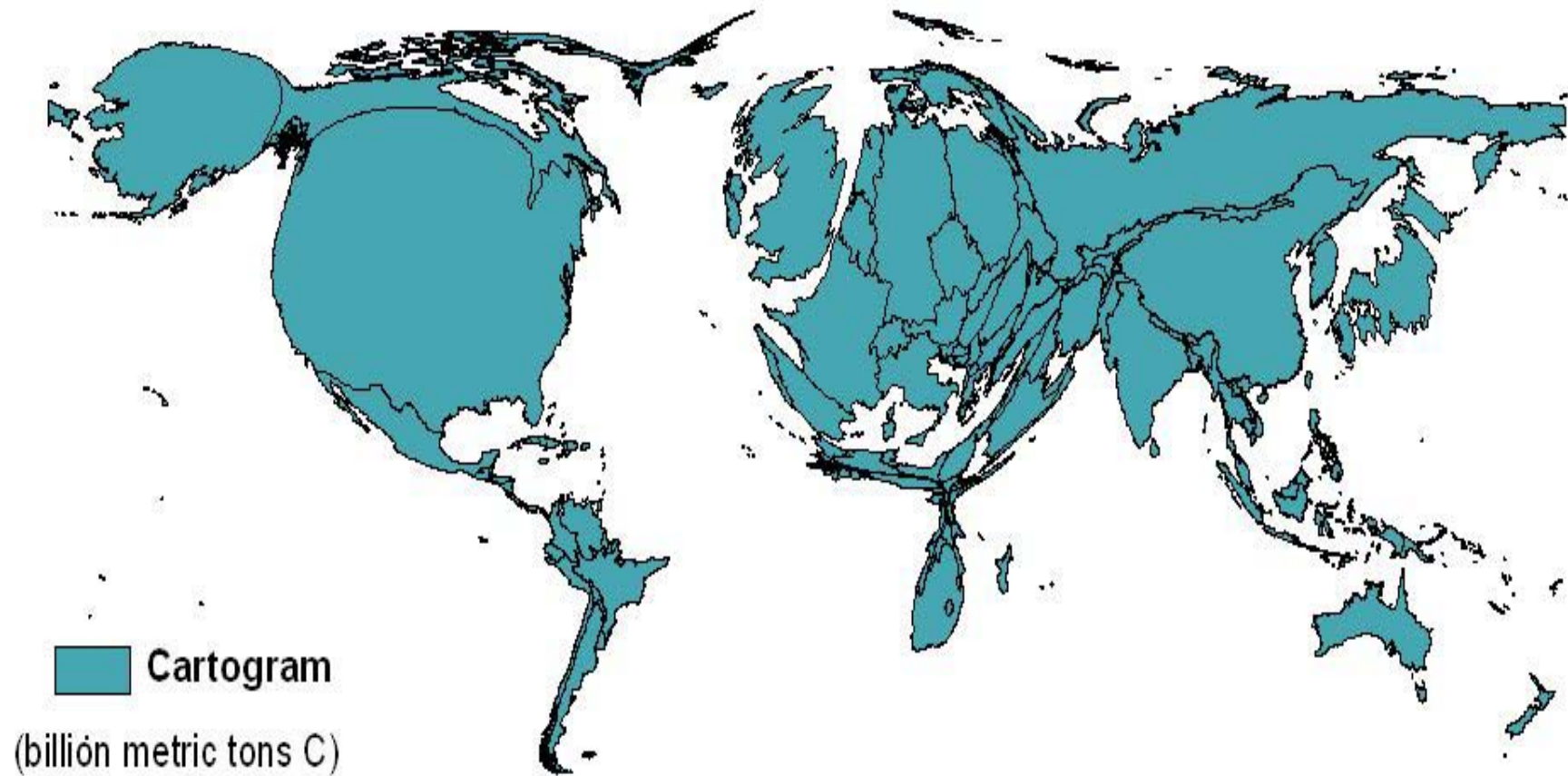


Patz et al.

This map shows estimated mortality (per million people) attributable to climate change by the year 2000. Map is a density-equalizing cartogram in which the sizes of the 14 WHO regions are proportional to the increased mortality.



National Natural Debts: Cumulative CO₂ emissions, depleted by natural processes



Patz JA, Gibbs HK, Foley JA, Rogers JV, Smith KR, 2007, **Climate change and global health: Quantifying a growing ethical crisis**, *EcoHealth* 4(4): 397–405, 2007.

Summary

- What has the future done for us? -- It gives our lives meaning.
- What has the past done for us? -- It is not even past*

*Apologies to Faulkner:
**"The past is never dead.
It's not even past."**



Faulkner 1951

“Our most basic common link is that we all inhabit this planet. We all breathe the same air. We all cherish our children's future. And we are all mortal.”

We need to reaffirm
who “We” are

Many thanks. Publications and
presentations on website
– easiest to just
“google” Kirk R. Smith



Kennedy, 1963