

Climate change “denial”, the role of climate confusers, and their evolving strategies: an introduction

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**Joint hearing on « Climate change denial », European Parliament,
Brussels, 21 March 2019**

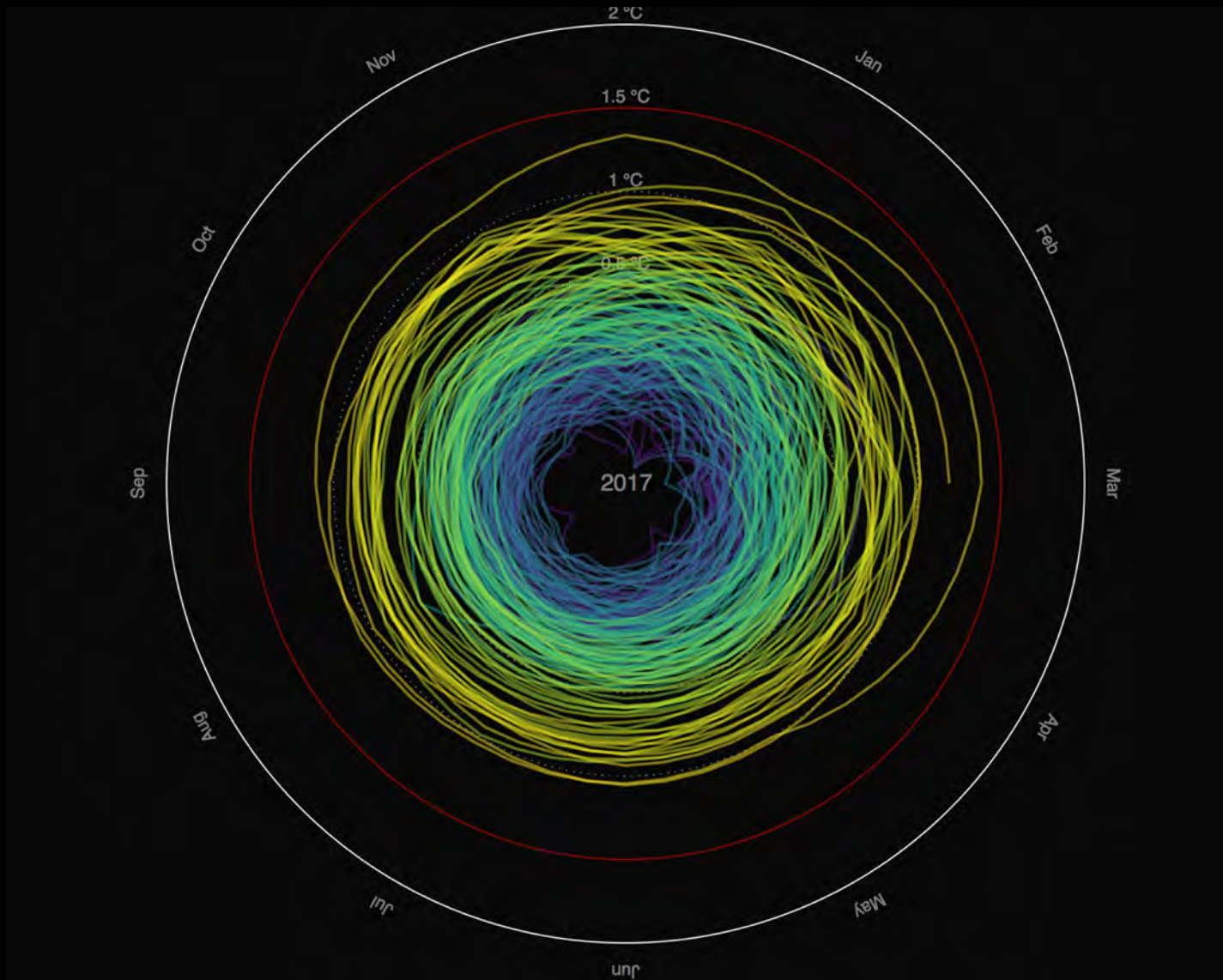
**Thanks to the Government of Wallonia, supporting the [Walloon Platform for IPCC](#)
and to my team at the Université catholique de Louvain**

Why I prefer to speak about « climate confusers »



- I reserve the word « denialist » to those who deny the Holocaust, out of respect for the victims of the Shoah
- I don't speak of « climate skeptics » either, as skepticism is at the root of the scientific method, and those « climate confusers » should not be given the monopoly of skepticism
- « Climate confuser » is an expression suggested to me by Kees van der Leun (@Sustainable2050)

Temperature spiral



Global Mean Temperature in °C relative to 1850 – 1900

Graph: Ed Hawkins (Climate Lab Book) – Data: HadCRUT4 global temperature dataset

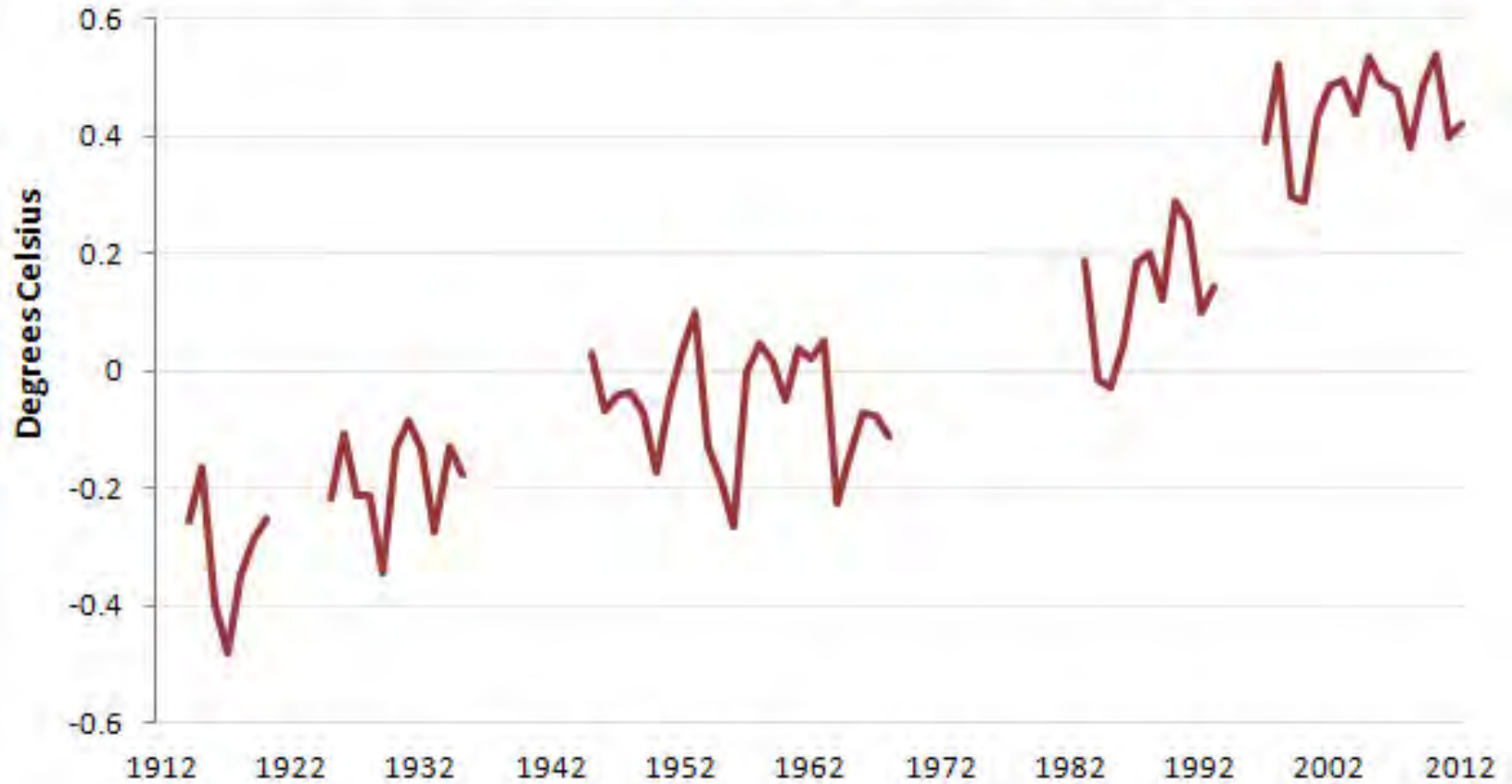
Animated version available on <http://openclimatedata.net/climate-spirals/temperature>

Temperature Change From 1961-1990 Average



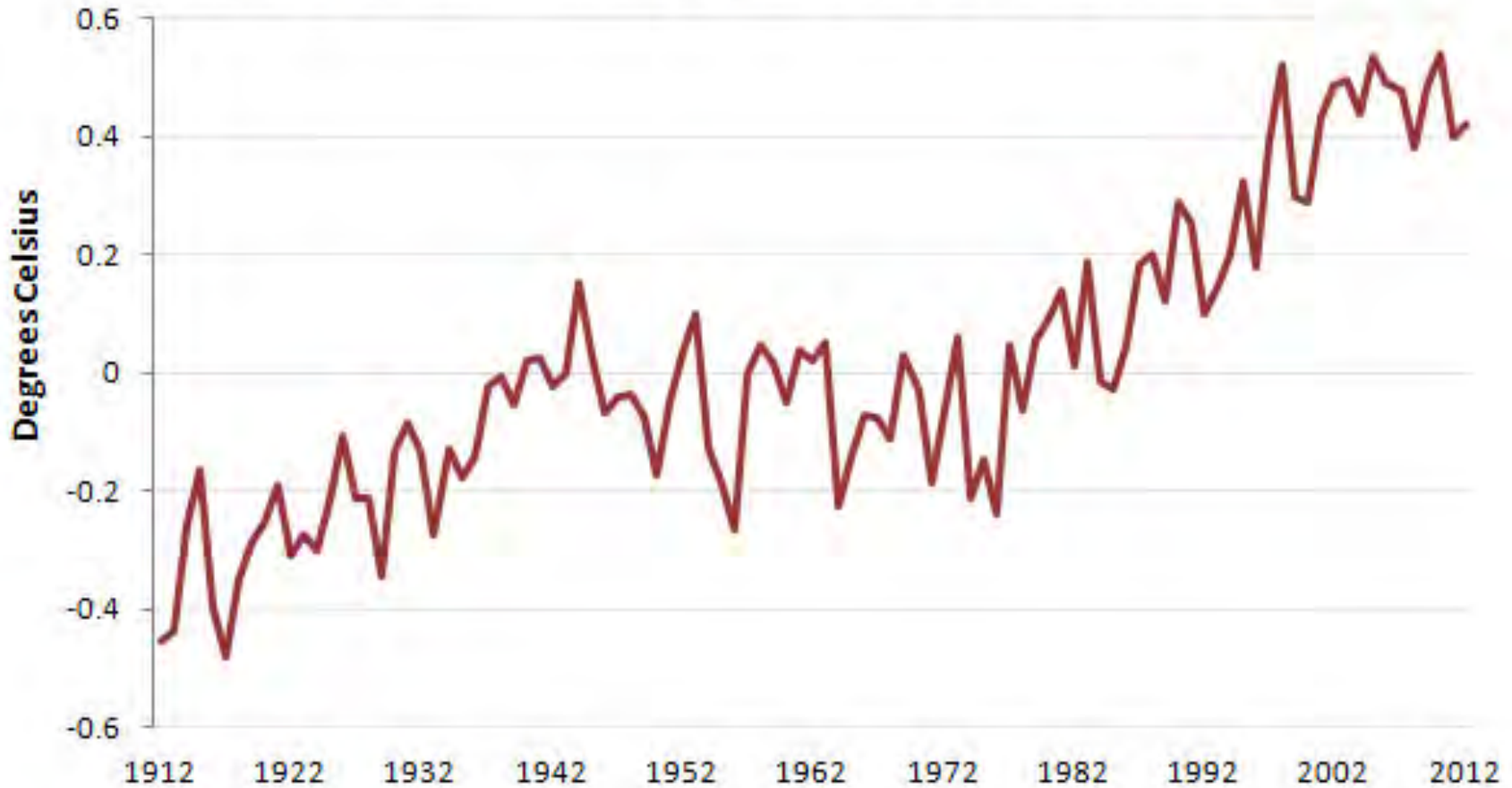
Lying With Statistics, Global Warming Edition

Temperature Plateaus — 1912-2012

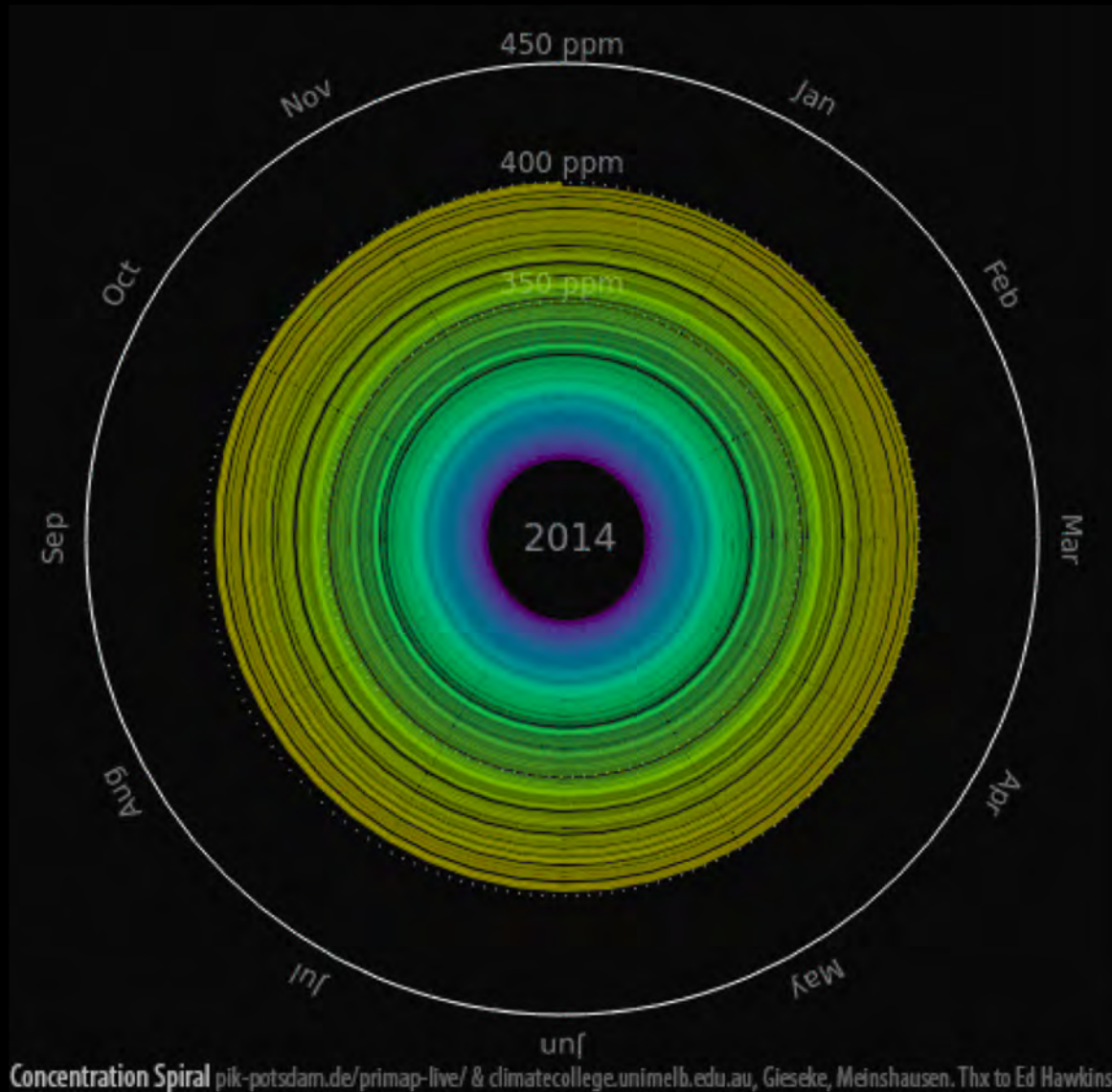


Lying With Statistics, Global Warming Edition

Temperature Change From 1961-1990 Average



CO₂ concentration spiral: the insulation thickens!



CO₂ concentration spiral 1851-2014 (ppm), by Gieseke & Meinshausen,
Available on <http://pik-potsdam.de/primap-live>

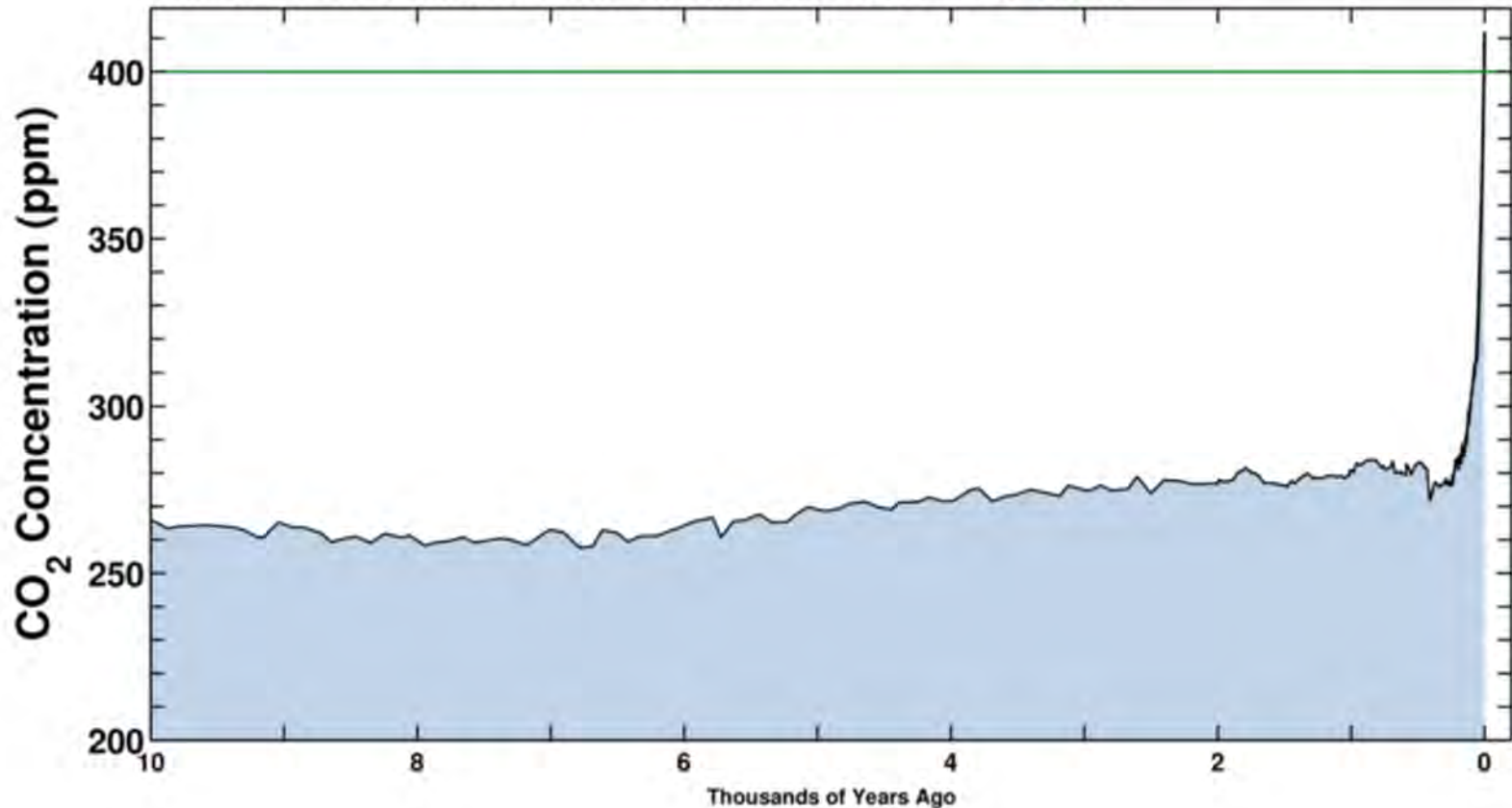
CO₂ Concentration, 18 March 2019 (Keeling curve, last 10000 years)

Latest CO₂ reading

March 18, 2019

414.79 ppm

Ice-core data before 1958. Mauna Loa data after 1958.



Source: scripps.ucsd.edu/programs/keelingcurve/

Climatic Change: Are We on the Brink of a Pronounced Global Warming? (Broecker, 1975)

Table 1. Reconstruction and prediction of atmospheric CO₂ contents based on fuel consumption data.

Year	Chemical fuel CO ₂ ($\times 10^{16}$ g)	Excess atmospheric CO ₂ * ($\times 10^{16}$ g)	Excess atmospheric CO ₂ (%)	Excess atmospheric CO ₂ (ppm)	CO ₂ content of the atmosphere† (ppm)	Global temperature increase‡ (°C)
1900	3.8	1.9	0.9	2	295	0.02
1910	6.3	3.1	1.4	4	297	.04
1920	9.7	4.8	2.2	6	299	.07
1930	13.6	6.8	3.1	9	302	.09
1940	17.9	8.9	4.1	12	305	.11
1950	23.3	11.6	5.3	16	309	.15
1960	31.2	15.6	7.2	21	314§	.21
1970	44.0	22.0	10.2	29	322§	.29
1980	63	31	14	42	335	.42
1990	88	44	20	58	351	.58
2000	121	60	28	80	373	.80
2010	167	83	38	110	403	1.10

*On the assumption that 50 percent of the CO₂ produced by the burning of fuel remains in the atmosphere.
 †The preindustrial atmospheric partial pressure of CO₂ is assumed to be 293 ppm. ‡Assumes a 0.3°C global temperature increase for each 10 percent rise in the atmospheric CO₂ content. §Value observed on Hawaii for 1960, 314 ppm; value for 1970, 322 ppm (8). ||Post-1972 growth rate taken to be 3 percent per year.

**Because we use the atmosphere
as a dustbin for our greenhouse
gases, we thicken the insulation
layer around the planet**

That is why we must cut emissions
to (net) ZERO as soon as possible

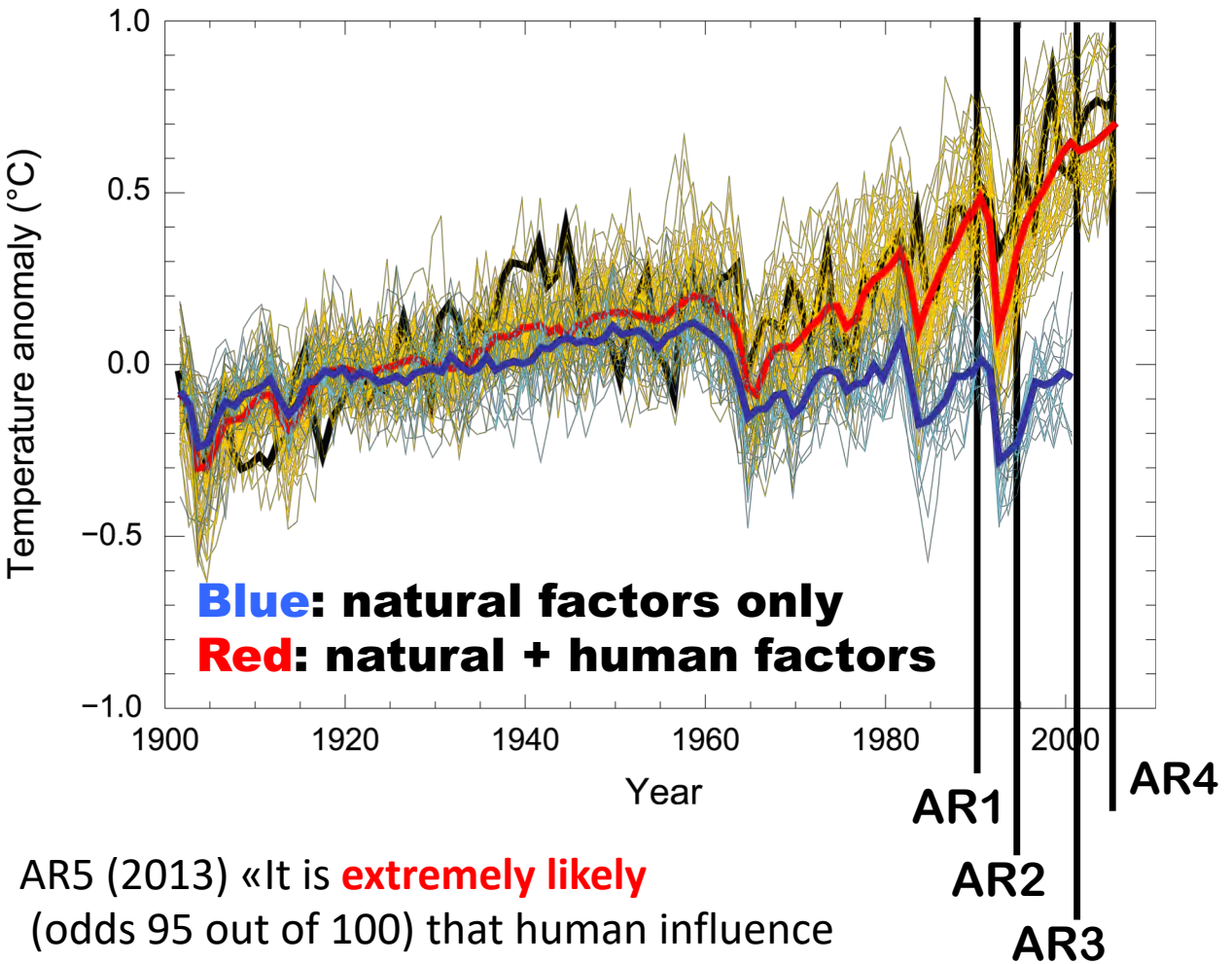
A Progression of Understanding: Greater and Greater Certainty in Attribution

AR1 (1990):
“unequivocal detection
not likely for a decade”

AR2 (1995): “balance
of evidence suggests
discernible human
influence”

AR3 (2001): “most of
the warming of the
past 50 years is **likely**
(odds 2 out of 3) due
to human activities”

AR4 (2007): “most of
the warming is **very
likely** (odds 9 out of 10)
due to greenhouse
gases”



AR5 (2013) «It is **extremely likely**
(odds 95 out of 100) that human influence
has been the dominant cause... »

Why the IPCC ?

Established by WMO and UNEP in 1988

to provide **policy-makers** with an **objective source of information** about

- causes of climate change,
- potential environmental and socio-economic impacts,
- possible response options (adaptation & mitigation).

WMO=World Meteorological Organization
UNEP= United Nations Environment Programme



Key messages from the IPCC WG1 Report (1)

■ Certain:

- Emissions resulting from **human activities are substantially increasing** the atmospheric concentrations of the **greenhouse gases**: CO₂, CH₄, CFC, and N₂O

■ Calculated **with confidence**:

- Under the business as usual scenario, **temperature will increase by about 3° C by 2100** (uncertainty range: **2 to 5° C**), and **sea level will increase by 60 cm** (uncertainty range: **30 to 100 cm**)

Key messages from the IPCC WG1 Report (2)

- With an increase in the mean temperature, **episodes of high temperature** will most likely become **more frequent**
- Rapid changes in climate will change the composition of ecosystems; **some species** will be unable to adapt fast enough and **will become extinct**.
- Long-lived gases (**CO₂**, N₂O and CFCs) **would require immediate reduction** in emissions from human activities **of over 60% to stabilise their concentration at today's levels**.

Oops...



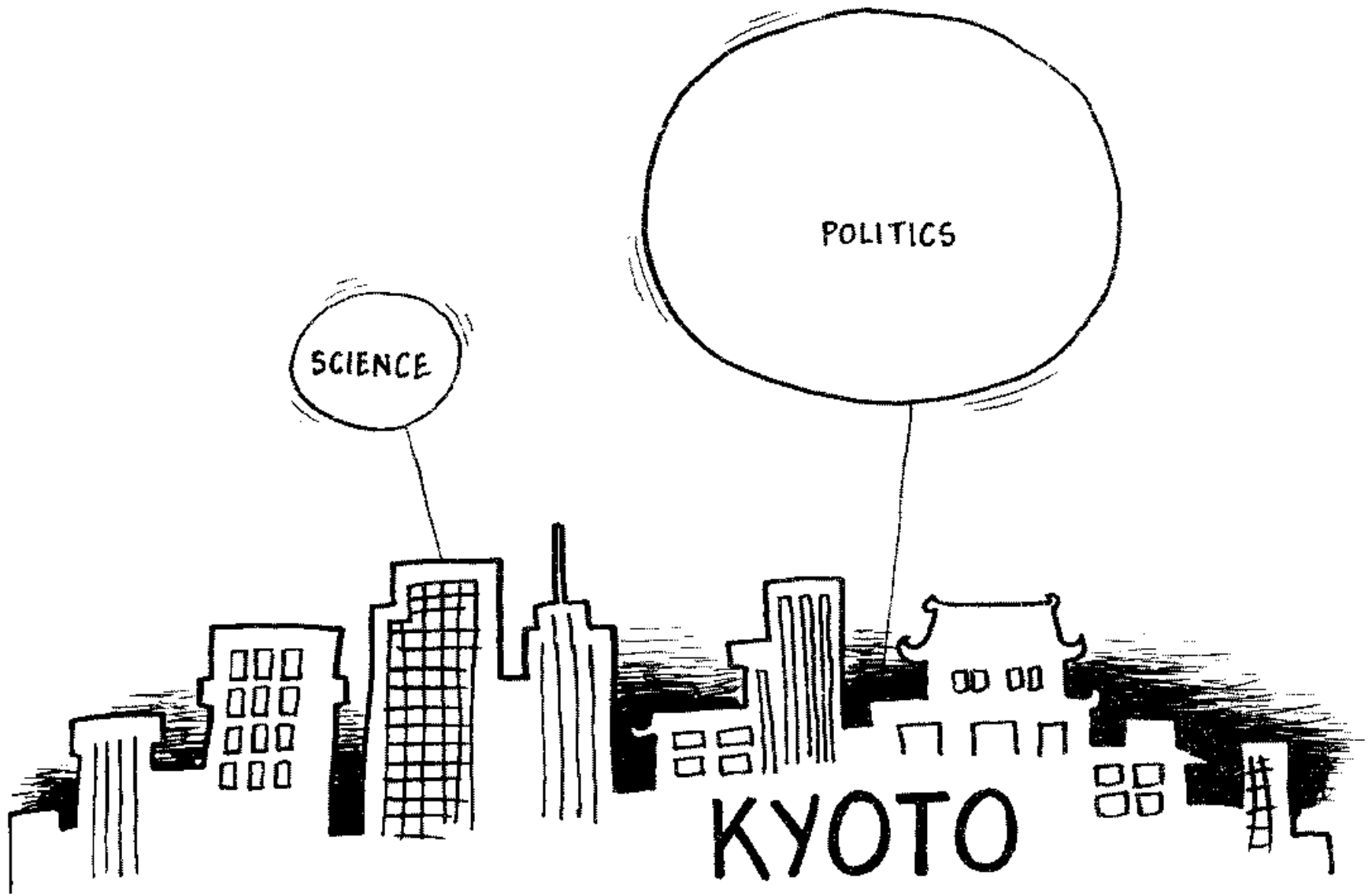
- ... this was from the IPCC **first** assessment report, published 29 years ago (1990)!
- Was anybody really listening?
- If not, why?

Key messages from IPCC AR5

- **Human influence on the climate system is clear**
- **Continued emissions of greenhouse gases will increase the likelihood of severe, pervasive and irreversible impacts for people and ecosystems**
- **While climate change is a threat to sustainable development, there are many opportunities to integrate mitigation, adaptation, and the pursuit of other societal objectives**
- **Humanity has the means to limit climate change and build a more sustainable and resilient future**

None So Deaf





Agarwal et al., 1999

Once upon a time, a US climatologist said this in Belgium (1):



- **Net accumulation of carbon as CO₂ in the atmosphere is about 3 gigatons per year. There is no quantitative explanation why the annual accumulation is 3 GtC when emissions are 8 GtC.**
- **There is no reason to expect that existing trends between emissions and atmospheric buildup will continue in the future.**

Once upon a time, a US climatologist said this in Belgium (2):



- **Contrary to what you may believe from accounts of the IPCC report, these observations still do not confirm that human activities have led to any global warming.**
- **Warming amounts to about 0.5°C over the last 140 years. This increase is entirely within the range of natural variability. The pattern does not agree with trends in greenhouse gases.**

Once upon a time, a US climatologist said this in Belgium (3):



- **Projections are based on unverified models of natural and social science.**
- **Results from climate models are known to be wrong.**
- **It is impossible today to project future impacts of climate change.**
- **Progress to advance the science will require major effort and many years of study.**

I was there, and confronted him

- **This US climatologist was Dr. B. Flannery, science advisor to Exxon Research and Engineering, with a Ph.D in astrophysics**
- **He was speaking (and sowing doubt) to the Belgian delegation about to leave for the final negotiations of the Kyoto Protocol, in 1997**
- **This was at a lunch event organised by the Belgian Oil Industry Federation (Fédération pétrolière) on 21 November 1997**

Exxon efforts did not stop there...



- **The next day, Dr. B. Flannery presented a similar talk to a few hundreds secondary school science teachers in Ghent**

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Date/Time: 6 Feb 2001, 10:00 a.m.

Pages including Cover: 18

Regarding: Bush Team for IPCC Negotiations

Attached is a brief memo outlining the issues related to the on-going IPCC negotiations on the Third Assessment Report. I have also attached other material that may be useful to you.

I will call to discuss the recommendations regarding the team that can better represent the Bush Administration interests until key appointments and re-assessments are made.

Randy

Issue: Can Watson be replaced now at the request of the U.S.?

Issue: Have Bierbaum and MacCracken been removed from their positions of influence?

**I would be curious to know about
the memos that circulated around
fossil fuel companies/exporting
countries when I ran for the IPCC
Chair position in 2015**

In the USA alone, organizations which sow doubt about climate change spend almost a billion dollars/year! (Brulle 2014, average numbers for 2003-2010)

The European Union fares a little better, but many Brussels lobbyists try to dilute the EU environmental efforts (see the car industry...)

The « merchants of doubt » have evolved in their arguments:

- Existence of global warming
- Human responsibility in the warming
- Uncertainties around the science
- More research needed before taking measures
- Cost of decarbonization
- Drawbacks from alternatives

(recent example: so-called enormous needs of cobalt for electric mobility reported on CNN; see critical analysis on <https://www.desmogblog.com/2018/05/02/cnn-wrongly-blames-electric-cars-unethical-cobalt-mining>)

Conclusions



- **Knowledge about the climate problem and its solutions is more than enough to lead to the urgent action needed**
- **Climate confusers efforts, including those funded by fossil fuel lobbies, are slowing things down**
- **Legislators have a responsibility in this respect**

A proposal (1):



- **Given that the planet has a serious fever**
- **Given that the « planetary physicians » (climate scientists and IPCC) have diagnosed the cause: fossil fuel addiction**
- **Given that climate confusion efforts by the fossil fuel and deforestation lobbies contribute to delay the implementation of the needed remedy (fast decarbonization)**

A proposal (2):

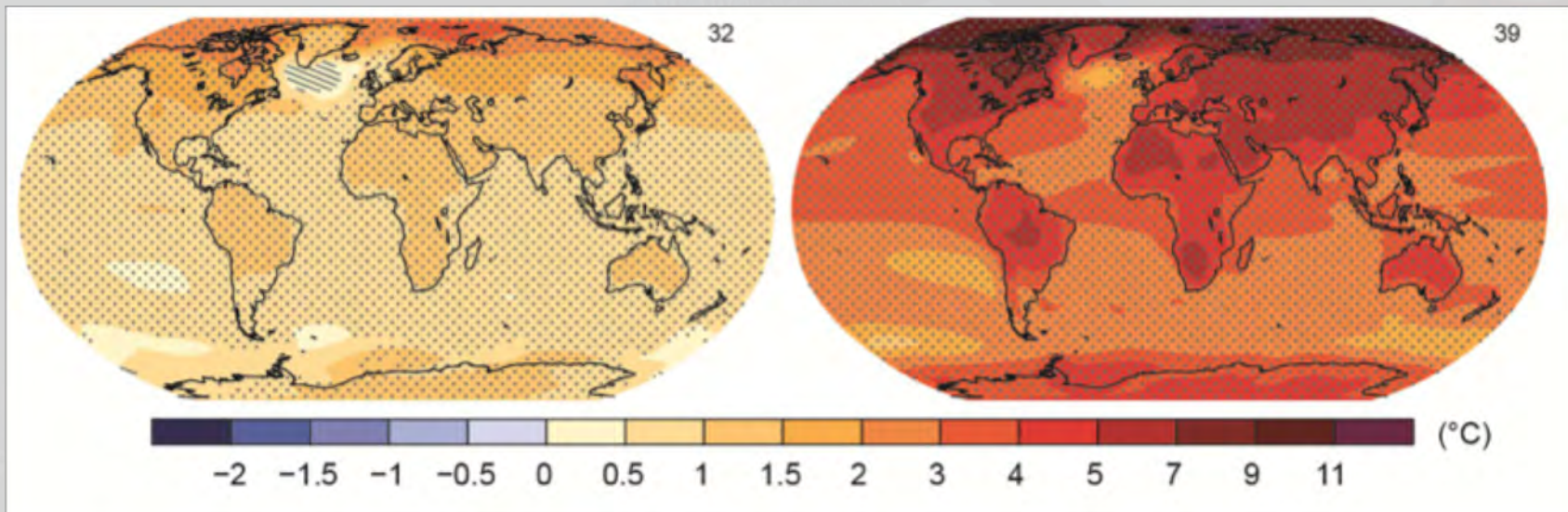


- **Given that these efforts by climate confusers are similar to those by tobacco lobbyists and anti-vaccination charlatans**
- **Given the role of social networks in spreading « fake news » about climate science**
- **The European Parliament will consider how to convince social networks of their responsibility in this regard, and how to lead them to stop spreading climate disinformation**

Humanity still has the choice

With substantial mitigation

Without additional mitigation



Change in average surface temperature (1986–2005 to 2081–2100)

AR5 WGI SPM

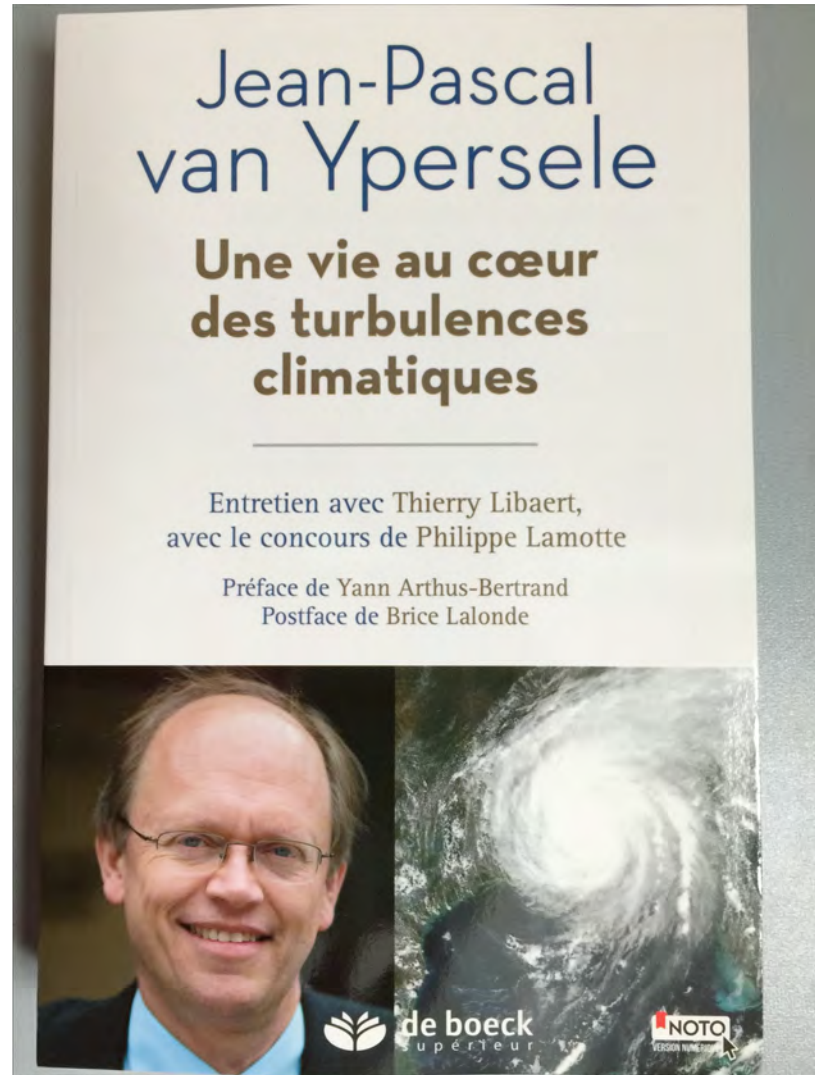
Pour en savoir plus:

**Lisez mon livre, où
j'aborde tous ces sujets**

**Publié chez De Boeck
supérieur**

**Préface: Yann Arthus-
Bertrand**

Postface: Brice Lalonde



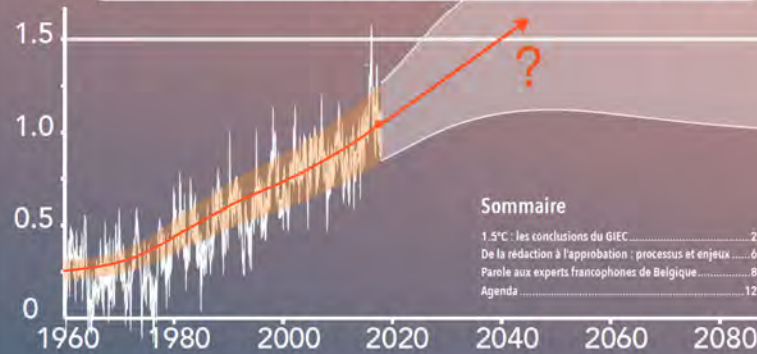
Om meer te weten:

Bij EPO (2018)

**Voorwoord:
Jill Peeters**



Le rapport spécial du GIEC Réchauffement planétaire de 1.5°C



Sommaire

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Pour de nombreuses populations et écosystèmes, il est essentiel de limiter le réchauffement à 1.5°C ou de ne dépasser ce niveau que temporairement. Et c'est potentiellement encore réalisable. Le 6 octobre 2018, l'Assemblée Plénière du GIEC a adopté le Rapport Spécial sur un « Réchauffement planétaire de 1.5°C », qui fait le point au sujet des impacts et scénarios correspondant à ce niveau de réchauffement.

Ce rapport conclut que pour limiter le réchauffement climatique à 1.5°C, il faut des transformations radicales et rapides dans tous les domaines de notre société. Il précise que ces changements sont sans précédent en termes d'échelle, mais pas nécessairement en termes de rapidité.

L'origine du rapport est une demande formelle au GIEC de la part des Parties à la Convention cadre des Nations Unies sur les changements climatiques (CNUCC) lors de l'adoption de l'Accord de Paris, en 2015 (21^e Conférence des Parties, COP21). La COP21 avait aussi indiqué que le rapport du GIEC devrait identifier le niveau auquel les émissions mondiales devraient être ramenées en 2030 pour contenir l'élévation de température en-dessous de 1.5°C.

Le rapport a été adopté à l'issue d'une semaine de discussions intenses au sujet de la formulation du Résumé à l'intention des décideurs, sur la base des chapitres et du projet de résumé rédigés par les scientifiques - qui ont toujours le dernier mot en ce qui concerne le contenu. Il forme une base scientifique essentielle pour les prochaines négociations internationales dans le cadre de la CNUCC, qui auront lieu à Katowice (Pologne) en décembre 2018 (COP24).

Dans cette Lettre, nous donnons d'abord un aperçu des conclusions du rapport, ensuite un aperçu du processus d'approbation et des enjeux associés. Pour ouvrir le débat et fournir un ensemble de points de vue, nous avons ensuite donné la parole aux experts francophones de Belgique, qui nous ont aimablement fait part des commentaires que vous trouverez en troisième partie. L'agenda indique les prochaines périodes de relecture de rapports du GIEC et annonce deux événements à venir en Belgique.

Nous vous en souhaitons une bonne lecture,
Jean-Pascal van Ypersele, Bruna Galno et Philippe Marbaix

image de fond : extrait adapté de la figure SPM1 du Rapport spécial



Useful links:



- www.ipcc.ch : IPCC (reports and videos)
- www.climate.be/vanyp : e.g., my slides
- www.skepticalscience.com: excellent responses to contrarians arguments
- www.desmogblog.com: analysis of contrarians strategies
- **On Twitter: @JPvanYpersele
and @IPCC_CH**

Jean-Pascal van Ypersele
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This gives me
hope:

Well-
informed
young people
speaking
truth to
power



With @GretaThunberg at COP24