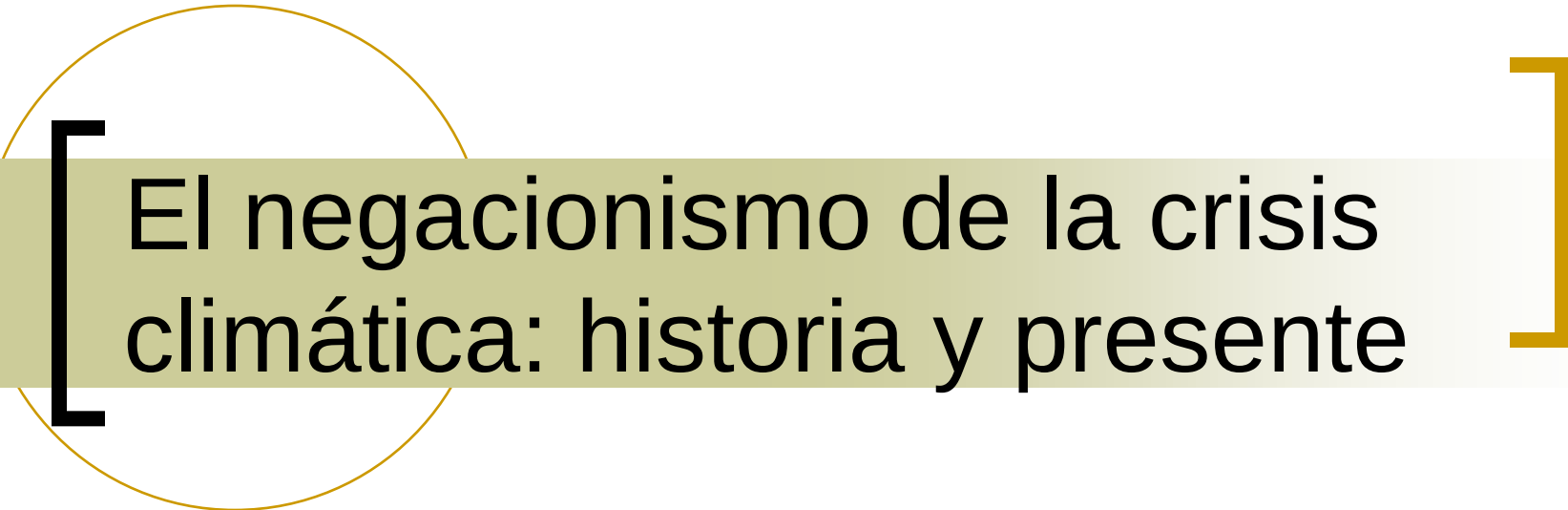




El negacionismo de la crisis climática: historia y presente

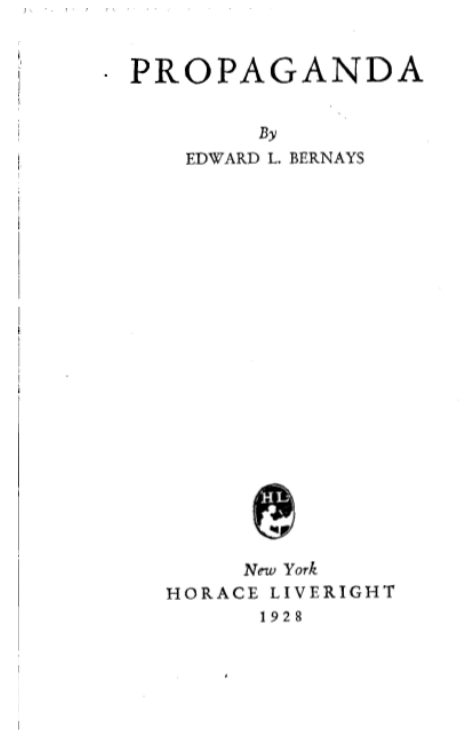
Ferran P. Vilar

Jornadas sobre Cambio Climático

Granada, 14/05/2010

[Antorchas de libertad]

- 31/03/1929
- Easter Parade
- Bertha Hunt
- John D. Rockefeller
- New York Evening World
- Edward Bernays



Started something and that these *torches of freedom*, with no particular brand favored, will smash the discriminatory taboo on cigarettes for women and that our sex will go on breaking down all discriminations.

[¿De qué estamos hablando?]

- Los científicos hemos constatado que existe un problema de emisiones, pero no lo podemos resolver
- Puesto que el CO2 lo producen las máquinas, tendremos que llamar a los ingenieros
- Estos, a su vez, dirán que existe la tecnología necesaria para solucionar el problema, pero que cuesta dinero, así que se llamará a los economistas
- Los economistas harán sus cálculos y dirán que, para conseguirlo, habrá que cambiar nuestro actual modelo social basado en el transporte, el derroche energético... así que se llamará a los sociólogos
- Éstos, a su vez, dirán que es un problema de escala de valores que ellos no pueden resolver. Así que se acudirá a los filósofos para que nos digan en qué valores deberíamos poner nuestro empeño e interés

[Llamamientos (1)]

- "This is an emergency and for emergency situations we need emergency action"

- *Ban Ki-Moon,
UN Secretary
General
07/11/2007*

Llamamientos (2)

- 1985 – Villach:
 - *Seguir aumentando la concentración de gases de efecto invernadero puede causar un aumento histórico de la temperatura global.*
- 1988 – Toronto
 - *Este experimento es no intencionado, no está siendo controlado y sus últimas consecuencias sólo pueden situarse **detrás de una guerra nuclear**.*
- 1992 – UCS: 1700 científicos
 - *La incertidumbre sobre el alcance de estos acontecimientos no puede excusar la complacencia o el retraso en afrontar estas amenazas'*
 - *Los seres humanos y el mundo natural se encuentran en curso de colisión' (9) y, tras distintas consideraciones, concluyeron con un llamamiento desesperado: 'Esperamos que este mensaje llegue y afecte a todo el mundo. Necesitamos la colaboración de todos. Requerimos la colaboración de la comunidad científica internacional – ciencias naturales, sociales, económicas y políticas, la de los líderes industriales y empresariales, la de los líderes religiosos, la de la gente de todo el mundo. Llamamos a todas las personas del mundo a unirse a esta tarea'*

[Llamamientos (3)]

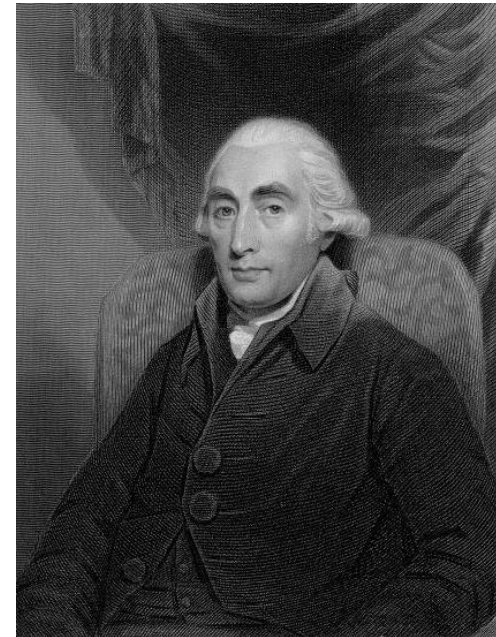
- 2001: Premios Nobel
 - *La situación será desesperada y manifiestamente injusta*
- 2004: Comunidad Evangélica (parte)
 - *En el nombre de Jesucristo Nuestro Señor, llamamos a todos los que lean esta declaración a unirse a nosotros en el esfuerzo'*
- 2005: Academias Nacionales de Ciencias G8 + Brasil, China, India
- 2009: Premios Nobel
 - Llamamiento 'encarnizado' (*fierce*) y urgente por un acuerdo sobre cambio climático 'al nivel de la escala y urgencia de las crisis humana, ecológica y económica a la que el mundo se enfrenta en la actualidad'
- Mayo de 2010: 250 científicos USA
 - Muchos asaltos recientes a la ciencia del clima y, más importante, a los científicos del clima por parte de los negacionistas del cambio climático están habitualmente promovidos por intereses particulares **o por dogma**, y no por un esfuerzo honesto de proporcionar una teoría alternativa que satisfaga, creíblemente, la evidencia observable ... La sociedad tiene dos posibilidades: podemos ignorar la ciencia, esconder nuestras cabezas debajo del ala y confiar en la suerte, o podemos actuar en función del interés público para reducir la amenaza del cambio climático global rápida y sustantivamente.



¿Desde cuándo se sabe que el clima iba a cambiar debido a la actividad humana?

[CO₂ (1754)]

- Escocés, amigo de James Watt
- Calor latente
- Calor específico
- Termodinámica



Joseph Black (1728-1799)

[Efecto invernadero (1824)]

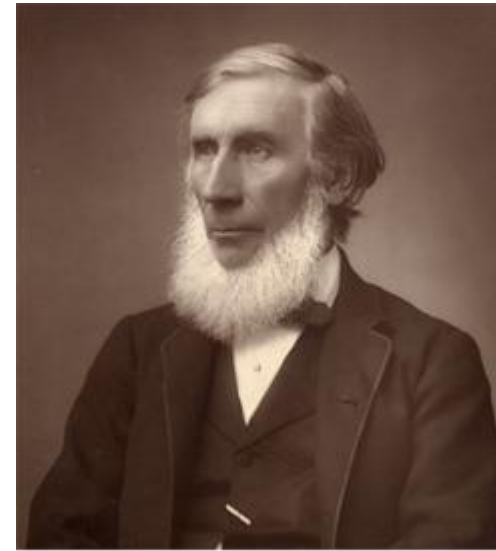
- Resuelve ecuación del calor
- Matemático
 - Series
 - Transformadas
- Alumno de Lagrange y Laplace



Joseph Fourier (1768-1830)

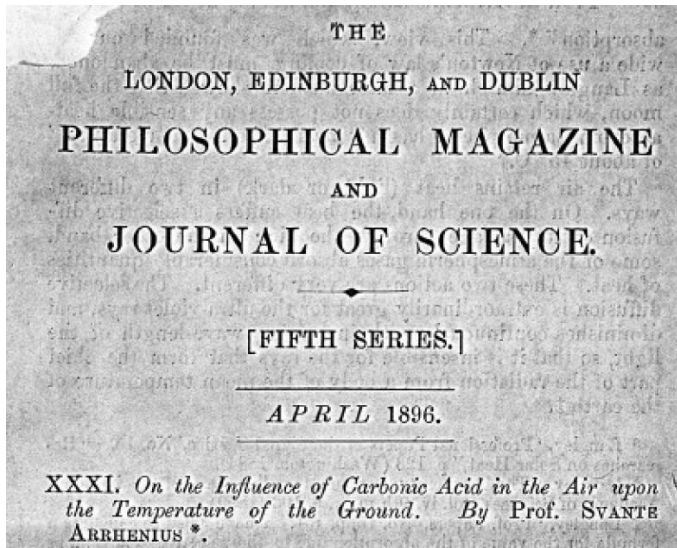
[Efecto invernadero (1861)]

- “The solar heat possesses. . . the power of crossing an atmosphere; but, when the heat is absorbed by the planet, it is so changed in quality that the rays emanating from the planet cannot get with the same freedom back into space – John Tyndall, 1861



Joseph Black (1728-1799)

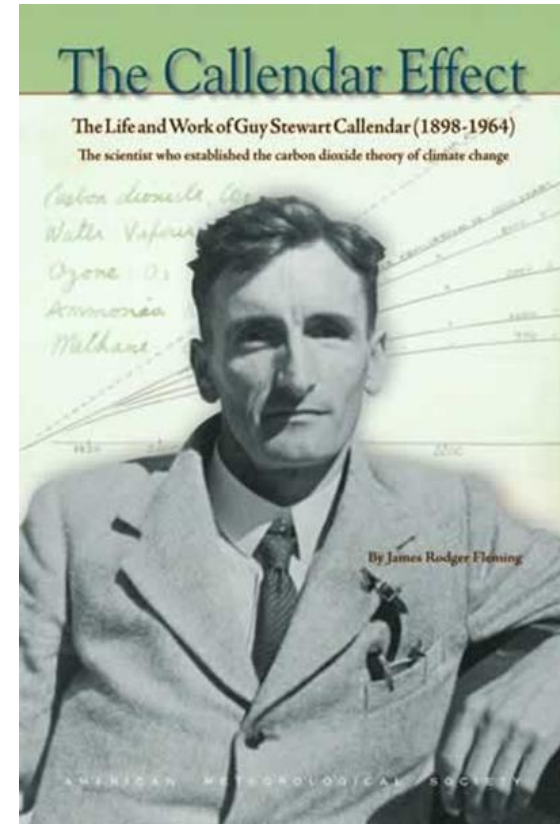
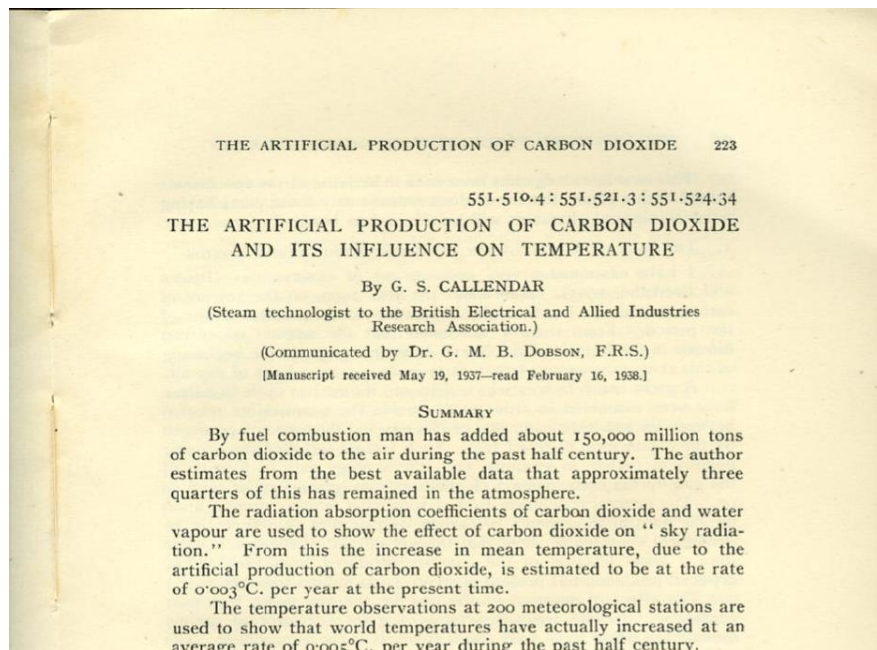
Sensibilidad climática (1896)



Svante Arrhenius (1728-1799)

Vapor de agua no influye (1938)

Ingeniero de vapor



Guy Stewart Callendar

[Los océanos no lo absorben todo (1956)]

Carbon Dioxide Exchange Between Atmosphere and Ocean and the Question of an Increase of Atmospheric CO₂ during the Past Decades

By ROGER REVELLE and HANS E. SUESS, Scripps Institution of Oceanography, University
of California, La Jolla, California

(Manuscript received September 4, 1956)

Abstract

From a comparison of C¹⁴/C¹² and C¹³/C¹² ratios in wood and in marine material and from a slight decrease of the C¹⁴ concentration in terrestrial plants over the past 50 years it can be concluded that the average lifetime of a CO₂ molecule in the atmosphere before it is dissolved into the sea is of the order of 10 years. This means that most of the CO₂ released by artificial fuel combustion since the beginning of the industrial revolution must have been absorbed by the oceans. The increase of atmospheric CO₂ from this cause is at present small but may become significant during future decades if industrial fuel combustion continues to rise exponentially.

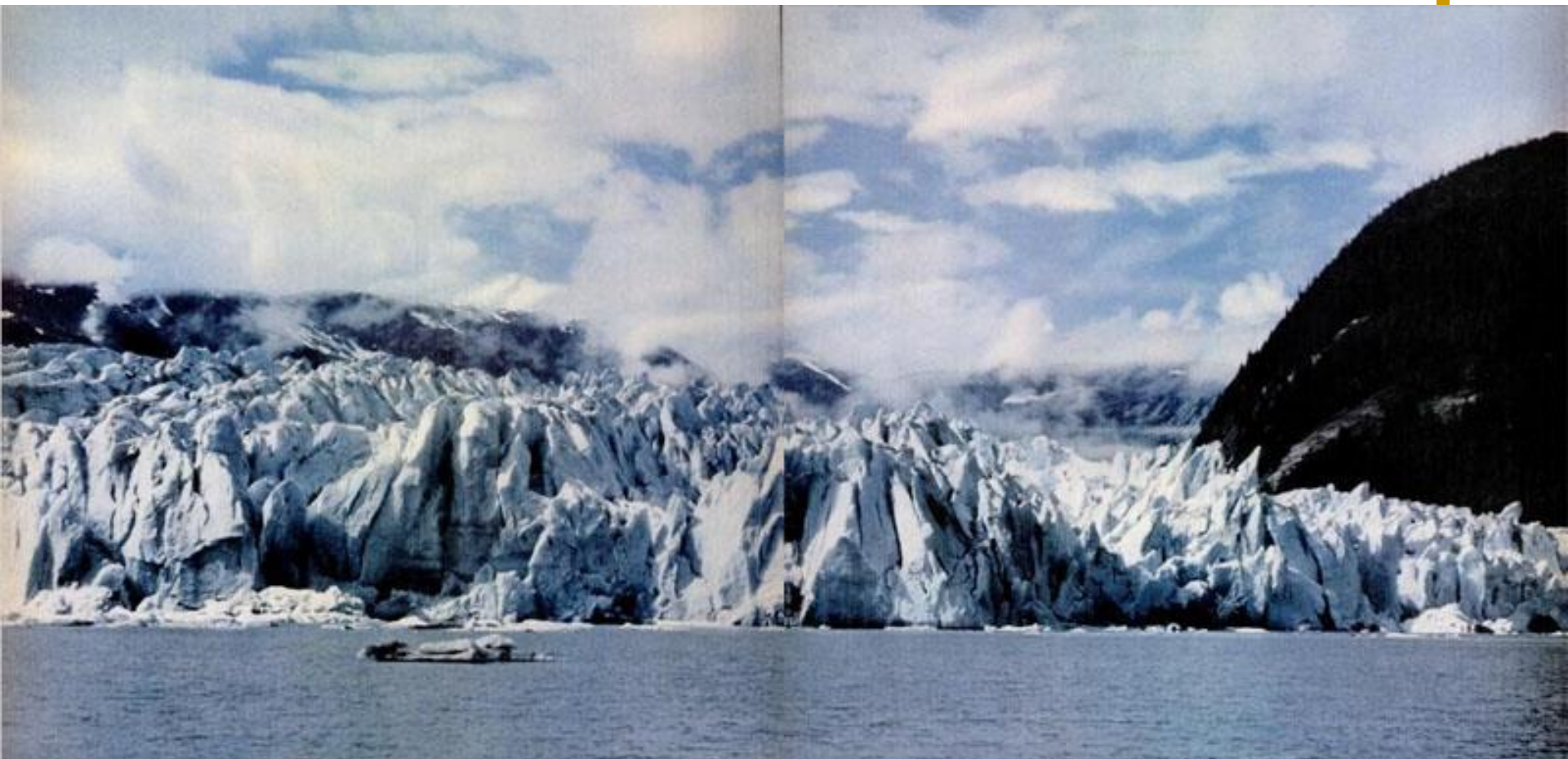
Present data on the total amount of CO₂ in the atmosphere, on the rates and mechanisms of exchange, and on possible fluctuations in terrestrial and marine organic carbon, are inadequate for accurate measurement of future changes in atmospheric CO₂. An opportunity exists during the International Geophysical Year to obtain much of the necessary information.



Roger Revelle, Senado EEUU, 1961

[Suficiente]

- **En los primeros 1960 mucho había cambiado.** Muchos científicos comenzaron a preocuparse seriamente por el hecho de que este calentamiento no fuera una mera fase de un modesto ciclo natural sino el inicio de un ascenso acelerado, descontrolado y sin precedentes.
- Este cambio en la comprensión y en la atención **puede algún día ser visto como uno de los avances científicos cruciales del siglo**



ENCO GLACIER, ALASKA, IS 8 MILES OF ICE STRETCHING 270 SQUARE MILES. YET THE PETROLEUM ENERGY HUMBLE SUPPLIES AMOUNTS TO ONLY 17% OF THE RATE OF 7 MILLION TONS A DAY!

EACH DAY HUMBLE SUPPLIES ENOUGH **ENERGY** TO MELT 7 MILLION TONS OF GLACIER!

This giant glacier has remained unmelted for centuries. Yet, the petroleum energy Humble supplies—if converted into heat—could melt it at the rate of 80 tons each second! To meet the nation's growing needs for energy, Humble has applied science to nature's resources to become America's Leading Energy Company. Working wonders with oil through research, Humble provides energy in many forms—to help heat our homes, power our transportation, and to furnish industry with a great variety of versatile chemicals. Stop at a Humble station for new Enco Extra gasoline, and see why the "Happy Motoring" Sign is the World's First Choice!

HUMBLE
OIL & REFINING COMPANY
America's Leading **Energy** company



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Life Magazine 02/02/1962

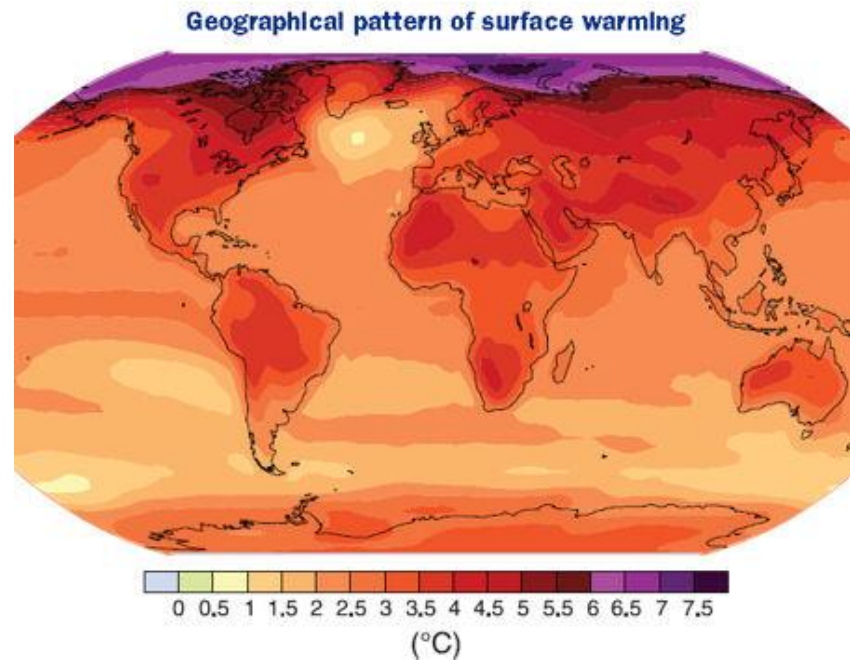
<http://books.google.com/books?id=k00EAAAAMBAJ&lpg=PA86-IA3&dq=glacier%20humble&pg=PA86-IA2#v=onepage&q=glacier%20humble&f=false>

[Lyndon B. Johnson, 1965]

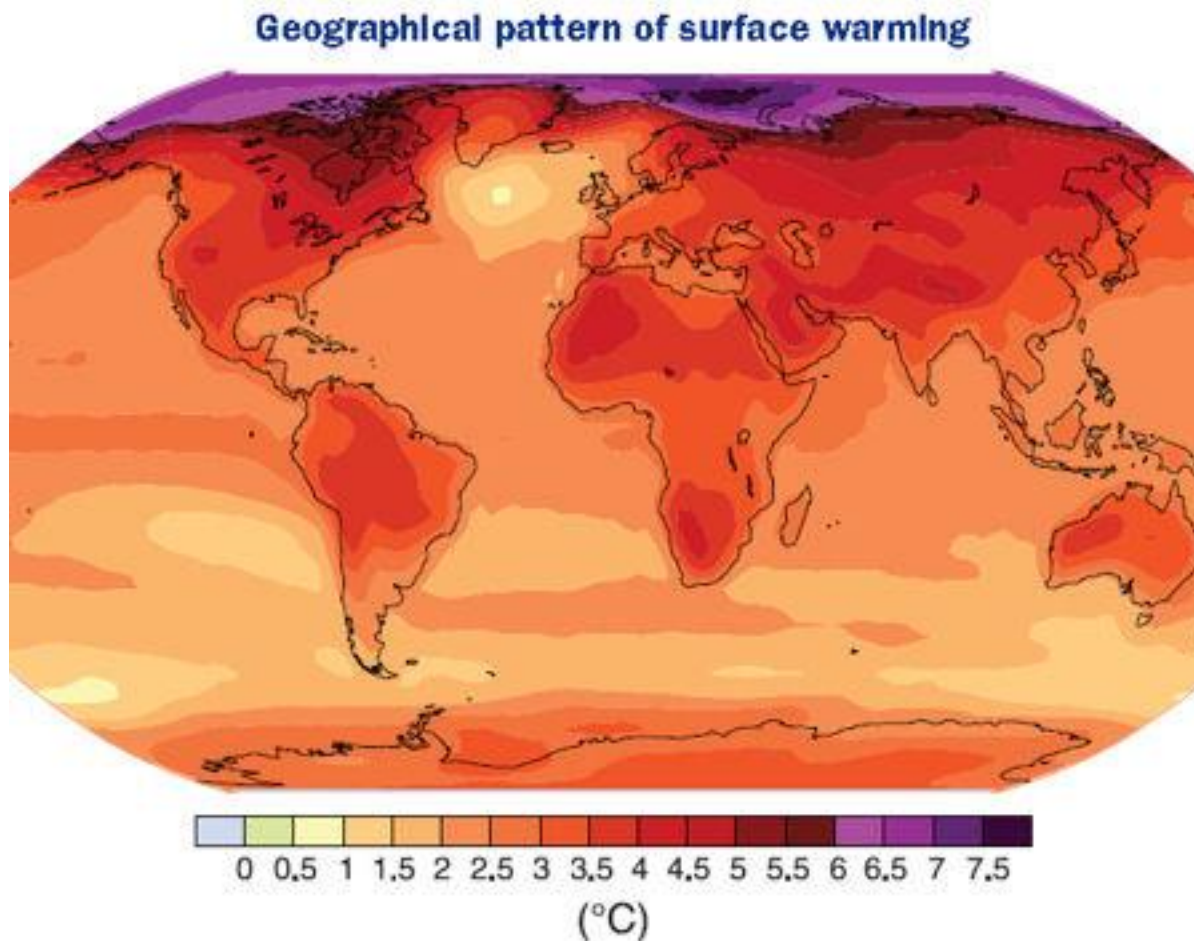
Esta generación ha alterado la composición de la atmósfera a escala global mediante ... un incremento sostenido de dióxido de carbono procedente de la quema de combustibles fósiles ... [que pueden generar] **cambios importantes en el clima.**

[Amplificación polar (1980)]

Syukuro Manabe and Ronald J. Stouffer (1980) - Sensitivity of a global climate model to an increase of CO₂ concentration in the atmosphere - Journal of Geophysical Research 85:5529-5554 - 11/05/1980 - Geophysical Fluids Dynamic Laboratory



[Amplificación polar]



IPCC, 2007 – 4AR

[James Gustav Speth (1980)]

- “The report’s contents were alarming. The report predicted “a warming that will probably be conspicuous within the next twenty years,” and it called for early action: “the time for implementing the policies is fast passing.” The year was 1979, almost three decades ago ... I soon presented the report to President Carter”
- “The administration responded by asking the National Academy of Sciences to assess the scientific basis for concern about man-made climate change. An NAS effort led by Massachusetts Institute of Technology ... A wait-and-see policy may mean waiting until it is too late.”

[James Gustav Speth (1980)]

- “The failure to rise to the climate change challenge is part of a larger failure to confront other environmental problems ... I was chair of Carter’s Council on Environmental Quality at the time, and this report was our third, and final, major report on the climate-change challenge”.
- “For those who cared to look, there was enough information on climate change three decades ago to stir the deepest concerns.”

Intergovernmental Panel of Climate Change



Evaluación exhaustiva

Multiplicidad de niveles de revisión
experta

Aprobación por consenso de los
gobiernos (+ aceptación
científicos)

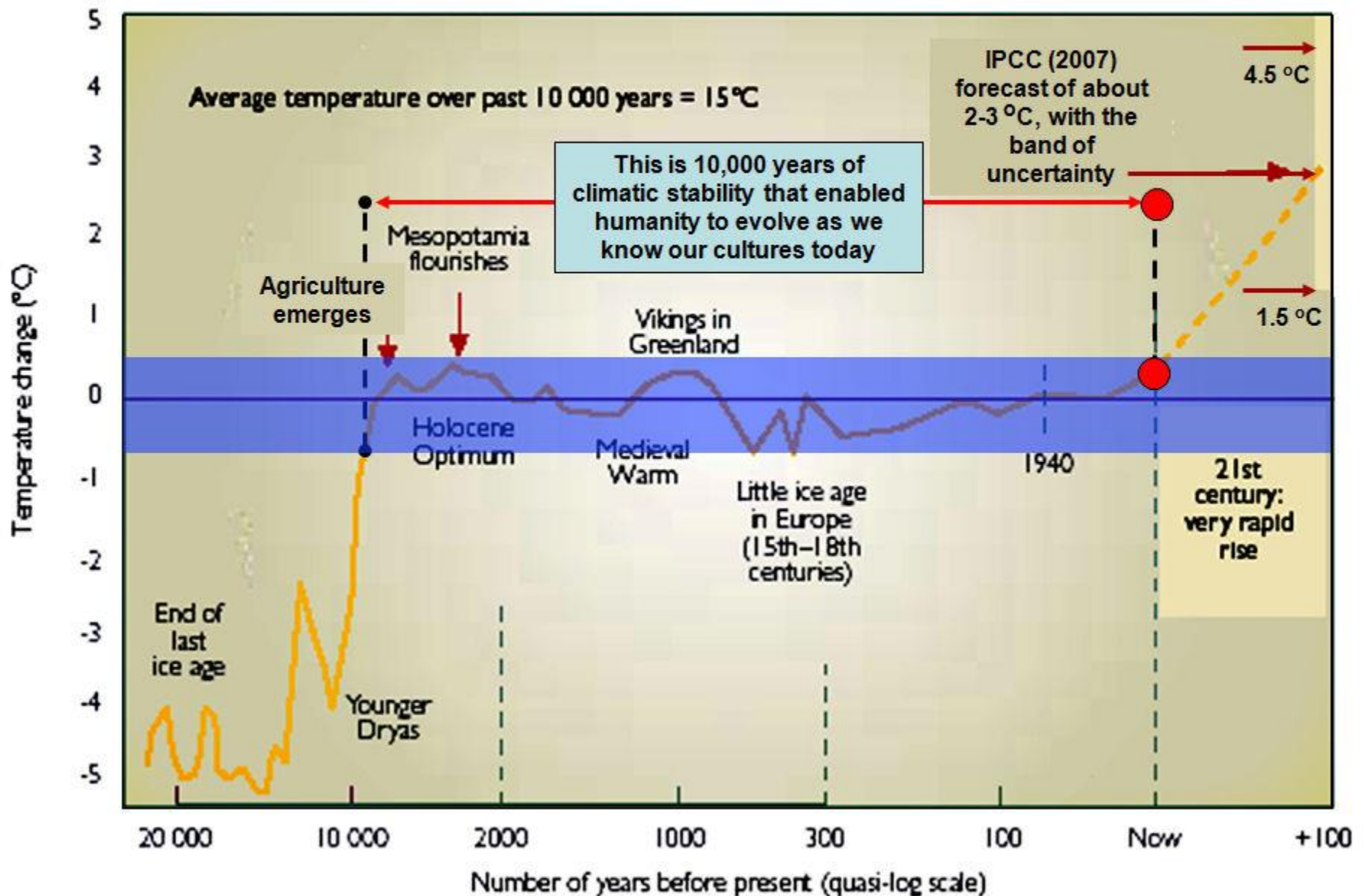
- **1995:** “The balance of evidence suggests a discernible human influence on global climate”
- **2001:** “There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities”
- **2007:** “Warming of the climate system is unequivocal.... Most of the observed increase in globally-averaged temperatures since the mid- 20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations.”

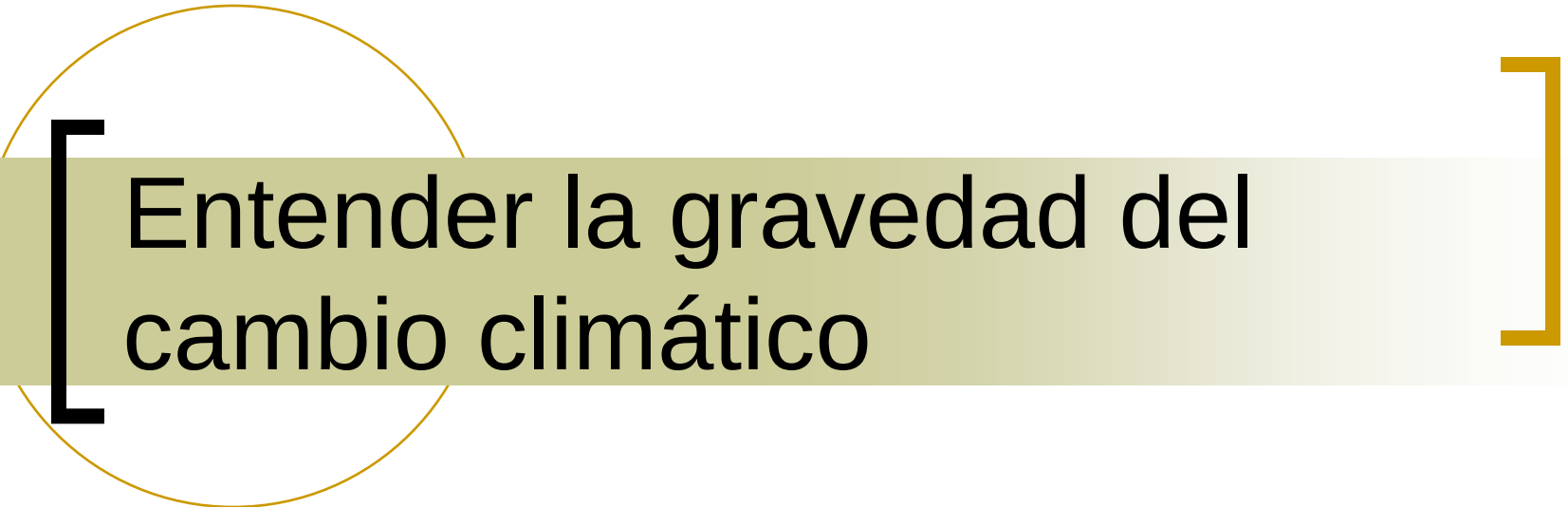
[Llamamientos: 2009]

- "The world's energy system is at a crossroads. Current global trends in energy supply and consumption are patently unsustainable - environmentally, economically, socially. But that can - and must - be altered; *there's still time to change the road we're on*. It is not an exaggeration to claim that the future of human prosperity depends on how successful we tackle the two central challenges facing us today: securing the supply of reliable and affordable energy; and effecting a rapid transformation to a low-carbon, efficient and environmentally benign system of energy supply. What is needed is nothing short of an energy revolution."
- "Recent observations confirm --- the worst case IPCC scenarios are being realised. For many key parameters, the climate system is already moving beyond the bounds of natural variability within which our society and economy have developed and thrived. ---- There is a significant risk that many of the trends will accelerate, leading to an increasing risk of abrupt or irreversible climatic shifts".

*Key Messages
Copenhagen Climate
Change Science Conference
10 -12th March 2009*

The Last 20,000 Years seems to have been Ideal for the Development of Human Societies. Is this a Historic “Sweet Spot” that Enabled Humans to Flourish?





Entender la gravedad del cambio climático

Sistemas

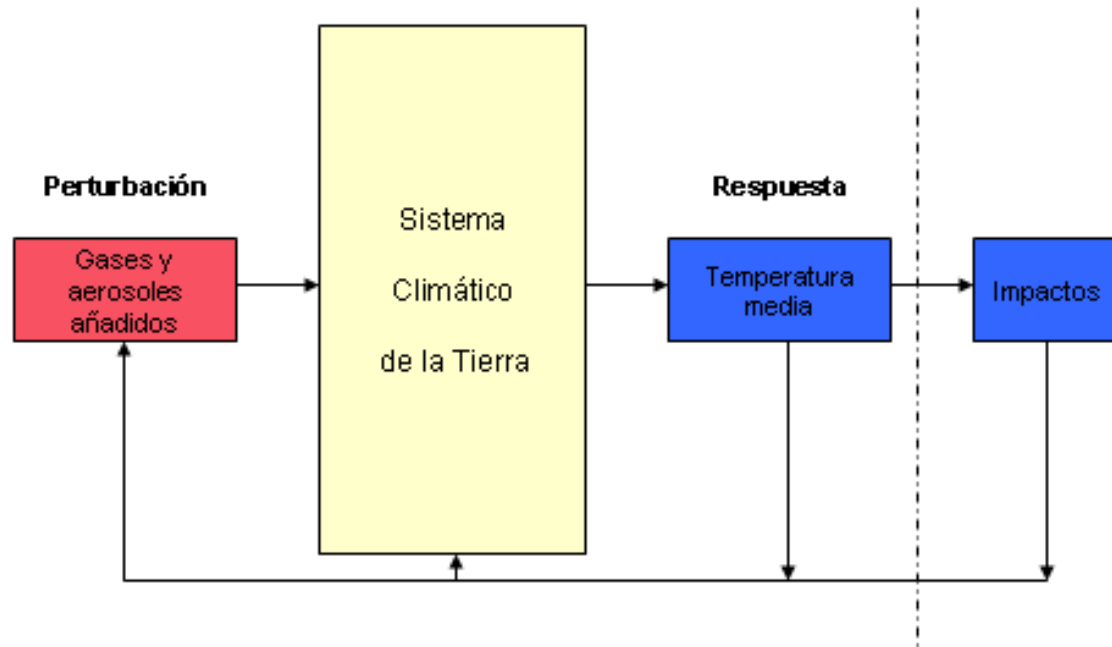
La amplificación polar

Reduccionismo científico

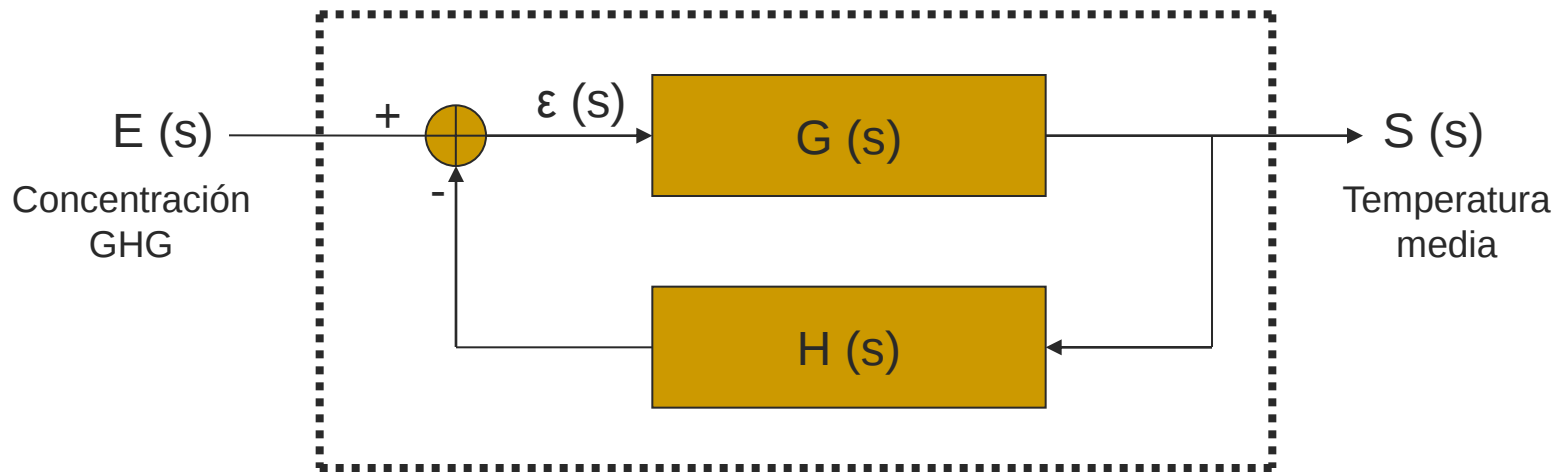


1. Los sistemas

[Perturbació - Resposta]



Realimentación



$$S(s) = \epsilon(s) \times G(s) \longrightarrow \begin{aligned} \epsilon(s) &= G(s) / S(s) \\ \epsilon(s) &= E(s) - S(s) \times H(s) \end{aligned}$$

$$S(s) = \frac{G(s)}{1 + G(s)H(s)} \times E(s)$$

[Sistemas]

- Biológicos (Homeostasis)
- Mecánicos
- Electrónicos
- Ecológicos
- Económicos
- Políticos
- Sociales
- Etc..

[Características 'dinámicas']

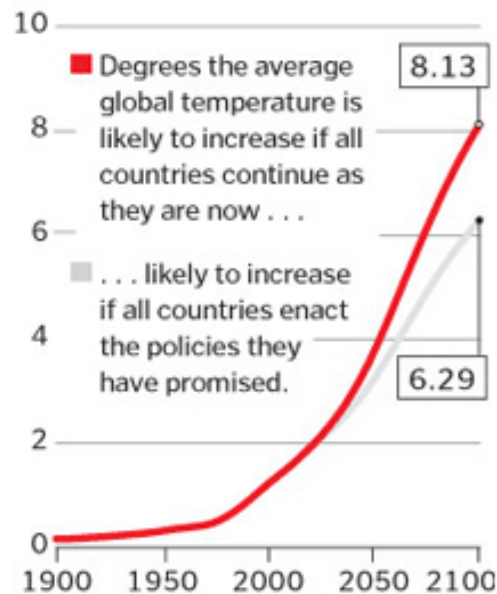
- Amplificación (si realimentación positiva) o reducción (si realimentación negativa) de la perturbación
- Respuesta exponencial (no proporcional)
- Posible retardo entre perturbación y respuesta (casi siempre)
- Existencia de un umbral de estabilidad
- 'Vida' propia si ha entrado en zona inestable

Respuesta exponencial

Warming Trend

Researchers say global temperature is likely to rise more than six degrees by the end of the century even if every country enacts all climate legislation it has promised to enact to date.

Temperature increases, in degrees Fahrenheit



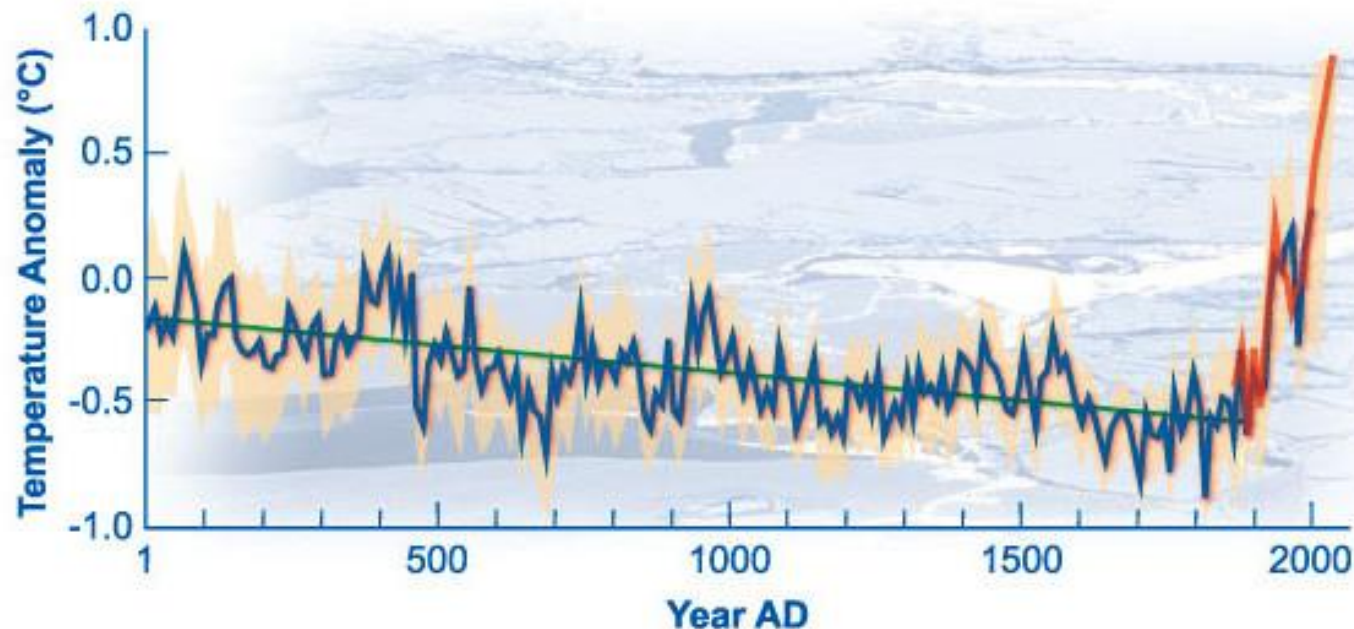
Source: Sustainability Institute
The Washington Post

The Washington Post, 2009



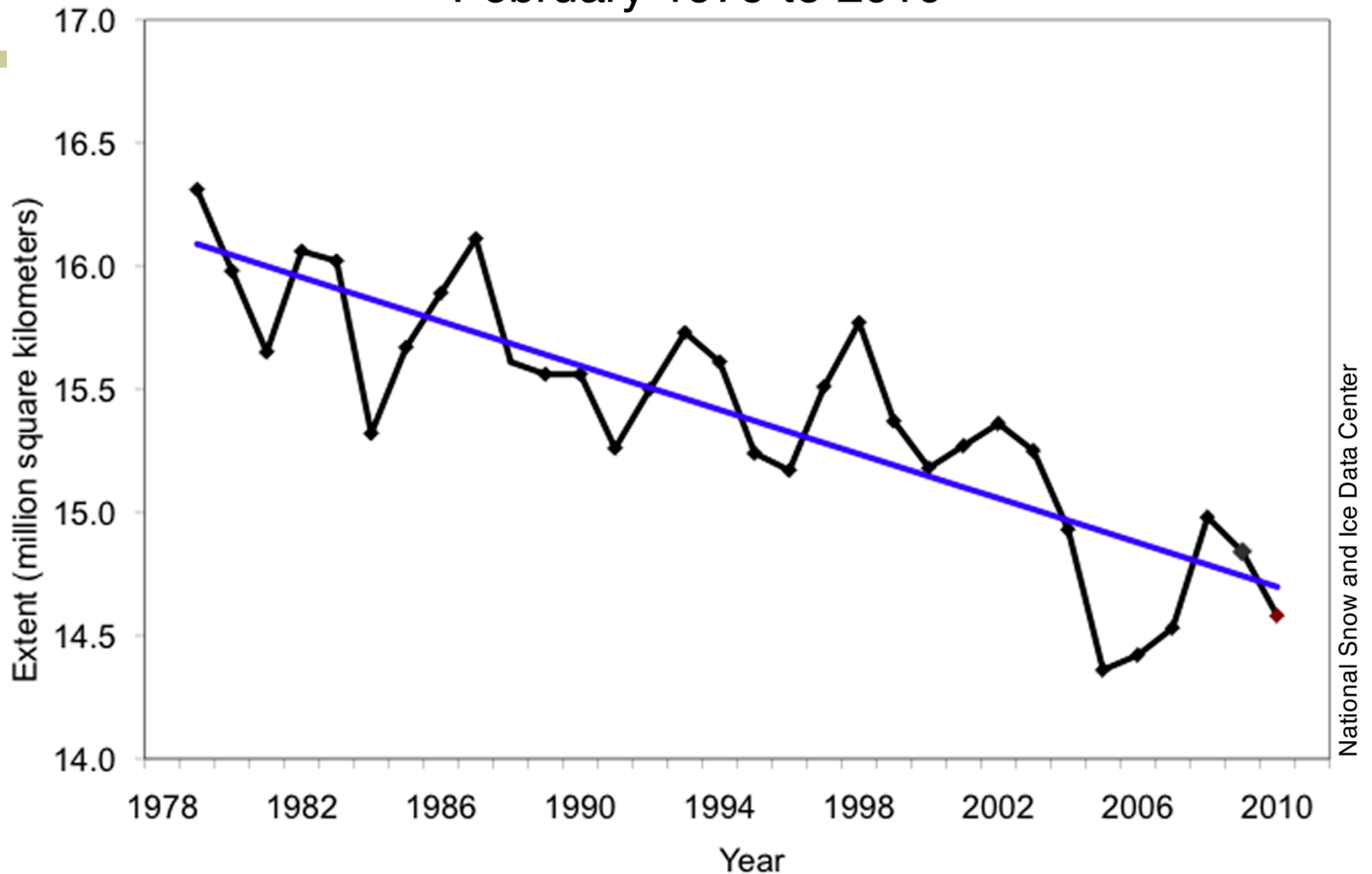
2. La amplificación polar

Ártico: cambio de tendencia



Darrell S. Kaufman et al (2009) – Recent Warming Reverses Long-Term Arctic Cooling
– Science 325:1326-1329 doi:10.1126/science.1173983 – School of Earth Sciences and
Environmental Sustainability, Northern Arizona University 04/09/2009 - 11 authors

Average Monthly Arctic Sea Ice Extent February 1979 to 2010



[Groenlandia (por ejemplo)]

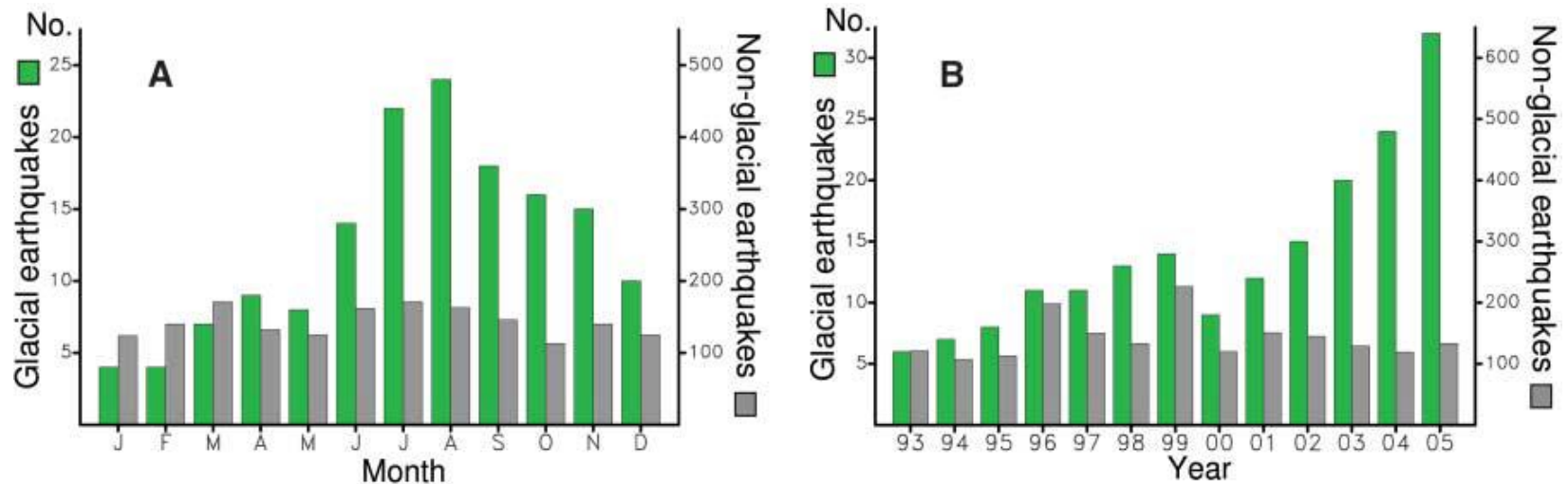


Disminución del albedo



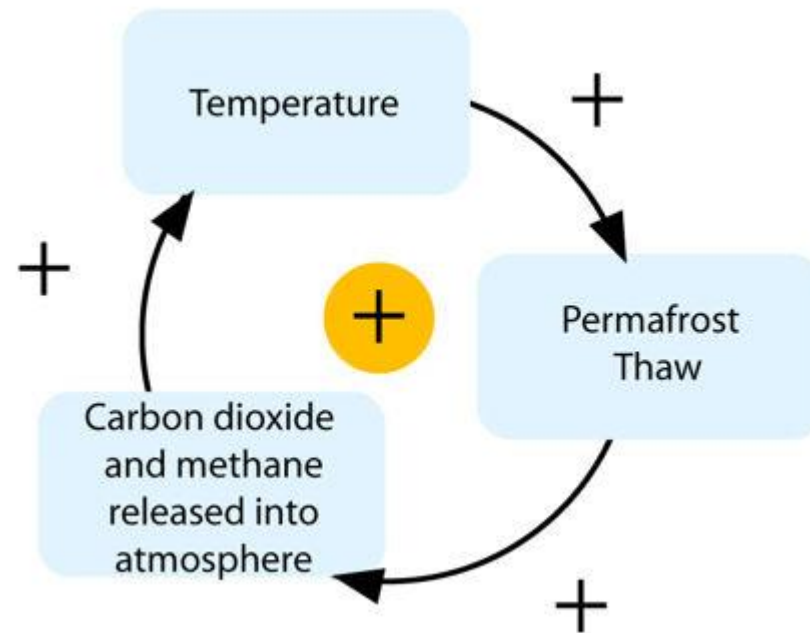
Genera un pozo que a su vez genera una lámina fluida en la base, que ejerce de patín

Sismicitat a Grenlàndia

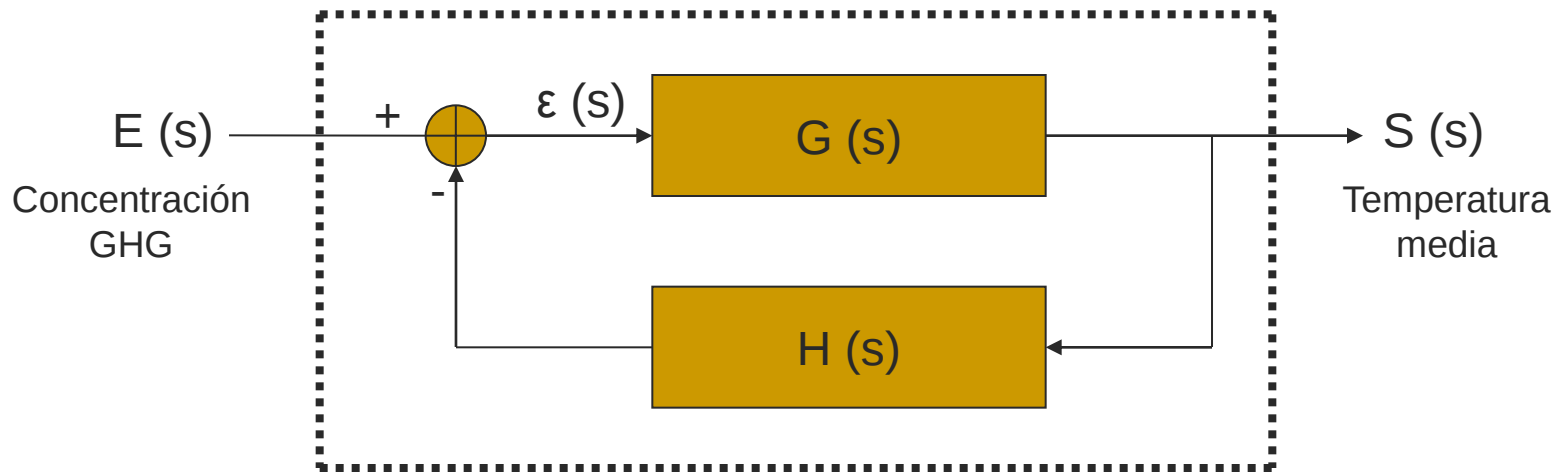


Göran Ekström et al (2006) - Department of Earth and Planetary Sciences, Harvard University – Science 311:1756-1758

[Círculo vicioso (realim. +)]



Realimentación



$$S(s) = \epsilon(s) \times G(s) \longrightarrow \begin{aligned} \epsilon(s) &= G(s) / S(s) \\ \epsilon(s) &= E(s) - S(s) \times H(s) \end{aligned}$$

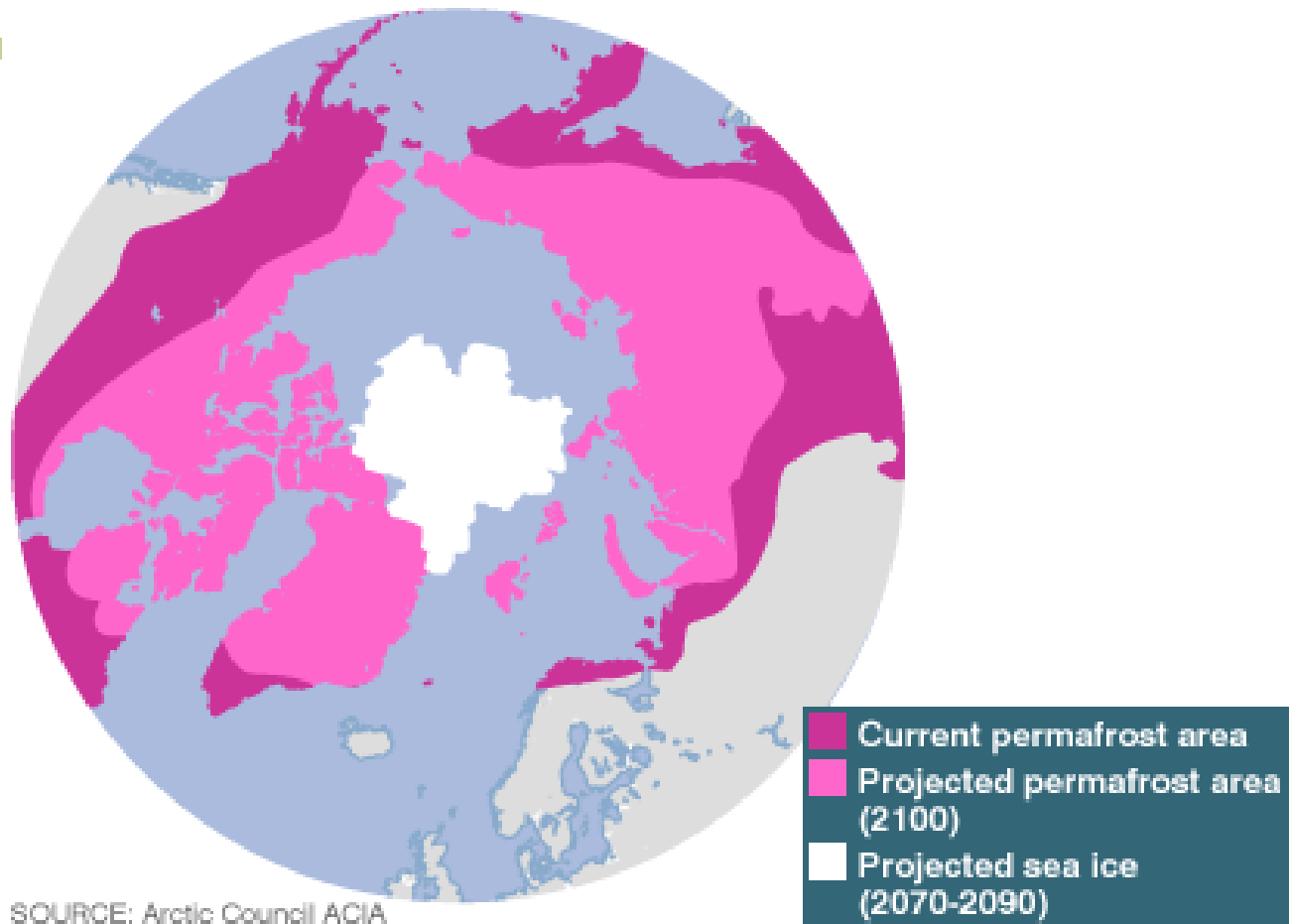
$$S(s) = \frac{G(s)}{1 + G(s)H(s)} \times E(s)$$

[

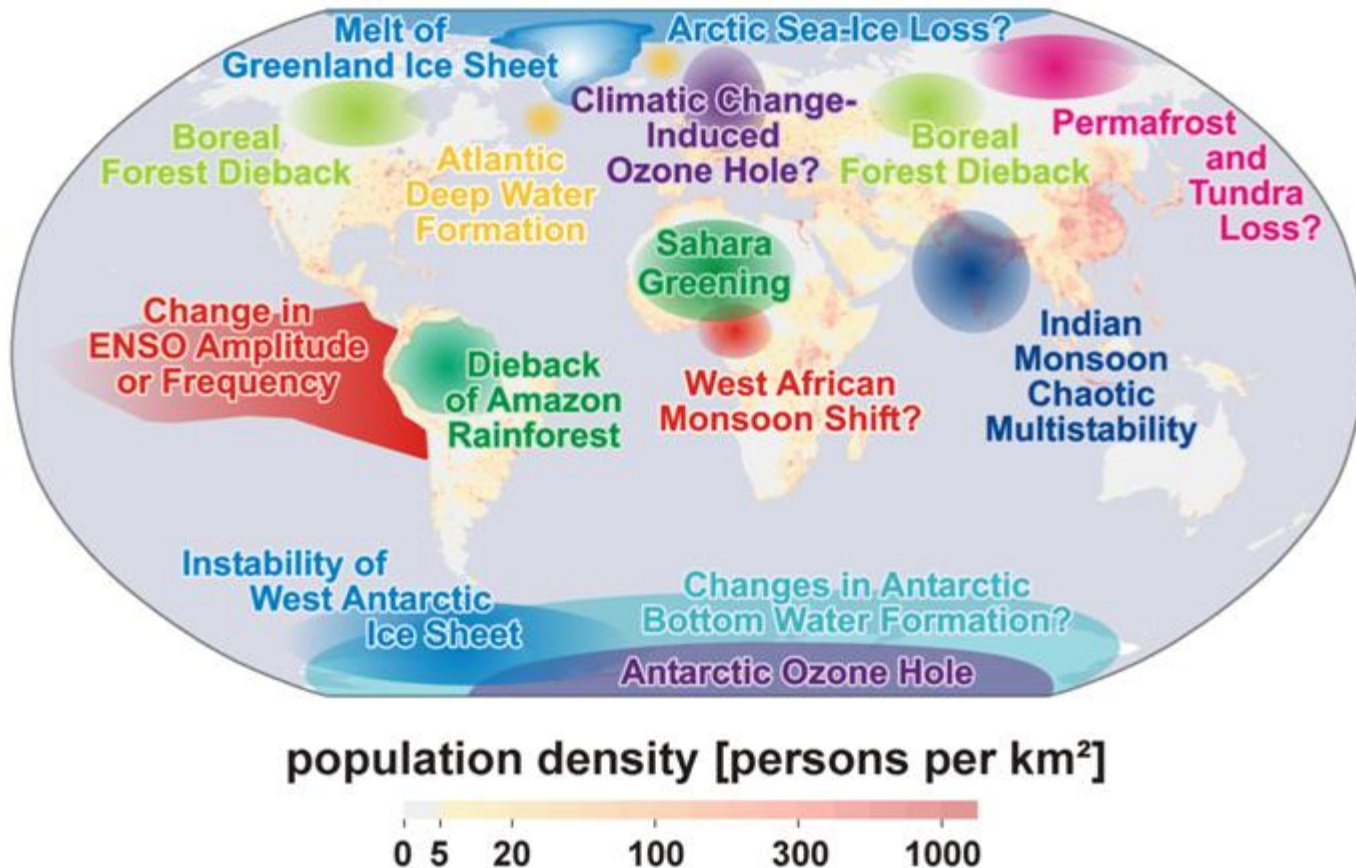
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PROJECTED CHANGE IN ARCTIC PERMAFROST BY 2100



['Tipping elements']



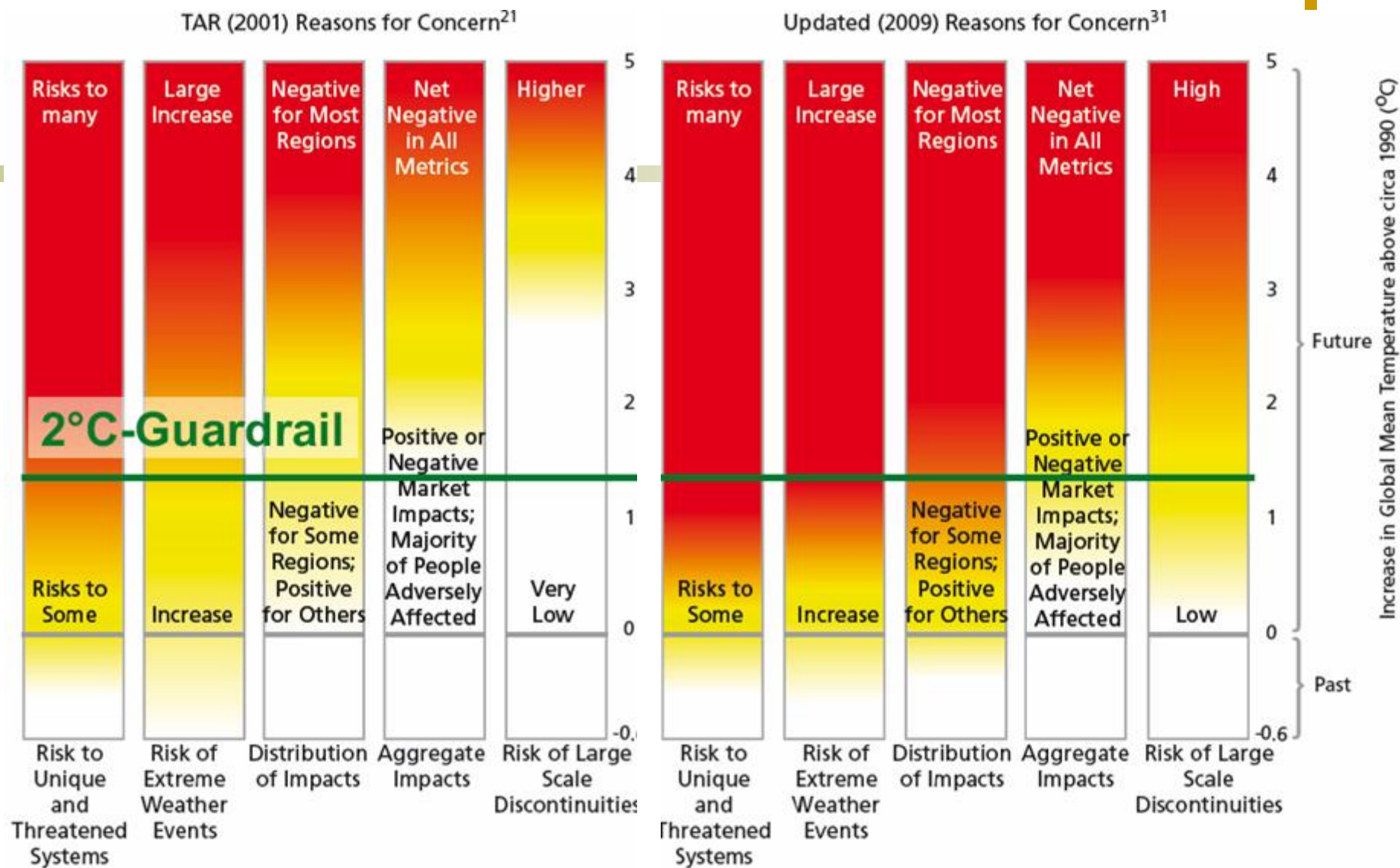
Timothy M. Lenton et al (2009) - Tipping elements in the Earth's climate system – Proceedings of the National Academy of Sciences doi:10.1073/pnas.0705414105 – 7 authors



Reduccionismo

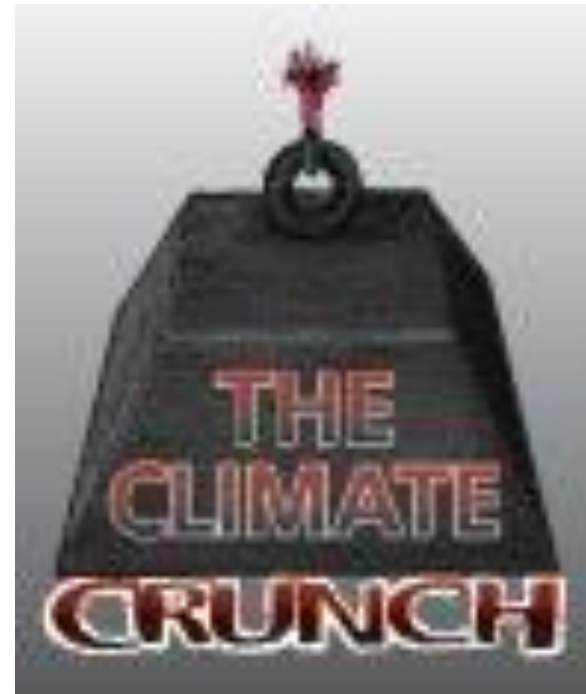
[Correspondencias]

	Ahora	1995	2007	2009	
Temperatura	> 0,8	2	2	1,8	°C
Concentración	> 391	550	450	350	ppmv
Emisiones	~ 8			< 0	GtC /año



Joel B. Smith et al (2009) – Assessing dangerous climate change through an update of the Intergovernmental Panel on Climate Change (IPCC) ‘reasons for concern’ - Proceedings of the National Academy of Sciences PNAS 106:4133–4137 doi:10.1073/pnas.0812355106 – 15 autores líderes

[Crunch!]



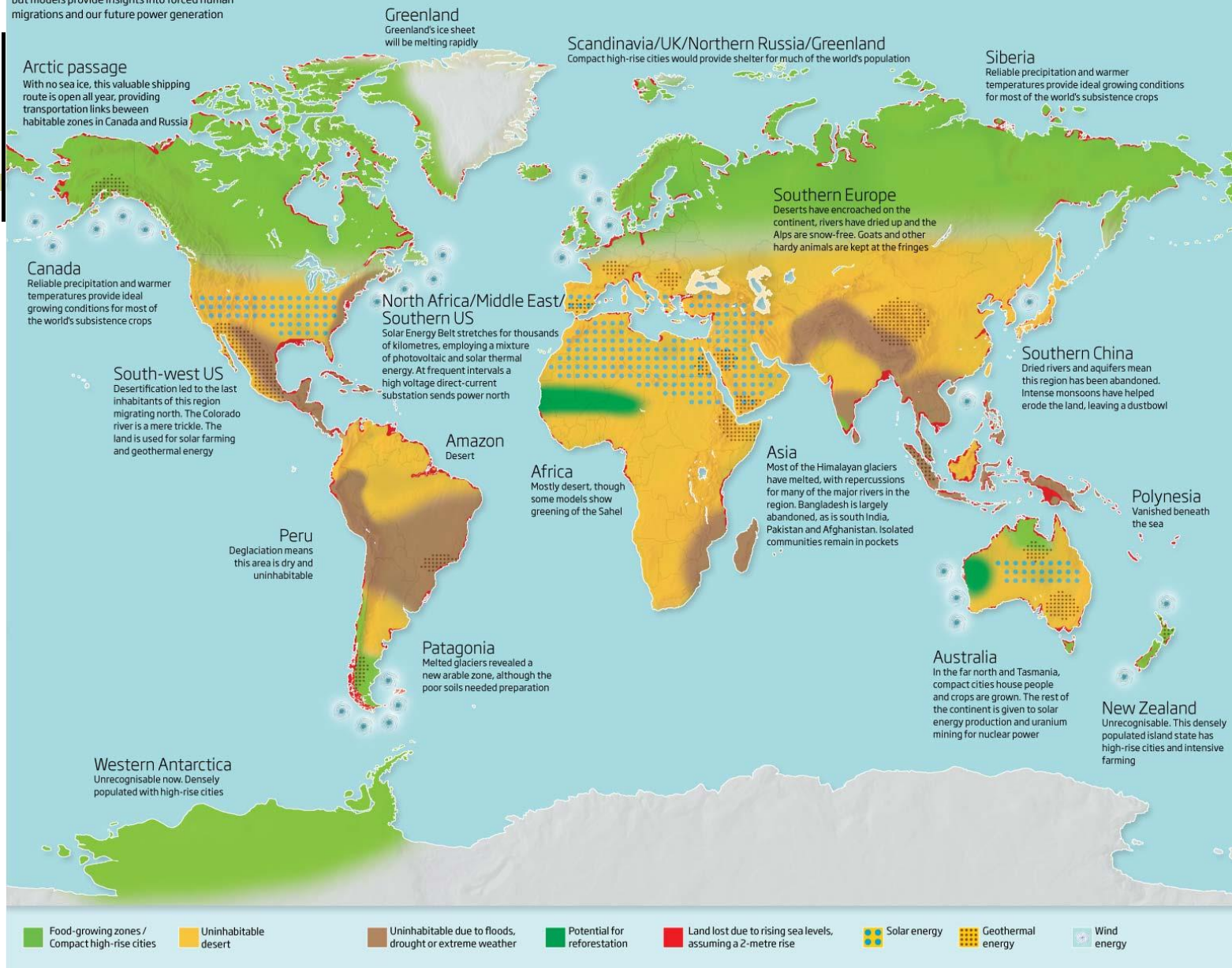
[The climate ...]



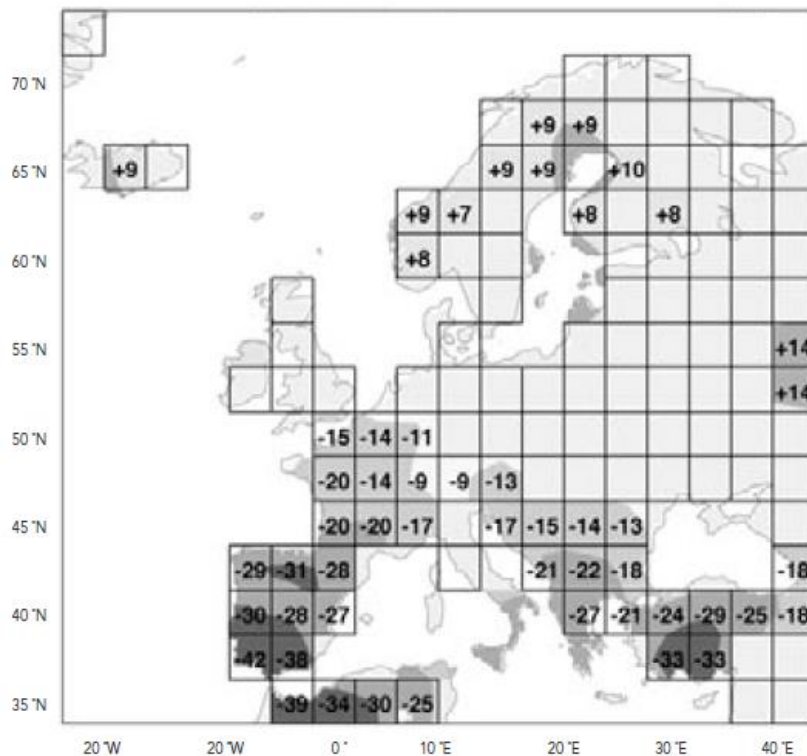
Marzo 2009

The world: 4°C warmer

No one knows exactly what this world will look like, but models provide insights into forced human migrations and our future power generation



[¿Y nosotros?]



Note: Summer precipitation change (%). Relative to average precipitation in the period 1961–1990. Intermediate ACACIA scenario in a broad range of possible future emissions.
Source: IPCC, 2001b; Parry *et al.*, 2000.

Within Europe, **the warming is estimated to be greatest over southern countries (Spain, Italy, Greece)** and the northeast (e.g. western Russia) and less along the Atlantic coastline (ref). **In southern Europe, especially, this may have severe consequences** such as increasing drought stress, more frequent forest fires, increasing heat stress and risks for human health. The European trend that winters will warm more rapidly than summers will continue (**with the exception of southern Europe**)."

Under high emission scenarios every second summer in Europe will be as hot or even **hotter than 2003** by the end of the twenty-first century (Luterbacher *et al.*, 2004). In southern Europe, these changes are projected to occur even earlier (**in Spain by the 2020s**) (Parry, 2000).

Impacts of Europe's changing climate - European Energy Agency, 2004



El discurso correcto

Copenhagen imposible

Económicas

- Importación / exportación
- Dirección del transporte
- Otros gases (arroz, pérdidas conducciones)
- Capacidad de absorción

Científicas

- Aerosoles
- Interacciones gases-aerosoles

Éticas

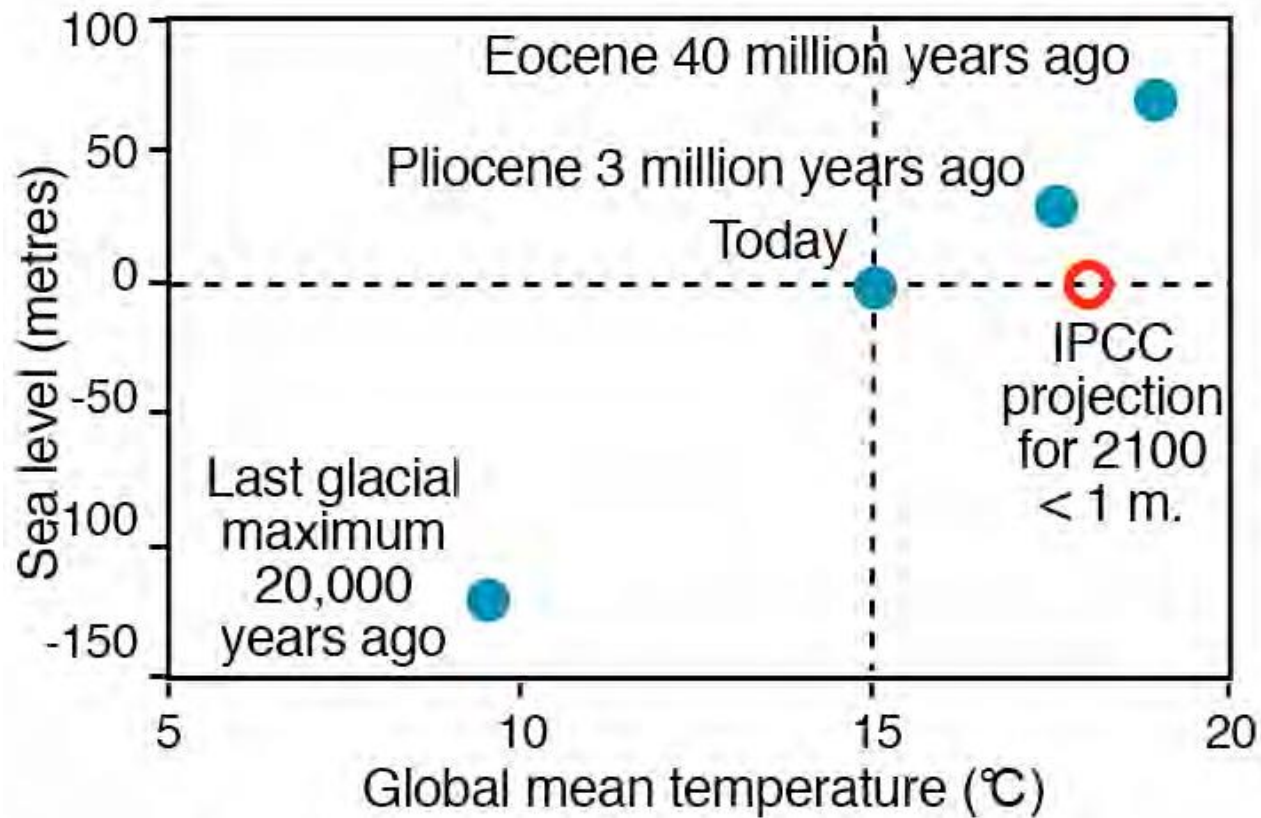
- Emisiones históricas / actuales
- Por países / por cápita
- Por cápita / por renta
- Ubicación concreta
- Desarrollados / En proceso
- Ventajas últimos entrados
- Responsabilidades vs. Impactos

¡Y verificación compromisos!

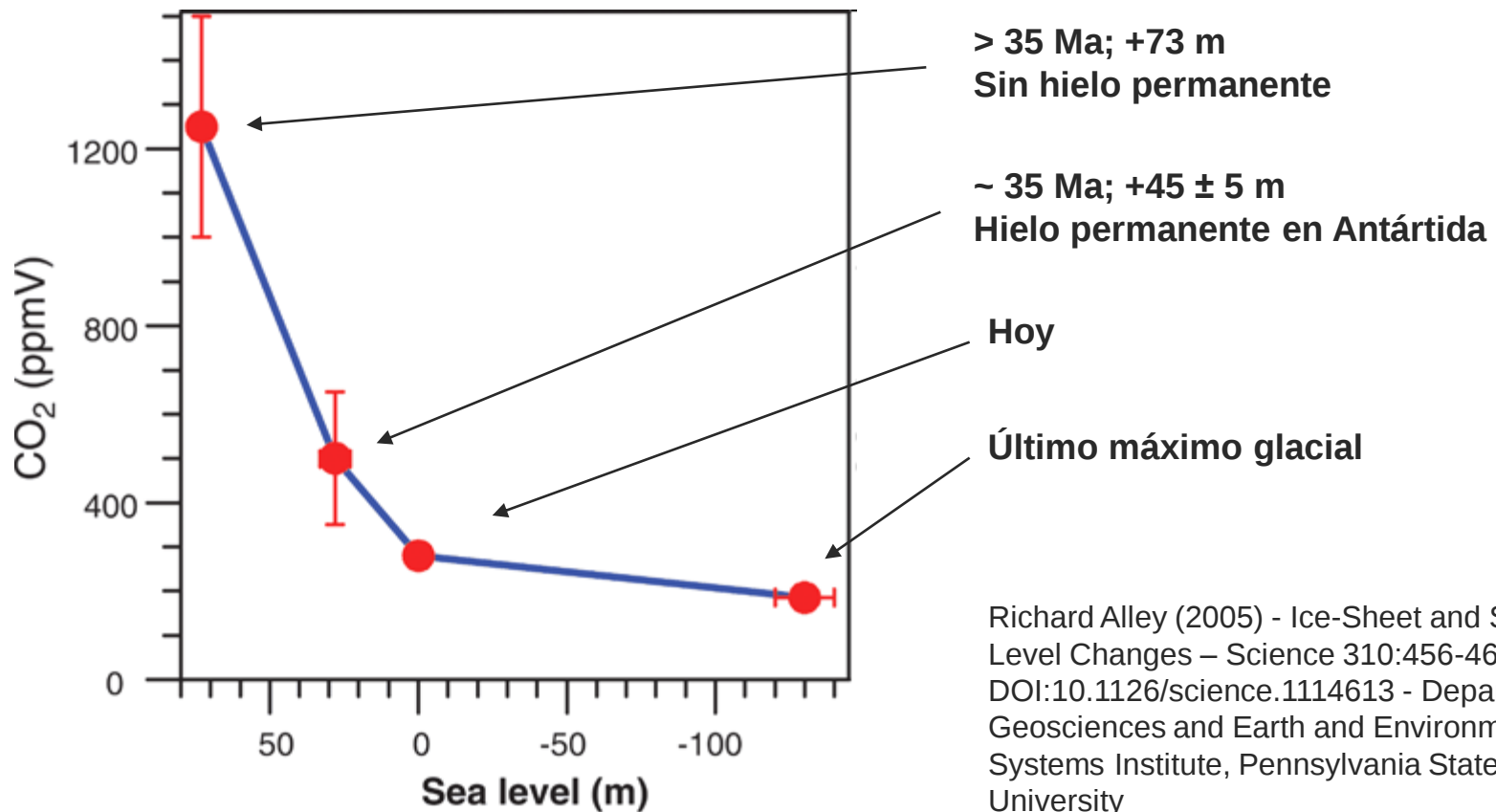


La realidad

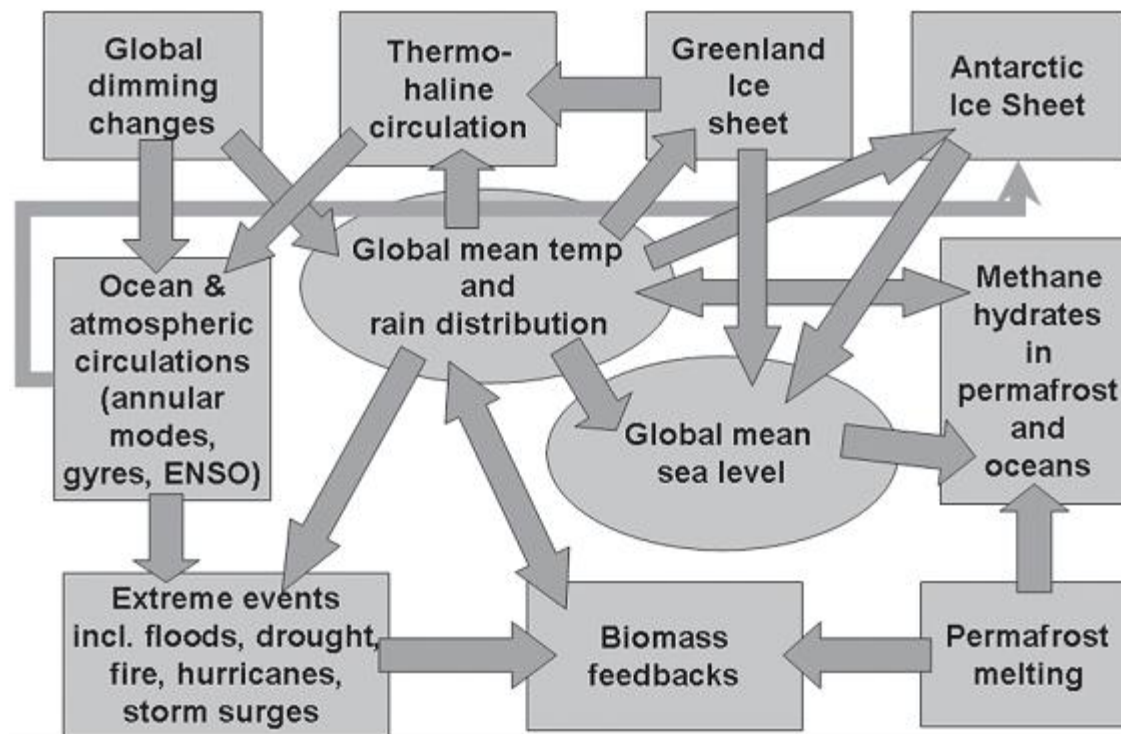
[El term-ómetro]



[El CO₂-ómetro]



]



[Suposiciones optimistas]

Climatic Change
DOI 10.1007/s10584-009-9607-1

Carbon cycle amplification: how optimistic assumptions cause persistent underestimates of potential climate damages and mitigation needs

An Editorial Comment

Paul A.T. Higgins

Received: 31 March 2009 / Accepted: 3 April 2009
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Biological systems constitute a critical, but sometimes overlooked, component of the climate system because they influence key physical characteristics of the land surface and atmosphere. For example, the absorption of solar radiation, the amount of carbon stored in plants and soil, and the partitioning of surface energy between sensible and latent heat all depend on the characteristics and functioning of vegetation at the land surface (Betts et al. 1997; Lashof et al. 1997; Sellers et al. 1997; Field and Avissar 1998; Pielke et al. 1998; Saleska et al. 2002; Feddema et al. 2005). As a result, vegetation's response to human induced climate change will likely contribute important climate feedbacks at local, regional and global scales.

Unfortunately, it's difficult to include these feedbacks accurately in climate projections because future responses of vegetation are hard to constrain using past observations and field experiments. For example, Higgins and Harte (2006) demonstrated that the strength—and in some cases even the sign—of the feedbacks on the absorption of solar radiation and the partitioning of surface energy depend on uncertain assumptions about how effectively plants will be able to migrate in

[¡Revolución científica!]

impacts

‘Earth system’ analysis and the second Copernican revolution

H. J. Schellnhuber

Optical magnification instruments once brought about the Copernican revolution that put the Earth in its correct astrophysical context. Sophisticated information-compression techniques including simulation modelling are now ushering in a second ‘Copernican’ revolution. The latter strives to understand the ‘Earth system’ as a whole and to develop, on this cognitive basis, concepts for global environmental management.

There are many ways of looking forward in time. One of the most amusing (and sometimes terrifying) is the ‘forward-view mirror’ — contemplation of the future by reflecting on the past. If we consider the unravelling of the mysteries of the human body by physicians over the past three millennia, we see much that is relevant to unravelling the mysteries of the Earth’s

Earth in its correct astrophysical context.

Today, some 500 years after Copernicus, Cusanus and company, our civilization sets

about visiting neighbouring planets, scrutinizing stellar objects at the brink of creation, and even tracking down extraterrestrial

a

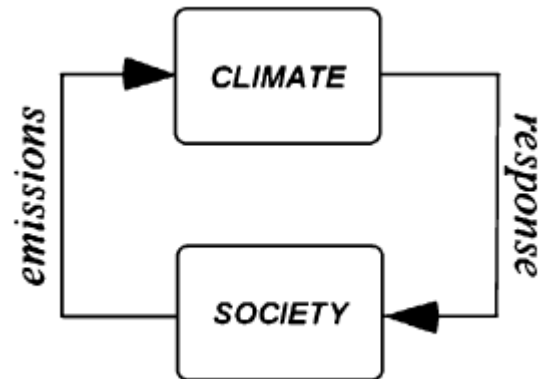


Nature 402 – 21/12/1999

[Gaia]

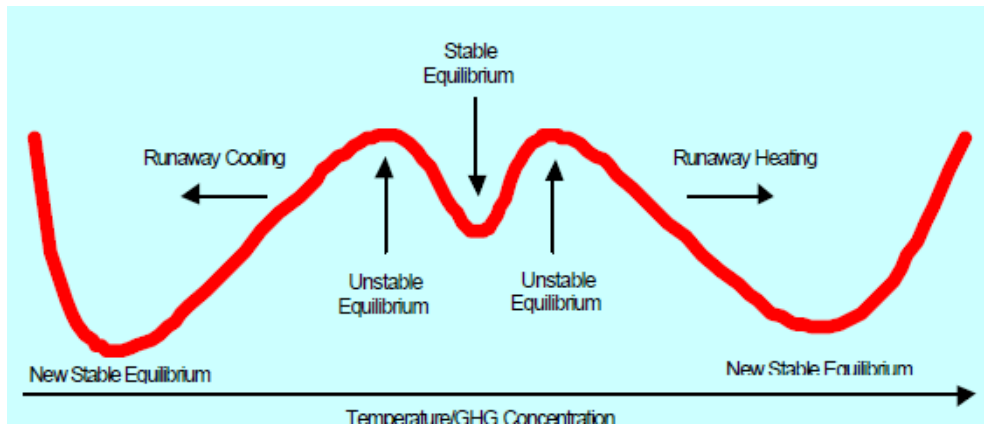
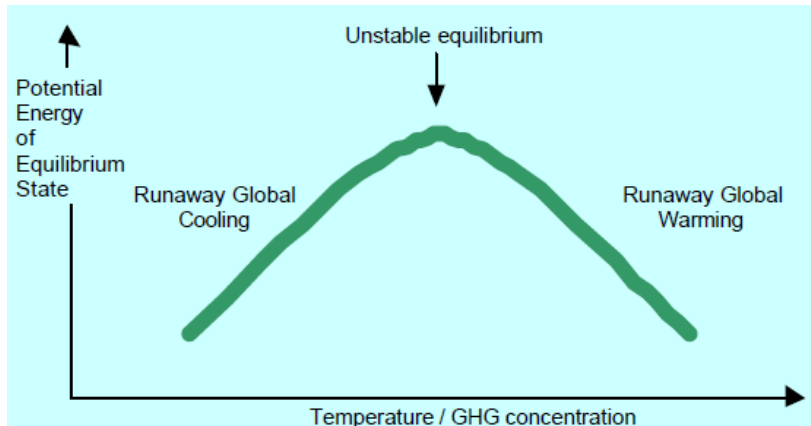


Sistema clima - sociedad



Andrew Jarvis et al (2009) - Stabilizing global mean surface temperature: A feedback control perspective
- Environmental Modelling & Software 24:665-674 doi:10.1016/j.envsoft.2008.10.016 - Lancaster
Environment Centre, Lancaster University; Engineering Department, Lancaster University; Fenner School
of Environment and Society, Australian National University; School of Electrical Engineering and
Telecommunications, University of New South Wales, Sydney

Los estados del sistema Tierra



David Wisdell (2006)
- Beyond the Tipping
Point: Positive
Feedbacks and the
Acceleration of
Climate Change -
Meridian
Programme

[Formalización: 2008]

Climatic Change (2008) 86:357–373
DOI 10.1007/s10584-007-9298-4

A robust sequential CO₂ emissions strategy based on optimal control of atmospheric CO₂ concentrations

**Andrew J. Jarvis • Peter C. Young • David T. Leedal •
Arun Chotai**

Received: 28 July 2005 / Accepted: 7 May 2007 /
Published online: 8 August 2007
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Abstract This paper formally introduces the concept of mitigation as a stochastic control problem. This is illustrated by applying a digital state variable feedback control approach known as Non-Minimum State Space (NMSS) control to the problem of specifying carbon emissions to control atmospheric CO₂ concentrations in the presence of uncertainty. It is shown that the control approach naturally lends itself to integrating both anticipatory and

[Por fin]

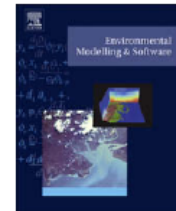
Environmental Modelling & Software 24 (2009) 665–674



Contents lists available at ScienceDirect

Environmental Modelling & Software

journal homepage: www.elsevier.com/locate/envsoft



Stabilizing global mean surface temperature: A feedback control perspective

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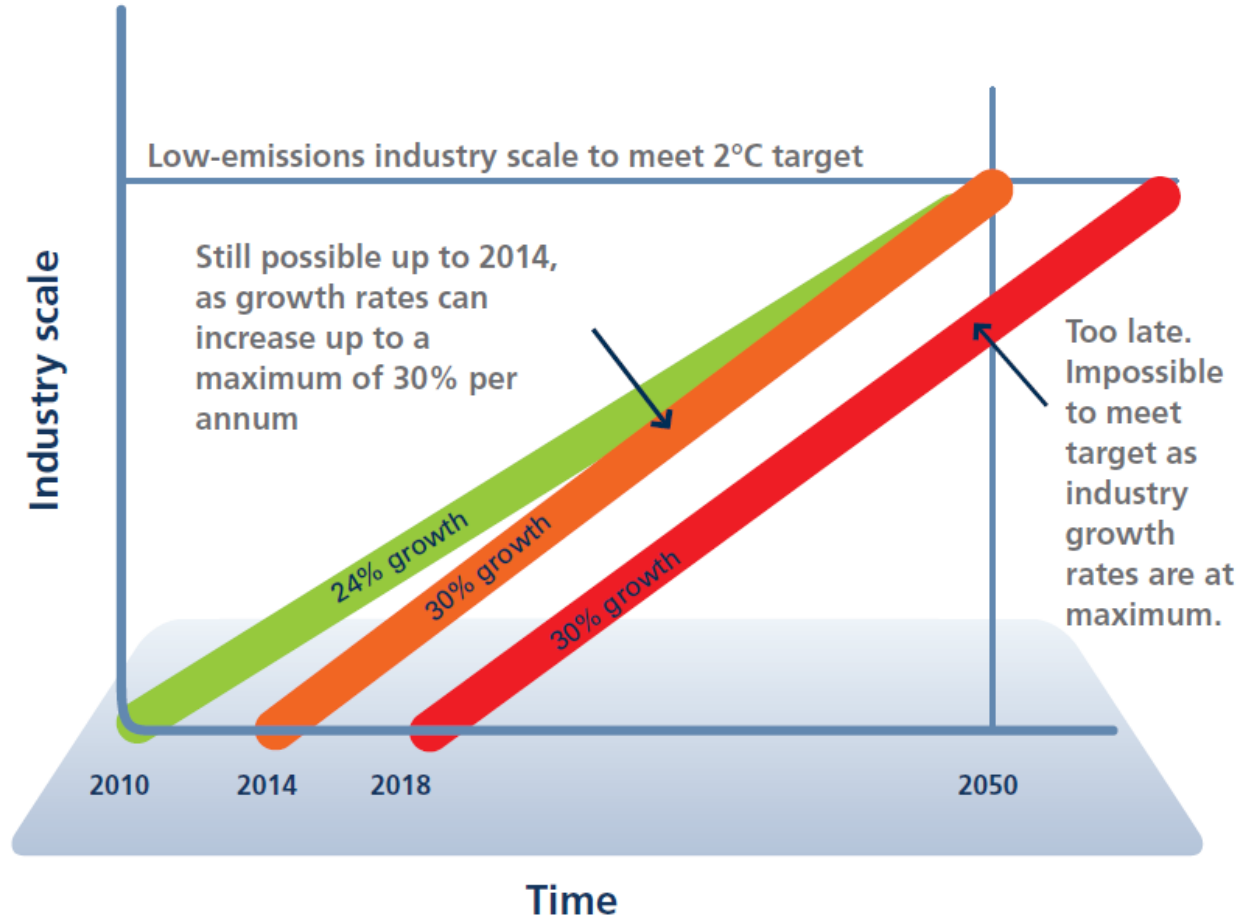
Accepted 24 October 2008

Available online 24 December 2008

ABSTRACT

In this paper, we develop a discrete time, state variable feedback control regime to analyze the closed-loop properties associated with stabilizing the global mean surface temperature anomaly at 2 °C within a sequential decision making framework made up of 20 year review periods beginning in 2020. The design of the feedback control uses an optimal control approach that minimizes the peak deceleration of anthropogenic CO₂ emissions whilst avoiding overshooting the 2 °C target. The peak value for emissions deceleration that satisfies the closed-loop optimization was found to be linearly related to climate

[¿Reindustrialización?]



[Probabilidades ΔT a 2100]



Andrei Sokolov et al (2009) - Probabilistic forecast for 21st century climate based on uncertainties in emissions (without policy) and climate parameters - Journal of Climate 22:5175–5204 doi:10.1175/2009JCLI2863.1 - Joint Program on the Science and Policy of Global Change, Massachusetts Institute of Technology

[News](#) | [Sport](#) | [Comment](#) | [Culture](#) | [Business](#) | [Money](#) | [Life & style](#) |

[Environment](#) > [Climate change](#)

World will not meet 2C warming target, climate change experts agree

Guardian poll reveals almost nine out of 10 climate experts do not believe current political efforts will keep warming below 2C

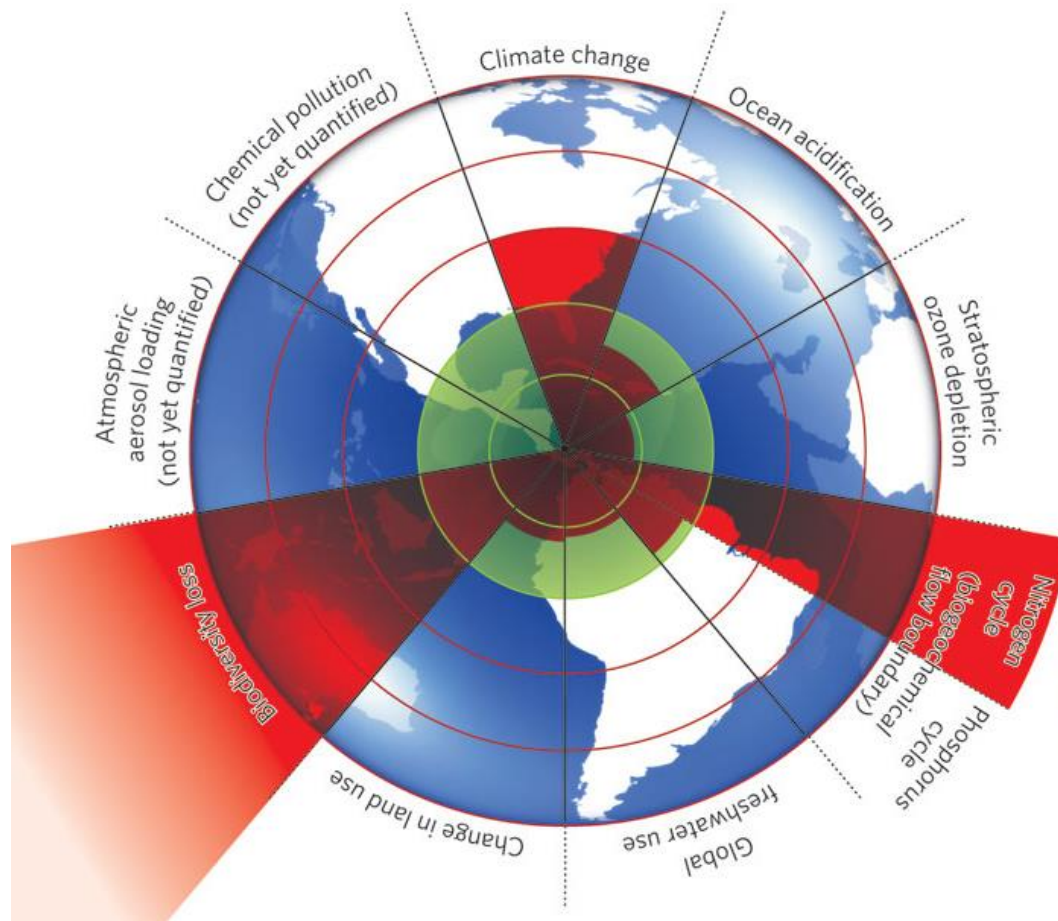
David Adam, environment correspondent
[The Guardian](#), Tuesday 14 April 2009
[Article history](#)

[El canario en la mina]



The canary has died!
Jay Zwally, Glaciologist, NASA, December 2007

A safe operating space for humanity



Johan Rockström et al (2009) - A safe operating space for humanity
- Nature 461:472-475 doi:10.1038/461472a - 29 autores

Importante: gestionar discordias

¿En qué punto estamos?

Causas

- ¿Petróleo?
- ¿Combustibles fósiles?
- ¿Ultraliberalismo?
- ¿Liberalismo ilustrado?
- ¿Capitalismo?
- ¿Crecimiento económico?
- ¿Democracia?
- ¿Egoísmo, avaricia?
- ¿Naturaleza humana?





[Realidades]

Medios de comunicación
convencionales estructuralmente
cooptados

Política democrática estructuralmente
incremental y cortoplacista

A horizontal line with a light beige gradient, spanning the width of the slide. On the left end, there is a large black opening square bracket '[', and on the right end, there is a large gold closing square bracket ']'.

No estamos preparados
culturalmente para reto tan
enorme



Scientific American, 2008

[Tormenta ética perfecta]

Problemas

- Dilema del prisionero
 - Tragedia de los comunes (Garret Hardin)
- Acceso ilimitado → acceso restringido
 - Cómo se distribuye
- Daño diferido en el espacio y en el tiempo
- Responsabilidad acumulada
- Responsabilidad intergeneracional
- Multiplicidad de actores:
 - *Passive bystanders*
 - ¿Somos también perpetradores?
 - ¿Culpables, responsables? ¿Quiénes son?

Riesgos éticos

- Distracción
- Complacencia
- Dudas no razonables
- Falsa ilusión
- Aprovecharse
- Falso testimonio
- Hipocresía
- **Atención selectiva**

[Llamamientos]

“I am deeply convinced that the new millennium we have just entered will decide the fate of the human species... The first three decades of this century are likely to be decisive. Not that we face the prospect of extinction as a species during this period but we will set, irrevocably, the direction that will determine the survival or the demise of human life as we know it. Surely the divine source of all life, which most call God, could not have presented us with a more paradoxical challenge.”[1] –

Maurice Strong, 2000 – Secretario General de la Earth Summit de Río de Janeiro, 1992 – Citado en la Conferencia “Faith in Conservation”, The World Bank (1).



We face only one truly existential threat: that is climate change, the great moral imperative of our era. We have a duty, a responsibility, to play our part in changing minds, opinions, and policies. We have a clear message. We want nothing less than to build a grassroots movement for change, now.

Ban Ki-Moon, January 2009

[Objetivos]

- Ampliación de la base de bien informados
- Activación de inteligencia colectiva:
 - Unidad ciencias físicas y sociales
 - Redes populares de reflexión – decisión (MIT)
 - Our societal conversation about global warming could go beyond the realm of the all-too-often emotionally-driven yes/no votes about small numbers of simplified alternatives.
 - It could, instead, facilitate reasoned and evidence-based collective decision-making about highly complex issues."



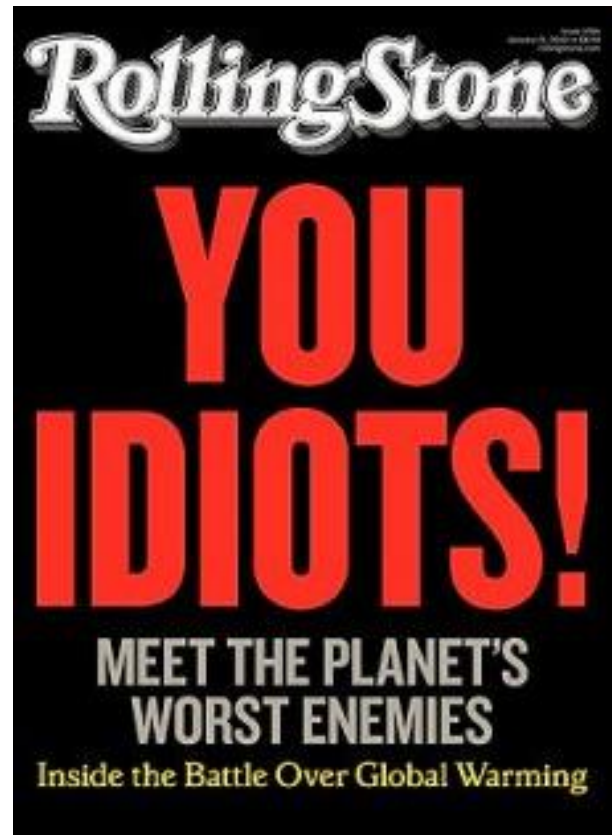
Sometimes doing your best is
not good enough. Sometimes,
you must do what is required

— Winston Churchill



2. La maquinaria de negación

[¿Escépticos? ¿O negacionistas?]



[Motivaciones]

- ¿Económicas?
 - Ultraliberalismo

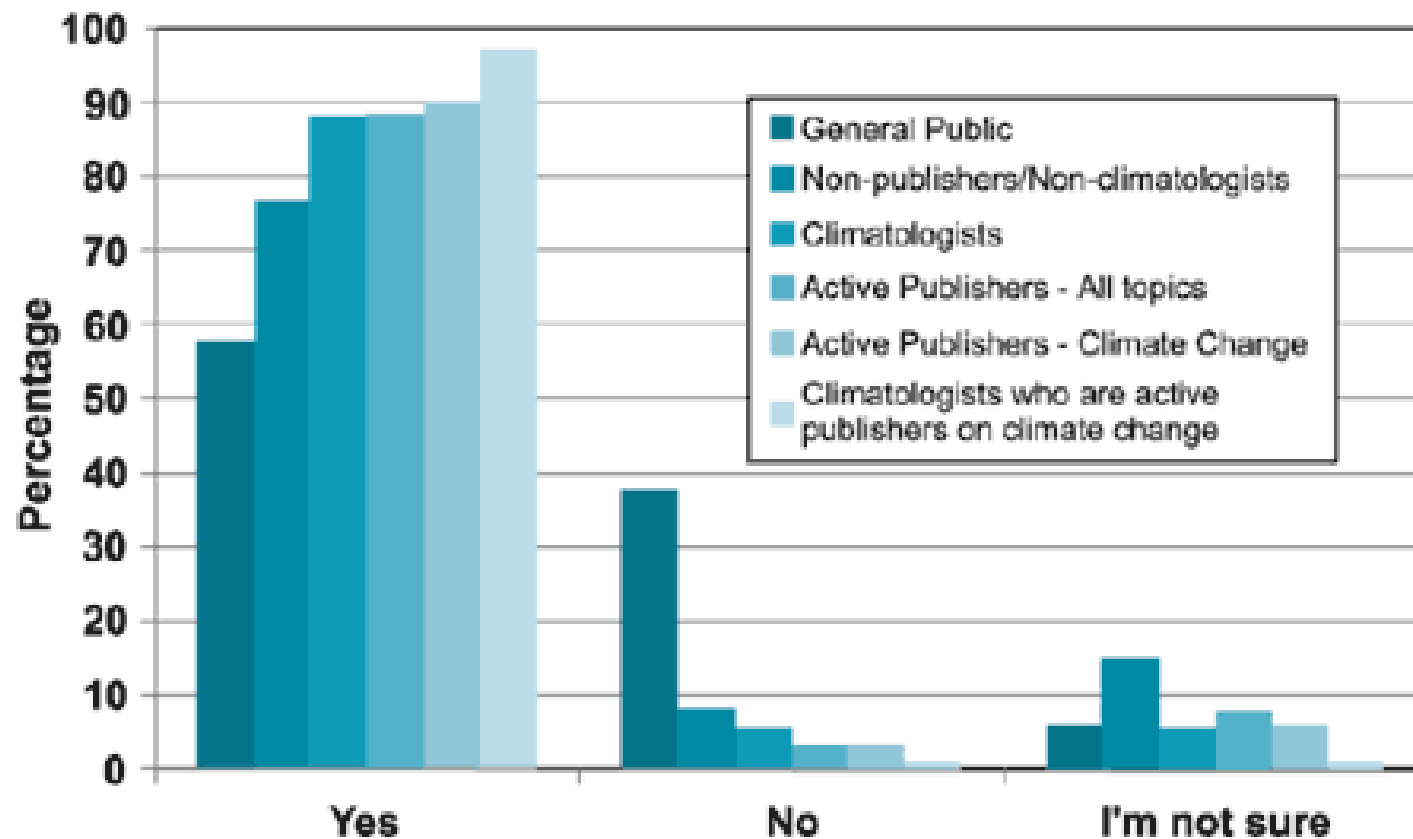
- ¿Políticas?
 - JASON

- Personales
 - Prejuicio
 - Chulería

- Ideológicas
 - Efecto sandía

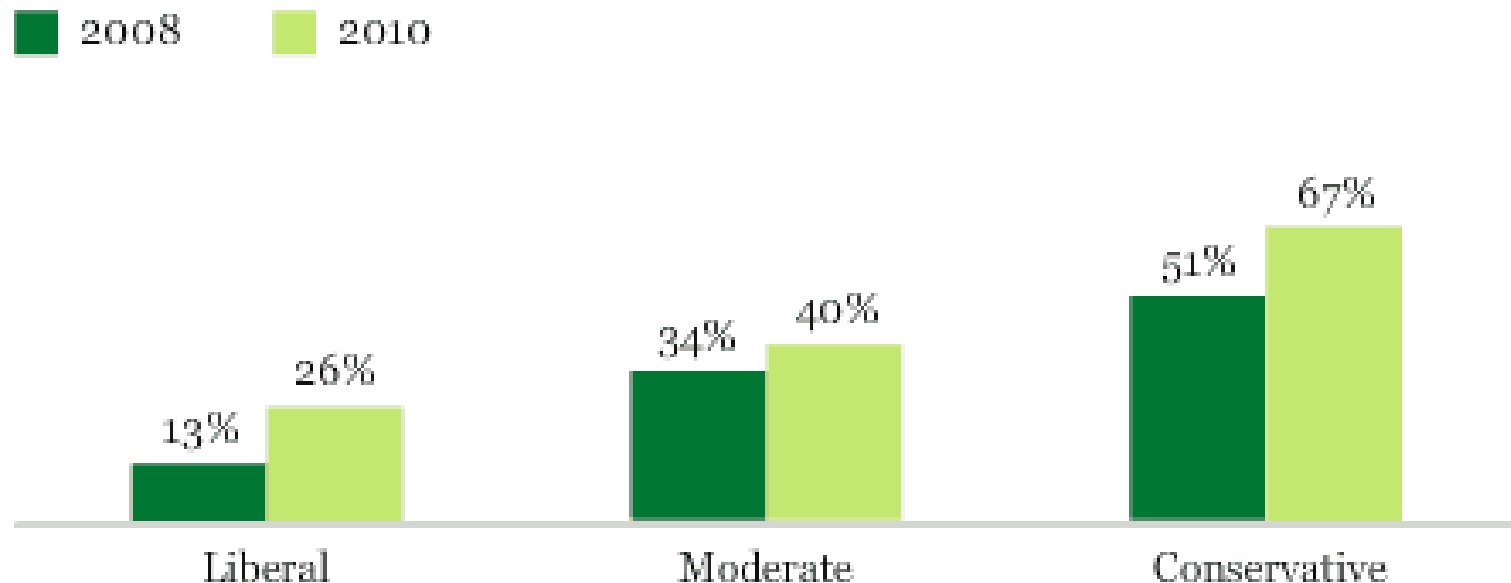
- Religiosas

[Percepció pública]



[Percepció polititzada]

Percentage Who Say Seriousness of Global Warming Is Exaggerated in the News, by Political Ideology



GALLUP®

[Génesis, 26]

International Version

Then God said, 'Let us make man in our image, in our likeness and let them rule over the fish of the sea and the birds of the air, over the livestock, over all the earth and over all the creatures that move along the ground.

King James Version (1611)

And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth.

[Antropocentrisme radical]

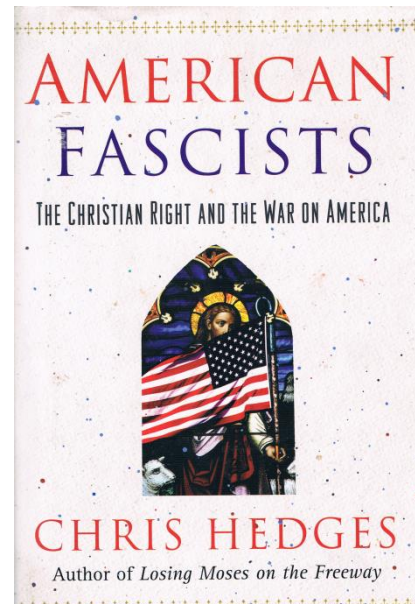
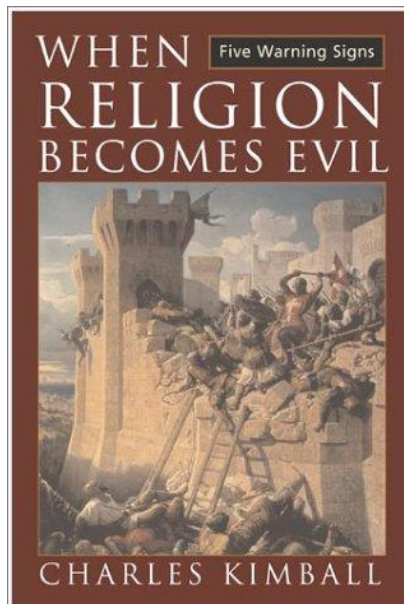
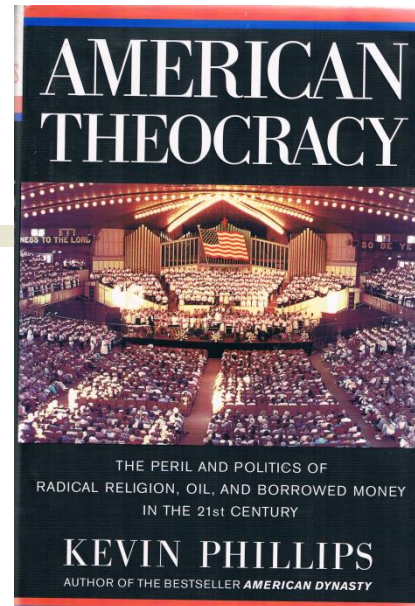
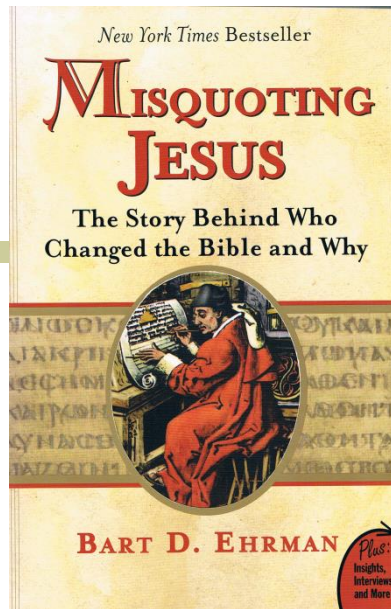
Botella: "El Planeta está al servicio del hombre, no el hombre al servicio del Planeta"

La delegada de Medio Ambiente del Ayuntamiento de Madrid sostiene que el calentamiento planetario se da por la propia naturaleza

AGENCIAS 13-02-2010

"El Planeta está al servicio del hombre, no el hombre al servicio del Planeta". Este es el axioma que defiende la teniente de alcalde y delegada de Medio Ambiente del Ayuntamiento de Madrid, Ana Botella, para quien "el ser humano debe ser el centro de atención de cualquier política".

Vota ☆☆☆☆☆ | Resultado ★★★★★ 21 votos | [compartir](#)    + [222](#) comentar   



[The 'counterintelligentsia']

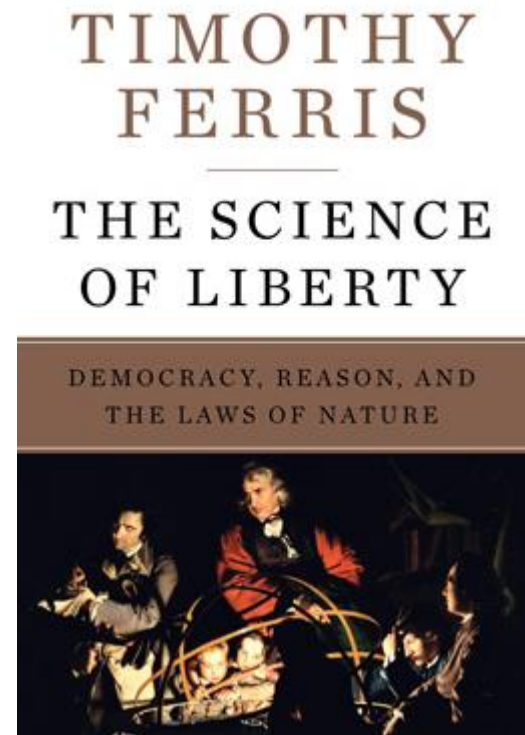
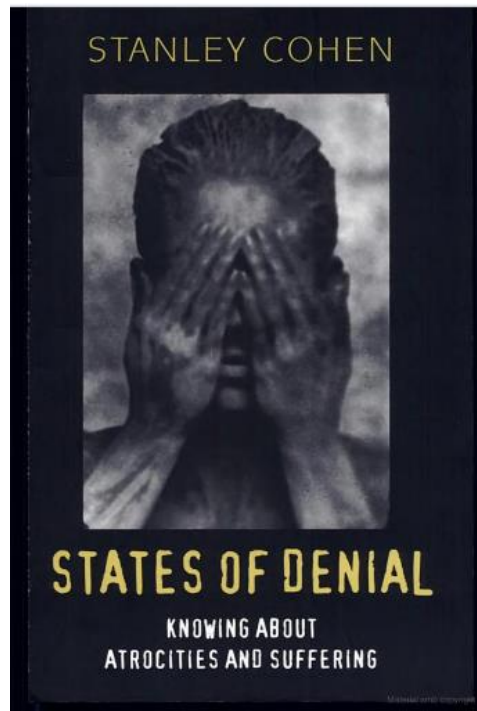
- Karl Marx
- Frederick Engels
- Vladimir Lenin
- Iosef Stalin
- Adam Smith
- Max Weber
- Lewis Powell
- Julian Simon



Antonio Gramsci



Antonio Gramsci



[Filosofía de la ciencia]

- Karl Popper
- Thomas Kuhn
- Paul K. Feyerabend

[¡Agnotología!



Energía para la maquinaria

Fundaciones caritativas

- Bradley
- Calgary Foundation
- Coors
- Koch
- John Birch Society
- Lambe
- Olin
- Scaife
- Brokers

Asociaciones de empresas

- ACCCE
- Chamber of Commerce
- Western Fuels Association
- World Climate Council
- Global Climate Science Team
- Global Climate Coalition
- Intermountain Rural Electric Association
- International Climate Change Partnership
- American Petroleum Institute
- American Automobile Manufacturers Association
- National Petroleum Council
- OPEP

[Empresas]

- British Coal Corporation
- Chevron Corporation
- Cyprus Minerals
- DaimlerChrysler
- Exxon
- General Electric
- Imperial Oil
- Natural Resource Partners
- Pacific Gas and Electric
- Peabody Energy
- Philip Morris
- Southern Company

[Realidades ineludibles]

■ Sesgos cognitivos

- Protección cultural
- Status quo
- Acción única (!)
- Percepción lineal
- Value-action gap
- Más y más grande es mejor
- Capacidad finita de preocupación
- Descuento incoherente del futuro
 - Strong present bias

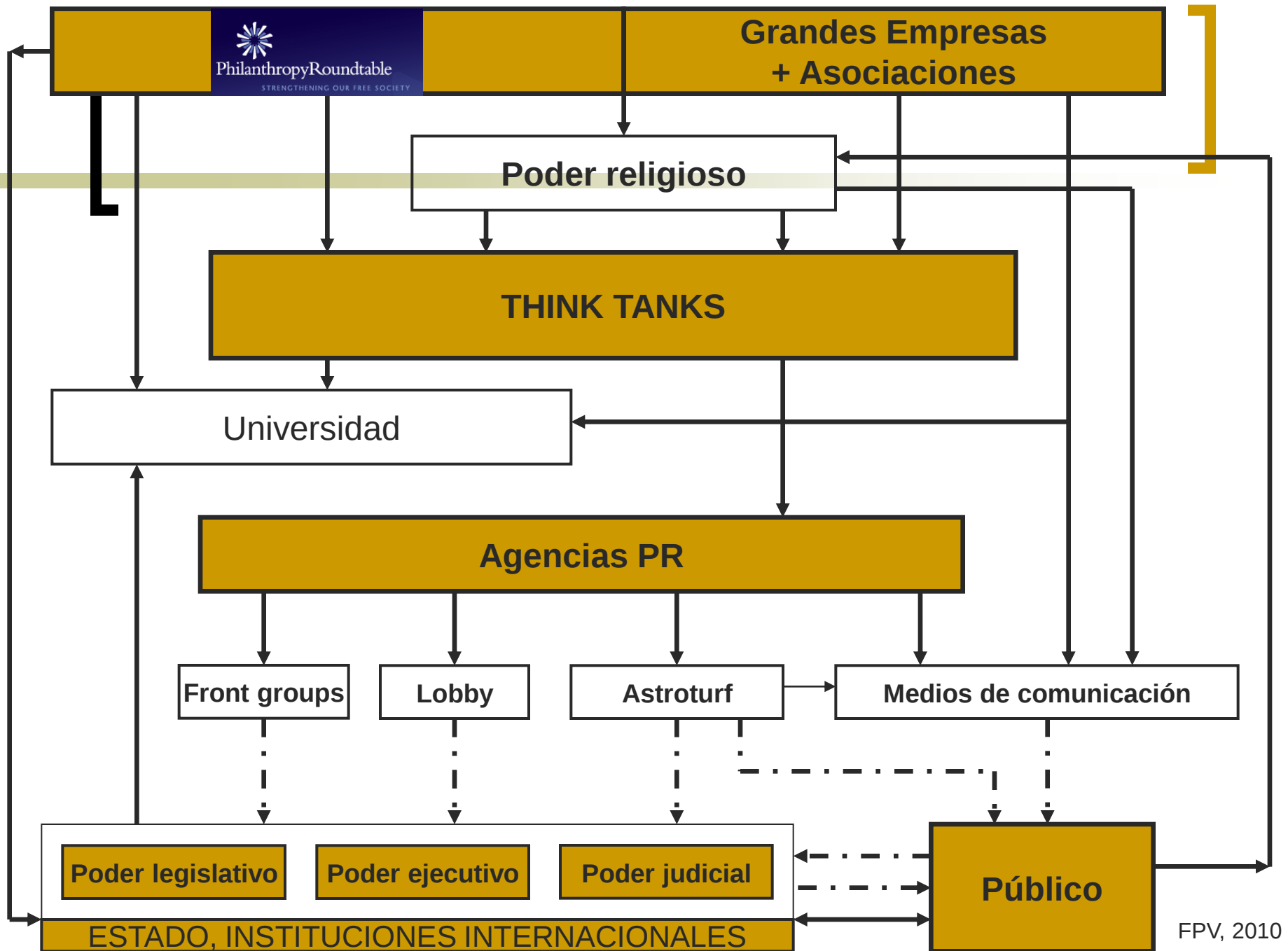
■ Enormidad problema

- Problema internacional, ¿solución internacional?
- Políticos y elites superadas
- Movimiento ecologista amortizado

■ Fundamentalismos

- Religioso
- Económico
- Tecnológico
- Científico (reduccionismo)

Ataque a la ilustración



[Intervenir en IPCC]

- Objetivos derivados de Río de Janeiro
- Sustituir a Bob Watson por Rajendra Pachauri
- Colocar a Susan Solomon (WGI) de NOAA
 - Departamento de comercio
 - Objetivo: ampliar seguridad económica y seguridad nacional
 - Interferencia gubernamental en la actividad científica

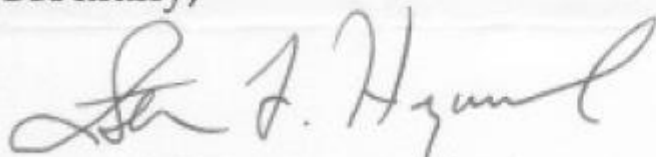
Comprar científicos

or have thoughts about who else might be interested, please give Ken Green a call at 202-862-4883 at your convenience.

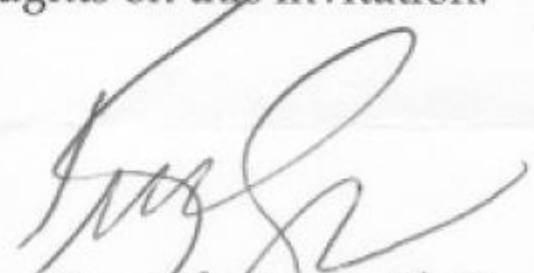
If you and Prof. North are agreeable to being authors, AEI will offer an honoraria of \$10,000. The essay should be in the range of 7,500 to 10,000 words, though it can be longer. The deadline for a complete draft will be December 15, 2007. We intend to hold a series of small conferences and seminars in Washington and elsewhere to coincide with the release of both the FAR and our assessment in the spring or summer of 2007, for which we can provide travel expenses and additional honoraria if you are able to participate.

Please feel free to contact us with questions and thoughts on this invitation.

Cordially,



Steven F. Hayward, Ph.D
Resident Scholar
shayward@aei.org

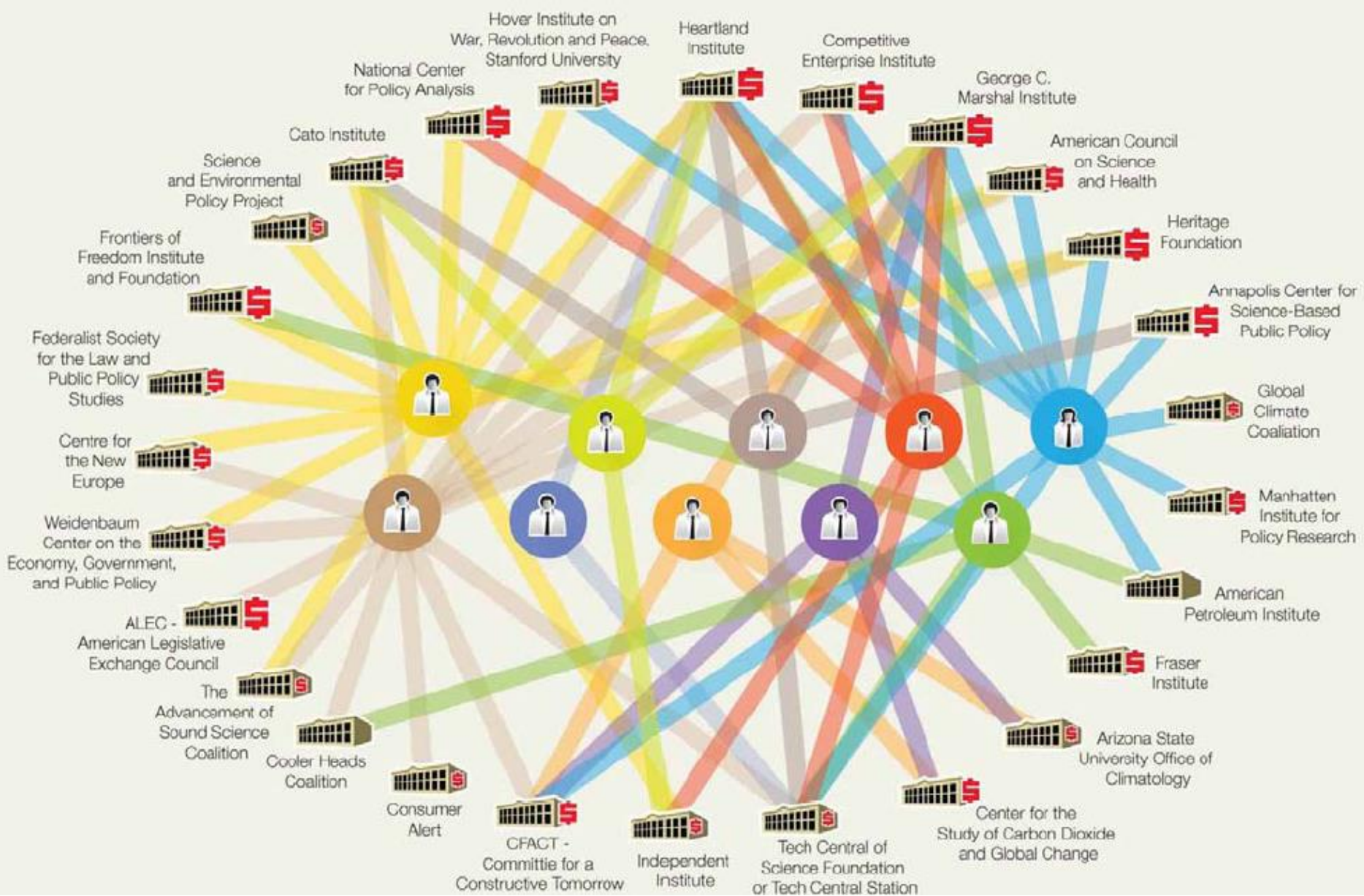


Kenneth Green, Ph.D
Visiting Scholar
kgreen@aei.org

Científicos negacionistas

- Avery
- Baliunas
- Ball
- Balling
- Bellamy
- Christy
- Coleman
- Douglass
- Dyson
- Elsaesser
- Michael Fumento
- Patrick Frank
- Gerlich
- Happer
- Horner
- Idso
- Izrael
- Julian Morris
- Karl
- Karlén
- Knight
- Nigel Lawson
- Legates
- Levitt
- Lindzen

- Lomborg
- McKittrick
- Helmut Metzner
- Michaels
- Monkton
- Mörner
- Mullis
- Nicolet
- Philip Stott
- Pielke Sr.
- Pielke Jr.
- Plimer
- Reiter
- Robinson
- Seitz
- Ken Shock
- Solanki
- Soon
- Solomon
- Spencer
- Svensmark
- Tavern
- Tazieff
- Fred Thompson
- Von Storch



Eco-chamber

Dealing in Doubt: The Climate Denial Industry and Climate Science - A Brief History of Attacks on Climate Science, Climate Scientists and the IPCC (Greenpeace, 2010)

[Nombres TT]

Tradicionales

American Enterprise Institute (1943)
RAND Corporation (1948)
Reason Foundation (1968)
The Hoover Institution on War, Revolution and Peace (1958)

Ah hoc

Center for Science and Public Policy (2003)
Center for the Study of Carbon Dioxide & Global Change (1998)
Committee for a Constructive Tomorrow (1985)
Foundation for Research on Economics and the Environment (1985)
Friends of Science (Canada, 2002)
Frontiers of Freedom (1996)
Oregon Institute of Science and Medicine (1980)
Science and Environmental Policy Project (1990)
Science and Public Policy Institute (1994)
The Annapolis Center for Science-Based Public Policy
The Center for Free Market Environmentalism
The Cooler Heads Coalition (1997)

Australia

APEC Study Centre
The Lavoisier Group (Australia, 2000)
Institute of Public Affairs (Australia, 1940)

Nueva era

Alexis de Tocqueville Institution (1988)
American Legislative Exchange Council (1973)
American Policy Center (1988)
Center for the Defense of Free Enterprise (1976)
Citizens for a Sound Economy (1984-2004)
Competitive Enterprise Institute (1984)
Democracy Institute (2006)
Ethics and Public Policy Center (1976)
George C. Marshall (1984)
National Center for Policy Analysis (1983)
New American Century
Pacific Research Institute (1979)
Templeton Foundation (1987)
The Breakthrough Institute (2003)
The Cato Institute (1977)
The Foundation for Defense of Democracies
The Fraser Institute (Canada, 1974)
The Heartland Institute (1984)
The Heritage Foundation (1977)
The Independent Institute (1986)

Nombres TT (Europa)

Bruselas

Centre for European Policy Studies
Centre for the New Europe (1993-2008)
European Enterprise Institute
European Science and Environment Forum
European Sound Climate Policy Coalition
Institut Economique Molinari
International Council for Capital Formation
National Endowment for Democracy

Alemania

Europäische Akademie für Umweltfragen
Studienzentrum Weikersheim
Weikersheim Think Tank

Francia

Institut Economique Molinari
Institut Thomas More

Reino Unido

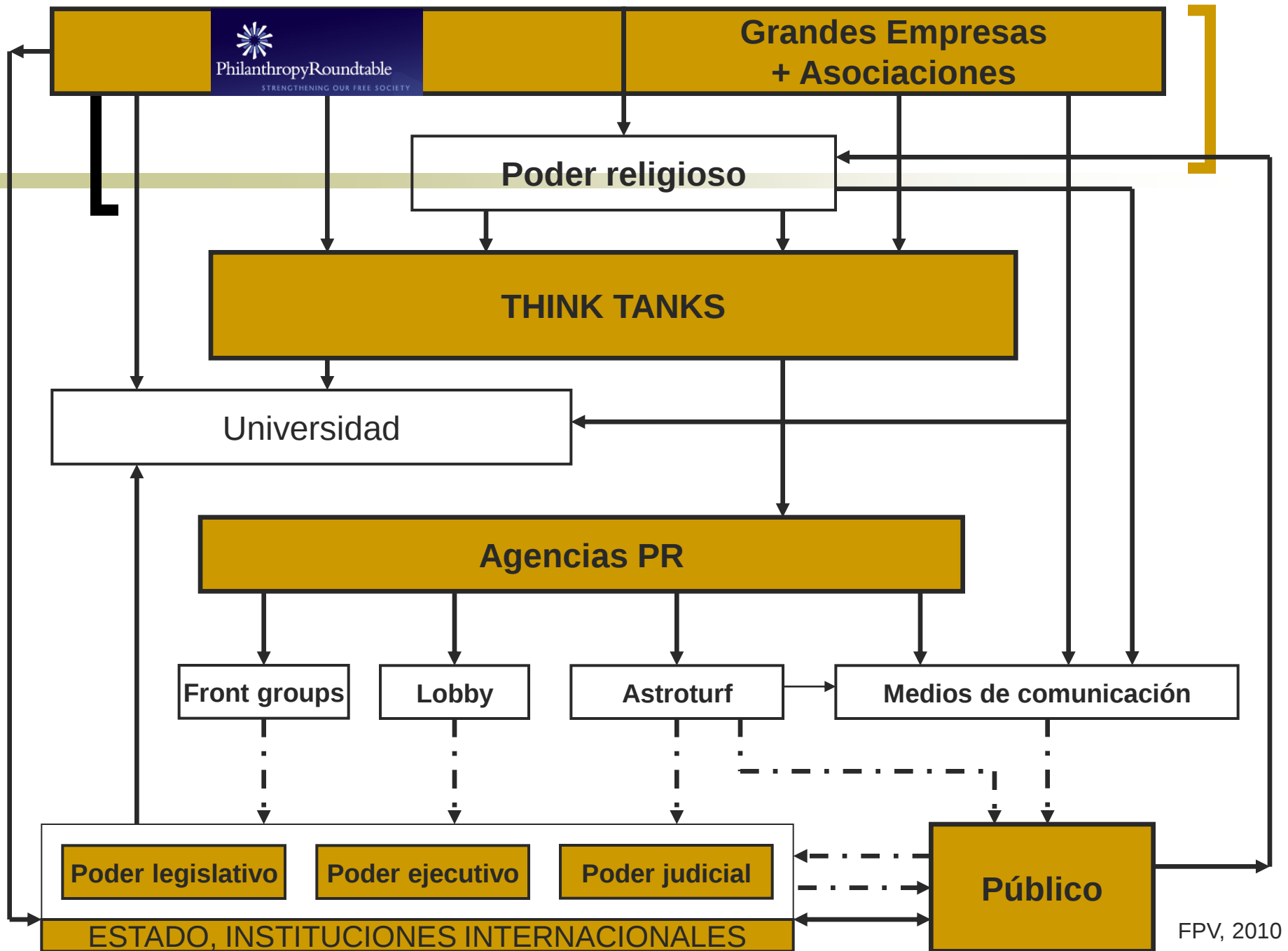
Adam Smith Institute (1977)
Centre for Policy Studies (1974)
Green Alliance
Institute of Economic Affairs (1955)
International Policy Network (1971)
The European Foundation (1992)

Redes

Atlas Economic Research Foundation
The Stockholm Network

España

Fundación para el Análisis y los Estudios Sociales
(FAES)
Fundación para las Relaciones Internacionales y el
Diálogo Exterior
Grupo de Estudios Estratégicos
Juan de Mariana
Real Instituto Elcano
Catalunya Oberta



[PR]

Adfero Group
APCO
Bonner & Associates
Bracewell & Guiliani
Bracy Williams & Co
Brown & Williamson
Burson Marsteller
DCI group
Ecos Corporation
Edelmans
Environmental Strategies Group
Fenton
HDMK
Hill & Knowlton
Ketchum Public Relation
Lincoln Strategy Group
Medialink Worldwide

Mongoven, Biscoe and Duchin
Ogilvy Government Relations
Pac/West Communications
Patton
Potomac
R&R Partners
Rudder & Finn



Otros

Asociaciones de empresas

ACCCE
Chamber of Commerce
Western Fuels Association
World Climate Council
Global Climate Science Team
Global Climate Coalition
Intermountain Rural Electric Association
International Climate Change Partnership
American Petroleum Institute
American Automobile Manufacturers Association
National Petroleum Council
OPEP

Front groups

Americans for American Energy
Greening Earth Society
Mercatus Center

Astroturf

America's Power Army
Americans for Prosperity
Citizens Against Government Waste
Citizens for a Sound Economy (1984-2004)
CO2 Is Green
Consumer Energy Alliance
Creciendo Juntos
Defenders of Property Rights
ECO
Eco-terrorismo
Energy Citizens
Foundation for Clean Air Progress
Frontiers of Freedom (1996)
General
Natural Resources Stewardship Project
Not Evil Just Wrong
Ozone Action
Plants Need CO2

Estrategia agnotológica

Manufacturing consent + Engineering dissent

Objetivo: hay dos bandos;

- Aprovechar desconocimiento incompetencia comunicativa
- Científicos
 - A la defensiva
 - Dividir i cooptar
- Duda, controversia, confusión
- Aparentar multitud
- Superar comunicativamente
- Penetración en todos los estamentos
 - Universidad
 - Escuelas
 - Medios
- Isn't settled
- Descalificar adversario
- Movimiento muerto
- Obtener información
- ¡Son ateos!
- ¡Son nazis!
- Son las víctimas

¡SLAPPS!

[Instrumentos (1)

- Movimientos
 - Asociaciones
 - Astroturf
 - Front groups
 - Americans for American Energy
 - Greening Earth Society
 - Mercatus Center
- Falacias lógicas
 - Correlación – causalidad
 - Razonamiento inverso
- Desinformación
 - Cartas falsas
 - Inversionismo
- Contrainformación
- Medios
 - Internet
 - Newsletters
 - Blogs
 - Marketing directo
 - Falsear encuestas
 - Anuncios
 - Revistas
 - Exigir ‘balance’
 - Documentales
- Libros
 - ‘Científicos’
 - Novelas
- Radios, TV

[Instrumentos (2)]

■ Políticos

- Negociadores
- Lobbying
- Mentir al parlamento
- Paises interpuestos
- Poder executiu
- Poder judicial
- Presionar parlamento

■ Recompensas y castigos

- Asustar a periodistas
- Climategate
- Denunciar EPA
- Premiar fieles
- SLAPPs

[“Argumentos”]

■ No científicos

- Adaptación
- Agenda oculta
- Otras prioridades
- Ciencia-autoridad
- Coste-beneficio
- Dinero investigación a privado
- Económicos
- Ejemplaridad
- Galileu
- Global cooling
- Isn't settled, no consensus
- Religiositat
- Volen pasta

■ Otros

- Nueva religión
- Adaptarse
- Es muy caro
- És una moda
- Estic a favor!
- Genocidi
- Geoingeniería
- Millor clima
- Mor més gent de fred
- Tecnologia ho arranja

[Retòrica]

■ General

- Desacreditar ciencia
- Duda
- Repetición
- Hacer decir
- Asociación

■ Explotar lenguaje científico

- Incertidumbre
- Teoría
- Consenso
- Condicional
- Etc

■ Argumentarios

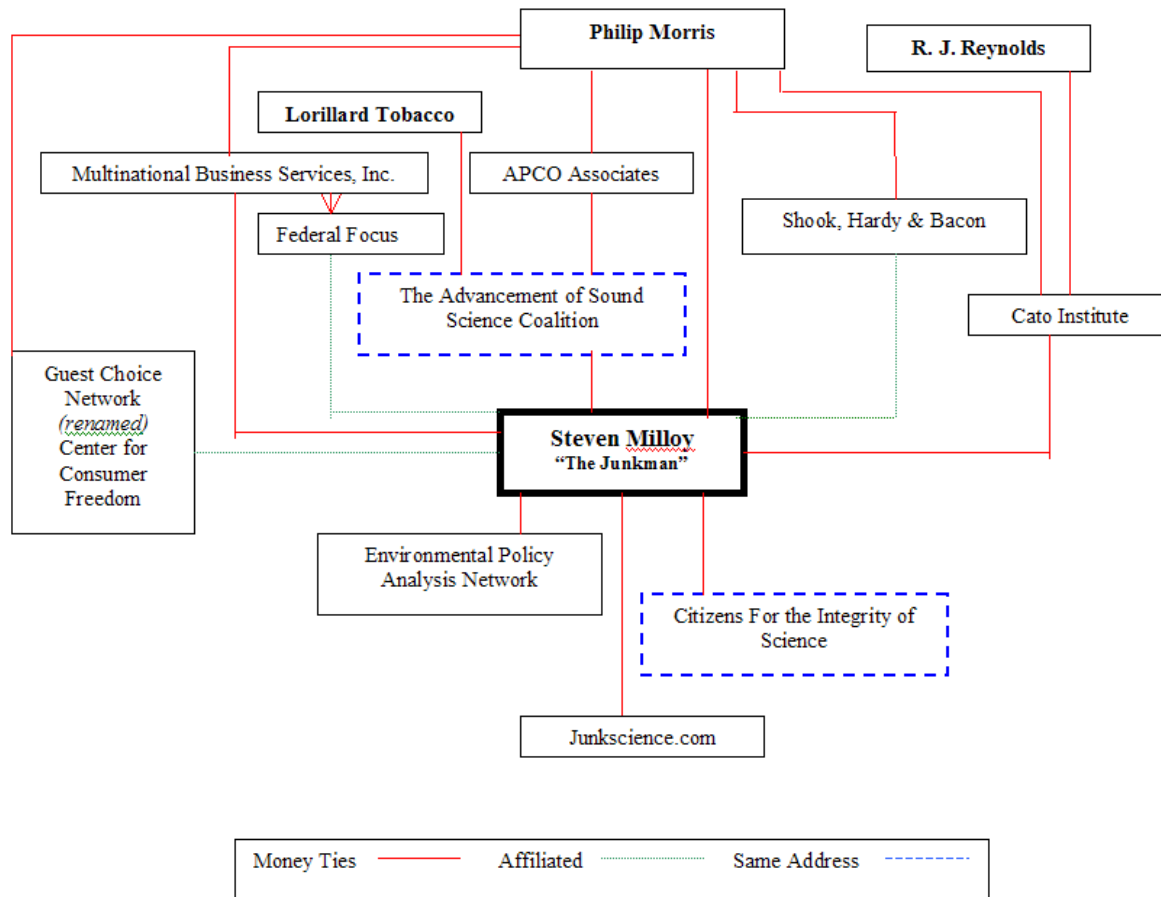
■ Redefinir diccionario

- Progreso
- Civilización
- Educación
- Etc

■ Palabros

- Climategate
- Ecoterrorismo
- “Sinceramente...”
- Cártel
- Cambio climático
- Junk science

Ejemplo: The Junkman

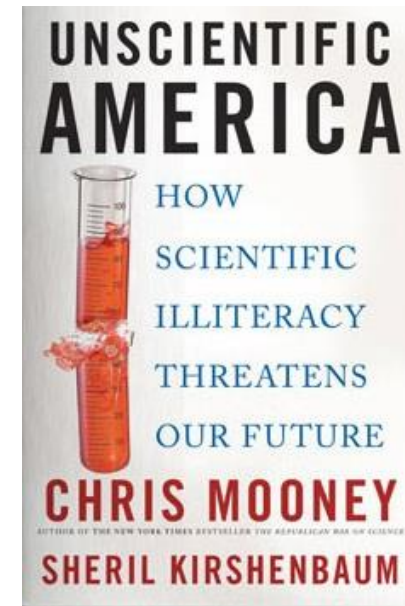
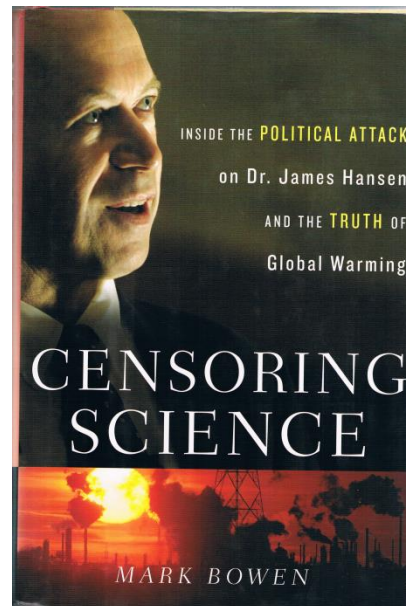
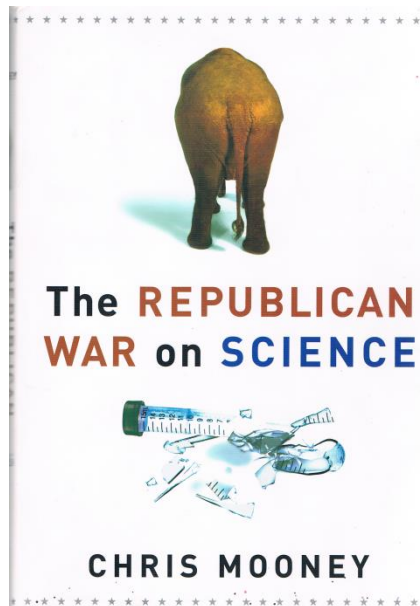
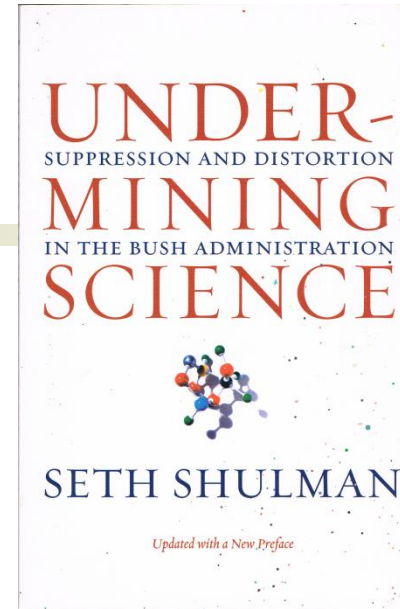
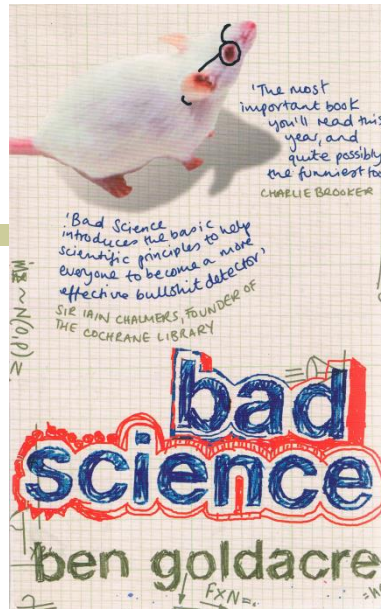


[La ciencia que es basura]

Table 1
Environmental and Health Issues Characterized as Junk Science in OpEds and News Stories

Global Warming	Endangered species	Ergonomic standards
Electro-magnetic flux from power lines	Dursban pesticides	Tobacco addiction
Pesticide use in schools	Trans fats and coronary disease	Second-hand tobacco smoke
Silicon breast implants	Exposure thresholds and effects of radiation	Sodium and high blood pressure
Air bag safety	Genetically modified corn	Endocrine disruptors and human reproductive effects
Air pollution in National Parks	Mad cow disease	Fen-phen and heart damage
Gender and clinical trials for new drugs	Oxygenated fuel and air pollution control	Evaluation of affirmative action programs
Mortality and health risks from air pollution	Dioxin clean-up at Times Beach, Missouri	Nitrogen oxide emissions in the Eastern United States
Sea level rise due to climatic change	Pollution control for SUVs	Wildlife management in National Parks

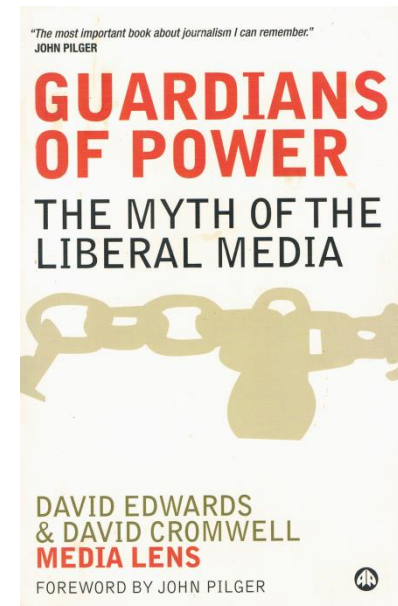
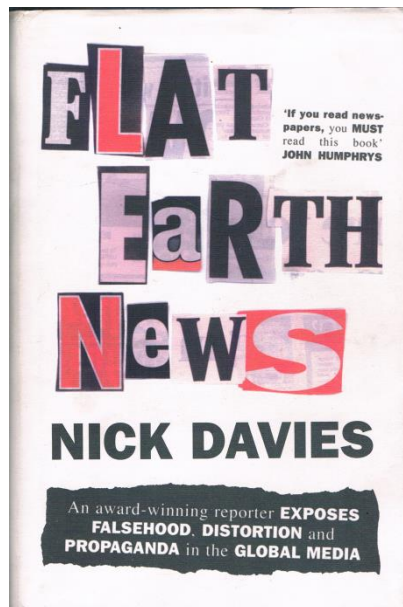
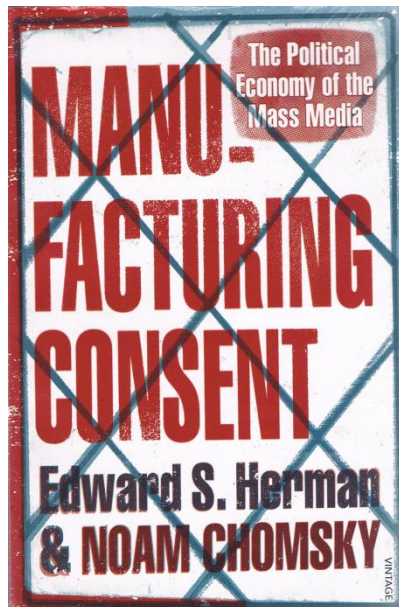
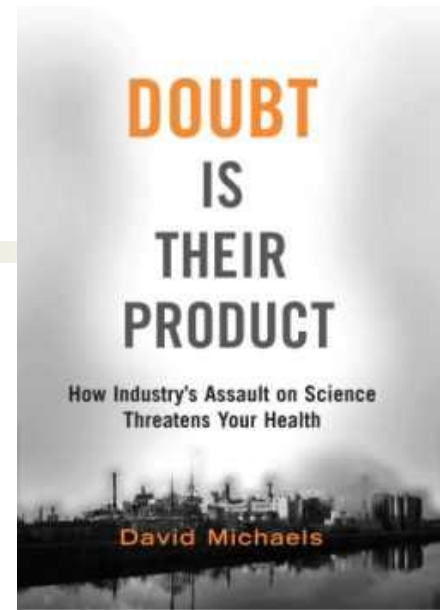
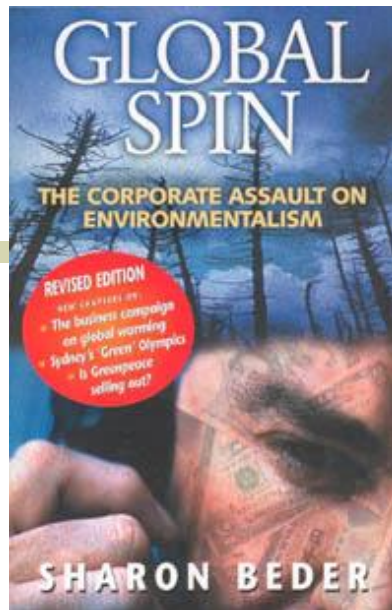
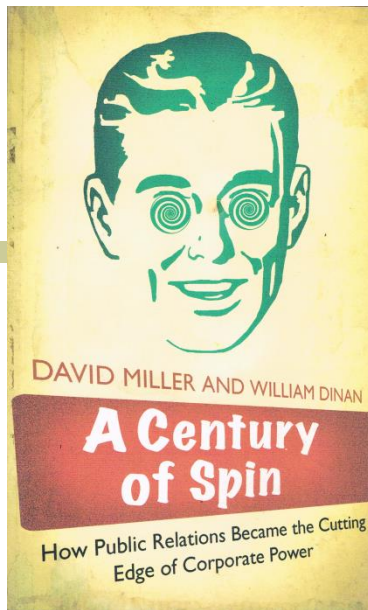
Charles N. Herrick and Dale Jamieson (2001) - Junk Science and Environmental Policy: Obscuring Public Debate with Misleading Discourse - Philosophy and Public Policy Quarterly 21:11-16 - Stratus Consulting Inc.; Henry R. Luce Professor in Human Dimensions of Global Change, Carleton College, Northfield



Suffering the Science

Climate change, people, and poverty

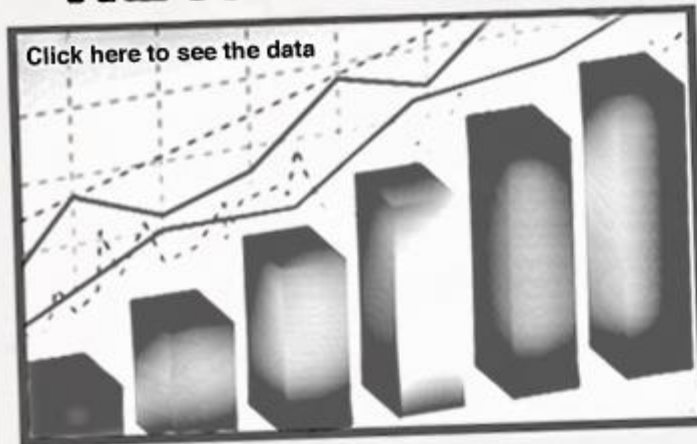




SPINNING THE MEDIA

A JOINT CRIKEY-ACIJ INVESTIGATION

OVER HALF YOUR NEWS IS SPIN



Spinning the Media is an investigation between Crikey and ACIJ at UTS into the role PR plays in the media in Australia.

After analysing a 5-day week in the media, our researchers found that nearly 55% of stories were driven by PR...

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SPECIAL REPORT

**A/V PRESS RELEASES:
PRE-PACKAGED JOURNALISM**

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KEY FINDINGS

How much of your daily news is PR?
Which papers are the worst offenders?

INTERVIEWS

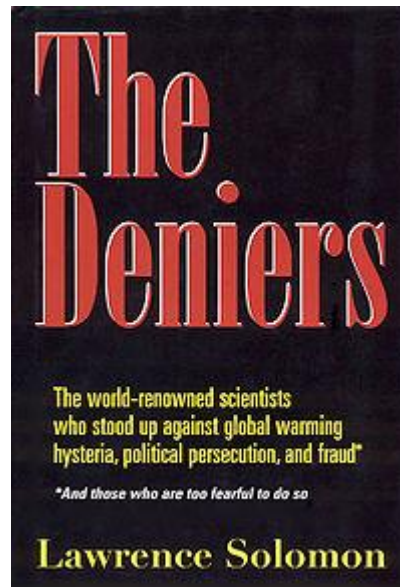
- The editors fire back
- Insiders respond

**HOW WE
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Penetración cultural (1)

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When Corporations Rule the World

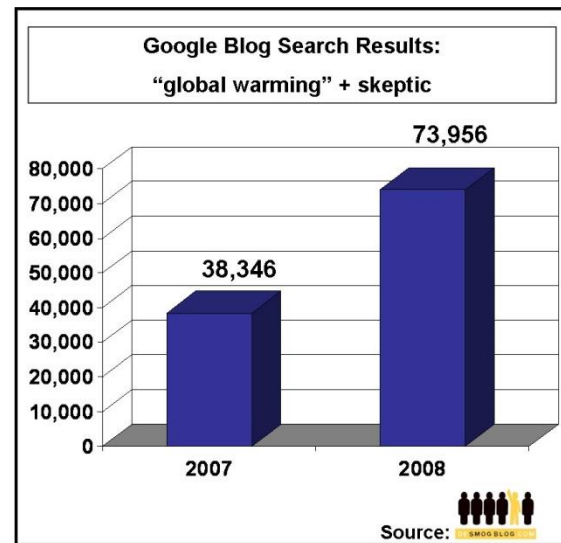
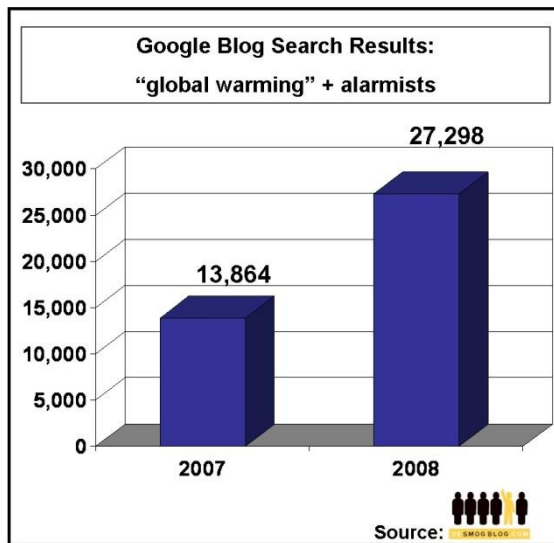
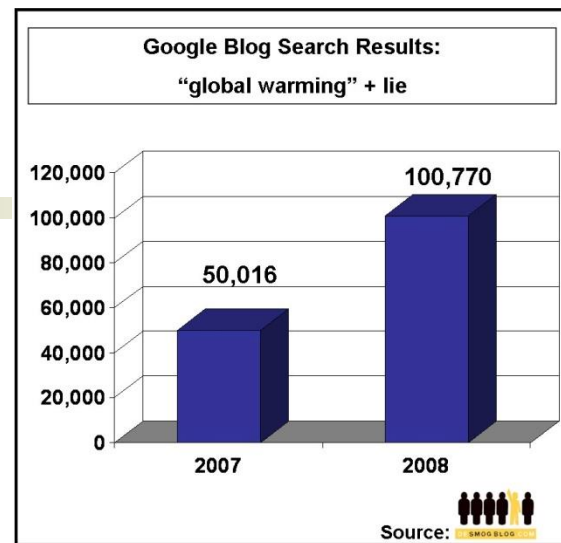
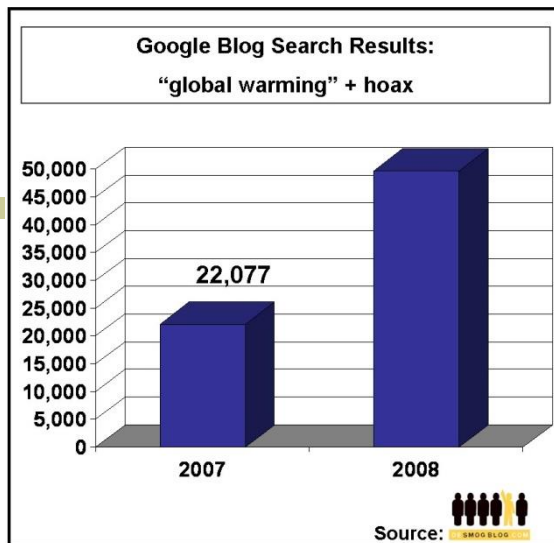
David C. Korten

AGENDA FOR A NEW ECONOMY

David C. Korten

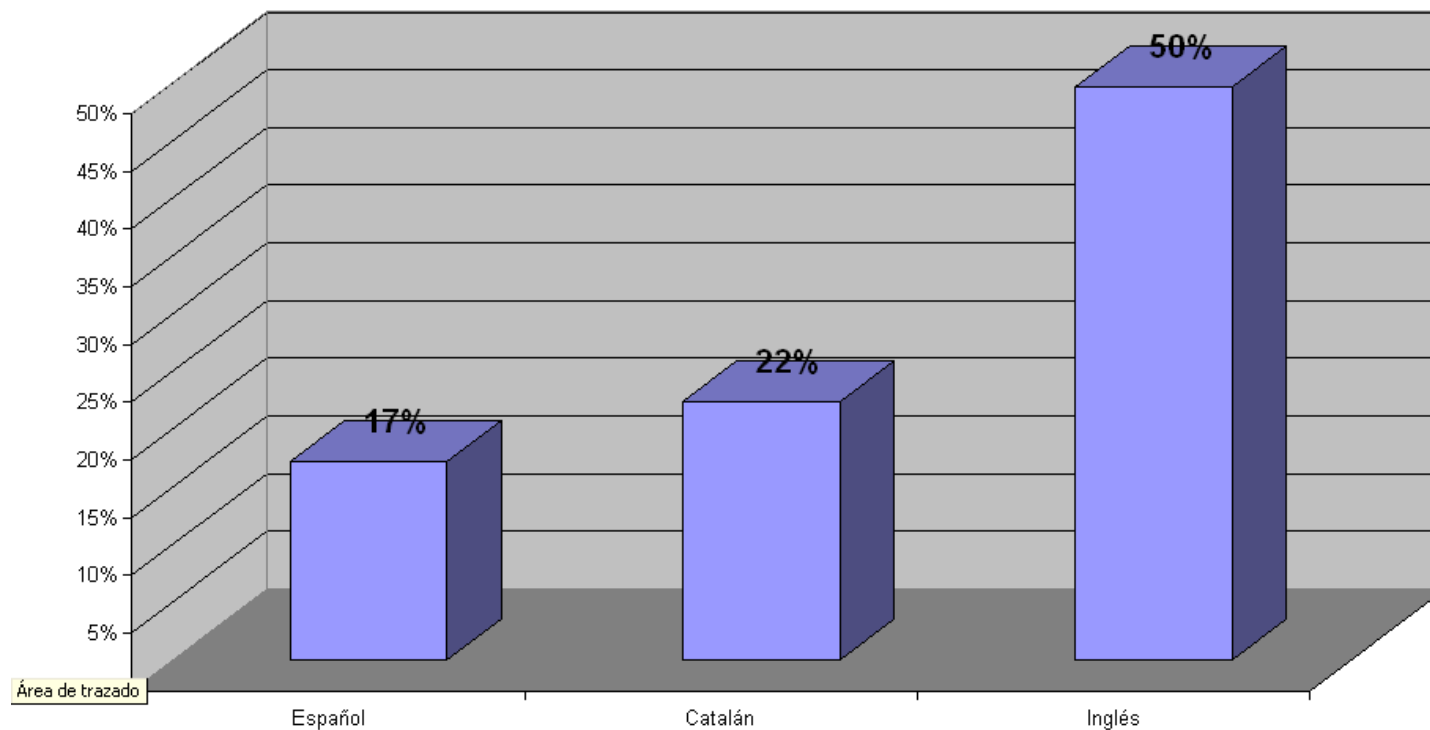
The Great Turning

David C. Korten

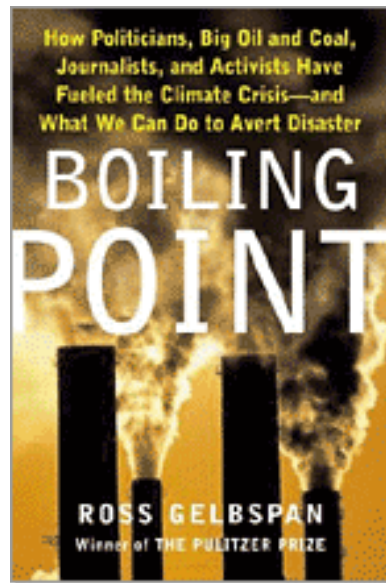


	A	B	C	D	E	F	G
1	02/04/2010	"Cambio Climático"	"Calentamiento global"	Total			
2	Total	7.890.000	1.240.000	9.130.000			
3	+mentira	186.000	127.000	313.000	3%		
4	+alarmista(s)	21.400	13.380	34.780	0%		
5	+escéptico(s)	60.500	38.200	98.700	1%		
6	+patraña	7.100	4.140	11.240	0%		
7	+socialista, +izquierda	809.000	303.000	1.112.000	12%		
8	Total negacionistas:				17%		
9	[Calentólogos	42.700]					
10							
11		"Canvi climàtic"	"Escalfament global"	Total			
12	Total	549.000	68.100	617.100			
13	+mentida(es)	23.710	6.750	30.460	5%		
14	+alarmista(es)	2.113	1.737	3.850	1%		
15	+escèptics	3.110	3.790	6.900	1%		
16	+falòrnia	229	29	258	0%		
17	+socialista, +esquerra(es)	86.100	10.560	96.660	16%		
18	Total negacionistas:				22%		
19							
20		"Climate change"	"Global warming"	Total			
21	Total	108.000.000	41.700.000	149.700.000			
22	+lie	5.090.000	5.270.000	10.360.000	7%		
23	+alarmist(s)	451.000	504.000	955.000	1%		
24	+sc(k)eptic(s)	4.077.000	1.514.000	5.591.000	4%		
25	+hoax	858.000	1.590.000	2.448.000	2%		
26	+socialist(s)	1.274.000	1.158.000	55.022.000	37%		
27	+left	26.500.000	15.900.000				
28	+liberal(s)	4.900.000	5.290.000				
29	Total negacionistas:				50%		

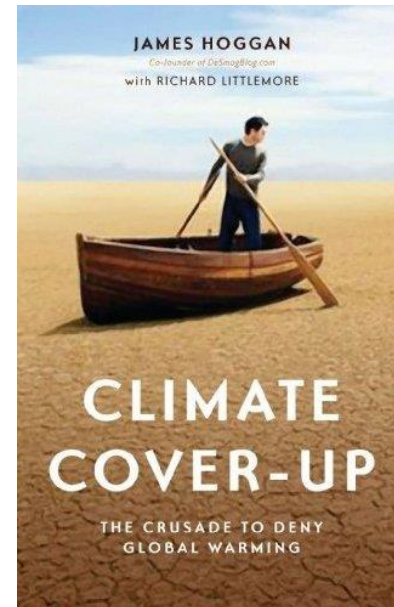
Índice de negacionismo



Búsquedas en Google según criterios indicados en dispositiva anterior - 04/04/2010



2004



2009

[Mi blog]

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