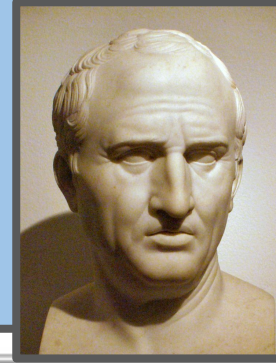


JAKIN ETA EREIN

Aldaketa klimatikoa eta planetaren energia

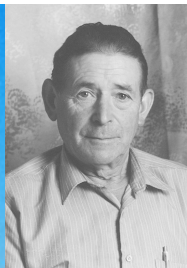
Erein?, sembrar -> Eragin: promover
Jakintsua da erein/eragiten duena

EREIN BERAKATZA -> DAKIENA DA EREITEN DUENA, **BASERRITARRA !!**

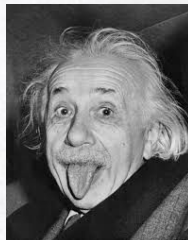


**La agricultura es la profesión propia del sabio,
la más adecuada al sencillo y la ocupación más
digna para todo hombre libre.**

Marco Tulio Cicerón (106-43 a.C.)



The broad remit of IPBES requires it to engage a wide range of stakeholders, spanning from natural, social, humanistic, and engineering sciences to indigenous peoples and local communities in those territories lie much of the world's biodiversity.



INSIGHTS

POLICY FORUM

BIODIVERSITY AND ECOSYSTEMS

Assessing nature's contributions to people

Recognizing culture, and diverse sources of knowledge, can improve assessments

by Sandra Diaz, Ural Pascual, Madeleine Wehncke, Boris Martin López, Robert T. Watson, Zach Nishtar, Rosamery Hui, Kai M. A. Chan, Yusei Kato, Kaiti A. Brennan, Stephen Polasky, Andrew Church, Mark Lovell, Anne Larigauderie, Paul W. Leadley, Alexander P. E. van Oudenhooven, Felice van der Plaats, Matthias Schuster, Sandra Lavorel, Yildiz Ammerudny Thomas, Elena Balseirova, Kirsten Davies, Scheide Denmeise, Gnanu Egozi, Pierre Fauriol, Carlos A. Guerra, Chaf L. Howitt, Klaus Kiese, Sarah Lindsey, Yoshitaka Shikazono

A major challenge today and into the future is to maintain or enhance beneficial contributions of nature to a good quality of life for all people. This is among the key motivations of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), a joint global effort by governments, academia, and civil society to assess and promote knowledge of Earth's biodiversity and ecosystems and their contributions to human societies in order to inform policy formulation. One of the more recent key elements of the IPBES conceptual framework (1) is the notion of nature's contributions to people (NCP), which builds on the ecosystem service concept popularized by the Millennium

Ecosystem Assessment (MA) (2). But as we detail below, NCP as defined and put into practice in IPBES differs from earlier work in several important ways. First, the NCP approach recognizes the central and pervasive role that culture plays in defining all links between people and nature. Second, use of NCP drives, emphasizes and operationalizes the role of indigenous and local knowledge in understanding nature's contribution to people. The broad remit of IPBES requires it to engage a wide range of stakeholders, spanning from natural, social, humanistic, and engineering sciences to indigenous peoples and local communities in whose territories lie much of the world's biodiversity. Being an intergovernmental body, such involvement

is essential not only for advancing knowledge but also for the political legitimacy of assessment findings (3).

FROM SERVICES TO CONTRIBUTIONS

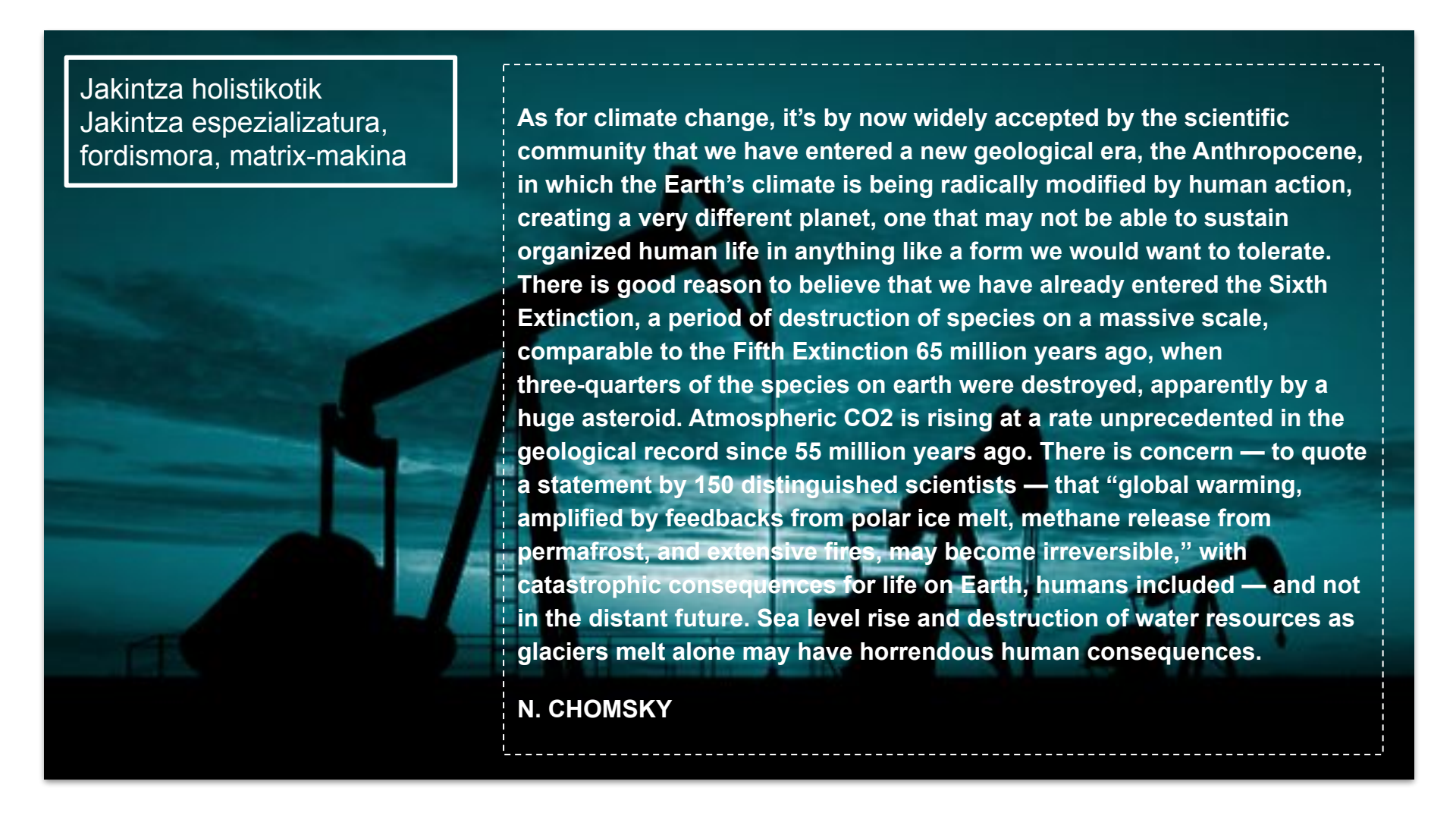
NCP are all the contributions, both positive and negative, of living nature (diversity of organisms, ecosystems, and their associated ecological and evolutionary processes) to people's quality of life (4). Beneficial contributions include, for example, food provision, water purification, and artistic inspiration, whereas detrimental contributions include disease transmission and predation that damage people or their assets. Many NCP may be perceived as benefits or detriments depending on the cultural, socioeconomic,

270 10 JANUARY 2020 • VOL. 358 SCIENCE

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**Intergovernmental
Science-Policy Platform
on Biodiversity and
Ecosystem Services
(IPBES)**

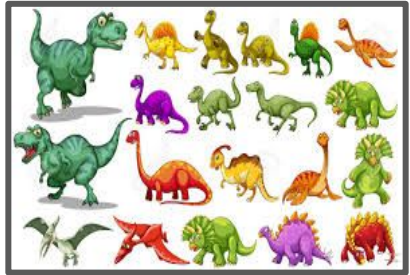
The background of the entire slide is a photograph of an oil pumpjack (jackal) in silhouette against a sunset sky. The sky is a mix of orange, yellow, and blue, with some clouds. The pumpjack is on the left side of the frame, and its long arm extends towards the center. The overall mood is somber and industrial.

Jakintza holistikotik
Jakintza espezializatura,
fordismora, matrix-makina

As for climate change, it's by now widely accepted by the scientific community that we have entered a new geological era, the Anthropocene, in which the Earth's climate is being radically modified by human action, creating a very different planet, one that may not be able to sustain organized human life in anything like a form we would want to tolerate. There is good reason to believe that we have already entered the Sixth Extinction, a period of destruction of species on a massive scale, comparable to the Fifth Extinction 65 million years ago, when three-quarters of the species on earth were destroyed, apparently by a huge asteroid. Atmospheric CO₂ is rising at a rate unprecedented in the geological record since 55 million years ago. There is concern — to quote a statement by 150 distinguished scientists — that “global warming, amplified by feedbacks from polar ice melt, methane release from permafrost, and extensive fires, may become irreversible,” with catastrophic consequences for life on Earth, humans included — and not in the distant future. Sea level rise and destruction of water resources as glaciers melt alone may have horrendous human consequences.

N. CHOMSKY

ESKORBUTO sobre los dinosaurios



Cuando los dinosaurios dominaban la tierra

Hace un millón de años en la prehistoria.

La fuerza era la ley y ellos eran los más fuertes,

Gigantescos brutales, salvajes animales.

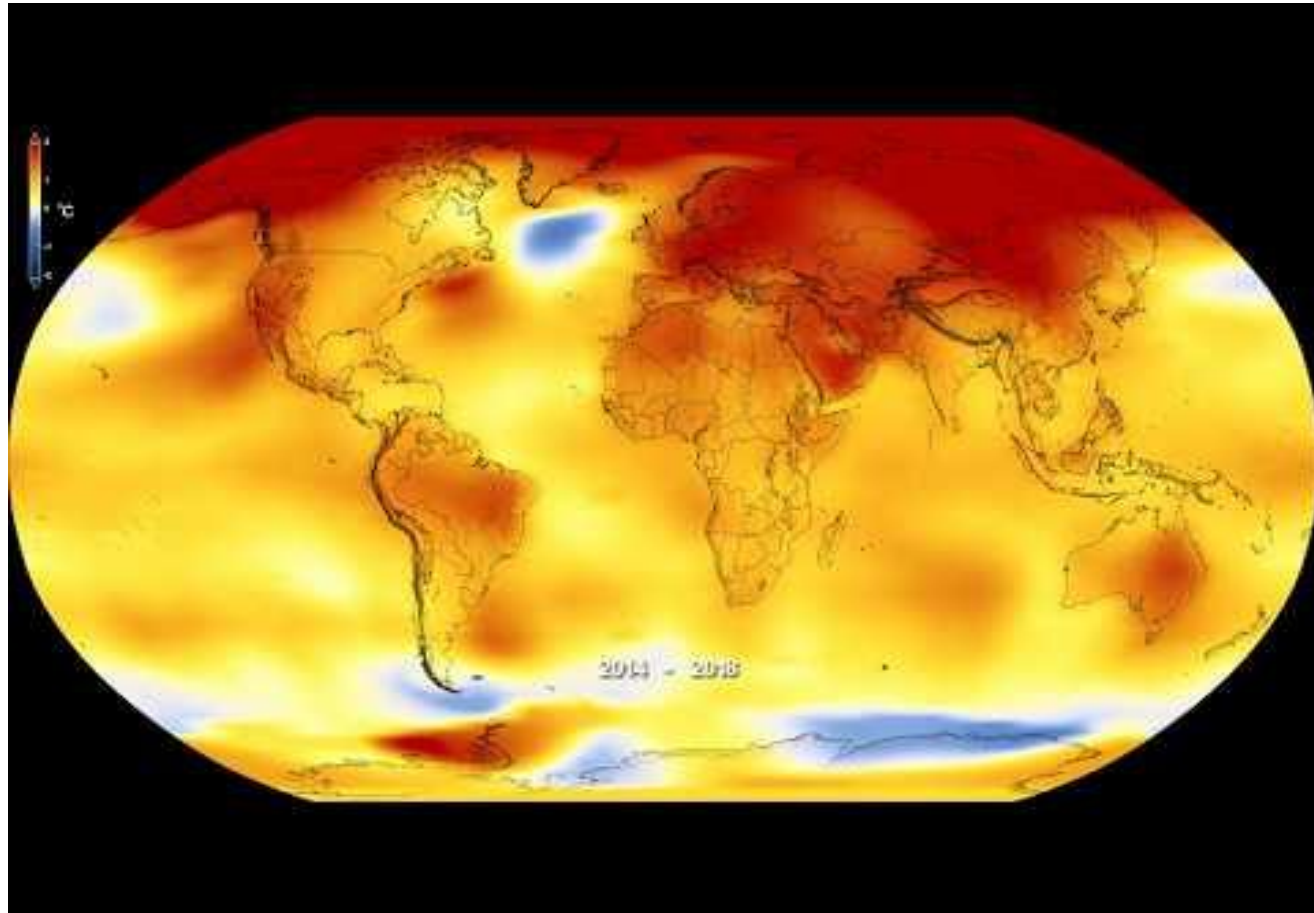
Pero ocurrió, todos sucumbieron, **ahora son petróleo**

Necesario en nuestro tiempo

Cuando los dinosaurios dominaban la tierra

Aún siguen haciéndolo, aunque sea de otra manera.

2-3°C ???



UN ARGUMENTO ANTIGUO

Segunda edición

SIGLO
15

SI la TIERRA
ES REDONDA,
¡EXPLIQUEN
ESTO!



SIGLO
17

SI la
GRAVEDAD
ES REAL
¡EXPLIQUEN
ESTO!



SIGLO
19

SI la
EVOLUCIÓN
ES REAL,
EXPLIQUEN
ESTO!



SIGLO
21

SI el
CALENTAMIENTO
GLOBAL ES REAL,
¡EXPLIQUEN
ESTO!

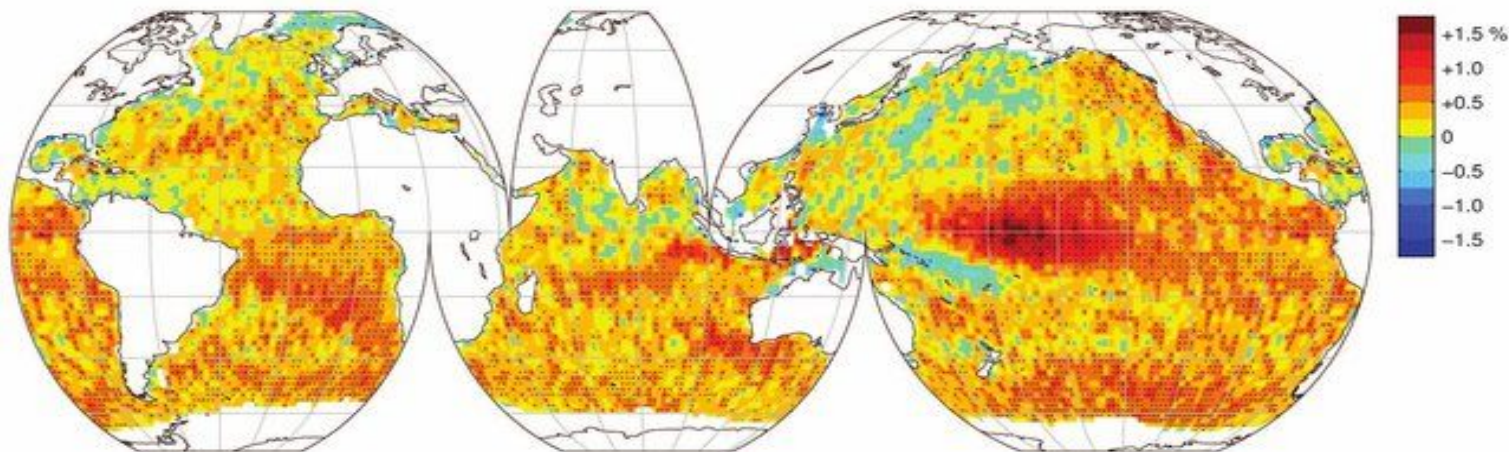


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WILSON
THE BUFFALO NEWS

**Global trends
in Wind Speed
and Wave
Height**

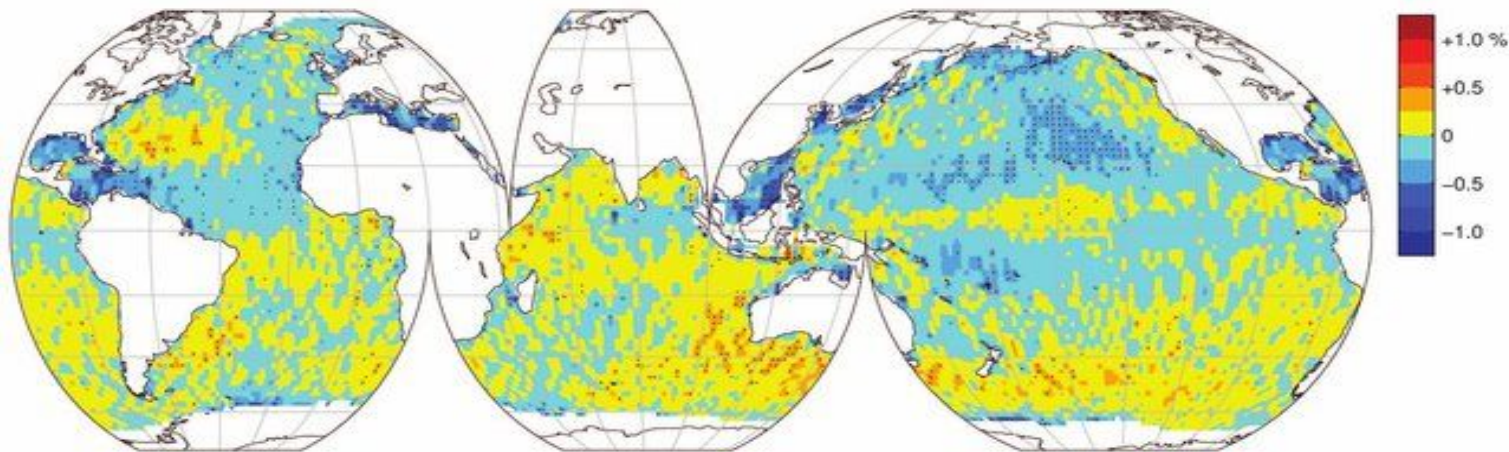
Young et al.
Science, 2011.

mean wind speed (1991–2008)

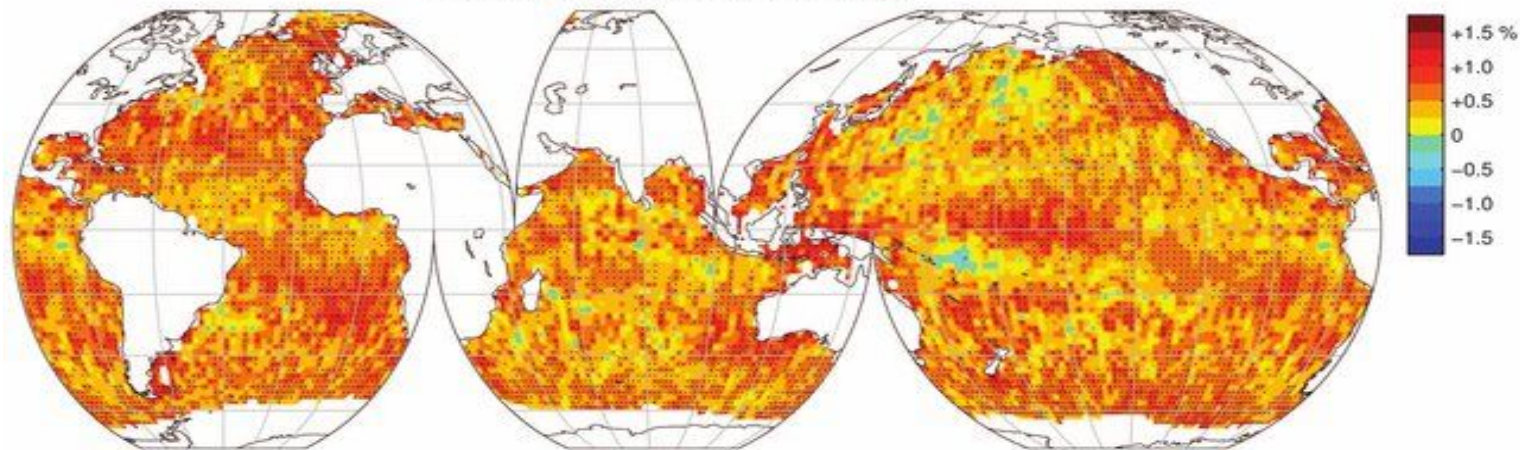


percen
t/year

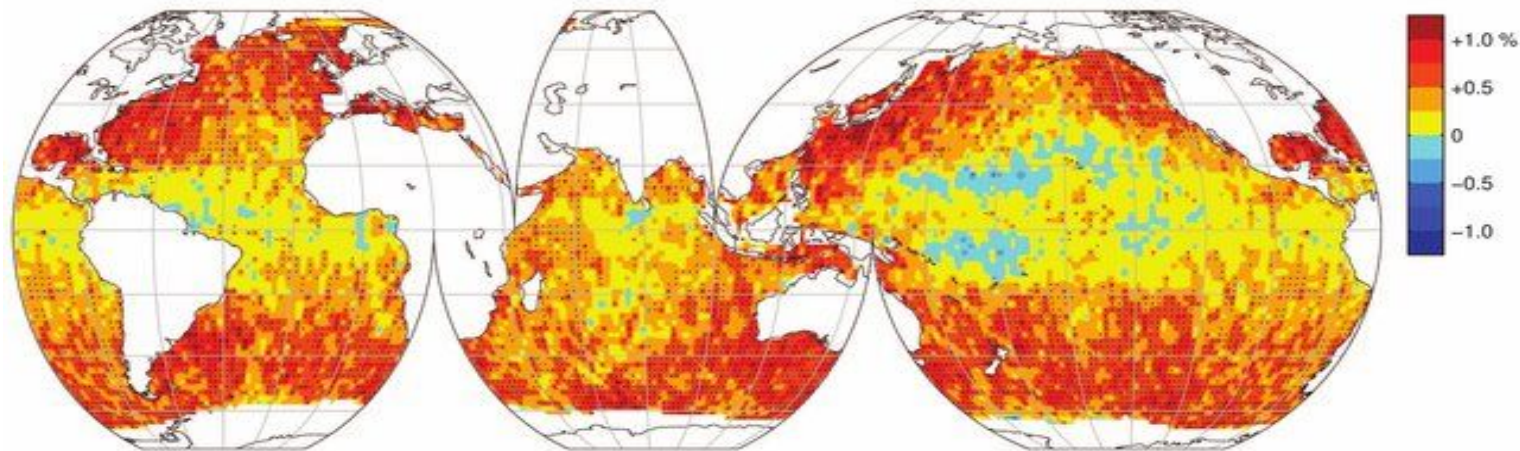
mean significant wave height (1985–2008)



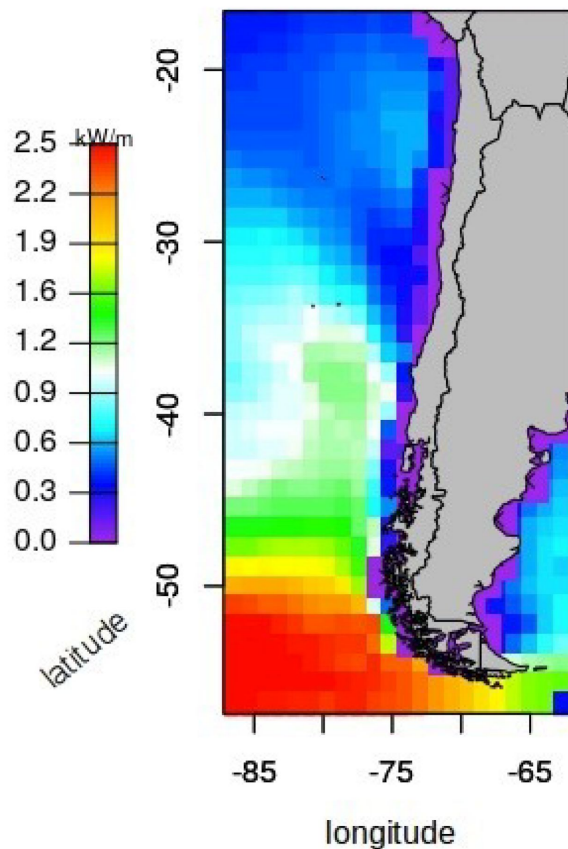
99th percentile wind speed (1991-2008)



99th percentile significant wave height (1985-2008)

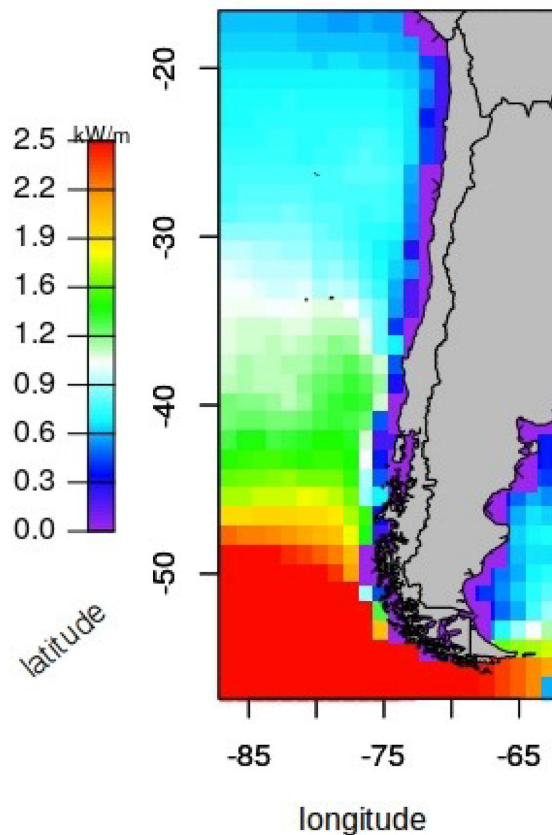


Autumn



(a) WEF trends in autumn

Winter

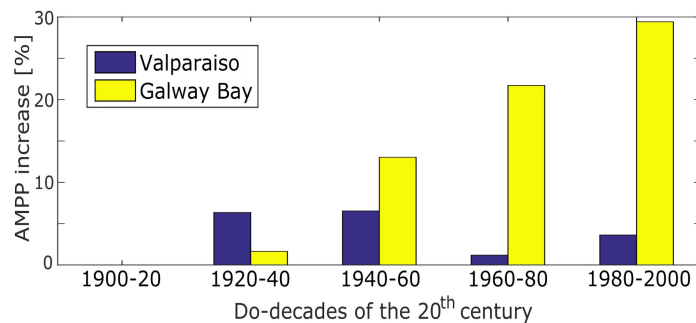
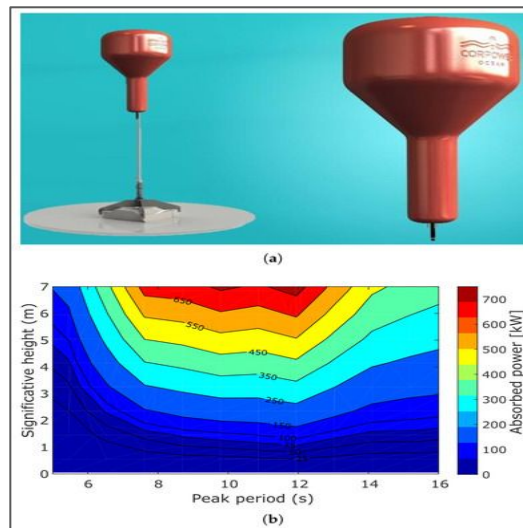


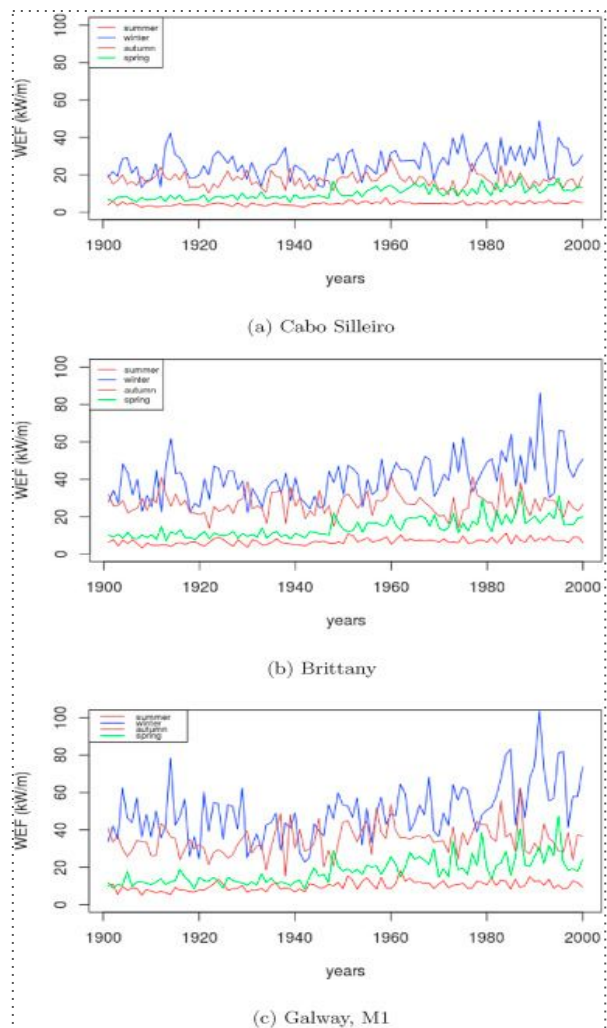
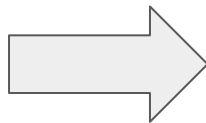
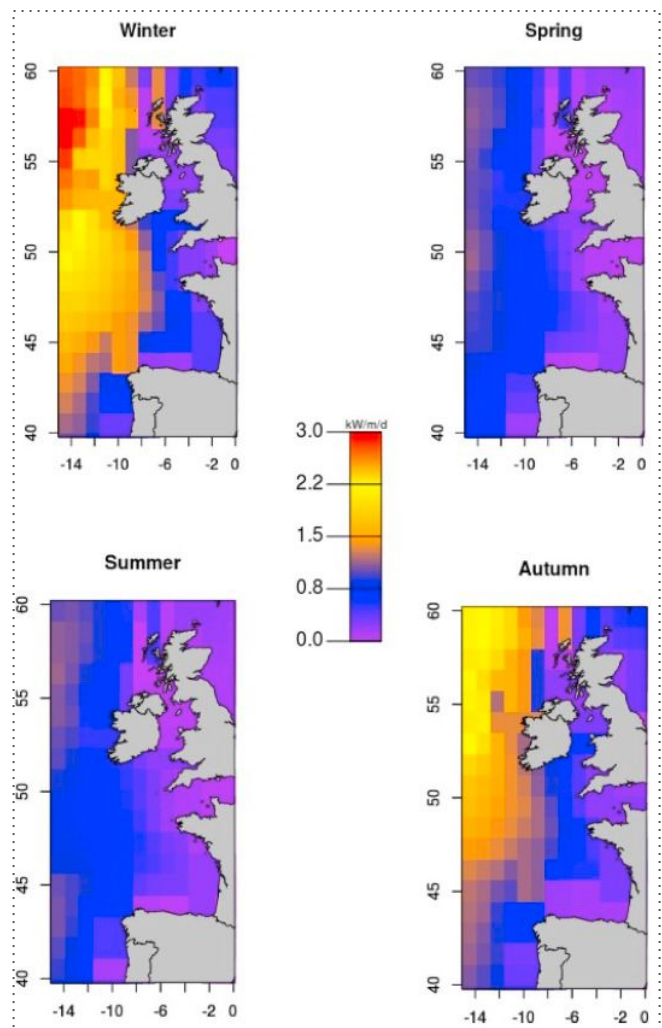
(b) WEF trends in winter

Chile:

2.5 kW/m per decade

25 kW/m 100 urtetan!!!





<http://www.ehu.eus/eolo/>

Mertzi!!
Zalantza
erein...

