Lessons of the '*Amazongate*' to the IPCC process

Carlos A Nobre

National Institute for Space Research-INPE
Brazil

2nd World Conference on Research Integrity

Singapore

21-24 July 2010

Integrity: the quality of being honest

Research integrity

Fabrication, falsification, plagiarism

Integrity in Journalism

Background on IPCC AR4 2007 *x* the media

NEWS FEATURE NATURE| Vol 466|1 July 2010

AN EROSION OF TRUST? By Jeff Tollefson

Key messages

"It isn't enough to explain the facts of climate change very, very clearly. Building public trust requires researchers to change"

"Despite a recent decline, support for climate scientists remains strong"

"Researchers must learn to see themselves as public figures and honest brokers"

Nature , Vol 466, Issue no. 7302, 1 July 2010

‘Amazongate’

The sentence which started the troube…

IPCC AR4 2007 Chapter 13 Latin America*

***Up to 40% of the Amazonian forests could react drastically to even a slight reduction in precipitation**; this means that the tropical vegetation, hydrology and climate system in South America could change very rapidly to another steady state, not necessarily producing gradual changes between the current and the future situation (Rowell and Moore, 2000). It is more probable that **forests will be replaced by ecosystems** that have more resistance to multiple stresses caused by temperature increase, droughts and fires, **such as tropical savannas**.*

Latin America Chapter 13

that the region has experienced during the last 20 years, efore can be contradictory. On the one hand, economists our liberalisation of Latin American economies argue ntries that have implemented these types of policies have ed in terms of growth rate, stability, democracy and even gard to inequality and poverty (for example: Walton, orld Bank, 2006). On the other hand, another group of in economics, sociology and politics is concerned with ects that neoliberalisation has had for the region, lly in terms of increases in inequality and poverty, but terms of lack of economic growth (Huber and Solt, This is still an unresolved debate that imparts great nty to economic scenarios for Latin America.

first group's view provides the following insights for ic prospects. Analysts from the World Bank argue that e real per capita GDP of Latin America has had a very wth – about 1.3%/yr average during the 1990 to 2000 - in the long term (from 2006 to 2015), regional GDP is d to increase by 3.6%/yr, and per capita income is d to rise by 2.3%/yr on average (World Bank, 2006). estimates forecast a growth of 4%/yr for the region in d 3.6%/yr in 2007 and real per capita GDP growth of and 2.3%/yr, respectively (Loser, 2006; World Bank, These positive prospects are attributed to the entation of economic policies such as a substantia n of the fiscal imbalances and inflation control that have ed growth in the past. According to this source, the area ack to meet its Millennium Development Goals on ; however, it is impor ance is not as good as o Asia and, notably, China could be achieved by c (Walton, 2004; World B second group of expert ation, far from establish have weakened the regi th and making it mor ty and poverty, and lin rowth (Huber and Solt, 2 f economic growth, ork and demographic pr portant factors for incr nerability to climate v ., 2002).

Of 138 tree species of the central Brazil savannas (Cerrados) by 2050 for a projected increase of 2°C in surface temperature (Siqueira and Peterson, 2003; Thomas et al., 2004). By the end of the century, 43% of 69 tree plant species studied could become extinct in Amazonia (Miles et al., 2004). In terms of species and biome redistributions, larger impacts would occur over north-east Amazonia than over western Amazonia. Several AOGCM scenarios indicate a tendency towards 'savannisation' of eastern Amazonia (Nobre et al., 2005) and the tropical forests of central and south Mexico (Peterson et al., 2002; Arriaga and Gómez, 2004). In north-east Brazil the semi-arid vegetation would be replaced by the vegetation of arid regions (Nobre et al., 2005), as

Up to 40% of the Amazonian forests could react drastically to even a slight reduction in precipitation; this means that the tropical vegetation, hydrology and climate system in South America could change very rapidly to another steady state, not necessarily producing gradual changes between the current and the future situation (Rowell and Moore, 2000). It is more probable that forests will be replaced by ecosystems that have more resistance to multiple stresses caused by temperature increase, droughts and fires, such as tropical savannas.

processes (Scholze et al., 2005) considers the distribution of outcomes within three sets of model runs grouped according to the amount of global warming they simulate: <2°C, 2-3°C and >3°C. A high risk of forest loss is shown for Central America and Amazonia, more frequent wildfire in Amazonia, more runoff

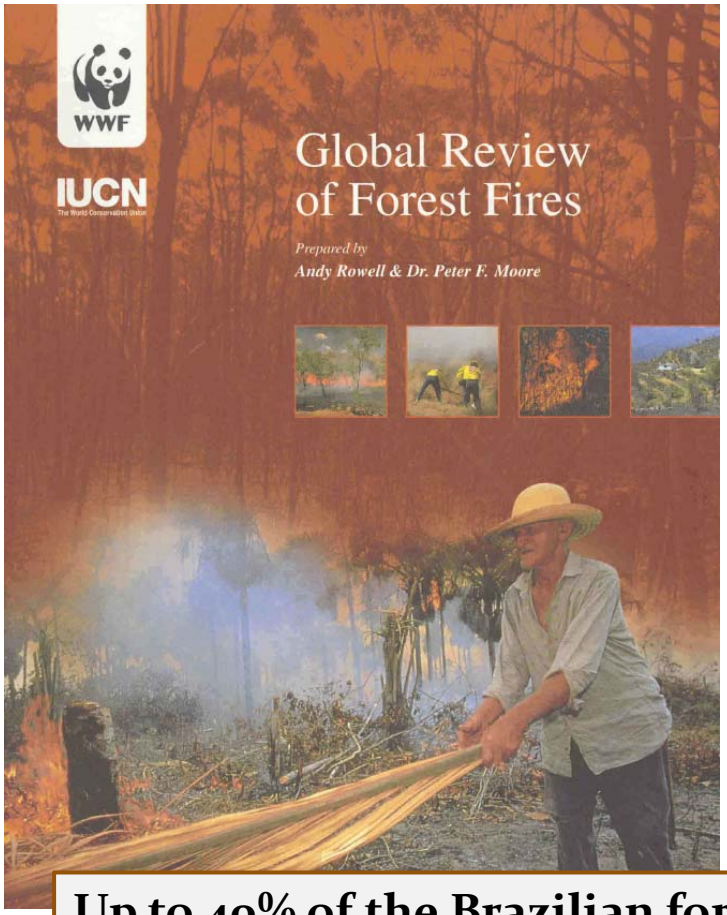
.4 Summary of ex impacts and vu

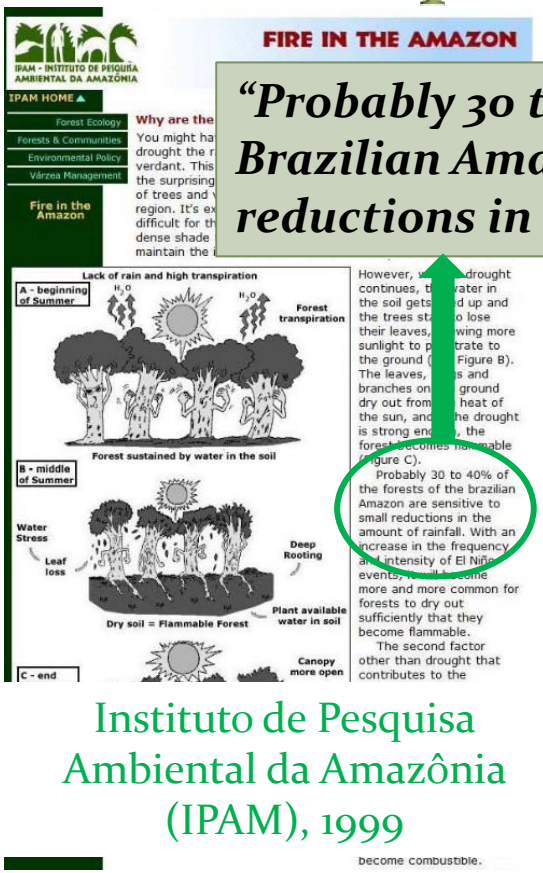
Natural ecosystems

Tropical plant species may be climate, since biological syster rapid changes of climate. This species diversity. Based on Had General Circulation Model (emissions scenarios, there is the

*Magrin, G., C. Gay García, D. Cruz Choque, J.C. Giménez, A.R. Moreno, G.J. Nagy, C. Nobre and A. Villamizar, 2007.

How it all started: WWF Report 2000





"Probably 30 to 40% of the forests of the Brazilian Amazon are sensitive to small reductions in the amount of rainfall"

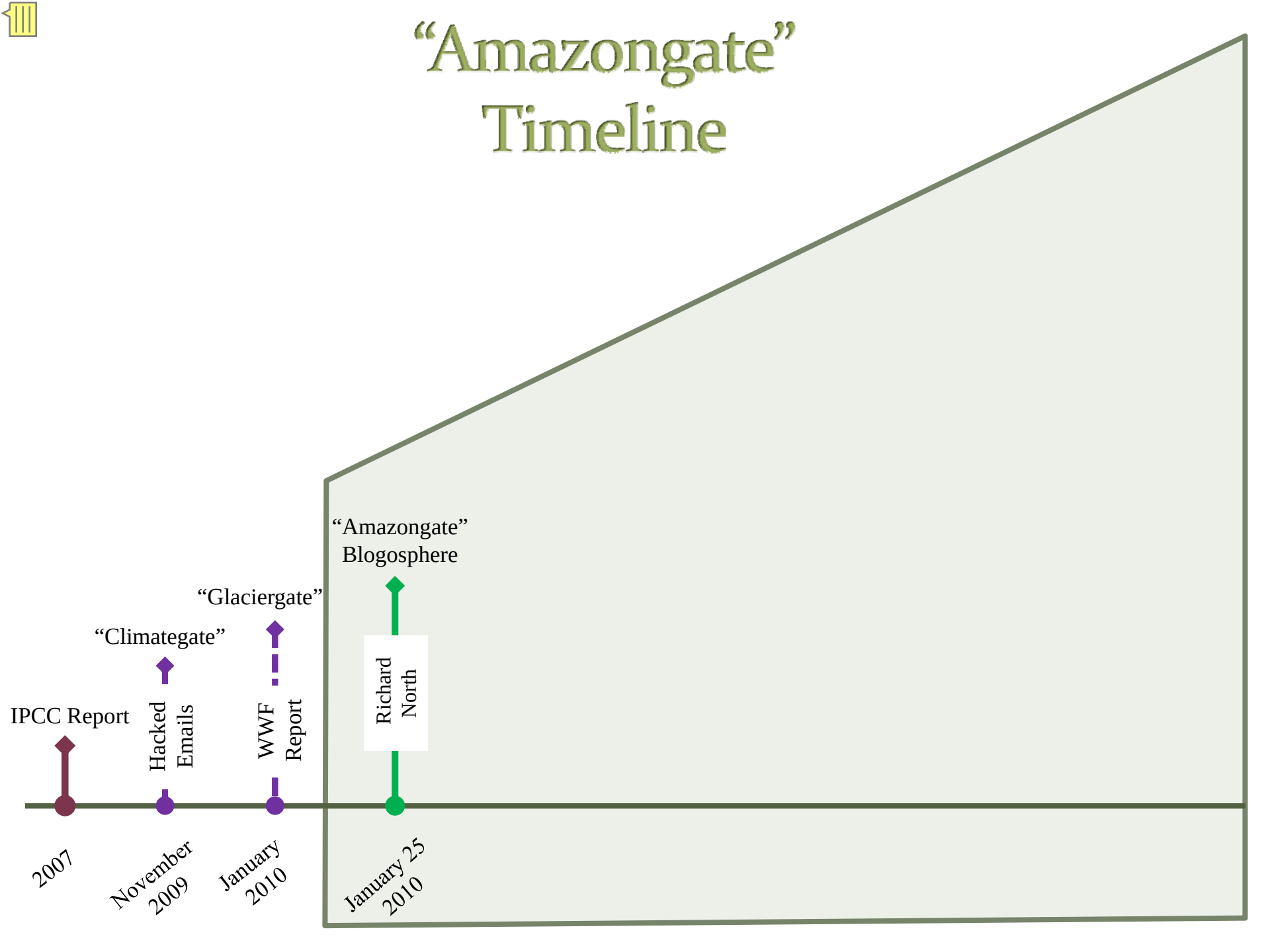
Instituto de Pesquisa Ambiental da Amazônia (IPAM), 1999

Nepstad et al. 1999 Nature

Up to 40% of the Brazilian forest is extremely sensitive to small reductions in the amount of rainfall. In the 1998 dry season, some 270,000 sq. km of forest became vulnerable to fire, due to completely depleted plant-available water stored in the upper five metres of soil. A further 360,000 sq. km of forest had only 250 mm of plant available soil water left (Nepstad at al. 1999). ➔ 630,000 km² affected or ≈ 15% (Global Review of Forest Fires by *Andy Rowell and Dr. Peter F. Moore)*

Peter Moore is a Forest Fire Management Specialist and **Andy Rowell** is a writer and Investigative journalists on environmental issues.

“Amazongate” Timeline



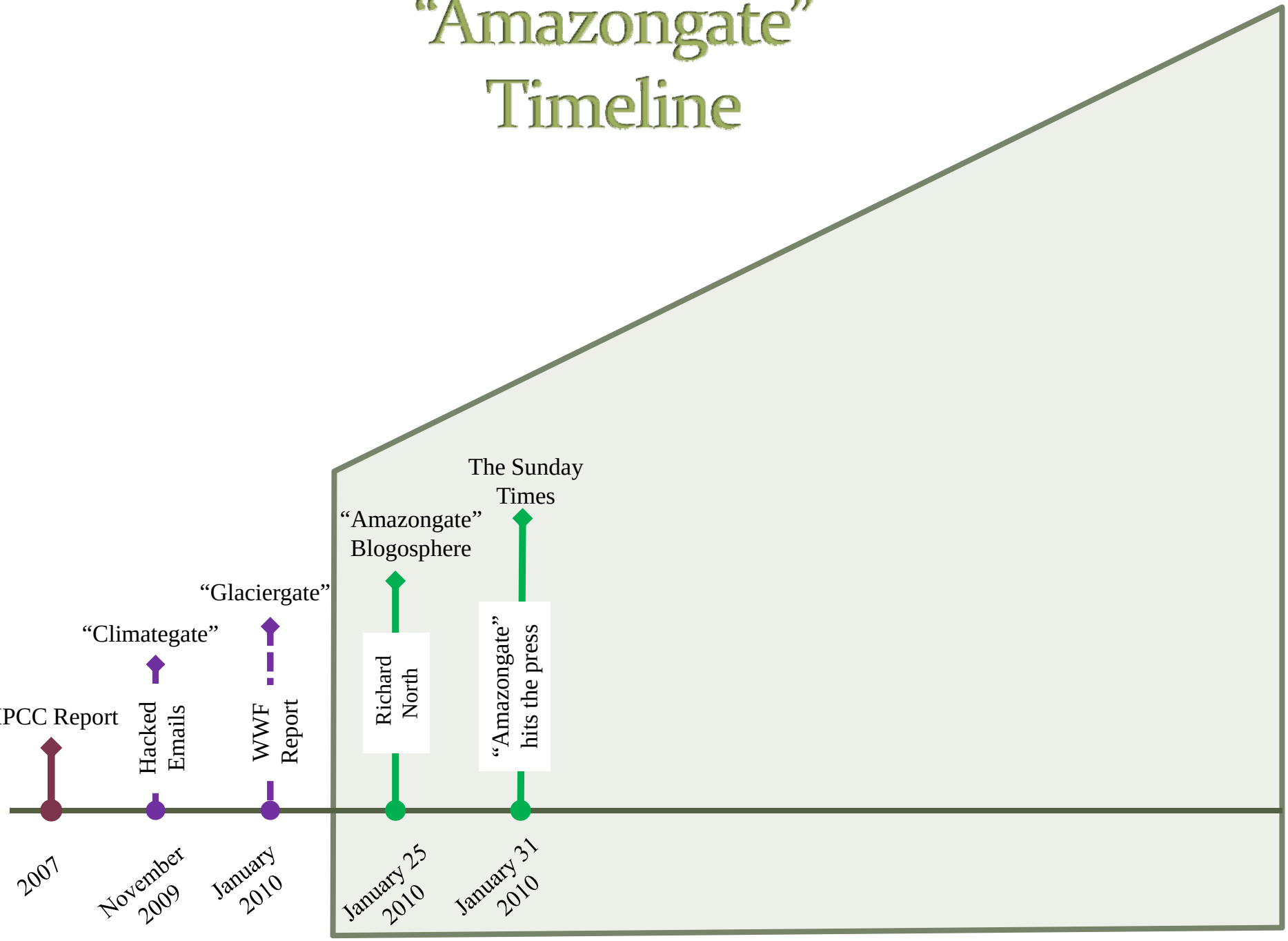
"Amazongate" Blogosphere: Richard North

January 25, 2010

"The IPCC also made false predictions on the Amazon rain forests, referenced to a non peer-reviewed paper produced by an advocacy group working with the WWF. This time though, the claim made is not even supported by the report and seems to be a complete fabrication".

"Thus, following on from "Glaciergate", where the IPCC grossly exaggerated the effects of global warming on Himalayan glaciers – backed by a reference to a WWF report - ***we now have "Amazongate", where the IPCC has grossly exaggerated the effects of global warming on the Amazon rain forest.***"

“Amazongate” Timeline



UN climate panel shamed by bogus rainforest claim

Jonathan Leake
Times Online
January 31, 2010

"A STARTLING report by the United Nations climate watchdog that global warming might wipe out 40% of the Amazon rainforest was based on an unsubstantiated claim by green campaigners who had little scientific expertise".

UN climate panel shamed by bogus rainforest claim

Jonathan Leake
TimesOnline

January 31, 2010

A STARTLING report by the United Nations climate watchdog that global warming might wipe out 40% of the Amazon rainforest was based on an unsubstantiated claim by green campaigners who had little scientific expertise.

The Intergovernmental Panel on Climate Change (IPCC) said in its 2007 benchmark report that even a slight change in rainfall could see swathes of the rainforest rapidly replaced by savanna grassland.

The source for its claim was a report from WWF, an environmental pressure group, which was authored by two green activists. They had based their "research" on a study published in Nature, the science journal, which did not assess rainfall but in fact looked at the impact on the forest of human activity such as logging and burning. This weekend WWF said it was launching an internal inquiry into the study.

This is the third time in as many weeks that serious doubts have been raised over the IPCC's conclusions on climate change. Two weeks ago, after reports in The

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well over its claims that climate change

y of natural disasters such as hurricanes

of the IPCC, was fighting to keep his job

l by climate change sceptics to sway

ven though the fundamental science,

emains strong.

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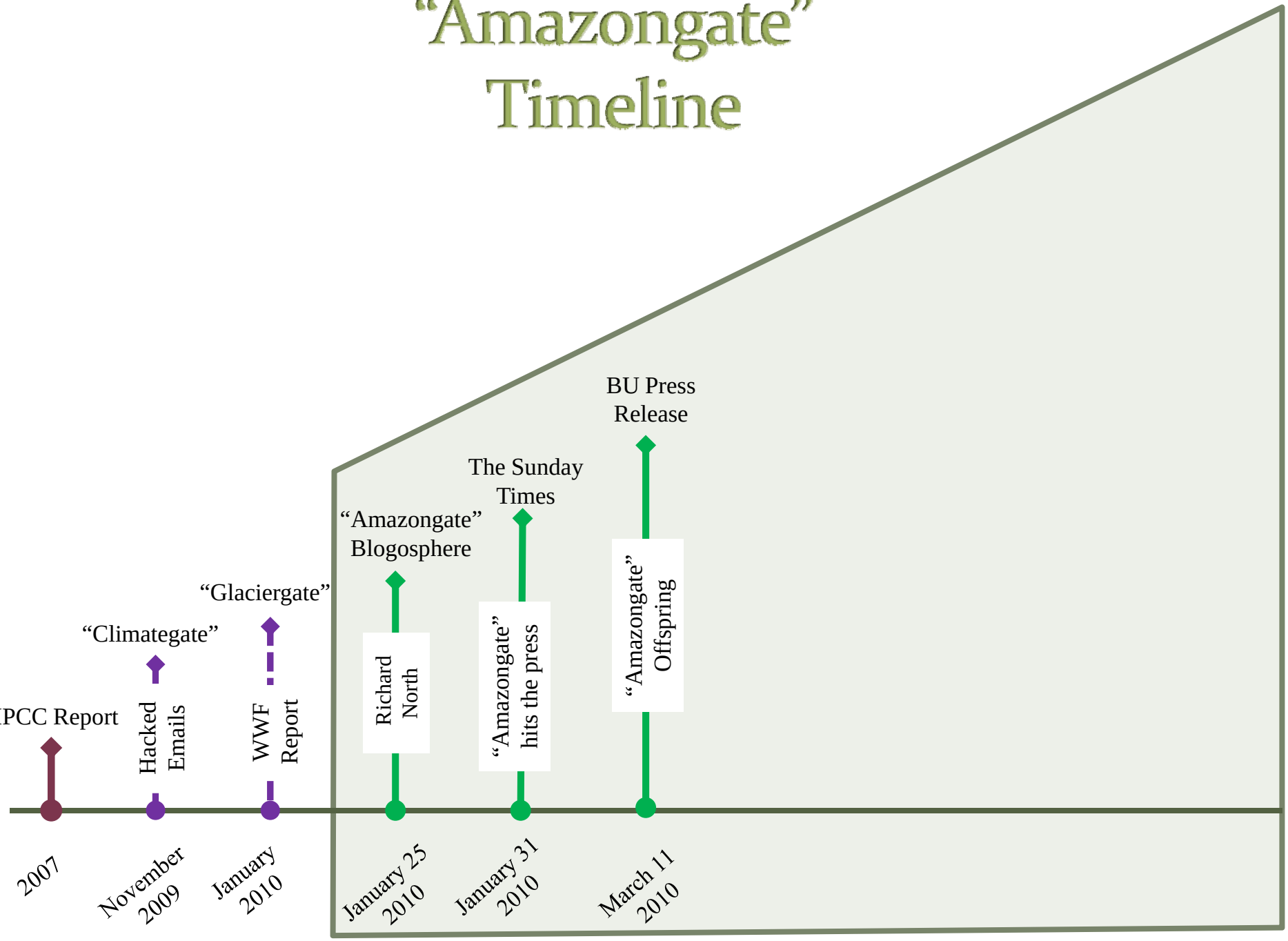

"Amazongate" offspring
Boston University
11-Mar-2010

New study debunks myths about Amazon rain forests

They may be more tolerant of droughts than previously thought *(Boston)*

"The way that the WWF report calculated this 40% was totally wrong, while [the new] calculations are by far more reliable and correct," said Dr. Jose Marengo*, a Brazilian National Institute for Space Research climate scientist and member of the IPCC.*

11 – Mar -2010

Back To EurekAlert!

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Boston University Medical Center

New study debunks myths about Amazon rain forests

They may be more tolerant of droughts than previously thought

(Boston) -- A new NASA-funded study has concluded that Amazon rain forests were remarkably unaffected in the face of once-in-a-century drought in 2005, neither dying nor thriving, contrary to a previously published report and claims by the Intergovernmental Panel on Climate Change.

"We found no big differences in the greenness level of these forests between drought and non-drought years, which suggests that these forests may be more tolerant of droughts than we previously thought," said Arindam Samanta, the study's lead author from Boston University.

The comprehensive study published in the current issue of the scientific journal *Geophysical Research Letters* used the latest version of the NASA MODIS satellite data to measure the greenness of these vast pristine forests over the past decade.

A study published in the journal Science in 2007 claimed that these forests actually thrive from drought because of more sunshine under cloud-less skies typical of drought conditions. The new study found that those results were flawed and not reproducible.

"This new study brings some clarity to our muddled understanding of how these forests, with their rich source of biodiversity, would fare in the future in the face of twin pressures from logging and changing climate," said Boston University Prof. Ranga Myneni, senior author of the new study.

The IPCC is under scrutiny for various data inaccuracies, including its claim – based on a flawed World Wildlife Fund study -- that up to 40% of the Amazonian forests could react drastically and be replaced by savannas from even a slight reduction in rainfall.

"Our results certainly do not indicate such extreme sensitivity to reductions in rainfall," said Sangram Ganguly, an author on the new study, from the Bay Area Environmental Research Institute affiliated with NASA Ames Research Center in California.

"The way that the WWF report calculated this 40% was totally wrong, while [the new] calculations are by far more reliable and correct," said Dr. Jose Marengo, a Brazilian National Institute for Space Research climate scientist and member of the IPCC.

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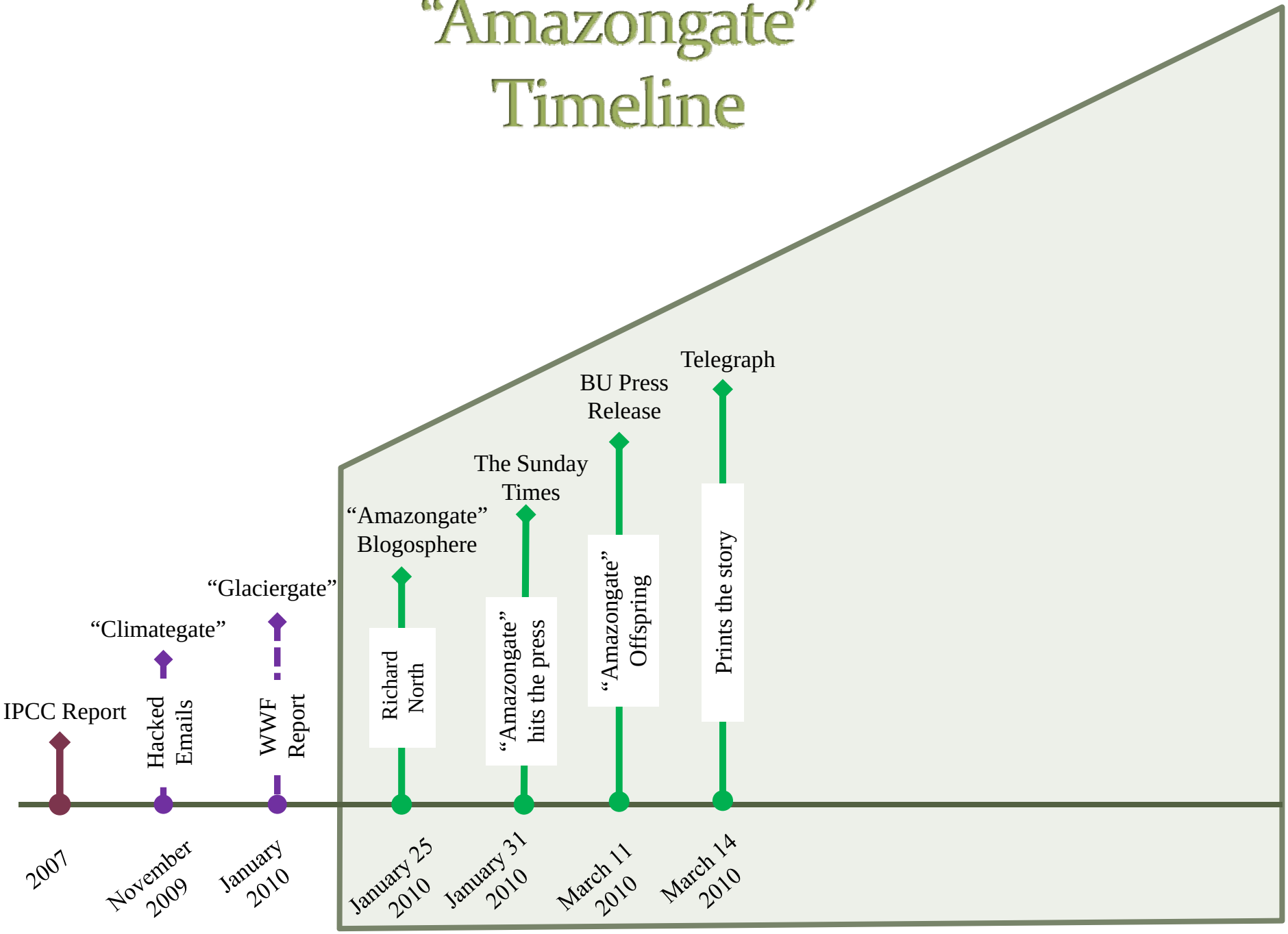
Founded in 1839, Boston University is an internationally recognized private research university with more than 30,000 students participating in undergraduate, graduate, and professional programs. BU consists of 17 colleges and schools along with a number of multi-disciplinary centers and institutes which are central to the school's research and teaching mission.

Geophysical Research Letters article citation: Samanta, A., S. Ganguly, H. Hashimoto, S. Devadiga, E. Vermote, Y. Knyazikhin, R. R. Nemani, and R. B. Myneni (2010), Amazon forests did not green-up during the 2005 drought, Geophys. Res. Lett., 37, L05401, doi:10.1029/2009GL042154.

“Amazongate” Timeline



The Daily Telegraph

Original article* published on March 14 by Richard Gray:

*original article is no longer available on The Daily Telegraph webpage

Dr Jose Marengo, a climate scientist at the Brazilian National Institute for Space Research and a member of the IPCC, said the study on the Amazon's response to drought highlighted errors in the previous claims.

"The way the WWF report calculated this 40 per cent was totally wrong, while [the new] calculations are by far more reliable and correct," he said.

BREAKING NEWS | Godridge back in rightful place - on the podium

PRINT SHARE RECOMMEND 0 VOTES

Now IPCC gets it wrong over Amazon 'disaster'

0 Comments | Sunday Telegraph, TI GRAY

14 – Mar -2010

RICHARD

THE UNITED Nations' climate change panel is facing fresh criticism after research contradicted its claims about the devastating effect global warming could have on the Amazon rainforest.

The new study, funded by Nasa, found that the most serious drought in the Amazon for more than a century had little impact on vegetation. This appears to disprove claims by the Intergovernmental Panel on Climate Change (IPCC) that up to 40 per cent of the rainforest could be lost with even a small reduction in rainfall.

The IPCC has faced intense criticism for basing its 40 per cent claim on a report by WWF, an environmental lobby group.

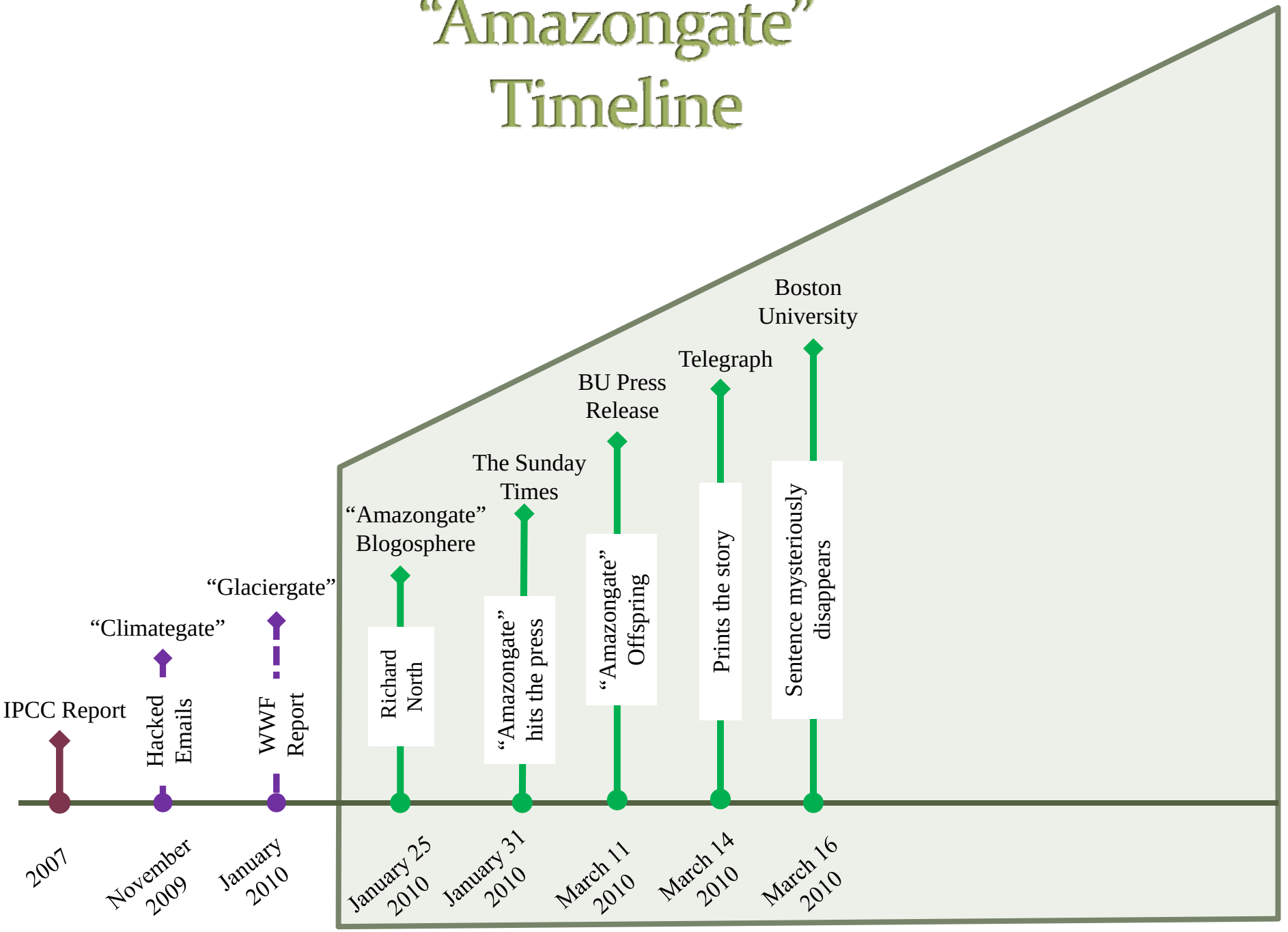
On Thursday, the UN announced an independent review into the IPCC's procedures after its report was found to contain factual errors and claims that were not based on rigorous scientific research.

The InterAcademy Council, an umbrella organisation for the world's academies of science, will examine how the panel's reports are compiled and communicated.

Dr Jose Marengo, a climate scientist at the Brazilian National Institute for Space Research and a member of the IPCC, said the study on the Amazon's response to drought highlighted errors in the previous claims.

"The way the WWF report calculated this 40 per cent was totally wrong, while [the new] calculations are by far more reliable and correct," he said.

"Amazongate" Timeline



Statement mysteriously disappears

March 12

By Richard Taffe

The sentence was removed on March 16 after Dr. Marengo complains to Boston University that he was completely misquoted.

Boston University

Site Directo

MEDIA RELATIONS

News Releases

For Release Up 12 – Mar -2010

Contact: Richar

NEW STUDY DEBUNKS MYTHS ABOUT AMAZON RAIN FORESTS

They may be more tolerant of droughts than previously thought

(Boston) -- A new NASA-funded study has concluded that Amazon rain forests were remarkably unaffected in the face of once-in-a-century drought in 2005, neither dying nor thriving, contrary to a previously published report and claims by the Intergovernmental Panel on Climate Change.

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"This new study brings some clarity to our muddled understanding of how these forests, with their rich source of biodiversity, would fare in the future in the face of twin pressures from logging and changing climate," said Boston University Prof. Ranga Myneni, senior author of the new study.

The IPCC is under scrutiny for various data inaccuracies, including its claim – based on a flawed World Wildlife Fund study -- that up to 40% of the Amazonian forests could react drastically and be replaced by savannas from even a slight reduction in rainfall.

"Our results certainly do not indicate such extreme sensitivity to reductions in rainfall," said Sangram Ganguly, an author on the new stud from the Bay Area Environmental Research

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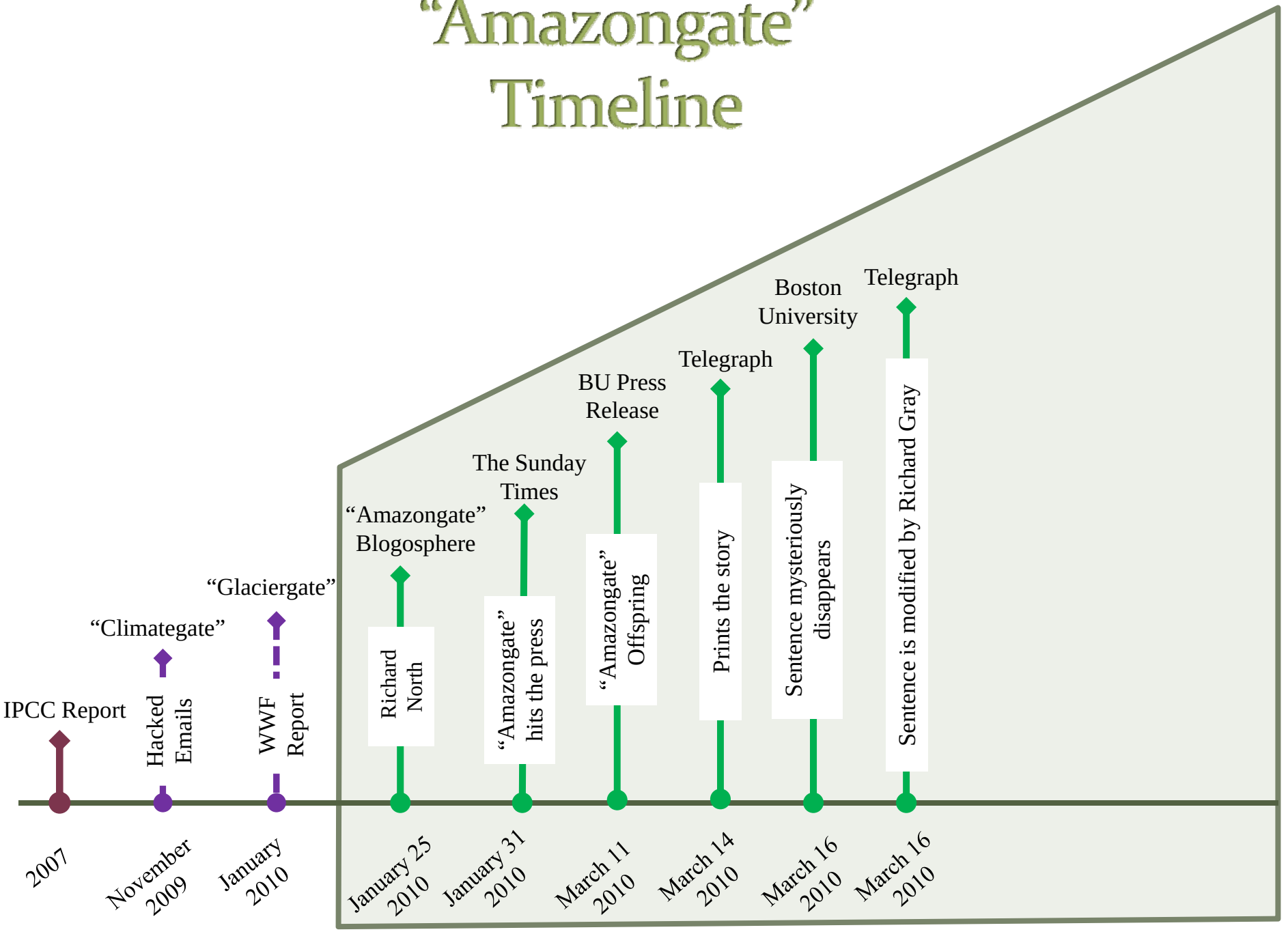
"Amazongate" Timeline



The Daily Telegraph

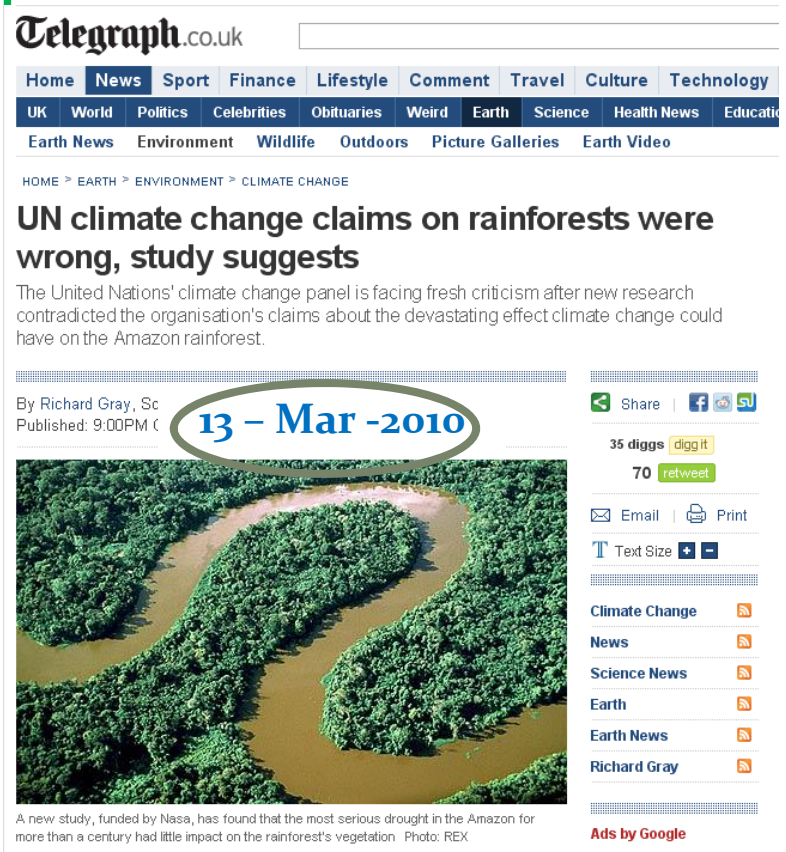
Sentence is modified on March 16 by Richard Gray :

Sentence was modified on March 16 but date is March 13 on the webpage (remember that the original piece came on March 14):

Dr Jose Marengo, a climate scientist with the Brazilian National Institute for Space Research and a member of the IPCC, said the latest study on the Amazon's response to drought highlighted the variations on the previous claims.

He said: "In 2005, some parts of the Amazon were affected by the drought and others were not. In some regions, dryness was high and the number of fires was high. In other areas, the forest was not affected.

"As part of its standard processes, the IPCC assesses new papers in each assessment cycle. New literature that has appeared since the 2007 report will be reviewed for the next report."

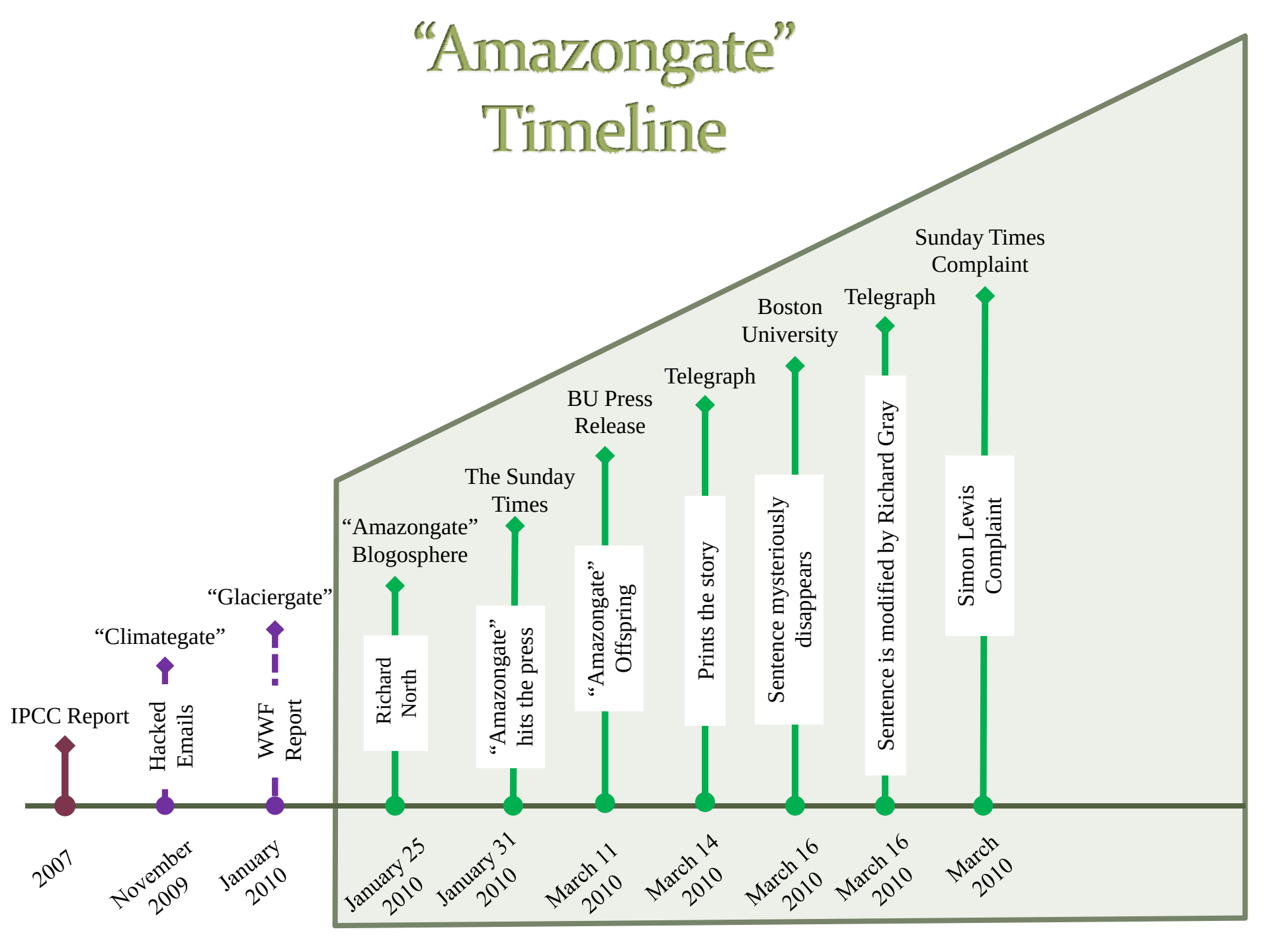


The Daily Telegraph

But, the incorrect quotation is published again on March 16 by Gerald Warner:

Now Dr Jose Marengo, a climate scientist with the Brazilian National Institute for Space Research and himself a member of the IPCC, says: **"The way the WWF report calculated this 40 per cent was totally wrong, while (the new) calculations are by far more reliable and correct."** These calculations were done by researchers at Boston University and were published in the scientific journal Geophysical Research Letters. They used satellite data to study the drought of 2005, when rainfall fell to the lowest in living memory, and found that the rainforest suffered no significant effects.

Polemical commentator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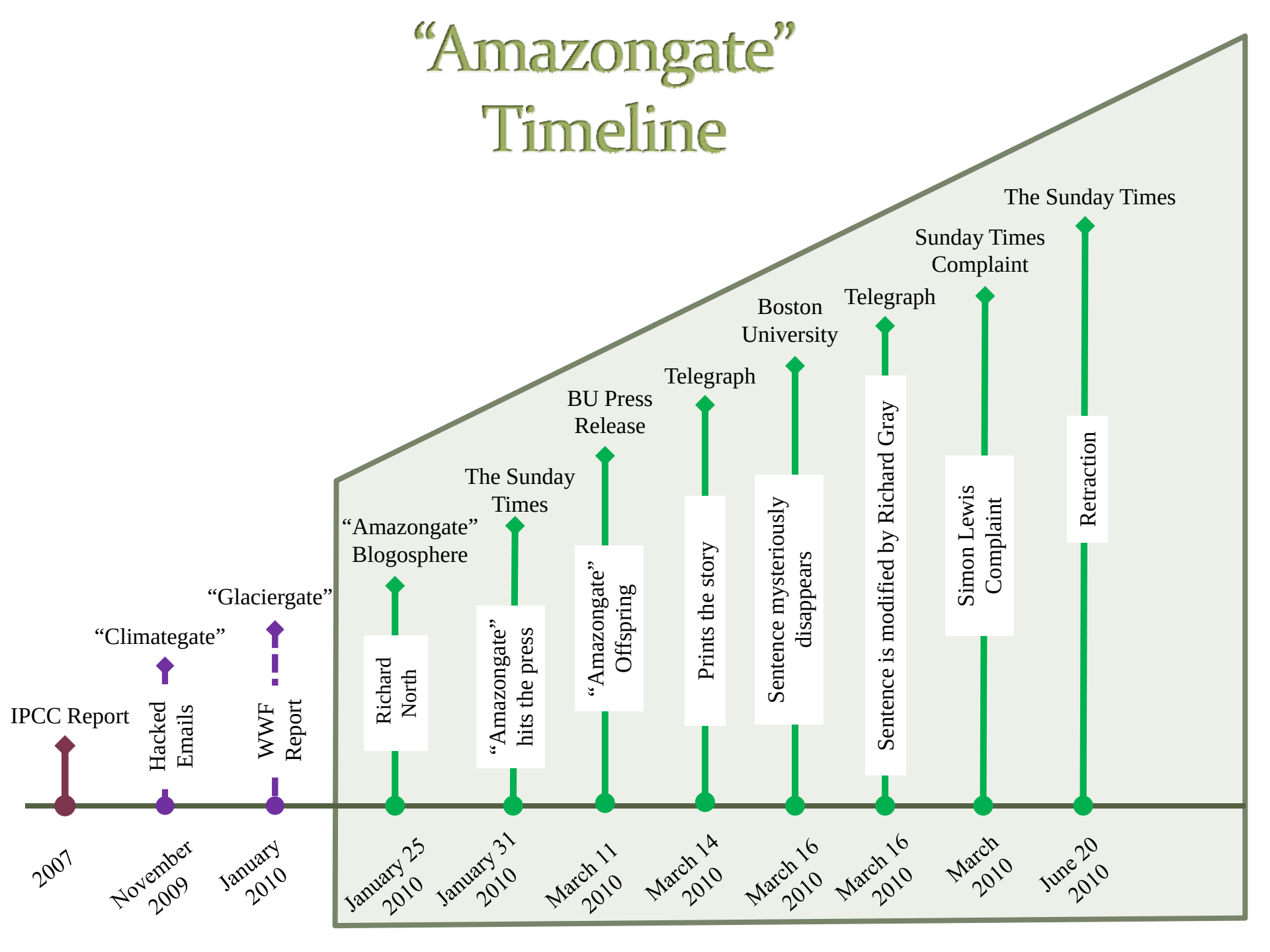
Sunday Times Complaint

Official complaint from Simon Lewis to the Sunday Times

Simon Lewis, an expert on tropical forests at the University of Leeds in the UK, says the Sunday Times' "**inaccurate, misleading and distorted**" story by Jonathan Leake in January left readers under the wrong impression that the 2007 IPCC AR4 report made a false claim by stating that reduced rainfall could wipe out up to 40% of the Amazon rainforest.

Lewis filed a formal complaint this week with the UK Press Complaints Commission. (Guardian.co.uk, March 24)

"Specifically, I consider this article to be materially misleading. I am the scientific expert cited in the article who was asked about the alleged "bogus rainforest claim". In short, there is no "bogus rainforest claim", the claim made by the UN panel was (and is) well-known, mainstream and defensible science, as myself and two other professional world-class rainforest experts (Professor Oliver Phillips and Professor Dan Nepstad) each told Jonathan Leake"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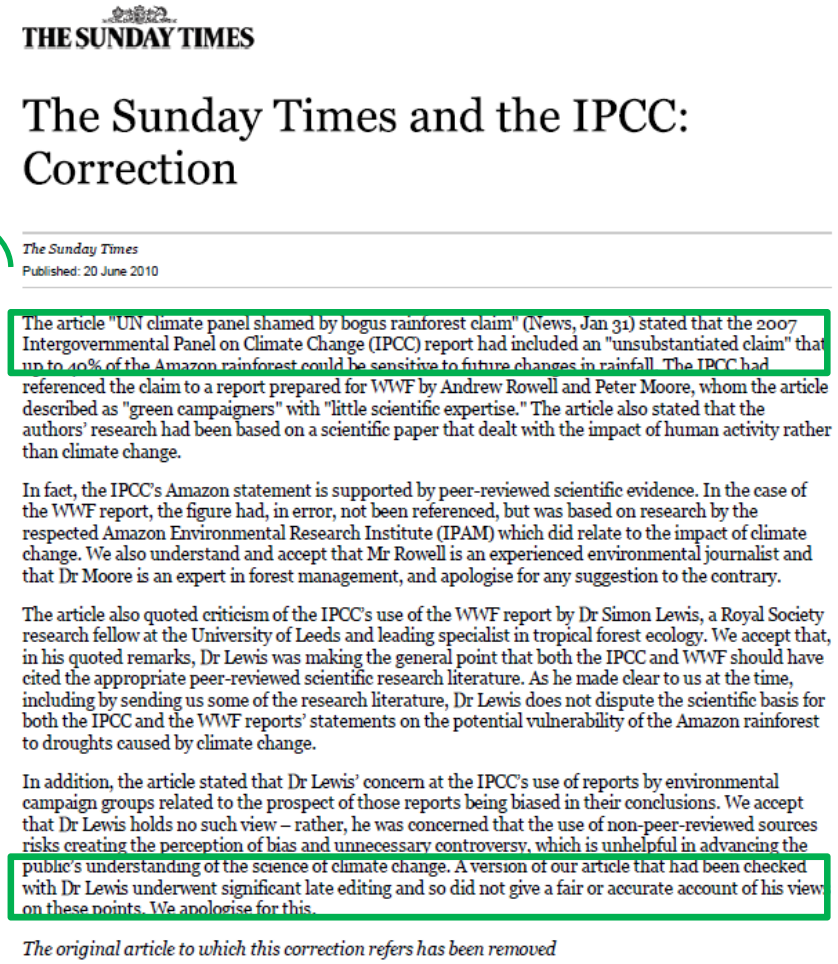
Retraction
June 20 2010

The Sunday Times Retraction

June 20, 2010

*The article "UN climate panel shamed by bogus rainforest claim" (News, Jan 31) stated that the 2007 Intergovernmental Panel on Climate Change (IPCC) report had included an "**unsubstantiated claim**" that up to 40% of the Amazon rainforest could be sensitive to future changes in rainfall.*

A version of our article that had been checked with Dr Lewis underwent significant late editing and so did not give a fair or accurate account of his views on these points. We apologise for this.



THE SUNDAY TIMES

The Sunday Times and the IPCC: Correction

The Sunday Times
Published: 20 June 2010

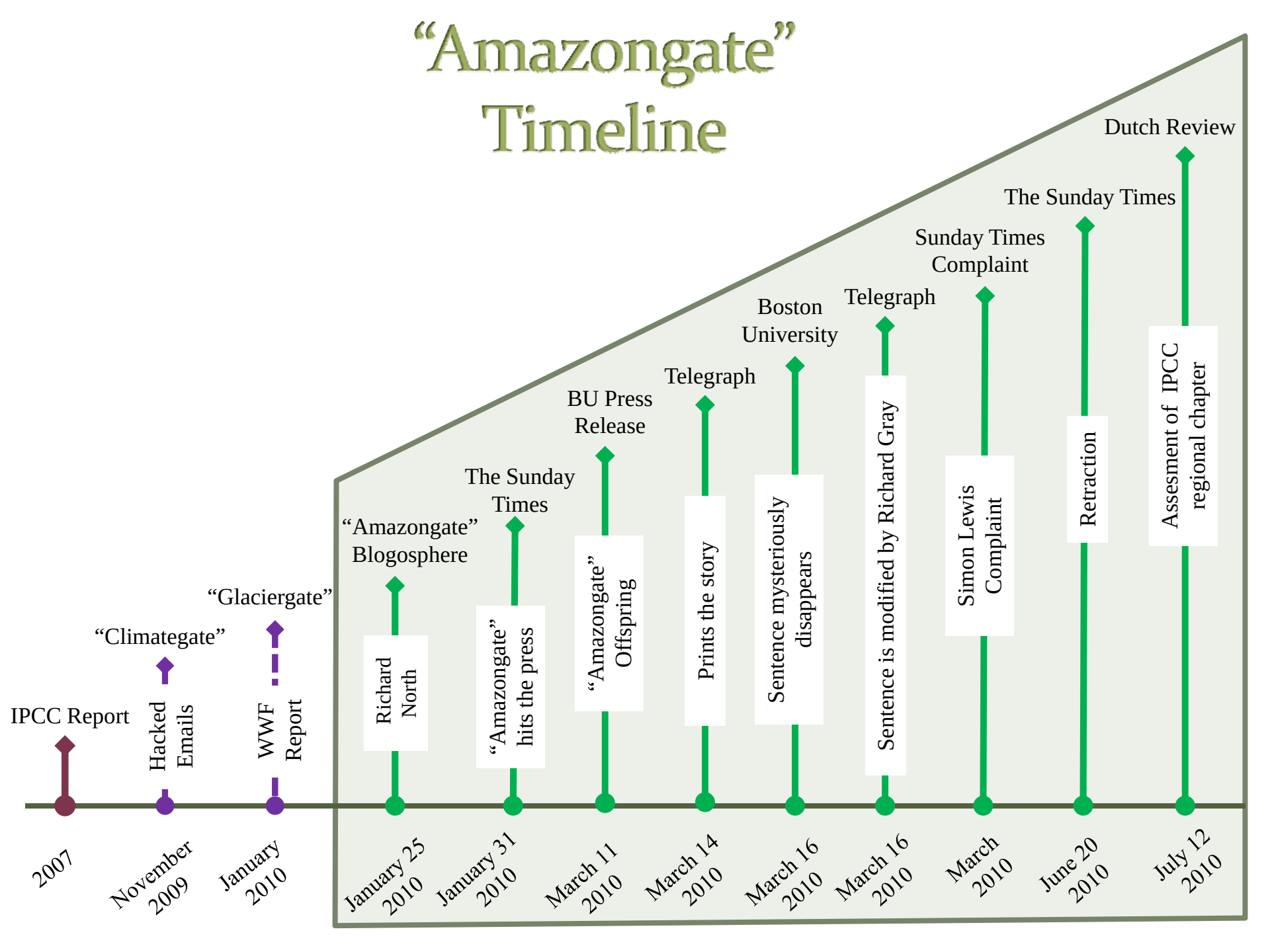
The article "UN climate panel shamed by bogus rainforest claim" (News, Jan 31) stated that the 2007 Intergovernmental Panel on Climate Change (IPCC) report had included an "unsubstantiated claim" that up to 40% of the Amazon rainforest could be sensitive to future changes in rainfall. The IPCC had referenced the claim to a report prepared for WWF by Andrew Rowell and Peter Moore, whom the article described as "green campaigners" with "little scientific expertise." The article also stated that the authors' research had been based on a scientific paper that dealt with the impact of human activity rather than climate change.

In fact, the IPCC's Amazon statement is supported by peer-reviewed scientific evidence. In the case of the WWF report, the figure had, in error, not been referenced, but was based on research by the respected Amazon Environmental Research Institute (IPAM) which did relate to the impact of climate change. We also understand and accept that Mr Rowell is an experienced environmental journalist and that Dr Moore is an expert in forest management, and apologise for any suggestion to the contrary.

The article also quoted criticism of the IPCC's use of the WWF report by Dr Simon Lewis, a Royal Society research fellow at the University of Leeds and leading specialist in tropical forest ecology. We accept that, in his quoted remarks, Dr Lewis was making the general point that both the IPCC and WWF should have cited the appropriate peer-reviewed scientific research literature. As he made clear to us at the time, including by sending us some of the research literature, Dr Lewis does not dispute the scientific basis for both the IPCC and the WWF reports' statements on the potential vulnerability of the Amazon rainforest to droughts caused by climate change.

In addition, the article stated that Dr Lewis' concern at the IPCC's use of reports by environmental campaign groups related to the prospect of those reports being biased in their conclusions. We accept that Dr Lewis holds no such view – rather, he was concerned that the use of non-peer-reviewed sources risks creating the perception of bias and unnecessary controversy, which is unhelpful in advancing the public's understanding of the science of climate change. A version of our article that had been checked with Dr Lewis underwent significant late editing and so did not give a fair or accurate account of his views on these points. We apologise for this.

The original article to which this correction refers has been removed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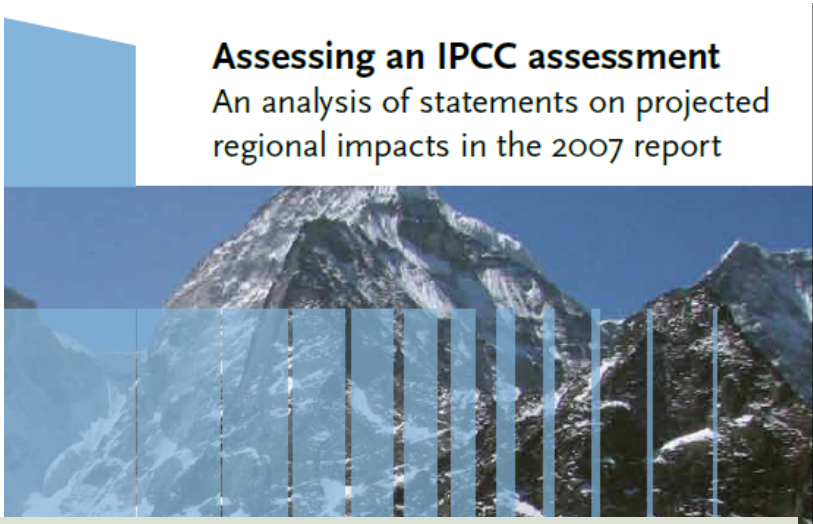
Dutch Review
Assesment of IPCC regional chapter
July 12 2010

Dutch Review – Assessment to IPCC from the Netherlands Environmental Assessment Agency July 20



A: IPCC 2007

•Up to 40% of the Amazonian forests could react drastically to even a slight reduction in precipitation; this means that the tropical vegetation, hydrology and climate system in South America could change very rapidly to another steady state.
(C6; minor)

B: Dutch Review 2010

•We have a minor comment to make on this statement, which originates from Section 13.4.1 of Chapter 13 (page 596). The statement was based on Rowell and Moore (2000), which is a peer-reviewed report by the World Wide Fund for Nature and the International Union for Conservation of Nature (WWF/IUCN) on a global review of forest fires, and not a study on changes in vegetation due to climate change. That report, in turn, was mainly based on Nepstad et al. (1999) (in *Nature*). ***In our opinion, both documents were not the most obvious choice of***

More adequate peer-reviewed, scientific journal literature would have been available to support this statement, such as Cox et al. (2000; 2004) (C6). This minor comment has no consequences for the IPCC conclusions in the various Summaries for Policymakers.

A: IPCC 2007

•By mid century, increases in temperature and associated decreases in soil water are projected to lead to gradual replacement of tropical forest by savanna in eastern Amazonia. Semi-arid vegetation will tend to be replaced by arid-land vegetation.

B: Dutch Review 2010

•This statement is fully supported by the underlying material.

A: IPCC 2007

•There is a risk of significant biodiversity loss through species extinction in many areas of tropical Latin America.

B: Dutch Review 2010

•This statement is fully supported by the underlying material.

"The climate change deniers are digging themselves an ever deeper hole over 'Amazongate' " by George Monbiot

- **"There is no doubt that the IPCC made a mistake. Sourcing its information on the Amazon to a report by the green group WWF rather than the abundant peer-reviewed literature on the subject, was a bizarre and silly thing to do.**

  It is also an issue of such mind-numbing triviality, in view of the fact that the IPCC's 2007 reports extend to several thousand pages and contain tens of thousands of references, that I feel I should apologise for taking up more of your time in pursuing it. But the climate change deniers have made such a big deal of it that it cannot be ignored."

- "All this is good knockabout stuff. But we're in danger of forgetting that it concerns a deadly serious matter: a change in the climatic conditions which have made human civilisation and the current human population possible, and, specifically, the degradation of the most wonderful and beautiful of the world's ecosystems into desert

  It is hard to overstate the irresponsibility of those who misrepresent the science in order to persuade people that no action needs to be taken."

  to persuade people that no action needs to be taken."

George Monbiot is a weekly columnist for the Guardian newspaper ,Source: www.monbiot.com Posted July 6, 2010

Tim Holmes on Climate Safety

Tim Holmes has an MA in Media and Communications and he currently maintains the blog Convenient Lies, aiming to challenge and expose the media distortions preventing action on climate change.

- While it is wholly unsurprising that the denial lobby should be attempting to push baseless and misleading stories to the press, what *is* surprising is the press's willingness to swallow them. In this case, two experts (Simon Lewis and Dan Nepstad) in the relevant field told a *Times* journalist explicitly that, **in spite of a minor referencing error, the IPCC had got its facts right. That journalist simply ignored them.** Instead, he deliberately put out the opposite line – one fed to him by a prominent climate change denier – as fact. **The implications are deeply disturbing, not only for our prospects of tackling climate change, but for basic standards of honesty and integrity in journalism.**

George Orwell, “1984”

- *“Speaking the Truth in times of universal deceit is a revolutionary act.”*
- *" The great enemy of clear language is insincerity “*

How to do science in such an argumentative area and under new levels of scrutiny, especially from a largely hostile and sometimes expert blogosphere?

(From the Economist, about the important issues raised by two committees; the Climatic Research Unit (CRU) and The Dutch environmental-assessment agency)

Science behind closed doors, published on Jul 8th 2010

http://www.economist.com/node/16537628?story_id=16537628

Research Integrity

Research Communication Integrity

Lessons to IPCC

- The self correction nature of scientific activity process **is not** sufficient to counteract the denialist bias from an important part of the media.

- Scientists (associated to IPCC or not), should be more (pro-) active, honest and transparent to the public front on a continuous manner (instead of subsiding IPCC reports every 5 or 6 years.)

- The IPCC author selection process should be an open and transparent process.

- Complexity is a key word. Neither journalists nor scientist should be scared of it. On the contrary, they should emphasize even more uncertainties and knowledge gaps against the background of very complex and interacting natural and social systems.

Professor Stephen Schneider – a climate scientist at Stanford University – died on Monday, July 19th at 65 from a heart attack while flying from Stockholm to London

IPCC "Background & Tips for Responding to the Media" letter by IPCC Chair, 05 July 2010

"I would also like to emphasize that enhanced media interest in the work of the IPCC would probably subject you to queries about your work and the IPCC. My sincere advice would be that you keep a distance from the media and should any questions be asked about the Working Group with which you are associated, please direct such media questions to the Co-chairs of your Working Group and for any questions regarding the IPCC to the secretariat of the IPCC."

Clarification Letter by IPCC Chair, 15 July 2010

First of all, the IPCC does not seek in any way to discourage you from engaging in discussions with the media about your own work. To the contrary, we see such interaction as an important way of making your research more accessible to the public.

Second, all of us at the IPCC are immensely proud of our author team and have no interest in micro-managing your interactions with the media. I only remind you that the AR5 process is in its beginning stages and our final report is several years away. No one, including me, can speak to the likely findings of the AR5.

Lastly, we ask that you forward all media inquiries about official IPCC policies to the Working Group co-chairs or the IPCC Secretariat. This protocol is not an attempt to muzzle anyone. It is a standard procedure for large inter-governmental organizations and is intended to draw a distinction between the official work of the IPCC and your own work or that of your institution.

Lessons to be learned

"How complex the system really is?"

"Is the self correcting nature of the scientific enterprise sufficient to counteract bias by the denialist media?"

"It´s impossible to say anything about anything else"

"Quality of authorship is essential"

"Is there a permanent credibility loss for IPCC?"

"A much more rigorous assessment of any literature, grey/non-grey"

"The focus on the complexity should not be lost"

- *Impacts: always important to have an overview of the complexity.*
- *Need of an individual study, it need to be inserted on a context of diverse factors of complexity.*

The Daily Telegraph

Sentence is modified on March 16 by Richard Gray :

Sentence was modified on March 16 but date was kept March 13 on the webpage

Dr Jose Marengo, a climate scientist with the Brazilian National Institute for Space Research and a member of the IPCC, said the latest study on the Amazon's response to drought highlighted the variations on the previous claims.

He said: "In 2005, some parts of the Amazon were affected by the drought and others were not. In some regions, dryness was high and the number of fires was high. In other areas, the forest was not affected.

"As part of its standard processes, the IPCC assesses new papers in each assessment cycle. New literature that has appeared since the 2007 report will be reviewed for the next report."

Sentence is published again on March 16 by Gerald Warner:

Now Dr Jose Marengo, a climate scientist with the Brazilian National Institute for Space Research and himself a member of the IPCC, says: **"The way the WWF report calculated this 40 per cent was totally wrong, while (the new) calculations are by far more reliable and correct."** These calculations were done by researchers at Boston University and were published in the scientific journal Geophysical Research Letters. They used satellite data to study the drought of 2005, when rainfall fell to the lowest in living memory, and found that the rainforest suffered no significant effects.

George-Orwell, *Nineteen Eighty-Four*

Fragments:

•“ The Ministry of Peace concerns itself with war, the Ministry of Truth with lies, the Ministry of Love with torture, and the Ministry of Plenty with starvation”.

• “…But actually, he thought as he re-adjusted the Ministry of Plenty's figures, it was not even forgery. It was merely the substitution of one piece of nonsense for another. Most of the material that you were dealing with had no connection with anything in the real world, not even the kind of connectionon that is contained in a direct lie. Statistics were just as much a fantasy in their original version as in their rectified version. A great deal of the time you were expected to make them up out of your head. And so it was with every class of recorded fact, great or small. Everything faded away into a shadow-world in which, finally, even the date of the year had become uncertain”.

• “There were the vast repositories where the corrected documents were stored, and the hidden furnaces where the original copies were destroyed. And somewhere or other, quite anonymous, there were the directing brains who co-ordinated the whole effort and laid down the lines of policy which made it necessary that this fragment of the past should be preserved, that one falsified, and the other rubbed out of existence”.

•“And presently some master brain in the Inner Party would select this version or that, would re-edit it and set in motion the complex processes of cross-referencing that would be required, and then the chosen lie would pass into the permanent records and become truth.”

Texto que Marcelo Leite menciona do texto the economist (artigo em anexo):

- In any complex scientific picture of the world there will be gaps, misperceptions and mistakes. Whether your impression is dominated by the whole or the holes will depend on your attitude to the project at hand. You might say that some see a jigsaw where others see a house of cards. Jigsaw types have in mind an overall picture and are open to bits being taken out, moved around or abandoned should they not fit. Those who see houses of cards think that if any piece is removed, the whole lot falls down. When it comes to climate, academic scientists are jigsaw types, dissenters from their view house-of-cards-ists.

Amazon forest is a very complex set of ecosystems.

How do droughts affect the forest?

Amazon forest is a very complex set of ecosystems.

How do droughts affect the forest?

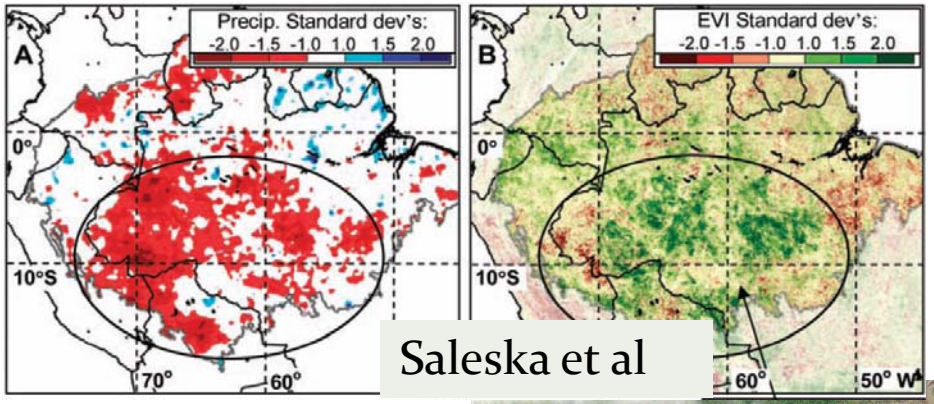
The famous 2005 drought in the Amazon:

Did the forest "like" or "dislike" the 2005 drought?

It seems like the forest "dislikes" the drought, it looses carbon…

Well, life is too complex…

Does the forest loose carbon because of the drought or becau of the major blow down?



Saleska et al

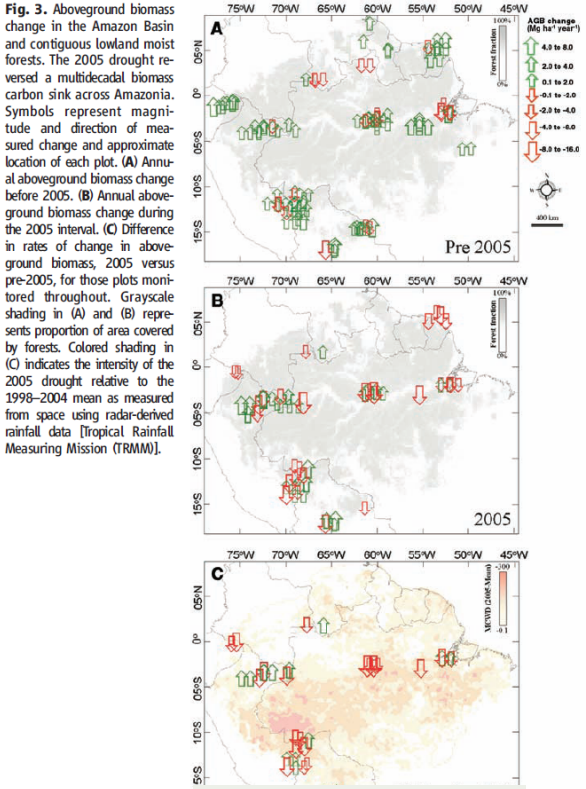
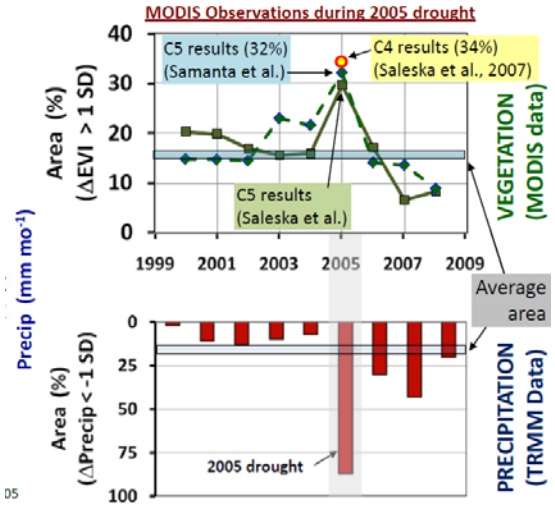


Fig. 3. Aboveground biomass change in the Amazon Basin and contiguous lowland moist forests. The 2005 drought reversed a multidecadal biomass carbon sink across Amazonia. Symbols represent magnitude and direction of measured change and approximate location of each plot. **(A)** Annual aboveground biomass change before 2005. **(B)** Annual aboveground biomass change during the 2005 interval. **(C)** Difference in rates of change in aboveground biomass, 2005 versus pre-2005, for those plots monitored throughout. Grayscale shading in (A) and (B) represents proportion of area covered by forests. Colored shading in (C) indicates the intensity of the 2005 drought relative to the 1998–2004 mean as measured from space using radar-derived rainfall data [Tropical Rainfall Measuring Mission (TRMM)].



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Sunday Times and BBC quoted Simon Lewis


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Harrabin's Notes: IPCC under scrutiny

In his regular column, BBC environment analyst Roger Harrabin considers whether another mistake by the Intergovernmental Panel on Climate Change has come to light.

ANOTHER ERROR?

After the Intergovernmental Panel on Climate Change (IPCC) admitted it had made a mistake in its Himalaya glacier forecast in its Fourth Assessment Report, climate "sceptics" are busy searching the rest of the panel's report for more mistakes.

It appears that this week, they have found one. In parts of the blogosphere it has been dubbed "Amazongate".

An IPCC statement on the fate of the Amazon has been questioned

There was a dire warning in chapter 13 of the report of IPCC Working Group II:

"Up to 40% of Amazonian forests could react drastically to even a slight reduction in precipitation; this means that the tropical vegetation, hydrology and climate system in South America could change very rapidly to another steady state, not necessarily producing gradual changes between the current and the future situation," it observed.

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BBC Press release on January 30

As BBC journalist Roger Harrabin quoted Lewis:
"The IPCC statement is basically correct but poorly written, and bizarrely referenced".
"It is very well known that in Amazonia, tropical forests exist when there is more than about 1.5 metres of rain a year, below that the system tends to 'flip' to savannah.
"Indeed, some leading models of future climate change impacts show a die-off of more than 40% Amazon forests, due to projected decreases in rainfall.
"The most extreme die-back model predicted that a new type of drought should begin to impact Amazonia, and in 2005 it happened for the first time: a drought associated with Atlantic, not Pacific sea surface temperatures.
"The effect on the forest was massive tree mortality, and the remaining Amazon forests changed from absorbing nearly two billion tonnes of CO_2 from the atmosphere a year, to being a massive source of over three billion tonnes."

Simon Lewis is an expert on tropical forests at the University of Leeds in the UK