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THE IPCC IN THE COUNTDOWN FOR
THE FIFTH ASSESSMENT REPORT

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THE IPCC IN THE COUNTDOWN FOR THE FIFTH ASSESSMENT REPORT

Abstract:

The work is underway on the 2013-14, fifth Assessment Report (AR5), following scoping and other preparatory activities carried out over the past two years. Work has now started with the Working Groups' Lead Author meetings, as well as various expert meetings and workshops on cross-cutting matters.

Compared to previous reports, the AR5 will put greater emphasis on assessing the socio-economic aspects of climate change and implications for sustainable development, risk management and the framing of a response through both adaptation and mitigation. It will aim to provide more detailed information on regions, including on climate phenomena such as monsoons and El Niño. To enhance overall integration some aspects including water and the Earth system, carbon cycle; ice sheets and sea-level rise; and Article 2 of the UNFCCC will be addressed in a cross cutting manner.

Attention will also be given to consistent evaluation of uncertainties and risks; costing and economic analysis; and new scenarios.

Resumen:

El trabajo está en marcha para el 5º Informe de Evaluación (AR5, por sus siglas en inglés) que se publicará en 2013-14, siguiendo la metodología, el proceso y otras actividades preparatorias llevadas a cabo en los últimos dos años. El trabajo ha comenzado con las reuniones de los tres grupos de trabajo, así como varias reuniones de expertos y talleres sobre temas transversales.

En comparación con informes anteriores, el AR5 pondrá mayor énfasis en la evaluación de los aspectos socio-económicos del cambio climático y sus implicaciones para el desarrollo sostenible, la gestión de riesgos y la elaboración de una respuesta a través de la adaptación y la mitigación. Su objetivo será facilitar información más detallada sobre las regiones, incluso en los fenómenos climáticos como los monzones y El Niño. Para mejorar la integración global de algunos aspectos como el agua y el ciclo hidrológico, el ciclo del carbono; capas de hielo y el aumento del nivel del mar, y el artículo 2 de la Convención Marco de la Naciones Unidas sobre el Cambio Climática (UNFCCC, por su siglas en inglés) se abordan de manera transversal.

También se prestará atención a la evaluación constante de incertidumbres y riesgos, costes y análisis económico, además de los nuevos escenarios.

Keywords:

Climate Change, Assessment Report, Intergovernmental Panel (IPCC)

Palabras clave: Cambio Climático, Informe de Evaluación, Panel Intergubernamental



The Intergovernmental Panel for the Climate Change (IPCC) initiates this year, 2013, the countdown for the publication of its fifth assessment report¹. The fourth report was issued in 2007². The Schedule begins in September with the report of working group I (WGI), on the scientific bases of the phenomenon³, continues in March 2014, with working group II (WGII), on its effects, the adaptation and vulnerability⁴, working group III (WGIII), on the mitigation of the phenomenon⁵ and it will finish in October with the presentation of a summary report⁶.

The process has finished the review of the first draft of the three working groups by experts from the whole world and is now in the review of the second draft by the governments and again by experts worldwide, and it will finish with a last round in which the comments to the

¹ A detailed description of the chapters and topics that will develop the different publications of the 5th assessment report are available in the document on the reference material agreed at the 31st meeting of the IPCC: <http://www.ipcc.ch/pdf/ar5/ar5-outline-compilation.pdf>

² The synthesis report, in Spanish, can be found in:

http://www.ipcc.ch/publications_and_data/ar4/syr/es/contents.html

The Report of the Working Group I – Physical Science Basis, can be found in:

http://www.ipcc.ch/publications_and_data/ar4/wg1/es/contents.html

The Report of the Working Group II - Impact, Adaptation and Vulnerability, can be found in:

http://www.ipcc.ch/publications_and_data/ar4/wg2/es/contents.html

The Report of the Working Group III – Mitigation of Climate Change, can be found in:

http://www.ipcc.ch/publications_and_data/ar4/wg3/es/contents.html

³ The main topics assessed by the working group I of the IPCC (WGI) include: changes in greenhouse gases and aerosols in the atmosphere, the changes observed in the temperatures of the air, the earth and the sea, the rain, the glaciers and the ice sheets, the oceans and the sea level, historical and paleoclimatic perspective on the climate change; biogeochemistry, carbon cycle, gases and aerosols, data from artificial satellites and another measurements with precision devices; the climate models, the climate projections, causes and attribution of the climate change.

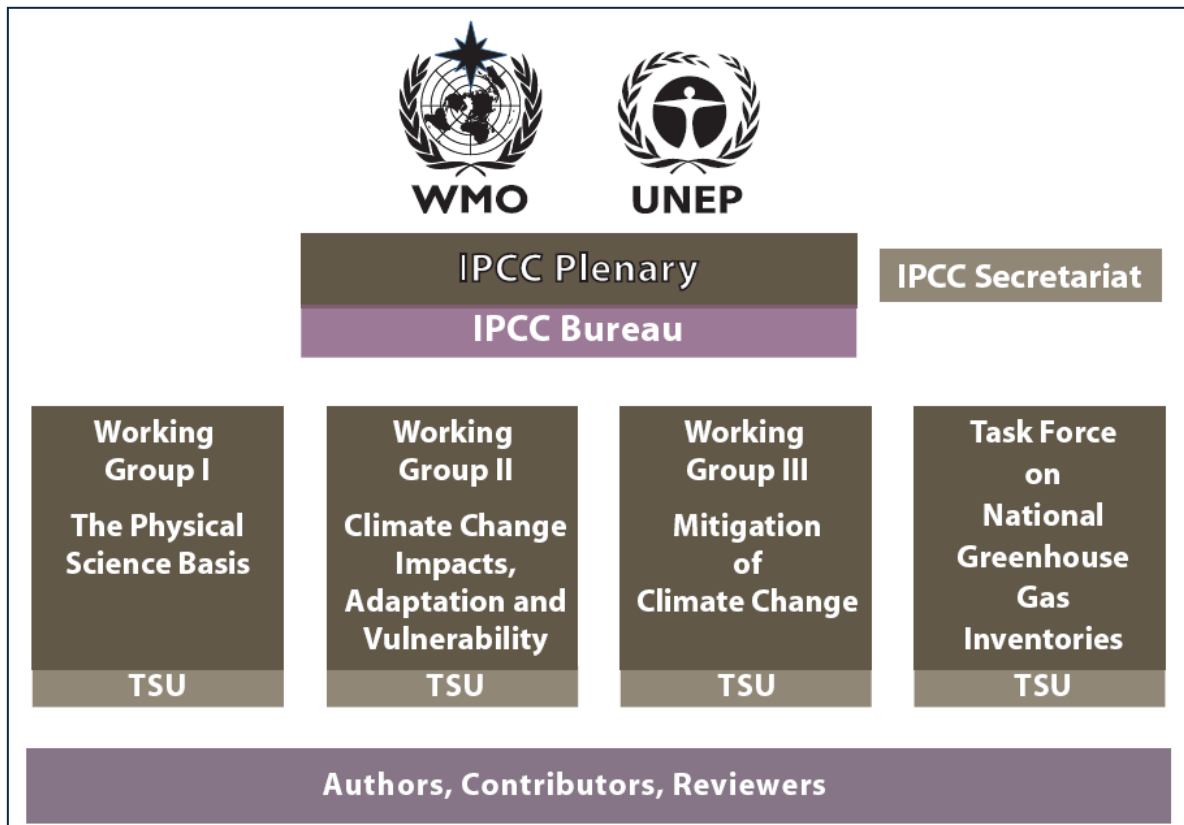
⁴ The working group II of the IPCC (WG II) assesses the vulnerability of the socioeconomic and natural systems to the climate change, the negative and positive consequences of the climate change and the options for adapting to it. It also takes into account the interrelations between the vulnerability, the adaptation and the sustainable development. The assessed information is considered by sectors (water resources, ecosystems, food and forests, coastal systems, industry, human health) and regions (Africa, Asia, Australia and New Zealand, Europe, Latin America, North America, the Polar Regions and small islands).

⁵ The working group III of the IPCC (WG III) assesses the options for mitigating the climate change through limiting or preventing the emissions of greenhouse gases and enhancing the activities that distance them from the atmosphere. It takes into account the main economic sectors, both short-term and in a long-term perspective. The sectors include energy, transport, construction, industry, agriculture, forestry and the waste management. The working group analyzes the costs and benefits of the different approaches of mitigation, considering also the instruments and policy measures. The approach is increasingly solutions oriented.

⁶ The scope, content and process for the preparation of the Synthesis Report can be found in the document adopted at the 28th session of the IPCC:

http://www.ipcc.ch/meetings/session32/syr_final_scoping_document.pdf

executive summaries will be evaluated for the policymakers. The intention is to assure that the report represents the last scientific and technical discoveries in the matter, besides representing a comprehensive evaluation of the scientific, technical and socioeconomic knowledge it has at the present time, its reasons, the potential effects and the strategies of response.



During the development of the works the IPCC has organized numerous working groups, expert meetings⁷, seminars and published documents, always in support in the production of assessment reports⁸.

Compared with the fourth report, the fifth one will put greater emphasis on the evaluation of the socioeconomic aspects and its implications to obtain a sustainable development, the

⁷ One of the last meetings of experts for the WG III took place in Vigo, on November 5, 2012. During the work week, in which were convened up to 20 different meetings, were reviewed the comments on the first draft prepared by 281 experts from 56 different countries selected from 1,000 candidates. The first draft was reviewed by more than 600 experts from all regions of the world that produced about 16,000 comments, all of which were answered by the authors. The final report will consist of 16 chapters and in its elaboration will be convene a new meeting of experts to review the second draft in February 2013.

⁸ Publications and data since its creation in 1988 can be found in:

http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml

Just as the associated with the calendar of events: http://www.ipcc.ch/scripts/calendar_template.php?wg=8

risk management and the establishment of a framework of responses through the two main lines of action, mitigation and daptation.

The key themes of the report will be:

- Water: changes, impacts and responses
- The carbon cycle, including the ocean acidification
- The ice sheets and the sea level rise
- Mitigation, adaptation and sustainable development
- Article 2 of the United Nations Framework Convention on Climate Change⁹

The basic methodological elements are:

- Consistent assessment of uncertainties and risks
- Economic and cost-benefit analysis
- Regional aspects
- Treatment of scenarios
- Measurements and data of the greenhouse gases

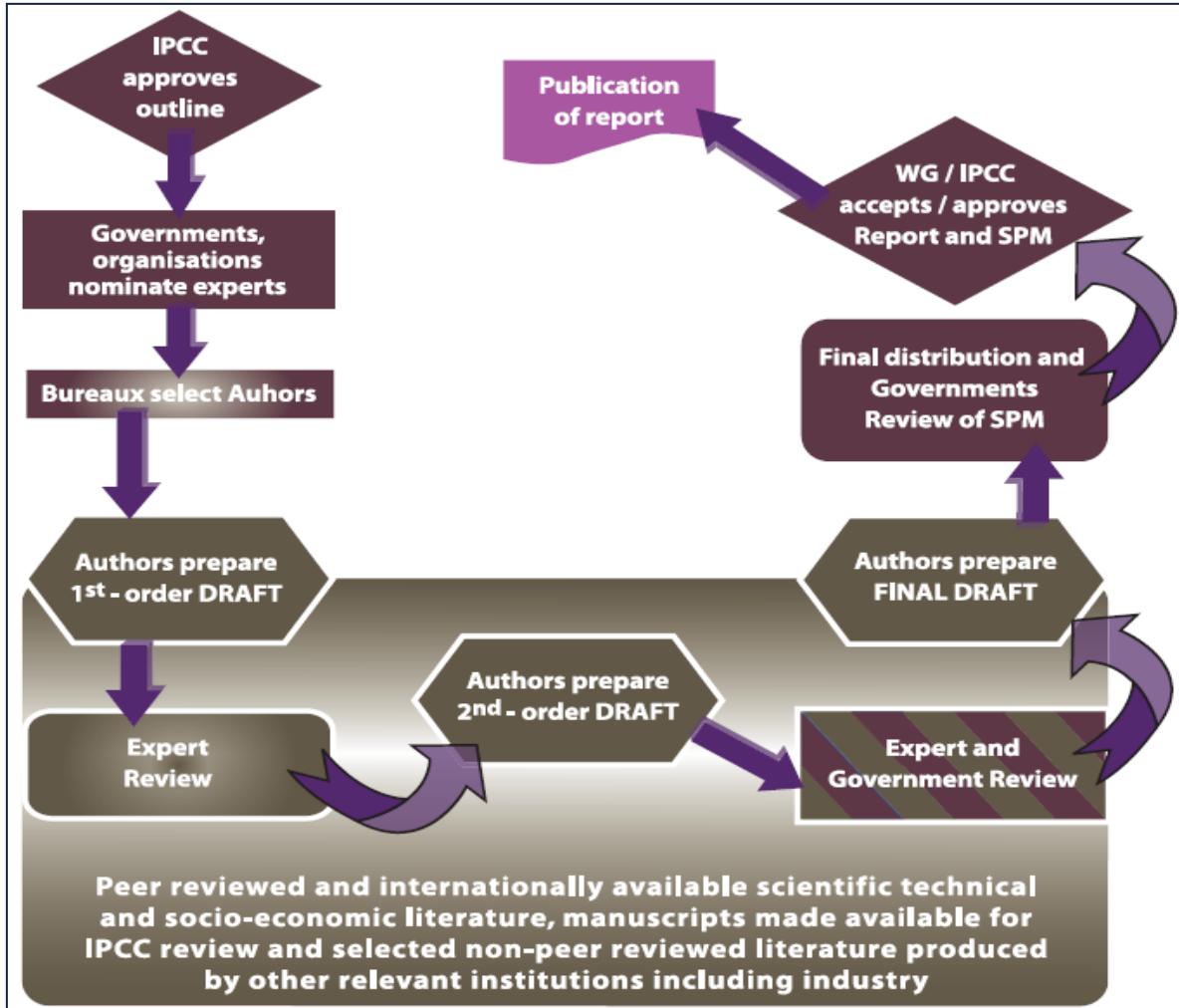
The development of the process that involves more than 830 authors¹⁰ from 85 countries, selected from the 3.000 proposed, and that includes more than 50 chapters requires a review system in several stages to ensure an objective, impartial, transparent and global assessment of the current technical-scientific information, as well as a consistent treatment of the validity and confidence of the results¹¹.

⁹ "The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner." The complete document can be found in: <http://unfccc.int/resource/docs/convkp/convsp.pdf>

¹⁰ Of the 830 authors, 301 (39%) are from developing countries, 179 (21%) women and 529 (63%) new in relation to the drafting of the 4th report. Their regional distribution is the following: Africa (8%), South America (6%), North America, Central y Caribbean (28%), Asia (16%), Europe (34%) and Southwest Pacific (8%).

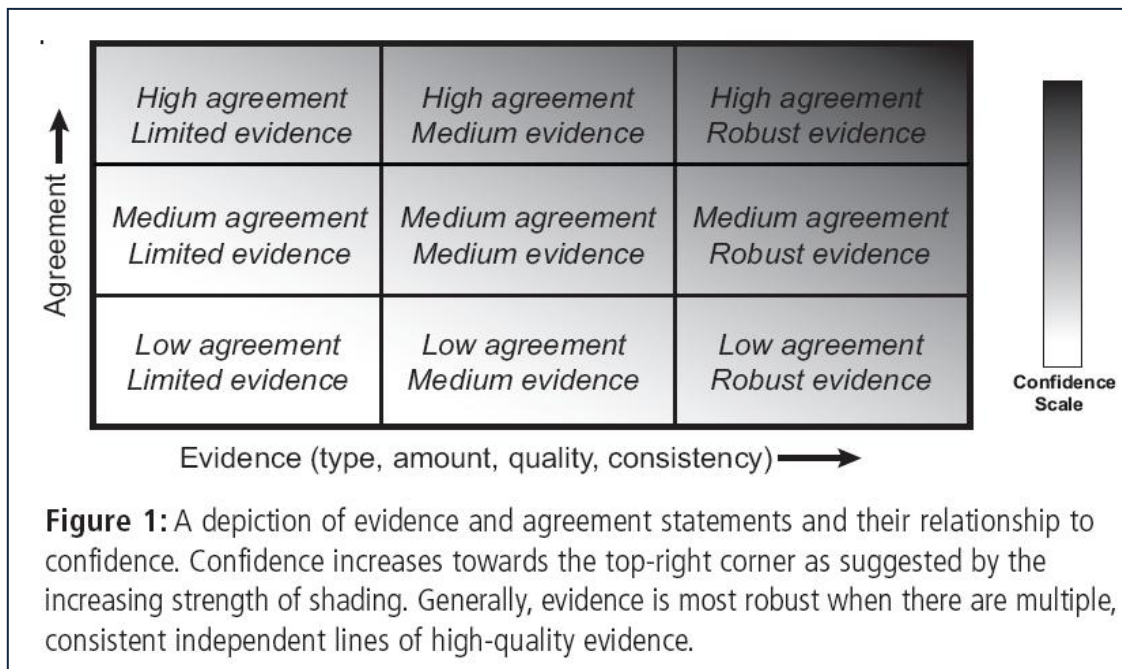
¹¹ The guide for the authors of the 5th assessment report on the treatment of the degree of certainty of the results is available in:

<https://docs.google.com/file/d/0B1gFp6loo3akNnNCaVpfR1dKTGM/edit?pli=1>



The degree of certainty of the results rests on two main elements:

1. The level of confidence in the validity of the founding based on the type, quantity, quality and consistency of the proofs, -such as understanding the mechanism, the theory, the data, models and opinion of the experts-, and the degree of agreement. This level of confidence is expressed qualitatively.



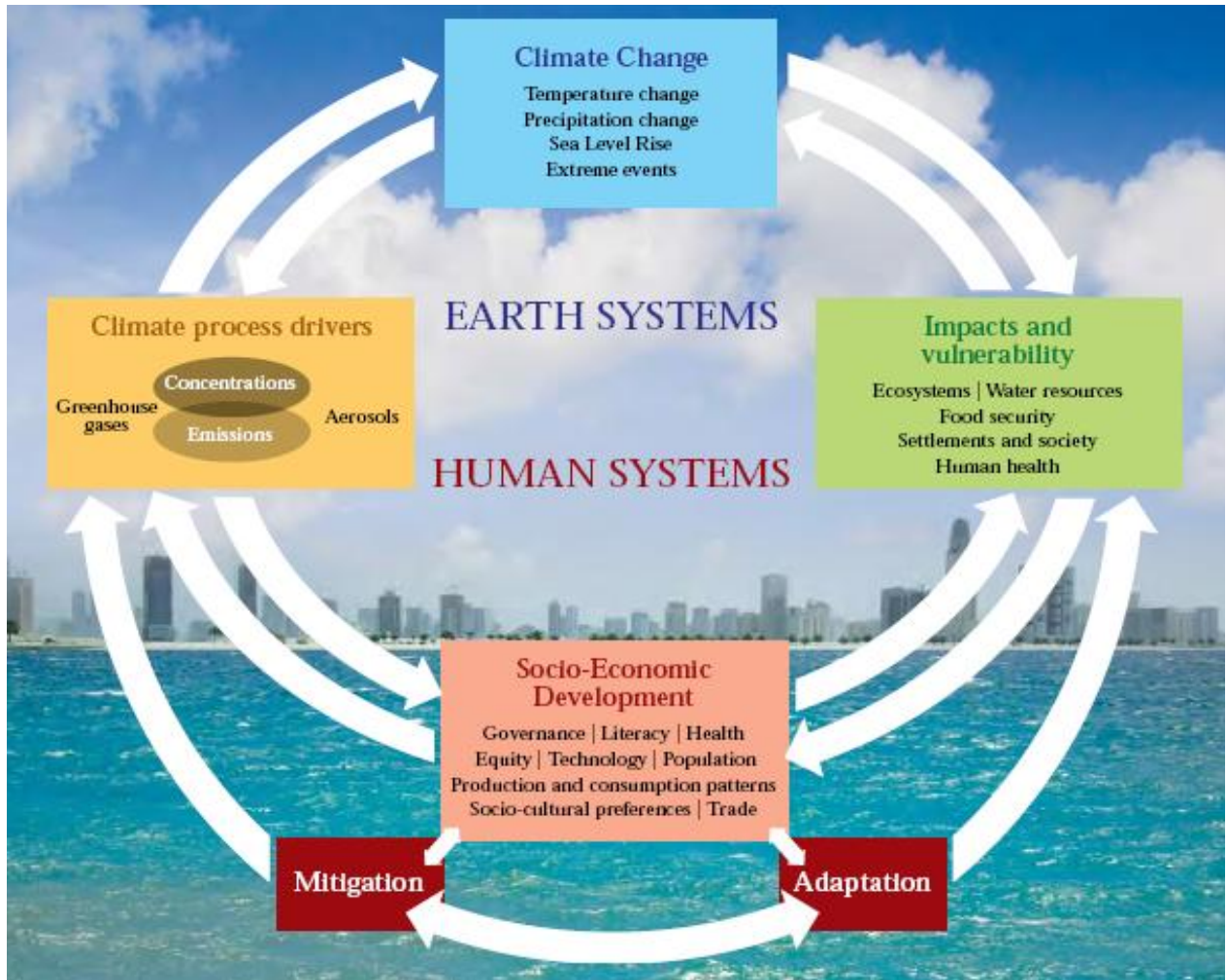
2. The quantified measure of the uncertainty of a result expressed probabilistically, based on the statistical analysis of the observations, or the results of models, or the expert opinion.

Table 1. Likelihood Scale	
Term*	Likelihood of the Outcome
<i>Virtually certain</i>	99-100% probability
<i>Very likely</i>	90-100% probability
<i>Likely</i>	66-100% probability
<i>About as likely as not</i>	33 to 66% probability
<i>Unlikely</i>	0-33% probability
<i>Very unlikely</i>	0-10% probability
<i>Exceptionally unlikely</i>	0-1% probability

* Additional terms that were used in limited circumstances in the AR4 (*extremely likely* – 95-100% probability, *more likely than not* – >50-100% probability, and *extremely unlikely* – 0-5% probability) may also be used in the AR5 when appropriate.

Another important component of the work of the IPCC is the elaboration of potential scenarios of the anthropogenic climate change, the underlying driving forces and the opinions of response, for its use in the elaboration of the report. On this occasion it was decided that its coordination, approval and development should lie on the scientific community¹².

¹² See the outcome of the meeting of September 2007 in:



While the process was underway, the WG1¹³ received 21.400 comments on the first draft from 659 experts and 31.422 comments from 800 experts and 26 governments to the second draft. The detailed index, which consists of 14 chapters and 6 annexes, is on the group's website, as well as a description of its annex I, the atlas of the climate projections at a regional and global level, that will provide complete information on a selected range of variables – such as the temperature and the precipitation – for certain selected time horizons – such as 2020, 2050 and 2100-.

On 14 December, the IPCC published a press release in which it regretted the leak of the second draft of the report that interferes in the process of review and assessment of more than 30,000 comments received from a process that is considered transparent and robust. Thus, it is estimated that the leak of drafts can only lead to confusion as it is not the consensual final document. This is the reason why no preliminary will be published until the

<http://www.ipcc.ch/pdf/supporting-material/expert-meeting-ts-scenarios.pdf>

A presentation of the realization of the process, of June 2012, can be found in:

http://www.ipcc.ch/pdf/presentations/scenarios/new_scenarios_IPCC_P35_Kram.pdf

¹³ <https://www.ipcc-wg1.unibe.ch/>

final product is approved.

Regarding this issue, it was given the presentation by the Director of the IPCC at the last Conference of the Parties, COP 18, on November 28 in Doha, capital of Qatar. Dr. Pachauri referred only to the 4th assessment report and to the special reports to support the current process¹⁴, and that are carried out using the same methodology and accuracy.

He stressed that in Africa, in 2020, between 75 and 250 million people will face a rise of water stress, with the consequent commitment to the access to staple food. In 2080, the rise in arid or semi-arid lands will increase between 5 and 8%.

The sea level rise that will take place over a long period of time, although its acceleration is not excluded, at the end of the century will cost, at least, between 5 to 10% of the gross domestic product (GDP), in the adaptation of the coastal areas with large populations.

The risk of extinction of species is evaluated between 20 and 30% for an average temperature rise of 1.5 to 2.5 ° C¹⁵. If the increase came to 3.5 ° C, the range of extinction of species would be between 40 and 70%.

The increase of the frequency of extreme natural phenomena is confirmed, with the 95% of deaths caused by these situations occurring in developing countries. In addition, the economic losses in these countries, especially in small islands, are evaluated between 1 and 8% of their GDP during the period of 1970 and 2010. So, without additional measure on mitigation efforts, the frequency of heat waves at the end of the century will, probably, rise from one in 20 years to one in 2 years in most regions, except in the high latitudes of the northern hemisphere, which will be one in 5 years. Also the frequency of torrential rains will, likely, increase worldwide.

Although, neither adaptation nor mitigation can avoid the effects of the climate change, they can, however, substantially reduce their risks. Thus, with fossil fuels causing 85% of CO₂ emissions, the use of natural gas and the implementation of renewable energy (RE) may lead to a reduction of up to 6 gigatonnes of CO₂ per year in 2030. The competitiveness of these energies is increasing, and if external costs are added to fossil fuels their competitiveness will increase. Besides, it will allow the access to electricity of 1,400 million of people more of the 1,300 million using the traditional biomass. Of the 164 reviewed scenarios for the special report on RE, more than half showed more than 17% contribution in 2030 as a primary energy of the RE, increasing up to 27% in 2050. The scenarios with the highest percentage

¹⁴ Two special reports: *Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX)* and *Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX)*, and a report of the working group: *IPCC Workshop on Sea Level Rise and Ice Sheet Instabilities*. All of them are available in the website of the IPCC.

¹⁵ On the average temperature of 1980-1999

reached 43% in 2030 and 77% in 2050.

He concluded congratulating himself for the large number of nominations for the 5th report, about 3,000, out of which 831 were chosen. Likewise, for the improvements in understanding and elaborating models, such as on the loss of the ice mass in Greenland and Antarctica thanks to the satellite observations planned in the nineties and that now are bearing fruits, which has resulted in the WGI dedicating a chapter to the rising of sea level. In this regard he stressed that the new report will add clarity to the scenario and that based on scientific evidence in all aspects of the phenomenon and projections for the new future, we will all be more accountable for the actions we take to ensure its sustainability.

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