GFEP on Forests and Water – media activities and outreach

In order to promote the process, launch and outcomes of the 6th scientific assessment, undertaken in the framework of the Global Forest Expert Panels (GFEP) initiative on the topic of "forests and water", **IUFRO prepared and organized the following outreach and media activities** (an overview of outreach activities and a selection of media coverage can be found at: https://www.iufro.org/science/gfep/forests-and-water-panel/report/):

Promoting the assessment at several international events:

- **Global Landscapes Forum, GLF 2017** (19-20 December 2017) in Bonn, Germany. IUFRO, together with CGIAR's Research Program on Forests, Trees and Agroforestry (FTA) and SIANI, organized a Discussion Forum *"Rainfall Recycling as a Landscape Function: Connecting SDGs 6, 13 and 15"*. Blog post: http://blog.iufro.org/2018/01/24/fta-and-iufro-highlight-cooperation-at-global-landscapes-forum/

- **"GFEP meets Scientists and Students"** (18 January 2018) in Vienna, Austria. On the sidelines of the 3rd Meeting of the Expert Panel on Forests and Water in Vienna, IUFRO in collaboration with the International Forestry Students' Association's Local Committee in Austria (IFSA LC BOKU), organized an informal meeting and knowledge exchange between the GFEP Panel Members, scientists and students. The event was kindly hosted by the University of Natural Resources and Life Sciences, Vienna (BOKU).

- **13th session of the United Nations Forum on Forests, UNFF-13** (7-11 May 2018) in UN Headquarters in New York, USA. In addition to the statements by the IUFRO delegation, one of the GFEP co-chairs, Prof. Meine van Noordwijk was invited to serve as panelists in the "*Panel Discussion on the Contribution of Forests to the Achievement of the SDGs and Transformation towards Sustainable and Resilient Societies"*. The Panel Discussion also included another GFEP member, Dr. David Ellison. He had been tasked by the UNFF Secretariat to produce a background study on the topic of "forests and water" to be presented at the UNFF-13. The study, entitled *"From Myth to Concept and Beyond – The BioGeoPhysical Revolution and the Forest-Water Paradigm"*, was partly based on the GFEP report.

Building up the media interest towards the launch:

- Video #1: Interviews with GFEP Expert Panel Members (Dr. Daniel Murdiyarso and Prof. Caroline Sullivan) on the role of forests and water for cities, on the occasion of the International Day of Forests (IDF on 21 March 2018) and the World Water Day (WWD on 22 March 2018): https://youtu.be/qd1YJ7aoYG0

- Video #2: Interviews with the co-chairs of GFEP Expert Panel (Prof. Irena F. Creed and Prof. Meine van Noordwijk) on the importance of the topic and the relevance of the assessment: https://youtu.be/DL2N7W7BXKE

- IUFRO social media accounts in Twitter and Facebook were used repeatedly to inform on the upcoming launch of the report.

Articles and news items in IUFRO News:

- IUFRO News 7/8 2018, published in early September 2018: *Page 1 of PDF:*
  Comprehensive Assessment of Forest and Water Links: GFEP Scientists Present Their Findings
  https://www.iufro.org/publications/news/electronic-news/article/2018/09/06/iufro-news-vol-47-double-issue-78-early-september-2018/

- IUFRO News 6, 2018, published in early July 2018: *Page 4 of PDF:*
  10 July at HLPF, New York: Launch of GFEP Report on Forest and Water Interactions
  https://www.iufro.org/publications/news/electronic-news/article/2018/07/04/iufro-news-vol-47-issue-6-early-july-2018/

- IUFRO News 5, 2018, published in early June 2018: *Page 4 of PDF:*
  UNFF13 and Glimpses of the Upcoming Global GFEP Study on Forests and Water
  https://www.iufro.org/publications/news/electronic-news/article/2018/06/05/iufro-news-vol-47-issue-5-early-june-2018/

- IUFRO News 4, 2018, published in April 2018: *Page 3 of PDF:*
  IUFRO Activities Marking the International Day of Forests & World Water Day
  https://www.iufro.org/publications/news/electronic-news/article/2018/04/26/iufro-news-vol-47-issue-4-april-2018/

- IUFRO News 1, 2018, published in January 2018: *Page 1 of PDF:*
  GLF 2017 - Connecting Communities: Accelerating Action for a Sustainable World
  https://www.iufro.org/publications/news/electronic-news/article/2018/01/30/iufro-news-vol-47-issue-1-january-2018/

- IUFRO News 12, 2017, published in December 2017: *Page 3 of PDF:*
  Global Scientific Assessment on Interactions between Forests and Water Well Underway; IUFRO at the Global Landscapes Forum 2017
  https://www.iufro.org/publications/news/electronic-news/article/2017/12/12/iufro-news-vol-46-issue-12-december-2017/

- IUFRO News 7, 2017, published in early August 2017: *Page 3 of PDF:*
  Global Scientific Assessment on Forests and Water off to a Good Start
  https://www.iufro.org/publications/news/electronic-news/article/2017/08/02/iufro-news-vol-46-issue-7-early-august-2017/

- IUFRO News 2/3, 2017, published in March 2017: *Page 2 of PDF:*
  New IUFRO-led Global Forest Experts Panel to Tackle "Forests and Water"
  https://www.iufro.org/publications/news/electronic-news/article/2017/03/21/iufro-news-vol-46-double-issue-23-march-2017/

Launching the report and policy brief:

- Press release *"Report: Forests form buffer against water crisis"* in six languages: English - Spanish - German - Chinese - Portuguese - French

- For launching the report "*Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities. A Global Assessment Report*" and associated policy brief, a side event was held at the United Nations High-level Political Forum on Sustainable Development (HLPF 2018) *"Forests and Water on a Changing Planet: Scientific Insights for Building Sustainable and Resilient Societies"* on 10 July 2018 at UN Headquarters, New York: Flyer. Social media cards with key messages were developed and shared via Twitter and Facebook. IISD official side event report with photos.

- Following the launch on 10 July in UNHQ, a UN Web TV press conference was organized on July 11, 2018 at UN Press Conference Centre: "2018 HLPF Side Event: International Union of Forest Research Organizations (IUFRO) on "Forests and Water on a Changing Planet: Scientific Insights for Building Sustainable and Resilient Societies"

- Jointly with the FAO, under the auspices of the Collaborative Partnership on Forests (CPF), a session *"Forest and Water on a Changing Planet: Redefining the Narrative"* was held at FAO Headquarters in Rome, Italy during the 24th session of the FAO Committee on Forestry (COFO-24) and the 6th World Forest Week on 20 July 2018. Flyer and Webcast. FAO summary: http://www.fao.org/forestry/news/94761/en/

Interviews with GFEP Expert Panel Members following the launch:

- Interview with co-chair Prof. Meine van Noordwijk on China Global Television Network (CGTN): https://youtu.be/xI2wNfHKzIg

- Radio interview with Prof. Caroline Sullivan on ABC radio in Australia (11 July 2018). Podcast

- Radio interview with Dr. Emma Archer in the John Maytham Show (11 July 2018) on radio CapeTalk (South Africa) http://www.capetalk.co.za/articles/311219/one-of-our-biggest-issues-is-alien-trees-dr-emma-archer

- FAO interviewed co-chair Prof. Meine van Noordwijk at COFO-24: https://youtu.be/xjlylSyT-IE

Further outreach activities by GFEP Expert Panel Members included the following:

- Presentation *"Forests, soil, water, and their linkages through the biosphere"* by GFEP Panel Member Dr. Juan A. Blanco on 19 July 2018, during the 4th International Conference on Water Resource and Environment (WRE 2018) in Taiwan (http://www.wreconf.org/).

- Keynote presentation by co-chair Prof. Irena F. Creed at a FAO/SIWI/IUCN/IUFRO side event "Understanding the Forest-Water Nexus: redefining the narrative?" held on 29 August 2018, during the World Water Week 2018.

- GFEP Panel Member Dipak Gyawali gave a science keynote during the Plenary Session: Stakeholder Dialogue on People and Nature on 19 September 2018, during the IBFRA18 conference "Cool forests at risk? The critical role of boreal and mountain ecosystems for people, bioeconomy, and climate" 17-20 September 2018 in IIASA, Laxenburg, Austria.

- GFEP Panel Members Dr. David Ellison and Dr. Paola Ovando Pol served as speakers in session "Forests for Water: scientific evidence and economic mechanisms for encouraging ecosystem service provision", taking place on 16 October 2018 at the ESP Europe 2018 Regional Conference "Ecosystem services in a changing world: moving from theory to practice" (15-19 October, San Sebastián, Spain).

- GFEP Coordinating Lead Author Prof. Adam (Xiaohua) Wei gave a keynote talk at "The 2018 International Symposium of Ecohydrology and Water Security (ISEWS): Opportunities and Challenges from Developing Countries", held from 17-18 October 2018 in Xi'an, China.

- GFEP Panel Member Dipak Gyawali served as Panelist in session "The Third Pole as Complex Socio-Ecological System – Sustainability and Resilience", taking place on 19 October in the frame of the 2018 Arctic Circle Assembly (19-21 October 2018, Reykjavik, Iceland).

Outreach activities during the autumn 2018 (status 24 October):

- GFEP co-chair Prof. Irena F. Creed is listed as one of the Keynote Speakers in Joint Conference on Forests and Water (II Congreso Latinoamericano Bosques y Agua / V IUFRO Conference on Forests and Water in a Changing Environment) (5-9 November, Valdivia, Chile). In addition to Prof. Creed, GFEP Panel Members Dr. Kevin Bishop, Dr. Julia A. Jones and Prof. Adam (Xiaohua) Wei are part of the Scientific Committee of the IUFRO conference. There will be a session with Panel composed of attending GFEP members.

Possible outreach activities during the autumn 2018 at the following events:

- Global Landscapes Forum (GLF 2018) (1-2 December, Bonn, Germany)

- UNFCCC COP 24 (3-14 December, Katowice, Poland)

Additional media coverage/articles in autumn 2018:

- Society of American Foresters (SAF) - International Forestry Working Group: Newsletter in September 2018

- UNECE/FAO Forest Information Billboard 3/2018 – article about the launch of the report

GFEP on Forests and Water – media coverage

In order to reach wider audiences and promote the study and its outcomes more broadly, IUFRO contracted the global communications agency Burness. Together with efforts and media work initiated by the GFEP Panel Members and their respective institutions, the following international media coverage was secured:

Press release

Report: Forests form buffer against water crisis

More than 50 scientists from 20 countries contributed to major assessment of forests-water-climate-people link

New York/Vienna (10 July 2018): A global water crisis is looming on the horizon. In many places around the world it is at the doorstep rather than the horizon, exacerbated by a growing global population and accelerated climate change.

The solution may come, at least in part, from paying more attention to forests. The relationships among forests, water, climate and people are complex, go largely unrecognized and lead to the question: What can people do with, to, and for, forests to ensure a sustainable quality and quantity of water necessary to the health and wellbeing of both?

Cloud forests in Rincón de la Vieja National Park in Costa Rica. Photo © iStock: PobladuraFCG

That question is addressed in a new and comprehensive scientific assessment report released today at the United Nations High-Level Political Forum (HLPF) on Sustainable Development in New York. The report underscores the importance of embracing the complexity and uncertainty of climate-forest-water-people linkages to prevent irrational decision-making with unintended consequence.

The publication, entitled "Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities. A Global Assessment Report" has been prepared by the Global Forest Expert Panel (GFEP) on Forests and Water, an initiative of the Collaborative Partnership on Forests (CPF) led by the International Union of Forest Research Organizations (IUFRO).

"Governments and all stakeholders wanting to achieve the SDGs (the Sustainable Development Goals related to the 2030 Agenda for Sustainable Development) need to understand that water is central to attaining almost all of these goals, and forests are inseparably tied to water", says Hiroto Mitsugi, Assistant Director- General, Forestry Department, FAO, and Chair of the Collaborative Partnership on Forests. "Policy and management responses must therefore tackle multiple water-related objectives across the range of SDGs, and take a multiple benefits approach."

More than seven billion humans currently on this planet share it with approximately three trillion trees. Both humans and trees need water. Forests' role in the water cycle is at least as important as their role in the carbon cycle in the face of climate change. In addition to being the lungs of the planet, they also act as kidneys. Thus, addressing forests-water-people-climate links wisely, comprehensively and expeditiously is crucial to our long-term wellbeing, if not survival.

"In our assessment, we focused on the following key questions: Do forests matter? Who is responsible and what should be done? How can progress be made and measured?" Panel co-chair Meine van Noordwijk, of ICRAF and Wageningen University, Netherlands, explains.

"Natural disturbances and human activities influence forest and water relations with their impacts, depending on their timing, magnitude, intensity and duration", says Panel co-chair Irena Creed (University of Saskatchewan, Canada). "Under a changing climate, these influencing factors vary more than ever, sometimes in unanticipated ways. Forest management for the future must therefore factor in uncertainty," she concludes.

Unfortunately, water is rarely considered a priority in forest management. "Perhaps," says Professor Creed "because the co-occurrence of forest and water is so common. But natural forests, in particular, contribute to the sustainable water supply for people in the face of growing risks. And it is also possible to actively manage forests for water resilience." In the Hindu Kush – Himalaya region, for instance, various countries are successfully reviving dried up springs by paying more attention to water-sensitive land management.

The same lack of attention to the importance of forests and trees for water can be noted in international climate debates. "In view of the vital role water plays, even in facilitating the continuous sequestration of carbon in standing forests, a lack of understanding of landscape-scale effects amongst the forest and water science communities and policymakers is of increasing concern," warns Professor van Noordwijk.

In areas of water scarcity, water should be at the center of discussions of forest-climate interactions because carbon-centered forest strategies will have important consequences on water resources. Numerous forestation projects, for example, have failed to consider adequately the water demands of newly introduced foliage, or to use species that are well-adapted to local conditions. In some cases, fast-growing species have been used without thinking about the relative impacts on the locally available water supply.

Forests can also disperse waters to relatively distant areas. Adding forest and vegetation cover, for example, to upwind coasts where moisture released in the air is likely to deliver water to drier inland areas represents one possible win-win strategy. Availability of waters in the Nile River basin, for instance, is potentially influenced by changes in the land use practice in the Tropic forest belt across the West African Rainforest and the Congo Basin. Consequently, managing forest-water interactions will require the engagement of forest managers, water users and other stakeholders across hydrologically connected landscapes.

Changes in forest-water relations will affect the quality and quantity of related ecosystem services such as the supply of water or forest products and will also have an impact on where, how and to whom these services will be available. Therefore, it is necessary to consider questions of distributional equity, fairness and justice in forest-water arrangements. Already marginalized and vulnerable communities should not be exposed to further risks.

As adaptive management strategies are developed, trade-offs may go beyond timber and water and also include, as an example, non-timber forest products. Poorer people throughout many parts of the world depend heavily on the direct use of non-timber forest products for their livelihoods. These are essential in the burgeoning discussion around ecosystem services and the safety net they provide for subsistence households must not be forgotten. These trade-offs will cause some conflicts.

The case of the Murray Darling basin, located in southeastern Australia, is one example of a continuous and still unresolved conflict over ecological water allocations. The basin covers over 1 million km2 (14% of Australia's landmass) and contains over 30,000 wetlands. However, the introduction of strict water allocation rules in response to threats to the basin's capacity to cater to an increasing demand for water met with resistance from farmers depending on irrigation. Meanwhile, many areas of the floodplain forests of iconic Red Gums continue to decline. Conflicts between land and water users remain, and many forest, and former wetland, areas are consumed by bushfires that occur increasingly every year.

The report concludes that international governance can play a key role in optimizing climate-forest-water relations by creating norms such as the SDGs, by providing forums in which norms can be discussed, negotiated and agreed upon, and by providing opportunities for assessing progress. Similarly, new levels of collective action - especially across sectors and across spatial scales – as well as stronger participatory approaches are needed to shift policy goals away from more profit-oriented toward more sustainability- oriented strategies.

There is, the report says, a clear policy gap in climate-forest-water relations that is waiting to be filled.

Photo left: Riparian vegetation and landscape in Mongolia, a country where freshwater resources are scarce - © Alexander Buck
Photo right: Leaf area is an important measure for the water use of trees- © iStock: Keikona

Photo left: Spring in the temple forest of Dakshinkali, Nepal – © Dipak Gyawali
Photo right: Blue Nile falls in the Tis Abay, Ethiopia – © iStock: Joel Carillet

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The report and policy brief are available electronically at:
https://www.iufro.org/science/gfep/forests-and-water-panel/report/

The report will be launched at the 2018 High-Level Political Forum (HLPF) on Sustainable Development in the course of the side event "Forests and Water on a Changing Planet: Scientific Insights for Building Sustainable and Resilient Societies", held in New York on 10 July at 1.15-2.30 pm. The side event is hosted by the Permanent Mission of Austria to the UN and co-hosted by IUFRO. https://sustainabledevelopment.un.org/hlpf/2018

The IUFRO-led Global Forest Expert Panels (GFEP) initiative of the Collaborative Partnership on Forests (CPF) established the Expert Panel on "Forests and Water" to provide policymakers with a stronger scientific basis for their decisions and policies related to forests and water, and to specifically inform relevant international policy processes and the discussions on the 2030 Agenda for Sustainable Development and related Sustainable Development Goals.
https://www.iufro.org/science/gfep/forests-and-water-panel/

The International Union of Forest Research Organizations (IUFRO) is the only world-wide organization devoted to forest research and related sciences. Its members are research institutions, universities, and individual scientists as well as decision-making authorities and other stakeholders with a focus on forests and trees. https://www.iufro.org/

For more information, please contact: Gerda Wolfrum at +43 1 877015117 or wolfrum(at)iufro.org

Media Wires

Agencia EFE (Spain)

Un investigador de la UPNA colabora en un informe sobre bosques de la ONU

15-07-2018 / 18:39 h EFE

El investigador de la UPNA Juan Blanco Vaaca colabora en la elaboración de un informe sobre bosques y agua impulsado por Naciones Unidas.

Blanco, doctor en Ingeniería Agronómica y miembro del Instituto IS-FOOD, integra un panel con 18 expertos de diez países que esta semana ha presentado el informe en Nueva York.

El documento, según precisa la UPNA en un comunicado, recoge que bosques, agua, clima y humanos son un mismo sistema que carece de fronteras y, por tanto, la gestión de los recursos hídricos necesarios para mantener los objetivos de desarrollo sostenible y evitar la escasez de agua en el futuro debe planearse y ejecutarse integrando tanto al clima como a los bosques y los seres humanos.

El investigador de la UPNA forma parte de uno de los Grupos de Expertos Forestales Mundiales (GFEP, por sus siglas en inglés), surgidos dentro de la Asociación de Colaboración en materia de Bosques (ACB).

Esta entidad es una alianza de catorce organizaciones internacionales vinculadas a la ONU para promover la ordenación sostenible de todos los tipos de bosques y reforzar el compromiso político sobre esta materia a largo plazo.

La asociación surgió en 2001 impulsada por el Consejo Económico y Social de las Naciones Unidas, está presidida por la FAO (Organización de Naciones Unidas para la Alimentación y la Agricultura) y cuenta con el apoyo del Foro de las Naciones Unidas sobre los Bosques (2000).

El informe del Grupo de Expertos Forestales Mundiales sobre los Bosques y el Agua, iniciado en enero de 2017, busca contribuir a la Agenda 2030 para el Desarrollo Sostenible, relacionando dos de los objetivos: el 6 (agua limpia y saneamiento) con el 15 (vida de ecosistemas terrestres).

El estudio está coordinado por la Unión Internacional de Institutos de Investigación Forestal (una red internacional de investigadores sobre bosques con sede en Viena, Austria).

Los expertos que han trabajado con Blanco pertenecen a universidades e instituciones de investigación de Australia, Canadá, China, Estados Unidos, Indonesia, Nepal, Reino Unido, Suecia, Suiza y Suráfrica.

http://agencias.abc.es/agencias/noticia.asp?noticia=2870679

Agencia EFE (Spain)

La deforestación interrumpe el patrón regional de lluvias

20/07/2018 15:17

Roma, 20 jul (EFE).- La deforestación de los bosques interrumpe el patrón regional de precipitaciones y puede derivar en cortes de agua para las poblaciones que viven cerca de esas zonas, según un estudio científico presentado hoy en Roma.

Un grupo de 50 expertos liderado por la Unión Internacional de Organizaciones de Investigación Forestal (IUFRO, por sus siglas en inglés) ha analizado más de mil publicaciones sobre la relación entre los bosques y el agua en el contexto del cambio climático.

"El clima no solo se ha modificado por las emisiones de efecto invernadero, sino que también la vegetación es una parte importante en la configuración del clima", explicó en una conferencia Meine van Noordwijk, copresidente del panel.

El también especialista del Centro Mundial sobre Agroforestería argumentó que los bosques utilizan el agua para refrescarse a sí mismos y sus alrededores, liberando humedad a la atmósfera que al cabo de unos días vuelve a caer en forma de lluvia a una distancia cercana o lejana, en función de la velocidad del viento.

En concreto, la evaporación del agua y la transpiración de las plantas en la superficie terrestre contribuye de media al 63 % de las precipitaciones en la tierra, según el informe, que recuerda que solo un 2,5 % del agua es dulce (un 97 % de todo el agua está en los océanos). Van Noordwijk subrayó que las lluvias dependen de la vegetación, aunque ese aspecto del ciclo del agua ha sido poco estudiado y faltan políticas que lo aborden, ya que el foco hasta ahora ha estado puesto en el carbono.

Así como importa la gestión de las aguas de los ríos que cruzan fronteras, el experto llamó la atención sobre el agua que asciende y cae de la atmósfera.Cuando se cortan los árboles del bosque, además de liberarse carbono a la atmósfera, sale menos vapor de agua y, en función de dónde ocurra este fenómeno, puede verse afectada la disponibilidad del agua de las comunidades que viven más o menos cerca.

Así ha quedado demostrado con la deforestación en la cuenca del río Congo, ya que el menor reciclaje hídrico ha impactado en el este de África y hasta en los países que comparten el Nilo.

Los científicos también se hacen eco de la pérdida de superficie forestal en Birmania, que ha repercutido en China, y en la selva de Borneo (Indonesia), donde los efectos se han sentido localmente por la baja velocidad de los vientos.

Van Noordwijk insistió en la necesidad de proteger y gestionar adecuadamente los bosques y promover el manejo de los árboles en las fincas agrícolas para reponer el agua resultante de la transpiración vegetal y la evaporación, con el fin de volver a tener lluvias predecibles. EFE

https://www.lavanguardia.com/vida/20180720/45976377393/la-deforestacion-interrumpe-el-patron-regional-de-lluvias.html

Australian Associated Press

UN report cites Murray-Darling water panic

The UN report describes how Murray-Darling floodplain forests of iconic red gums continue to decline.

By Peter Mitchell, AAP US Correspondent
July 10, 2018 | 12:26PM

Australia's Murray-Darling basin has been cited in a new United Nations report that warns a global water crisis is looming and describes the important role forests can play to ease the threat.

More than 50 scientists from 20 countries, including Australia, contributed to the UN High-Level Political Forum on Sustainable Development report examining the relationships between forests, water, climate and people around the world.

Forests, often described as the lungs of the planet, also act as the kidneys, with the report noting a forest's role in the water cycle is at least as important as its role in the carbon cycle in the face of climate change.

"Perhaps because the co-occurrence of forest and water is so common, water is rarely considered to be a priority in forest management," the report, released in New York on Monday, states.

The report examines the vast Murray-Darling basin in south-eastern Australia, its importance for providing water for irrigation of farmland, resistance to water allocation and the "panic and chaos" from farming communities across the basin when an allocation plan was released for public consultation in 2011.

"Even by early 2018, the debate over ecological water allocations remains unresolved," the report states.

"... Meanwhile, many areas of the floodplain forests of iconic red gums continue to decline, conflicts between land and water users remain, and many forests and former wetland areas are consumed by the increasing number of bushfires occurring every year."

Select online pickups

- Australian
- The Border Mail (Australia)

https://www.news.com.au/world/breaking-news/un-report-cites-murraydarling-water-panic/news-story/8d4795b489420cf88c980303dc822495

EFE Verde (Spain)

INVESTIGADORES ELABORAN INFORME SOBRE BOSQUES Y AGUA IMPULSADO POR LA ONU

Publicado por: efeverde 16 Julio, 2018

Los Grupos de Expertos Forestales Mundiales (GFEP, por sus siglas en inglés) elaboran un informe sobre bosques y agua impulsado por la Organización de las Naciones Unidas y en el que participa el investigador de la Universidad Pública de Navarra (UPNA) Juan Blanco Vaca.

Blanco, doctor en Ingeniería Agronómica y miembro del Instituto IS-FOOD, integra un panel con 18 expertos de diez países que ha presentado el informe en Nueva York la pasada semana.

Evitar la escasez de agua en el futuro

El documento, según precisa la UPNA en un comunicado, recoge que bosques, agua, clima y humanos son un mismo sistema que carece de fronteras y, por tanto, la gestión de los recursos hídricos necesarios para mantener los objetivos de desarrollo sostenible y evitar la escasez de agua en el futuro debe planearse y ejecutarse integrando tanto al clima como a los bosques y los seres humanos.

El investigador de la UPNA forma parte de uno de los Grupos de Expertos Forestales Mundiales (GFEP, por sus siglas en inglés), surgidos dentro de la Asociación de Colaboración en materia de Bosques (ACB).

Esta entidad es una alianza de catorce organizaciones internacionales vinculadas a la ONU para promover la ordenación sostenible de todos los tipos de bosques y reforzar el compromiso político sobre esta materia a largo plazo.

La asociación surgió en 2001 impulsada por el Consejo Económico y Social de las Naciones Unidas, está presidida por la FAO (Organización de Naciones Unidas para la Alimentación y la Agricultura) y cuenta con el apoyo del Foro de las Naciones Unidas sobre los Bosques (2000).

Red internacional de investigadores sobre bosques

El informe del Grupo de Expertos Forestales Mundiales sobre los Bosques y el Agua, iniciado en enero de 2017, busca contribuir a la Agenda 2030 para el Desarrollo Sostenible, relacionando dos de los objetivos: el 6 (agua limpia y saneamiento) con el 15 (vida de ecosistemas terrestres).

El estudio está coordinado por la Unión Internacional de Institutos de Investigación Forestal (una red internacional de investigadores sobre bosques con sede en Viena, Austria).

Los expertos que han trabajado con Blanco pertenecen a universidades e instituciones de investigación de Australia, Canadá, China, Estados Unidos, Indonesia, Nepal, Reino Unido, Suecia, Suiza y Suráfrica. EFEverde.

https://www.efeverde.com/noticias/investigadores-informe-bosques-agua-onu/

Xinhua (China)

Report calls for more attention on global water, forests

2018-07-12 04:54:12 | Editor: Mu Xuequan

UNITED NATIONS, July 11 (Xinhua) -- A report about the situation of water and forests said Wednesday that a global water crisis "is looming on the horizon," while urging more attention be given to forests.

"In many places around the world it (water crisis) is at the doorstep rather than the horizon, exacerbated by a growing global population and accelerated climate change," said the report from the Global Forest Expert Panel (GFEP) on Forests and Water, an initiative of the Collaborative Partnership on Forests (CPF) led by the International Union of Forest Research Organizations (IUFRO).

"The relationships among forests, water, climate and people are complex, go largely unrecognized and lead to the question: What can people do with, to, and for, forests to ensure a sustainable quality and quantity of water necessary to the health and well-being of both?" said the report entitled "Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities. A Global Assessment Report."

The report underscored the importance of embracing the complexity and uncertainty of climate-forest-water-people linkages to prevent irrational decision-making with unintended consequence.

"Governments and all stakeholders wanting to achieve the SDGs (the Sustainable Development Goals related to the 2030 Agenda for Sustainable Development) need to understand that water is central to attaining almost all of these goals, and forests are inseparably tied to water," said Hiroto Mitsugi, chair of the Collaborative Partnership on Forests.

"Policy and management responses must therefore tackle multiple water-related objectives across the range of SDGs, and take a multiple benefits approach," he said.

More than 7 billion people currently on this planet share it with approximately 3 trillion trees, said the report. "Both humans and trees need water. Forests' role in the water cycle is at least as important as their role in the carbon cycle in the face of climate change. In addition to being the lungs of the planet, they also act as kidneys."

"Thus, addressing forests-water-people-climate links wisely, comprehensively and expeditiously is crucial to our long-term wellbeing," said the report.

Changes in forest-water relations "will affect the quality and quantity of related ecosystem services such as the supply of water or forest products and will also have an impact on where, how and to whom these services will be available," it said.

"Therefore, it is necessary to consider questions of distributional equity, fairness and justice in forest-water arrangements. Already marginalized and vulnerable communities should not be exposed to further risks," said the report.

The report concluded that international governance "can play a key role in optimizing climate-forest-water relations by creating norms such as the SDGs, by providing forums in which norms can be discussed, negotiated and agreed upon, and by providing opportunities for assessing progress."

http://www.xinhuanet.com/english/2018-07/12/c_137317881.htm

Printed Media

Himalayan Times (Nepal)

EDITORIAL: Water in crisis
Published: July 12, 2018 11:36 am

> Water enables life on Earth, but we are running out of it; hence urgent measures are needed to save the nature's precious gift to mankind

Water, water everywhere, nor a drop to drink! A new report "Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities. A Global Assessment Report" warns that a global water crisis is looming large and in many places around the world, it is at the doorstep rather than the horizon, exacerbated by a growing global population and accelerated climate change. But clean water is getting increasingly scarce in the world. Nepal is no exception. In a country of around 6,000 rivers, the water crisis in Nepal sounds a bit paradoxical. But this is the reality. With monsoon in full swing, there are chances of floods all across the country, especially in the Tarai region, making the aforementioned maxim sound true. But the immediate challenges that will emerge are sanitation and clean drinking water.

Nepal has made big achievements when it comes to bringing drinking water more close to a growing percentage of the population in recent years. But many people are still unable to access clean water sources. People in remote mountainous and hilly regions have to walk for hours just to fill a pitcher, while in districts along the plains where people can easily access to water resources, water may not be safe for drinking or cooking due to contamination. According to 2011 census, 85 per cent of Nepalis had access to drinking water, up from 72 per cent. This indeed is a huge progress compared to 1990 when only 46 per cent of the population had access to drinking water. But a report published by the Ministry of Water Supply and Sanitation last year said despite a significant increase in access to water sources over the past decade, "the water supplied is not always safe" and that only 12-15 per cent of the population had access to safe drinking water.

Against this backdrop, time is running out to address the water crisis that we are facing. Human activities are hugely contributing to climate change, which is making dry areas drier and precipitation erratic. While the population is increasing, our groundwater is depleting. Add to this the dismal state of existing water infrastructure. All these points to an unprecedented crisis. There is a need to understand the complex relationship between forests, water, climate and people, as we set out to address the water crisis. There is an urgent need to introduce immediate measures to protect healthy ecosystems – the only way to maintain a healthy global water system. Access to clean drinking water and sanitation has been guaranteed by the constitution of Nepal. Easy access to clean water can have a transformative impact on communities. This can leave ample time to spend on livelihood opportunities and attend school. Access to water also results in better sanitation practices, which can hugely reduce the burden of disease. More than 700 children under five die every year from diarrhoea caused by the dirty water and poor toilets. Protecting forests and giving due attention to natural ecosystems, rainwater harvesting, recharging groundwater and fixing water infrastructure are some of the measures that must be taken immediately. Water enables life on Earth. We must conserve water – nature's precious gift to mankind.

https://thehimalayantimes.com/opinion/editorial-water-in-crisis/

Himalayan Times (Nepal)

Forests form buffer against water crisis, says a report

Published: July 10, 2018 4:35 pm

KATHMANDU: Water crisis is in the verge of taking a global form, exacerbated by growing global population and accelerated climate change. The solution to this problem, at least in part, is expected to come from paying more attention to forests.

The correlation between these two factors has been addressed in a new and comprehensive scientific assessment report released today at the United Nations High-Level Political Forum (HLPF) on Sustainable Development, in New York.

More than 50 scientists from 20 countries including Nepal contributed to the assessment of forests-water-climate-people link. The report underscores the importance of embracing the complexity and uncertainty of forests-water-climate-people linkages to prevent irrational decision-making with unintended consequence.

The relationships among forests, water, climate and people are complex, go largely unrecognised and lead to the question: What can people do with, to, and for forests to ensure a sustainable quality and quantity of water necessary to the health and well-being of both?

The publication, entitled "*Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities. A Global Assessment Report"* has been prepared by the Global Forest Expert Panel (GFEP) on Forests and Water, an initiative of the Collaborative Partnership on Forests (CPF) led by the International Union of Forest Research Organisations (IUFRO).

"Governments and all stakeholders wanting to achieve the SDGs (Sustainable Development Goals related to the 2030 Agenda for Sustainable Development) need to understand that water is central to attaining almost all of these goals, and forests are inseparably tied to water," says Hiroto Mitsugi, Assistant Director-General, Forestry Department, FAO, and Chair of the Collaborative Partnership on Forests.

More than seven billion humans currently on this planet share water with approximately three trillion trees. Forests' role in the water cycle is at least as important as their role in the carbon cycle in the face of climate change. In addition to being the lungs of the planet, they also act as kidneys. Thus, addressing forests-water-people-climate links wisely, comprehensively and expeditiously is crucial to our long-term well-being, if not survival.

Nepal is already hit by water crises and is addressed in the report, Susan Tonassi on behalf of the International Union of Forest Research Organisations shared. “Aditi Mukherji from International Centre for Integrated Mountain Development and Dipak Gyawali from the Nepal Academy of Science and Technology contributed to the report.”

The document highlights that watershed experts of the Nepal Water Conservation Foundation have already made some counter-intuitive findings in Bagmati watershed regarding the role of traditional recharge ponds, landslides and village spring flow enhancement. Finding landslide control with conventional check-dam building both expensive and ineffective, the Bagmati watershed managers experimented with reviving ponds on the ridge tops, most of which were also buffalo wallowing ponds but had been abandoned and silted up.

They found that for a minimal cost of cleaning up the ponds or excavating new ones, landslides were stabilised. The post-hoc explanation is that by putting a break on the flow of floodwaters gushing down during heavy rainfall, the erosive power of water was significantly reduced.

Similarly, drying of mid-hill springs were related to either earthquake disturbances or social drivers such as out-migration of youth, decline in livestock and the concomitant abandonment of buffalo wallowing ponds that also served as sources of recharge; unregulated use of PVC pipes and electric pumps; shift from dryland crops to water-intensive vegetable farming etc.

Given that rainfall was as stochastic as ever and there was no noticeable decline in precipitation, climate change could not account for the current situation although it is predicted to exacerbate the situation unless the current drivers are first addressed.

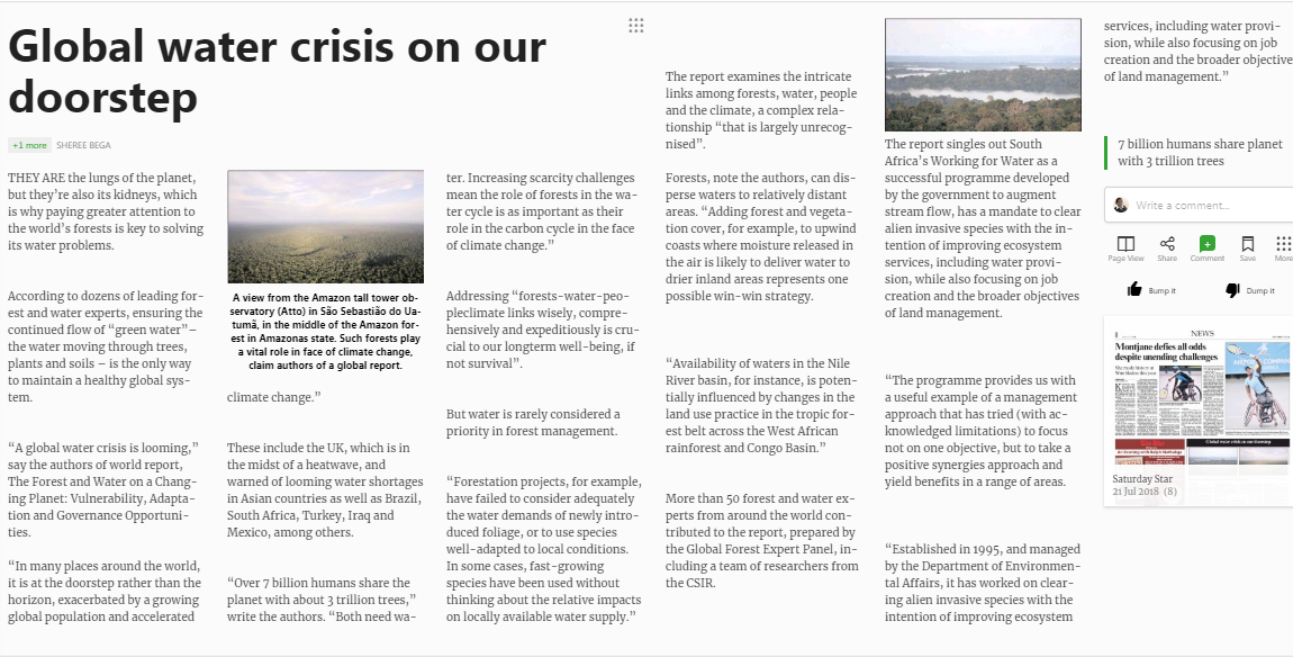
There is, the report says, a clear policy gap in climate-forest-water relations that is waiting to be filled. It argues that ensuring the continued flow of ‘green water’– the water moving through trees, plants and soils — is the only way to maintain a healthy global water system.

https://thehimalayantimes.com/nepal/forests-form-buffer-against-water-crisis-says-a-report/

Saturday Star (South Africa)

Global water crisis on our doorstep

NEWS / 21 JULY 2018, 09:10AM / SHEREE BEGA



Global water crisis on our doorstep

+1 more SHEREE BEGA

THEY ARE the lungs of the planet, but they're also its kidneys, which is why paying greater attention to the world's forests is key to solving its water problems.

According to dozens of leading forest and water experts, ensuring the continued flow of "green water" – the water moving through trees, plants and soils – is the only way to maintain a healthy global system.

"A global water crisis is looming," say the authors of world report, The Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities.

"In many places around the world, it is at the doorstep rather than the horizon, exacerbated by a growing global population and accelerated

A view from the Amazon tall tower observatory (Atto) in São Sebastião do Uatumã, in the middle of the Amazon forest in Amazonas state. Such forests play a vital role in face of climate change, claim authors of a global report.

climate change."

These include the UK, which is in the midst of a heatwave, and warned of looming water shortages in Asian countries as well as Brazil, South Africa, Turkey, Iraq and Mexico, among others.

"Over 7 billion humans share the planet with about 3 trillion trees," write the authors. "Both need water. Increasing scarcity challenges mean the role of forests in the water cycle is as important as their role in the carbon cycle in the face of climate change."

Addressing "forests-water-peopleclimate links wisely, comprehensively and expeditiously is crucial to our longterm well-being, if not survival".

But water is rarely considered a priority in forest management.

"Forestation projects, for example, have failed to consider adequately the water demands of newly introduced foliage, or to use species well-adapted to local conditions. In some cases, fast-growing species have been used without thinking about the relative impacts on locally available water supply."

The report examines the intricate links among forests, water, people and the climate, a complex relationship "that is largely unrecognised".

Forests, note the authors, can disperse waters to relatively distant areas. "Adding forest and vegetation cover, for example, to upwind coasts where moisture released in the air is likely to deliver water to drier inland areas represents one possible win-win strategy.

"Availability of waters in the Nile River basin, for instance, is potentially influenced by changes in the land use practice in the tropic forest belt across the West African rainforest and Congo Basin."

More than 50 forest and water experts from around the world contributed to the report, prepared by the Global Forest Expert Panel, including a team of researchers from the CSIR.

The report singles out South Africa's Working for Water as a successful programme developed by the government to augment stream flow, has a mandate to clear alien invasive species with the intention of improving ecosystem services, including water provision, while also focusing on job creation and the broader objectives of land management.

"The programme provides us with a useful example of a management approach that has tried (with acknowledged limitations) to focus not on one objective, but to take a positive synergies approach and yield benefits in a range of areas.

"Established in 1995, and managed by the Department of Environmental Affairs, it has worked on clearing alien invasive species with the intention of improving ecosystem services, including water provision, while also focusing on job creation and the broader objective of land management."

7 billion humans share planet with 3 trillion trees

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NEWS

Montjane defies all odds despite unending challenges

Saturday Star
21 Jul 2018 (8)

https://www.iol.co.za/saturday-star/news/global-water-crisis-on-our-doorstep-16165449

Star (Kenya)

Looming water crisis a threat to growth goals

Jul. 10, 2018, 12:45 am: By Gilbert Koech

12 THE-STAR.CO.KE

NEWS GENERAL

Athi River residents at a water point on October 19, 2016 /JACK OWUOR

FORESTS IN RUINS

Looming water crisis a threat to growth goals

A report by Global Forest Expert Panel says water cycle ignored

GILBERT KOECH @TheStarKenya

A report has warned of a looming water crisis linked to the massive forest destruction.

Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities says no attention has been paid to the importance of forests and trees in the water cycle.

It warns that the problem will complicate attainment of sustainable development goals.

"Forests' role in the water cycle is at least as important as their role in the carbon cycle in the face of climate change. In addition to being the lungs of the planet, they also act as kidneys," the report reads.

It says focusing on the forests-water-people-climate links "wisely, comprehensively and expeditiously" is crucial for long-term wellbeing and survival.

The report is a global assessment prepared by the Global Forest Expert Panel — an initiative of the Collaborative Partnership on Forests led by the International Union of Forest Research Organisations (IUFRO).

The Kenya Forestry Research Institute, World Agroforestry Centre, African Forest Forum, African Network for Agriculture and Agroforestry and Natural Resources Education are members of the IUFRO.

The report is to be launched today at the UN's high-level political forum on sustainable development in New York.

The 17 Sustainable Development Goals seek to end poverty, protect the planet and ensure all people enjoy peace and prosperity. They were built on the successes of the Millennium Development Goals.

They include new areas such as climate change, economic inequality, innovation, sustainable consumption, peace and justice.

The goals are interconnected — often the key to success in one will involve tackling issues more commonly associated with another.

Hiroto Mitsugi, FAO's assistant director general of forestry and chair of the Collaborative Partnership on Forests, said "water must be given the attention it deserves", as it forms the bedrock of the SGDs.

"Water is central to attaining almost all of these goals. Forests are inseparably tied to water," he said.

Mitsugi said policy and management responses must tackle multiple water-related objectives across the SDGs through a multiple-benefits approach.

According to the UN, Kenya is chronically water-scarce. Its natural water replenishment rate is at 647,000 litres per capita per year — far below the demand for one million litres per capita per year. Estimates of supply indicate that only about 56 per cent of the population has access to safe water.

The UN says about 80 per cent of hospital attendance in Kenya is due to preventable diseases and about 50 per cent of these illnesses are water-, sanitation- and hygiene-related. Coverage of adequate sanitation has dropped from 49 per cent to 43 in recent years.

https://www.the-star.co.ke/news/2018/07/10/looming-water-crisis-a-threat-to-growth-goals_c1784113

Town Press (South Africa)

CSIR contributes to landmark climate report

By Town Press July 13, 2018 in Community

With humans and plants heavily reliant on the depleting water sources, a team of international scientists has put its heads together to explore the role of trees and forests in the water cycle.

Among the group of 50 experts from 20 countries are four Council for Scientific and Industrial Research (CSIR) scientists. They are CSIR chief researcher, Dr Emma Archer as a co-ordinating lead author; CSIR research group leader, Dr Mark Gush as a lead author; CSIR research group leader, Dr Marius Claassen as a co-ordinating lead author and CSIR senior researcher, Dr Lorren Haywood as a contributing author.

The global report is titled 'The Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities'. Experts in the report respond to questions regarding what people can do with forests to ensure a sustainable quality and quantity of water to support the health and wellbeing of both forests and people.The assessment report on Tuesday was launched during the United Nations High-Level Political Forum on Sustainable Development.

Contributions from the CSIR experts covered a broad range of topics across the report, including forest hydrology, climate and land-use change, and governance-related aspects, as well as multiple benefits and synergies in trade-offs.

The involvement of CSIR experts in this landmark assessment demonstrates a high regard for CSIR expertise, as well as acknowledgement of the unique and important South African perspective on forest and water interaction.

"Trees and forests provide fibre, fuel, jobs and other socio-economic benefits, but when their establishment replaces other land use, they also have significant environmental impacts, both positive and negative," the CSIR said in a statement.

The Department of Environmental Affairs' Working for Water programme has a mandate to clear alien invasive species with the intention of improving ecosystem services, including water provision, while also focusing on job creation and the broader objectives of land management. The authors argue that there is an urgent need to bring together forest and water managers to allow forests to be managed explicitly for water as well as other benefits.

The final chapter of the report looks at how contemporary science can inform policy and practice.

"Gush and Claassen state that water is central to achieving the 17 Sustainable Development Goals, and forests are inseparably tied to water. The authors emphasise the need for governments and other stakeholders to understand the centrality of water and its relations with social, environmental and economic outcomes. This is one of 10 conclusions and their implications raised by authors.

"Other key messages include a clear policy gap in forests-water-climate relations that must be addressed, as well as the management of forests for resilience of water supplies to enable adaptation to change if locally relevant data and resources are available," the CSIR said.

http://townpress.co.za/live/2018/07/csir-contributes-to-landmark-climate-report/

NÖN (Austria)

Forstwirt präsentiert Studie: Wald rettet Wasser

St. Pölten
Erstellt am 20. Juli 2018, 04:18
von Beate Steiner

Der St. Pöltner Forstwirt Christoph Wildburger präsentierte neueste Erkenntnisse vor der UNO in New York.


Christoph Wildburger bei der Präsentation in New York.

Wasser ist lebensnotwendig – und wird in vielen Teilen der Erde knapp. Ursache dafür sind Bevölkerungswachstum und der rasante Klimawandel. Welche Rolle der Wald in der komplexen Beziehung zwischen Wasser, Klima und Mensch spielt, damit beschäftigt sich die neue Studie der IUFRO, das ist der internationale Verband forstlicher Forschungsanstalten mit Sitz in Wien. Präsentiert wurde die Publikation dem Forum für nachhaltige Entwicklung in New York.

Federführend beteiligt an der Studie ist der St. Pöltner Christoph Wildburger, einer der führenden Waldexperten weltweit. Gemeinsam mit 50 Wissenschaftlern aus 20 Ländern ist Christoph Wildburger der Frage nachgegangen, was wir mit dem Wald und für ihn tun können, damit Wasser in ausreichender Menge und Qualität zur Verfügung steht, um Gesundheit und Wohlbefinden von Mensch und Wald nachhaltig zu sichern.

Das ist nicht nur in von Wasserarmut geplagten Gegenden der Erde notwendig, denn der Klimawandel hat vor unseren Breiten nicht Halt gemacht: „Auch in einer waldreichen Gegend wie Niederösterreich ist es wichtig, in der Waldbewirtschaftung die Auswirkungen auf den Wasserhaushalt zu berücksichtigen“, so Wildburger. Um Überflutungen und Dürren zu vermeiden, brauchen wir naturnahe Wälder, die den Wasserhaushalt eines Gebietes regulieren können und die regelmäßige Versorgung eines Gebietes mit sauberem Wasser sicherstellen. Dazu müssten Baumarten und Nutzung gut an den jeweiligen Standort angepasst sein, weiß der Experte.

https://www.noen.at/st-poelten/st-poelten-forstwirt-praesentiert-studie-wald-rettet-wasser-klimawandel-studie-forstwirtschaft-104739481

Trades and Online

Cape Talk (South Africa)

One of our biggest water issues is alien trees - Dr Emma Archer

11 July 2018 4:49 PM

A major new report released on Tuesday at the United Nations reveals the critical role healthy forests play in stopping the water crises unfolding in Africa and worldwide.

The expansive report of 50 experts from 14 countries reveals that when forests are chopped down, they disrupt regional rainfall patterns with ramifications for those who live close by and 'downwind' from the destroyed forests.

Three experts from South Africa contributed to the report.

Speaking John Maytham, CSIR chief researcher, Global Change Institute, WITS Dr Emma Archer says South Africa has a range of issues.

“What was interesting was that South African case studies played a key role. Forests play something of a different role, but we have the same challenge in a sense in that we have to find a way to protect our forests and also to manage our forests within landscapes.”

— Dr Emma Archer, CSIR chief researcher, Global Change Institute, WITS

She adds that forests and water are highly interactive and given that we have an increasing water scarcity in South Africa, managing forests for water becomes increasingly important.

“One of our biggest issues is alien trees, and one of the interesting cases in South Africa, of course, is something like the working for water initiative where we clear alien invasive species partly as a way to improve water provision.”

— Dr Emma Archer, CSIR chief researcher, Global Change Institute, WITS

http://www.capetalk.co.za/articles/311219/one-of-our-biggest-issues-is-alien-trees-dr-emma-archer

LANDSCAPE NEWS

Global Landscape Forum

Cooling forest rainbow water vital contributor to farmer livelihoods

18 Jul 2018
Posted by Landscape News Editor

By Meine van Noordwijk, chief science advisor at the World Agroforestry Centre(ICRAF), based in Indonesia and professor in agroforestry at Wageningen University in the Netherlands.

Tree management key
Forests are widely recognized as critical to essential ecosystem services like clean water and air, but some of their greatest benefits are invisible to the human eye and have not been picked up in policy discussions.

Forests interact with the climate over long periods of time, as they store carbon — a greenhouse gas that contributes to climate change — in their trunks, branches, leaves and roots, which they use to grow. They also build up soil carbon stocks. This makes healthy, standing forests invaluable in global efforts to prevent rising global temperatures through greenhouse gas emissions.

Forests, however, interact with climate more directly, as they use water to cool themselves and their surroundings, releasing moisture into the atmosphere — what we call “rainbow water.”
In an important but understudied aspect of the world’s water cycle, this invisible moisture comes back as rainfall nearby and very far from forests, depending on the location on the globe.

A new report released last week that I co-authored seeks to elevate our understanding of this phenomenon.

When forests are cut down, they release carbon into the atmosphere. And, just as detrimental, rainbow water dries up.

Depending on where the forests are, this can lead to major water shortages for those living “down wind” from where forest loss takes place.

One of the hotspots for this phenomenon is the Blue Nile Basin in Africa. When deforestation in the Congo reduces atmospheric recycling, people living all along the river — as far away as Egypt — are impacted.

Without rainfall, farmers lose their incomes; in some cases, they become refugees.

There are other hotspots worldwide. In Asia, deforestation in Myanmar impacts China. In Borneo, deforestation is leading to less rainfall, as the typically low wind speeds keep the recycling focused on local effects.

Fortunately, the solution to this problem is relatively simple. Protecting standing forests and allowing farmers to manage trees in their farms can replenish rainbow water, leading to predictable rainfall once again.

But even more needs to be done. Forest nations and the international community who are gathered this week to discuss progress on the U.N. Sustainable Development Goals must address the twin benefits of forests for climate–carbon storage and rainfall regulation—in plans for tackling climate change. Careful management of the forests we do have can lead to better carbon storage and higher water quantity and quality.

It's possible to reverse the vicious cycle of deforestation and water crises. But we need to act now. Read the report by clicking *here*.

More about the author:
Meine van Noordwijk has for the past 25 years worked at the World Agroforestry Centre (ICRAF), based in Indonesia, lately as Chief Science Advisor. He also serves as Professor in Agroforestry at Wageningen University in the Netherlands. Born in the Netherlands he was trained as a biologist/ecologist and worked as researcher on roots (plant-soil interactions), agroforestry as land use option in tropical forest margins, environmental consequences of land use change (including hydrology), and institutional responses to such, including payments for ecosystem services and ecocertification schemes. He developed simulation models that range from the scales of roots to the understanding of farmer's land use decisions and its environmental consequences. A publication record is available by clicking here.

https://news.globallandscapesforum.org/viewpoint/cooling-forest-rainbow-water-vital-contributor-to-farmer-livelihoods/

India Climate Dialogue

Reviving Himalayan springs essential for climate adaptation

Darryl D'Monte, 30.07.18

The serious water shortages in the Himalayas in recent times, brought on due to population pressures, deforestation and erratic rainfall, can be partly countered by reviving mountain springs

Reviving Himalayan springs will help in adapting to a changing climate (Photo by Frank Winkler)

At a time when receding glaciers, erratic rainfall and deforestation in the Himalayas is leading to severe water shortages in the uplands, people's initiatives to revive mountain springs have helped to partly adapt to the adverse impacts of climate change in this sensitive mountain range.

This was revealed in the documentation carried out by researchers of Cambridge University that was published in *Forest and Water in a Changing Planet: Vulnerability, Adaptation and Governance Opportunities*. Known as the IPCC of forests, the bi-annual global assessment report was compiled by the Global Forest Expert Panel (GFEP) on Forests and Water and was released at the UN High-Level Political Forum in New York on July 10.

This year's report It draws on work, among many others, in the Himalayas by Bhaskar Vira, who was the lead author in two and contributor to three out of eight chapters, and his colleagues at Cambridge University. More than 50 forest and water experts from around the world contributed to the report. It states that water shortages are becoming commonplace worldwide and deforestation is making the problem worse. It points to the intricate links among forests, water, people and the climate and argues that ensuring the continued flow of green water — the water moving through trees, plants and soils — is the only way to maintain a healthy global water system.

Long-term wellbeing

More than seven billion humans on this planet share it with approximately three trillion trees, the report says. Both humans and trees need water. Forests' role in the water cycle is at least as important as their role in the carbon cycle in the face of climate change. In addition to being the lungs of the planet, they also

act as kidneys. Thus, addressing forests-water-people-climate links wisely, comprehensively and expeditiously is crucial to our long-term wellbeing, if not survival.

Asked how climate figures in a study on the connection between forests and water, Vira told *indiaclimatedialogue.net*: ""The climate angle is subtle, and not yet visible in the data. But, our point is that the human pressures are already adding to the challenges of water management, which will almost inevitably be exacerbated by climate change."

On behalf of the *International Union of Forest Research Organizations*, under the aegis of which the GFEP report was compiled, Susan Tonassi said: "Deforestation releases carbon stored in trees, but it also disrupts the world's hydrological cycle. The authors of this report argue that the changes in rain and wind due to deforestation provide tangible evidence of the link between deforestation and climate change. They argue that with water and forests, instead of just thinking in terms of upstream and downstream, we now need to think in terms of upwind and downwind. So deforestation upwind can lead to changes in rainfall downwind."

Importance of springs

The report cites how springs are the main source of water for millions of people in the mid-hills of the Hindu Kush-Himalayas, a region that extends 3,500 km over eight countries from Afghanistan in the west to Myanmar in the east. It is the source of 10 large Asian river systems, including the Indus, Ganga and Brahmaputra.

A number of studies based on people's perceptions have attributed to the drying up of springs to deforestation as well as change in land use — conversion of forests of agricultural land. "Our knowledge (or lack thereof) about spring-supported habitats become even more important in the current scenario of drying up of springs," the report says.

It notes that it is possible to restore drying springs and cites how this has been successfully done in Sikkim, where more than 60 springs have been revived do far. The Rural Management and Development Department of the state government has taken up *artificial recharge* of springs and watershed development. Pilot activities have been launched to replenish underground reservoirs. Hilltop lakes are being revived to help recharge groundwater too. Streams are being supplemented in the lean season by harvesting rainfall during the monsoon.

Forest land-use and management

"In recent years, across India, there has been a reduction in the availability of sufficient quantities of clean water due to a number of factors — changes in rainfall patterns; pressure on land-use; depleting groundwater reserves; and growing consumption demands — as migration and settlement patterns change across the Himalayas," Vira told *indiaclimatedialogue.net*. "Our work has tried to understand the connections between changes in forest land-use and management, which impact on the water bearing capacity of catchments in these mountainous regions, and the availability of water for a variety of users, including those living in the growing numbers of small towns, as well as more established uses for rural agrarian communities."

"We worked in four towns — Palampur and Rajgarh in Himachal Pradesh, and the hill stations of Mussoorie and Nainital in Uttarakhand," he said. "An exhibition based on our work, entitled *Pani, Pahar: Waters of the Himalayas*, has been on show in Delhi recently."

The Cambridge study lasted for four years, ending in 2017, and was jointly funded by the UK Department for International Development and two other agencies.

On Nainital, *Ecosystem Services for Poverty Alleviation*, a global development research programme, supported a study on the impact of human activities on water levels in the popular hill station. At a height of 1,928 metres, Nainital depends on its lake as well as a secondary lake, Sukhatal, which harvests monsoon rainfall and provides nearly half the subsurface supply to Nainital. Last summer (2017), water levels in Nainital fell 5.5 metres below maximum capacity.

The Cambridge University researchers and the Centre for Ecology Development & Research (*CEDAR*) in Dehradun concluded that uncontrolled construction in the hill station had affected the town's critical recharge zones. This led to public interest litigation to protect these aquifers, and in April, the court issued an interim order to halt further construction in these zones and immediate orders to the irrigation department to prepare a detailed project report to rejuvenate the recharge zone.

"It is possible to restore drying springs by correct identification of recharge zones using knowledge of hydrogeology and then implementing recharge measures in those zones," Vira said. "This has been successfully attempted in Sikkim. The NITI Aayog constituted a working group of experts to design a concrete plan for revival of drying springs in Indian Himalayan states."

Flow of rivers

The working group submitted its report in December. Of 5 million springs in India, as many as 3 million are in the Himalayas, which is home for 50 million people. "With climate change manifested in the form of rising temperatures, rise in rainfall intensity, reduction in its temporal spread and a marked decline in winter rain, the problem of dying springs is being increasingly felt across the region," says the report. "It becomes clear, therefore that any significant depletion in such spring flows at river origins will surely impact the flow of rivers."

It notes that the first initiative to arrest this process was undertaken through the DharaVikas Programme by Sikkim, while smaller pilot schemes using the same concept were being implemented in states like Himachal Pradesh, Nagaland and Uttarakhand as part of Forest Panchayats constituted under the Forest Act. The concept of springshed management, it asserts, is best summarised through a step-wise methodology.

Mapping springs

In the short term, the report recommends the systematic mapping of springs across the Himalayas, the creation of a web-enabled database, capacity-building activities between states and organising a national level workshop for policymakers and decision-makers. The medium term action includes mainstreaming springshed management with other developmental programmes. In the long term, it suggests proposing a project to cover springshed management across the Himalayas to the global Green Climate Fund.

"There is no doubt that climate change is having impact on springs," Himanshu Thakkar of the Sou*th Asia Network on Dams, Rivers and People* in Delhi told *indiaclimatedialogue.net*. "This is by way of increasing water losses due to increasing temperatures, changing rainfall, snowfall and snow melt patterns, which in turn also have impact on erosion and landslide patterns when rainfall comes in more frequent sudden spurts. There is also the factor of increasing demand both for evapo-transpiration and human and other living form's needs."

Manmade interventions

"But I feel the manmade interventions in the name of development is having even greater impact on the springs and that also needs to be assessed, avoided, mitigated and reversed where possible," he said. "It's these collective efforts, along with attempts at revival, that will help."

According to Ravi Chopra of the People's Science Institute in Dehradun, "The drying-up has been going on for 20 years. A PhD thesis in 1980 showed that in the previous 30 years, deforestation in the Gaula river watershed in Nainital district had increased by 20%, while springs had declined by 25-75%. The impact of climate change is evident from the decline in winter rain and snowfall. There is greater snow melt in winter and less water seeps into the aquifers and recharges them in summer."

"It has become essential to ensure the revival of springs because rural areas are threatened," he told *indiaclimatedialogue.net*. It is neither expensive or time-consuming to revive them."

https://indiaclimatedialogue.net/2018/07/30/reviving-himalayan-springs-essential-for-climate-adaptation/

Mongabay.com

Pay more attention to forests to avert global water crisis, researchers urge

By Mongabay.com on 16 July 2018

- *According to a new report, the growing human population and climate change are exacerbating a looming global water crisis that has already hit home in places like Australia's Murray Darling basin — but the crisis could potentially be averted if humans paid more attention to the links between forests and water.*

- *Despite the links between the global climate, forests, people, and water, international bodies like the Intergovernmental Panel on Climate Change (IPCC) and the United Nations Framework Convention on Climate Change (UNFCCC) have tended to view carbon sequestration as the chief role of forests and trees.*

- *Report co-editor Meine van Noordwijk, chief scientist at the World Agroforestry Centre (ICRAF) in Indonesia and a professor of agroforestry at Wageningen University in the Netherlands, warns that we ignore the importance of water in the climate debate at our own peril.*

Australia's Murray Darling basin covers more than a million square kilometers, 14 percent of the country's landmass. It's the site of tens of thousands of wetlands, but increasing demand for water has stretched its resources to the limit.

Many of the basin's wetlands and floodplain forests are declining — several former wetlands and forests have even been consumed by bushfires, which are becoming more frequent every year. Yet when Australian officials sought to introduce strict water allocation rules, they met with fierce resistance from farmers in the region who depend on irrigation for their livelihood.

This is just one example of the ongoing conflicts over ecological water allocations featured in a new report released by the Global Forest Expert Panel (GFEP) on Forests and Water, an initiative led by the International Union of Forest Research Organizations (IUFRO).

More than seven-and-a-half billion humans currently occupy planet Earth together with an estimated three trillion trees, and both of these populations require water. According to the GFEP report, the growing human population and climate change are exacerbating a looming global water crisis that has already hit home in places like the Murray Darling basin — but the crisis could potentially be averted if humans paid more attention to the links between forests and water.

"This international effort to highlight the interlinkages between forests, water, people and climate is very timely, given the pressures we now face on both human society and natural ecosystems," Caroline Sullivan, an environmental economist at Australia's Southern Cross University who contributed to the report, said in a statement.

"For example, here in Australia, we are facing water shortages, massive loss of biodiversity, rising incidence of floods and droughts, and loss of economic capital and human wellbeing."

Riparian vegetation and landscape in Mongolia, a country where freshwater resources are scarce. © Alexander Buck.

Despite the links between the global climate, forests, people, and water, international bodies like the Intergovernmental Panel on Climate Change (IPCC) and the United Nations Framework Convention on Climate Change (UNFCCC) have tended to view carbon sequestration as the chief role of forests and trees. GFEP co-chair Meine van Noordwijk, chief scientist at the World Agroforestry Centre (ICRAF) in Indonesia and a professor of agroforestry at Wageningen University in the Netherlands, warns that we ignore the importance of water in the climate debate at our own peril.

"In view of the vital role water plays, even in facilitating the continuous sequestration of carbon in standing forests, a lack of understanding of landscape-scale effects amongst the forest and water science communities and policymakers is of increasing concern," Noordwijk said in a statement.

The GFEP report finds that water should be key to discussions of the interactions between forests and the global climate, especially in areas of water scarcity, because strategies focused entirely on carbon sequestration can still have drastic and unintended consequences for water resources. For example, reforestation projects need to take into account the water needs of new foliage and prioritize the use of species that are adapted to local conditions, per the report.

Irena Creed of the University of Saskatchewan in Canada is the other co-chair of the GFEP and co-editor of the report along with Noordwijk. She says that, just as it is missing from the climate debate, water is often overlooked as an important component of forest management.

"[N]atural forests, in particular, contribute to the sustainable water supply for people in the face of growing risks," Creed said in a statement. "And it is also possible to actively manage forests for water resilience."

For instance, the report spotlights the example of the various countries in the Hindu Kush-Himalaya region that have revived dried-up springs by applying water-sensitive land management strategies in recharge zones.

Blue Nile falls in the Tis Abay, Ethiopia. © iStock: Joel Carillet.

Creed added that the future impacts of climate change introduce a level of unpredictability that we will also have to learn to deal with. "Natural disturbances and human activities influence forest and water relations with their impacts, depending on their timing, magnitude, intensity and duration," she said. "Under a changing climate, these influencing factors vary more than ever, sometimes in unanticipated ways. Forest management for the future must therefore factor in uncertainty."

Noordwijk notes that, "In our assessment, we focused on the following key questions: Do forests matter? Who is responsible and what should be done? How can progress be made and measured?" Because the answers to those questions depend heavily on regional context, Noordwijk, Creed, and their co-authors seek to identify "globally relevant information on forest-water interactions" and highlight implications for international policymakers in the report. Specifically, they look at how a better understanding of the climate-forest-people-water connection can help achieve the 17 Sustainable Development Goals (SDGs) laid out by the UN in its 2030 Agenda for Sustainable Development.

"Governments and all stakeholders wanting to achieve the SDGs need to understand that water is central to attaining almost all of these goals, and forests are inseparably tied to water," Hiroto Mitsugi, assistant director-general at the UN's Food and Agriculture Organization, said in a statement. "Policy and management responses must therefore tackle multiple water-related objectives across the range of SDGs, and take a multiple benefits approach."

The report concludes that governance of water and forests as resources can be improved "to reduce the identified hydro-vulnerability in the context of all SDGs, and the persistent and growing threats arising from climate change. Failure to place water at the centre of discussions on forest-climate interactions and diverse forestation strategies, will have important negative impacts on policy effectiveness and ultimately on the provision of water."

International governance can play a "highly important" role, the report states, by creating norms such as the SDGs, and providing opportunities for those norms to be discussed, negotiated, and agreed upon. "National level governance can also be radically improved," the report adds, "in particular, by beginning to bring together competing sectors of the economy into national level institutional frameworks that encourage cooperation and negotiation across the broader scope of forest and water interactions."

https://news.mongabay.com/2018/07/pay-more-attention-to-forests-to-avert-global-water-crisis-researchers-urge/

Selected online pick-up

- EcoWatch
  https://www.ecowatch.com/global-water-crisis-forests-2589272468.html

National Observer (Canada)

Dozens of scientists from over 20 countries explain how mining, logging and fossil fuels disrupt the water on earth

By Carl Meyer in News, Energy, Politics | July 12th 2018

Canadian government departments should work closer together to determine how the interaction of forests and water is being disrupted by fossil fuel extraction, mining and logging, says a Canadian scientist at the centre of a new report presented to the United Nations.

Irena Creed, a Canadian biology professor and executive director of the School of Environment and Sustainability at the University of Saskatchewan, co-chaired a 19-member panel that compiled evidence showing how the health of the planet's forests is intricately tied to the safeguarding of sustainable access to water.

"There's an emerging scientific body of evidence that is starting to suggest that it's not just what happens when the raindrop falls to the ground...but that the forests produce water," says Canadian scientist Irena

The July 10 report by the Global Forest Expert Panel on Forests and Water — a major collaboration of 50 scientists from more than 20 countries including 11 different Canada-based contributors — highlights cutting-edge research demonstrating a whole different way of managing the Earth's ecosystems.

"Our way of looking at forests has often been that they are the source of plentiful, clean, water supplies that are provided downstream," said Creed, in an interview July 12.

"There's an emerging scientific body of evidence that is starting to suggest that it's not just what happens when the raindrop falls to the ground...but that the forests produce water," she said. "Through that transpiration, moving from the roots up though the leaves and into the atmosphere, that atmospheric water is then transported downwind."

The downwind transport means that prevailing winds across Central Canada, for example, might be providing water to Ontario and Quebec, Creed said. "That kind of atmospheric connection has never really been considered when we talk about the management of forests for water."

The report was presented on July 11 to the UN's 2018 High-Level Political Forum, by the non-profit International Union of Forest Research Organizations, a network of forest scientists, and Austria's diplomatic mission to the UN.

"More than seven billion humans currently on this planet share it with approximately three trillion trees. Both humans and trees need water," reads a press release about the report.

"Forests' role in the water cycle is at least as important as their role in the carbon cycle in the face of climate change. In addition to being the lungs of the planet, they also act as kidneys."

International Union of Forest Research Organizations's Christoph Wildburger, University of Saskatchewan's Irena Creed, World Agroforestry Centre's Meine van Noordwijk, and IUFRO's Alexander Buck pose in front of their report on July 11, 2018 in New York, U.S. Photo courtesy Jacqueline Serran / IUFRO

Resource extraction has 'great deal of uncertainty'
The expert panel was launched by the Collaborative Partnership on Forests, a voluntary organization of 14 UN, international and regional bodies. The panel was formed in order to compile the scientific evidence of the interactive effects of forests, water and the climate.

There are already major risks to Canada's vast boreal forest and freshwater. Canadian government scientists have already determined large portions of boreal forest could be at risk of dying off by the end of the century, as climate change will dramatically aggravate the risk of wildfires, drought and insect infestations.

Even by mid-century, parts of Canada's 270-million hectares of boreal that purifies water and air, regulates the climate and stores carbon will already be at heightened risk of devastating fires, that study showed.

"Right now, we need to look at cumulative effects of both climate change, as well as the ongoing natural resource extraction activities that are happening in the boreal," said Creed, "to try to look at how best to manage for that (forest-water) coupled system."

Oil and gas extraction, logging and mining all has an impact on the connection between forests and water, she said. Canada should examine how much resource extraction should be halted in order to ensure the ecosystem's forest-water balance isn't disrupted.

As climate change accelerates changes to the environment, it brings with it increased risk to the water supply, including water quality.

"That ongoing activity is important for Canada's economy, but that ongoing activity in the face of increasing risk of wildfires, or infestations, or air pollution, creates a great deal of uncertainty in terms of how our economy can rely on these resources that are extracted from the boreal forest," said Creed.

"It's also important to consider the quality of water, if you think about many communities that live in the boreal forest, the two-thirds of Indigenous communities in Canada that don't have access to clean, reliable sources of drinking water."

The report is meant to inform the ongoing discussions about how to implement the UN's Sustainable Development Goals (SDGs), which aims to end global poverty by 2030 by pursuing 17 objectives on everything from climate change to gender equality.

Forests are often left out of high-level climate or water discussions, said Creed, and this includes the way the SDGs have been approached.

"People are viewing them (the SDGs) individually and independent of each other," said Creed, "and one of the main messages that we have is that we can't do that."

Successfully achieving the goals means looking just as much at how they interact, she said, in particular the goals associated with land, water and climate.

A July 10 assessment by the non-profit Sustainable Development Solutions Network, with offices in New York, Paris and New Delhi, and the German independent institution Bertelsmann Stiftung, shows Canada ranked 20th among 156 countries in addressing the goals. Sweden was ranked first.

'Cross-fertilization of ideas' between federal bodies
Xiaohua (Adam) Wei, a professor of forest hydrology at the University of British Columbia's Department of Earth, Environmental and Geographic Sciences and one of the lead authors for several of the chapters, said the report sends several clear messages.

The report shows that "protecting forests means protecting water resources, as forested watersheds are the source of our water supply," he said in emailed comments.

As well, he said "protecting and managing forest-water relationships require a systems and dynamic perspective, with consideration of various spatial and time scales." The right policy has to be in place to manage the relationship between forests and water, he added.

The expert panel started work in early 2017, combing through the scientific literature on interactions between forests and water. As the co-chair, Creed prepared the policy brief associated with the report, and administered the report's preparation like designing the chapters.

Creed said there should be "a lot more cross-fertilization of ideas" between Natural Resources Canada, which typically looks at things like biodivesity, wood production and carbon, and Environment and Climate Change Canada which typically looks at water.

She wouldn't go as far as to suggest that the two departments should be merged, as they both play important and distinct roles. The report didn't look specifically at the collaboration between Canadian government departments, as it was meant to be a global assessment.

In addition to Creed and Wei, the report also has a considerable amount of contributions from scientists and researchers at Canadian institutions.

At the University of Saskatchewan, Creed was joined by Maureen Reed, James Robson, Dominique Trick and Jeffrey McDonnell. At UBC, Wei was joined by Krysta Giles-Hansen, Qiang Li and Yi Wang. The University of Western Ontario's David Aldred and Jacqueline Serran also contributed.

The report's funding was provided by Finland's ministry of foreign affairs, the United States Forest Service, the Austrian Federal Ministry of Sustainability and Tourism and the World Bank Group.

https://www.nationalobserver.com/2018/07/12/news/dozens-scientists-over-20-countries-explain-how-mining-logging-and-fossil-fuels

SciDev.Net (UK)

Forests key to Africa ending water crises, meeting SDGs

08/08/18
By: Baraka Rateng'

Speed read

- *Report assesses the linkages involving forests, water, people and climate change*
- *It found that in Africa scholars rarely study how forests impact water*
- *Expert cites lack of capacity and political interference as challenges*

Despite the contribution of forests to water sustainability, scholars and researchers have rarely studied the linkages involving forests, climate change and water in Africa, a report says.

According to the report, about seven billion humans currently occupying the earth are competing with more than three trillion trees for water, thus making a need to address forests-water-people-climate links crucial.

The report, which was released during the United Nations High-Level Political Forum on Sustainable Development in New York, United Sates, last month ((10 July), adds that forests form a buffer against a looming global water crisis.

The report is a review of about 1,000 peer-reviewed published in the last ten years, with a focus on way forests interact with climate change in influencing water flows relevant for the Sustainable Development Goals, and the options to better manage forests for preventing water scarcity.
"Water issues cannot be understood without vegetation-climate interactions. Climate effects cannot be understood without a focus on water."
Meine van Noordwijk, World Agroforestry Centre
Meine van Noordwijk, a co-editor of the report and an agroforestry expert at the World Agroforestry Centre, Indonesia, tells *SciDev.Net* that in Africa most analyses tend to focus on the watershed — a land area that separates waters flowing to different rivers, basins, or seas.

"Forest soils' role in buffering water flows relative to incoming rainfall is well known," says van Noordwijk. "It helps to reduce flood intensity as well as avoid droughts within the watershed."

The report, which was generated by more than 50 scientists from 20 countries, was published by Austria-headquartered International Union of Forest Research Organizations.

Africa-specific literature includes studies from South Africa, with active forest management for optimised river flows, the Congo and Nile basin, studies in East Africa and the West African forest-savanna-Sahel gradient with its parklands.

According to van Noordwijk, it is important to replicate the study at more regional scale, involving more national scientists and policymakers.

The current forest-climate discourse and policies, he says, are largely on carbon, while the water aspects may well be more directly important for African lives.

“Water issues cannot be understood without vegetation-climate interactions. Climate effects cannot be understood without a focus on water,” he says.

Effective international cooperation is needed to get more systematic study of cross-border issues such as rainfall recycling in Africa.

If no action is taken by policymakers, rainfall in recycling-dependent regions, such as Ethiopia and Sahel will be adversely impacted, affecting tens of millions of farming families, van Noordwijk cautions.

George Okoye Krhoda, an associate professor of geography and environmental studies at Kenya’s University of Nairobi, says that the main drivers of water scarcity in Sub-Saharan Africa are growing population, rapid social and economic development and climate change.

“One quarter of Africa’s urban population does not have access to clean water supply while one third of rural population does have access to fairly polluted water supply,” explains Krhoda, who is also the managing director at Kenya-based Research on Environment and Development Consultants Ltd.

Water-forests relationship, he says, is replete with myths, misunderstanding, misinformation and misinterpretation of data. It is necessary to study deforestation impacts and their links to water availability in Africa to provide long-term monitoring data.

https://www.scidev.net/sub-saharan-africa/environment/news/forests-africa-ending-water-crises-meeting-sdgs.html

SciDev.Net (UK)

Les forêts, un acteur clé dans la crise de l'eau et les ODD

21/08/18
By: Baraka Rateng'

Lecture rapide
Un rapport évalue les liens entre les forêts, l'eau, les personnes et le changement climatique
En Afrique, les chercheurs ont rarement étudié l'impact des forêts sur l'eau
Un expert estime que l'absence de compétences et l'ingérence politique constituent des défis

Selon un rapport, en dépit de la contribution des forêts à la durabilité de l'eau, chercheurs et universitaires ont rarement étudié les liens entre les forêts, le changement climatique et l'eau en Afrique.

Le rapport estime qu'environ sept milliards d'êtres humains occupant actuellement la terre se disputent les ressources en eau avec plus de trois mille milliards d'arbres, ce qui rend crucial le besoin d'aborder les liens entre forêt, eau, peuplement et climat.

Le rapport, publié lors du Forum politique de haut niveau des Nations Unies sur le développement durable, à New York (États-Unis) le mois dernier (10 juillet), ajoute que les forêts constituent un rempart contre une crise imminente de l'eau, à l'échelle mondiale.

Le rapport est issu de l'examen d'environ 1.000 articles publiés au cours des dix dernières années, axés sur la façon dont les forêts interagissent avec les changements climatiques pour influencer les objectifs de développement durable et les options pour mieux gérer les forêts afin de prévenir une pénurie d'eau.

Meine Van Noordwijk, corédacteur du rapport et expert en agroforesterie au Centre mondial d'agroforesterie [World Agroforestry Centre, en Indonésie], explique à SciDev.Net qu'en Afrique, la plupart des analyses ont tendance à se concentrer sur le bassin hydrographique - zone géographique correspondant à l'aire de réception des précipitations et d'écoulement des eaux, tant les eaux de surface que les eaux souterraines vers un cours d'eau.

"Le rôle des sols forestiers dans la stabilisation des flux d'eau par rapport aux pluies entrantes est bien connu", déclare Meine van Noordwijk. "Cela permet de réduire l'intensité des inondations et d'éviter les sécheresses dans le bassin versant."

Le rapport, produit par plus de 50 scientifiques de 20 pays, a été publié par l'Union internationale des instituts de recherches forestières, dont le siège est en Autriche.

La littérature spécifique à l'Afrique comprend des études menées en Afrique du Sud, avec une gestion forestière active pour optimiser les débits des fleuves, le bassin du Congo et du Nil, des études en Afrique orientale et le gradient forêt-savane-Sahel ouest africain avec ses parcs.

Selon Van Noordwijk, il est important de reproduire l'étude à une échelle plus régionale, impliquant davantage de scientifiques et de décideurs nationaux.

Le discours et les politiques actuels sur les forêts et le climat, estime-t-il, sont largement axés sur le carbone, tandis que les aspects liés à l'eau pourraient bien être plus importants pour les vies humaines en Afrique.

"Les problèmes d'eau ne peuvent être compris sans les interactions végétation-climat. Les effets climatiques ne peuvent pas être compris sans se focaliser sur l'eau", ajoute-t-il.

Une coopération internationale efficace est nécessaire pour étudier plus systématiquement les questions transfrontalières telles que le recyclage des précipitations en Afrique.

Si aucune mesure n'est prise par les décideurs politiques, les précipitations dans les régions dépendantes du recyclage, telles que l'Éthiopie et le Sahel, seront affectées, avec un impact sur des dizaines de millions de familles d'agriculteurs, avertit Meine Van Noordwijk.

George Okoye Krhoda, professeur agrégé de géographie et d'études environnementales à l'Université du Kenya à Nairobi, affirme pour sa part que les principaux facteurs de la pénurie d'eau en Afrique subsaharienne sont la croissance démographique, le développement économique et social rapide et le changement climatique.

"Un quart de la population urbaine africaine n'a pas accès à un approvisionnement en eau potable, tandis qu'un tiers de la population rurale a accès à un approvisionnement en eau relativement polluée", explique George Okoye Krhoda, également directeur de Research on Environment and Development Consultants Ltd, au Kenya.

La relation eau-forêt, dit-il, est remplie de mythes, de malentendus, de désinformation et de mauvaise interprétation des données. Il est nécessaire d'étudier les impacts de la déforestation et leurs liens avec la disponibilité de l'eau en Afrique, pour fournir des données de surveillance à long terme.

George Okoye Krhoda a en outre déclaré à SciDev.Net que "de nombreux pays africains ont maintenant élaboré des politiques, de nouvelles lois et stratégies."

Cependant, note-t-il, la mise en œuvre se heurte à des déficits de ressources et de nombreux pays dépendent des partenaires au développement pour financer leurs budgets nationaux en matière de gestion de l'eau."

"Il y a des défis en matière de gouvernance, de manque de compétence et d'ingérence politique - en particulier dans le domaine de l'eau".

https://www.scidev.net/afrique-sub-saharienne/environnement/actualites/forets-acteur-crise-eau-odd.html

SUSTAINABILITY TIMES

Sustainability Times (France)

In the treetops: Understanding the planet's 'rainbow water'

By Laureen Fagan on August 15, 2018

Scientists study blue water, the surface resources available to people from our lakes, rivers and aquifers. They study green water, which is held in our plants and soils. Now a team of researchers is calling attention to the importance of "rainbow water," the often invisible atmospheric moisture that plays a critical role in the connections between climate, forests, water and people.

What they're looking at is how the destruction of forests in the Congo Basin or West Africa, for example, affects people who rely on water from the Nile River – because that water originates as atmospheric water from hundreds of kilometers away. Similar patterns exist in China, where water resources are linked to Southeast Asian forests, or in Argentina where they're tied to the Amazon.

The recently released "Forest and Water on a Changing Planet" is a global assessment of the role of forests in providing and protecting water downstream but also downwind. It is the product of more than 50 scientists from 20 different countries, all contributing to a more holistic view of forests and water resources, and forging policy links among the relevant United Nations Sustainable Development Goals.

"It's rediscovering the cycle, rediscovering the atmospheric connection between what happens on one piece of land and what happens elsewhere," says Meine van Noordwijk, an agroforestry professor at Wageningen University in the Netherlands and chief science adviser to the International Union of Forest Research Organizations (IUFRO) based in Austria.

Van Noordwijk is lead author and co-editor of the IUFRO report with Irena Creed, the executive director of the School of Environment and Sustainability at the University of Saskatchewan in Canada. Creed, during a press conference on the findings, explained that the research demonstrates the need to think about forests in a different way.

"Many of us are aware of forests being about carbon. But forests are not just about carbon," she said, referring to the role of trees in carbon sequestration. "They're also about water and we need to bring that conversation into the international policy discussion."

It's important as climate change makes access to water resources more unpredictable, whether nations are developed or not. Van Noordwijk points to estimates that some 4 billion people are water-vulnerable in some capacity now, but there's not an integrated approach to understanding the impacts, or developing and executing meaningful policy based on that integration.

India and nations across Africa, with their projected population growth, are at high risk for water crises that are integrated with food security, energy and economic impact. But so is Canada, where just one flooding incident can cause a $1 billion insurance fiasco. "The role of forests can help mitigate some of that extremes in the water, whether it's too much or too little, by being a sponge for some of the water but also helping to regulate some of the flows downstream," says Creed.

The IUFRO report also adds insight into the dynamics of atmospheric "rainbow water" in scenarios where there's competition for land use – and not just in the developing world. One example noted in the report is Australia's Murray Darling basin, which accounts for 14 percent of Australia's overall land mass and where efforts to protect water drawdowns met with resistance from farmers dependent on irrigation.

https://www.sustainability-times.com/expert-opinions/in-the-treetops-understanding-the-planets-rainbow-water/

Yale360 (USA)

Rivers in the Sky: How Deforestation Is Affecting Global Water Cycles

A growing body of evidence indicates that the continuing destruction of tropical forests is disrupting the movement of water in the atmosphere, causing major shifts in precipitation that could lead to drought in key agricultural areas in China, India, and the U.S. Midwest.

BY FRED PEARCE • JULY 24, 2018

Every tree in the forest is a fountain, sucking water out of the ground through its roots and releasing water vapor into the atmosphere through pores in its foliage. In their billions, they create giant rivers of water in the air – rivers that form clouds and create rainfall hundreds or even thousands of miles away.

But as we shave the planet of trees, we risk drying up these aerial rivers and the lands that depend on them for rain. A growing body of research suggests that this hitherto neglected impact of deforestation could in many continental interiors dwarf the impacts of global climate change. It could dry up the Nile, hobble the Asian monsoon, and desiccate fields from Argentina to the Midwestern United States.
Until recently, the nuggets of data delivering such warnings were fragmented and often relegated to minor scientific journals. But the growing concerns came to the fore in reports presented at two forest forums held by the United Nations and the Norwegian government in recent weeks.

In Norway, Michael Wolosin of the U.S. think tank Forest Climate Analytics and Nancy Harris of the World Resources Institute published a study that concluded that "tropical forest loss is having a larger impact on the climate than has been commonly understood." They warned that large-scale deforestation in any of the three major tropical forest zones of the world – Africa's Congo basin, southeast Asia, and especially the Amazon – could disrupt the water cycle sufficiently to "pose a substantial risk to agriculture in key breadbaskets halfway round the world in parts of the U.S., India, and China."

The water that a single tree transpires daily has a cooling effect equivalent to two domestic air conditioners for a day.

And in a background paper for the UN event, David Ellison of the Swedish University of Agricultural Sciences in Uppsala, reported on "increasingly sophisticated literature" assessing "the potential impact of forest cover on water availability across the broad expanse of continental, terrestrial surface."

It is well known that carbon dioxide emissions from deforestation add 10 percent or so to global warming by reducing the quantity of CO2 that the world's forests pull from the atmosphere. But the authors of both papers say this understanding about global impacts of deforestation has tended to eclipse findings about other "non-carbon" climatic impacts that may play out intensively at local and regional scales.

The impact of deforestation on rainfall is one of the most important non-carbon effects. But there are others. For instance, healthy forests release a range of volatile organic compounds that "have an overall cooling effect on our climate," mostly by blocking incoming solar energy, says Dominick Spracklen of Leeds University in England. Removing forests eliminates this cooling effect and adds to warming, he and an international team concluded in a study published earlier this year.
Meanwhile, lost forests are usually replaced by agriculture, which produces its own emissions. Add in these impacts and the real contribution of deforestation to global climate warming since 1850 is as much as 40 percent, conclude Wolosin and Harris. At that rate, tropical deforestation could add 1.5 degrees Celsius (2.7°Fahrenheit) to global temperatures by 2100 – even if we shut down fossil fuel emissions tomorrow, calculates Natalie Mahowald of Cornell University.

But there are local effects, too. Forests moderate local climate by keeping their local environments cool. They do this partly by shading the land, but also by releasing moisture from their leaves.

This process, called transpiration, requires energy, which is extracted from the surrounding air, thus cooling it. A single tree can transpire hundreds of liters of water in a day. Each hundred liters has a cooling effect equivalent to two domestic air conditioners for a day, calculates Ellison.

Monitoring of rapidly deforesting regions of the tropics has recently shown the effect of losing this arboreal air conditioning. Take the Indonesian island of Sumatra, which has been losing forests to palm oil cultivation faster than almost anywhere else on the planet. A study last year found that since 2000, surface temperatures there have on average increased by 1.05 degrees Celsius (1.8°F), compared with 0.45 degrees in forested parts. Clifton Sabajo at the University of Gottingen, Germany, found temperature differences between forest and clear-cut land of up to 10 degrees Celsius (18°F) in parts of Sumatra. Meanwhile in the Amazon, Michael Coe of the Woods Hole Research Center recently reported a difference of 3 degrees Celsius (5.4°F) between the cool of the forested Xingu indigenous park and surrounding croplands and pastures.

“The forests cause the rainfall, and if they weren’t there the interior of these continental areas would be deserts,” says one expert.

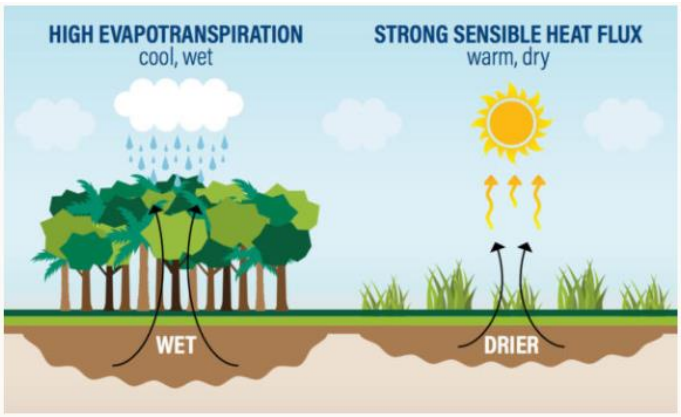
But heat is only the start. There is drought, too — not just in and around former forest lands, but far away. And a host of new studies are forcing a reassessment of exactly why it rains where it does.

We are used to thinking of rainfall as the end result of water evaporating from the oceans. In coastal regions that is overwhelmingly the case. But it turns out that the interiors of continents often get most of their precipitation from water that has been rained out and recycled back into the air several times in a precipitation cascade following the winds.

The further inland, the more dominant this recycling becomes.
Some of the recycling is straightforward evaporation from lakes, rivers, or wet soil. But much of it is fast-tracked by plants, and especially trees. Tree roots tap moisture from deep in the soil. This circulation system is driven by releases of moisture into the air through their leaves via transpiration.

By one estimate, the planet’s land vegetation recycles 48 cubic miles of water each day. A tenth of that is released by the Amazon rainforest alone – rather more than the daily discharge of the Amazon River.

Transpiration is essential to generating new rainfall downwind. And the heart of this process is in the surviving tropical rainforests, where transpiration is most intense.



Trees pull water from the ground and release water vapor through their leaves, generating atmospheric rivers of moisture. WORLD RESOURCES INSTITUTE

"Traditionally, people have said areas like the Congo and the Amazon have high rainfall because they are located in parts of the world that experience high precipitation," says Doug Sheil of the Norwegian University of Life Sciences, near Oslo. "But the forests cause the rainfall, and if they weren't there the interior of these continental areas would be deserts."

In a study of tropical areas downwind of deforestation, Spracklen found that "air that has passed over extensive vegetation in the preceding few days produces at least twice as much rain as air that has passed over little vegetation." He predicts that forest loss is set to reduce dry-season rainfall across the Amazon basin by 21 percent by 2050.

Arie Staal of Wageningen University in the Netherlands reported earlier this year that one-third of the rain falling in the Amazon basin comes from moisture generated within the basin, mostly by transpiring trees. The dependence was greatest downwind in the west of the basin, farther from the Atlantic Ocean. With a fifth of the Amazon forests gone, the risks of drought grow for such regions. Coe reported less rainfall and a longer dry season in Rondônia, an Amazon province on Brazil's western border with Bolivia.

The Amazon provides moisture as far as the Midwestern U.S., which gets 50 percent of its rainfall from water evaporating from land.
Daniel Ruiz of Columbia University says rainfall in the Colombian Andes is becoming more seasonal, with reduced humidity and fewer clouds. Some researchers believe the desiccation could stretch south to Argentina and north across the Caribbean to North America. The Amazon is thought to provide moisture as far as the Midwest, which gets 50 percent of its rainfall from water evaporating from the land.

Attributing changes in rainfall to altered land use is difficult. But a growing body of research asserts that the fingerprints of deforestation are increasingly visible. In Borneo, an analysis of nine watersheds found that those with the greatest forest loss have seen a reduction in rainfall of around 15 percent. In India, Supantha Paul of the Indian Institute of Technology in Mumbai found that patterns of declining rainfall during the Indian monsoon matched changing forest cover.

Patrick Keys of the Stockholm Resilience Center in Sweden says the downwind effect of deforestation is not limited to the tropics. "China receives a very large fraction of its rainfall from water that is recycled from evaporation on land," he told Yale Environment 360. It "has very high potential for changes to its precipitation driven by upwind land-use change" as far away as Eastern Europe and the jungles of Southeast Asia.

This matters for farmers, but also for city dwellers. In a study of 29 megacities around the world, Keys found that 19 relied on evaporation and transpiration from land He singled out as the most vulnerable Karachi in Pakistan and China's Shanghai, Wuhan, and Chongqing. Other cities such as Delhi and Kolkata in India, Istanbul, and Moscow were not far behind.

In the Americas, he warned that the Brazilian megacities of Rio de Janeiro and Sao Paulo and Argentina's Buenos Aires could also be vulnerable because much of their rainfall originates in the Mato Grosso region, where forests and grassland are rapidly being replaced by corn and soy fields.

And what of Africa, the region of the world whose people are most dependent on rain-fed agriculture?

In Africa, drought can mean death. But Keys estimates that up to 40 percent of sub-Saharan rainfall is created by moisture that has been recycled by vegetation. In the arid Sahel region, the figure may rise to 90 percent, says Louis Verchot of the Center for International Forestry Research (CIFOR).

Recent research has highlighted the threat posed by deforestation to the Nile River, the world's longest river, and the 300 million people who depend on it. Most of the Nile's flow begins in the Ethiopian highlands, a small rain-drenched part of the river's catchment.

But recent research suggests that much of the rainfall in the Ethiopian highlands comes courtesy of moisture recycled by the forests of West Africa and, especially, the jungles of the Congo basin in the continent's heart. These rainforests "may provide as much as 30 to 40 percent of the total annual rainfall in the Ethiopian highlands," says Ellison.

Two questions arise. Has deforestation in West Africa been responsible for the reduced Nile flows out of Ethiopia seen in the final quarter of the 20th century, as suggested by Ellison's colleague, Solomon Gebrehiwot, a researcher at Justus-Liebig University, Giessen in Germany.

And could future loss of the Congo jungle empty the river further? Sheil says Gebrehiwot's data suggest a further 25 percent decline in Nile flow is a realistic estimate.

Both Keys and Ellison see an urgent need for climate scientists and diplomats alike to begin addressing these issues, so that pressure points can be identified and policies adopted to protect rainfall in critical places.

We have treaties governing river flows in most rivers that cross international borders, they point out. But the rivers of moisture in the atmosphere are rarely measured and never governed.

Egypt and Ethiopia have spent years working toward an agreement on managing water flows in the Nile. But a deal on sharing the water will be pointless if rains falter in the Ethiopian highlands because of deforestation in the distant Congo basin.

In the current human-dominated era of the Anthropocene, says Keys, "processes such as moisture recycling… can, and ought, to be governed."

Fred Pearce *is a freelance author and journalist based in the U.K. He is a contributing writer for Yale Environment 360 and is the author of numerous books, including "The Land Grabbers, Earth Then and Now: Potent Visual Evidence of Our Changing World," and "The Climate Files: The Battle for the Truth About Global Warming."* ***moreabout fred pearce →***

https://e360.yale.edu/features/how-deforestation-affecting-global-water-cycles-climate-change

ESI Africa (South Africa)

South African research council looks into forest-water relations

July 15, 2018

With increasing water scarcity challenges globally, the role of trees and forests in the water cycle is at least as important as their role in the carbon cycle in the face of global change.

Several experts from the Council for Scientific and Industrial Research (CSIR) joined a team of international scientists whom together compiled a report, which explores the role of trees and forests in the water cycle.

The global report, titled The Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities, addresses critical questions such as what people can do with forests to ensure a sustainable quality and quantity of water to support the health and wellbeing of both forests and people.

CSIR experts who contributed to the report include: CSIR chief researcher, Dr Emma Archer as a co-ordinating lead author; CSIR research group leader, Dr Mark Gush as a lead author; CSIR research group leader, Dr Marius Claassen as a co-ordinating lead author and CSIR senior researcher, Dr Lorren Haywood as a contributing author.

The report was unveiled during the recent United Nations High-Level Political Forum on Sustainable Development, held in New York. Read more: Smart water metering trends over 2017-2024

Contributions from the CSIR experts in the report covered a broad range of topics namely; forest hydrology, climate and land-use change, and governance-related aspects, as well as multiple benefits and synergies in trade-offs.

“Trees and forests provide fibre, fuel, jobs and other socio-economic benefits, but when their establishment replaces other land use, they also have significant environmental impacts, both positive and negative,” the research council said in a statement.

Addressing changing forest-water relations
The council highlighted: "An important issue in South Africa is the requirement, mandated by the 1998 Water Act, for government-issued licences to undertake ‘stream flow reduction activities’ (solely represented by plantations of introduced tree species).

"These were introduced to control large-scale commercial afforestation activities and their downstream impacts (streamflow reductions)."

In the report, Gush highlights the South African science behind this unique policy, as well as the benefits and challenges that have arisen as a result.

In terms of governance options for addressing changing forest-water relations, authors argue from a systems perspective that governance represents a key driver when it comes to the potential for addressing rapid environmental, climate, social and even technological change, as we seek to achieve resilient multi-functional landscapes.

In this chapter, with contributions by Archer and Haywood, South Africa's Working for Water initiative is singled out as a successful programme developed by the government to augment streamflow.

The authors argue that there is an urgent need to bring together forest and water managers to allow forests to be managed explicitly for water as well as other benefits.

The report is available for download here: https://www.iufro.org/science/gfep/forests-and-water-panel/report/

https://www.esi-africa.com/south-african-research-council-looks-into-forest-water-relations/

europa press

Europa Press (Spain)

Un investigador de la UPNA colabora en la elaboración de un informe sobre bosques y agua impulsado por Naciones Unidas

15.07.2018

- Juan A. Blanco Vaca, doctor en Ingeniería Agronómica e investigador del Instituto de Innovación y Sostenibilidad en la Cadena Agroalimentaria (IS-FOOD) de la Universidad Pública de Navarra (UPNA), dentro del Grupo de Ecología y Medio Ambiente, forma parte, junto a otros 18 especialistas de diez países, de un panel de expertos en bosques y agua, impulsado por la ONU, que esta semana ha presentado en la sede de las Naciones Unidas en Nueva York (Estados Unidos) un informe sobre este cuestión.

Dicho documento recoge que bosques, agua, clima y humanos "son un mismo sistema que carece de fronteras y, por tanto, la gestión de los recursos hídricos necesarios para mantener los objetivos de desarrollo sostenible y evitar la escasez de agua en el futuro debe planearse y ejecutarse integrando tanto al clima como a los bosques y los seres humanos", ha explicado la UPNA en una nota.

El investigador de la UPNA forma parte de uno de los Grupos de Expertos Forestales Mundiales (GFEP, por sus siglas en inglés), surgidos dentro de la Asociación de Colaboración en materia de Bosques (ACB). Esta entidad es una alianza de catorce organizaciones internacionales vinculadas a la ONU para promover la ordenación sostenible de todos los tipos de bosques y reforzar el compromiso político sobre esta materia a largo plazo. La citada asociación surgió en 2001, impulsada por el Consejo Económico y Social de las Naciones Unidas. Está presidida por la FAO (Organización de Naciones Unidas para la Alimentación y la Agricultura) y cuenta con el apoyo del Foro de las Naciones Unidas sobre los Bosques (2000).

Los Grupos de Expertos Forestales Mundiales elaboran informes científicos con el fin de apoyar a organismos internacionales y gobiernos en la toma de decisiones. De uno de estos grupos, el de los Bosques y el Agua, forma parte el investigador de la UPNA.

El informe del Grupo de Expertos Forestales Mundiales sobre los Bosques y el Agua, iniciado en enero de 2017, busca contribuir a la Agenda 2030 para el Desarrollo Sostenible, relacionando dos de los objetivos: el 6 (agua limpia y saneamiento) con el 15 (vida de ecosistemas terrestres). El estudio está coordinado por la Unión Internacional de Institutos de Investigación Forestal (una red internacional de investigadores sobre bosques con sede en Viena, Austria). Los expertos que han trabajado con Juan A. Blanco pertenecen a universidades e instituciones de investigación de Australia, Canadá, China, Estados Unidos, Indonesia, Nepal, Reino Unido, Suecia, Suiza y Suráfrica.

Juan A. Blanco, ingeniero agrónomo y doctor en esta especialidad por la UPNA, trabajó como investigador y profesor durante siete años en la Universidad de la Columbia Británica (en Vancouver, Canadá). Allí se centró en el desarrollo de modelos informáticos de manejo forestal para ecosistemas, en especial, uno (denominado Forecast), que está siendo utilizado por varias compañías forestales en Norteamérica para planificar sus operaciones, y también lo usan para simular el manejo forestal de bosques en España, China y Cuba, entre otros países. Posteriormente, ejerció la docencia durante un año en la Zhejiang Agriculture and Forestry University (de Hangzhou, China).

En 2012, se incorporó a la UPNA con un contrato Ramón y Cajal. Un año después, obtuvo una ayuda Marie Sklodowska-Curie de la Unión Europea, dotada con 100.000 euros, para un proyecto de investigación de cuatro años sobre la influencia del cambio climático en el crecimiento del pino silvestre y de la haya en el Pirineo navarro. Autor de 41 artículos, 32 capítulos de libros y 72 comunicaciones a congresos, Juan A. Blanco trabaja en la aplicación de modelos ecosistémicos para mejorar la sostenibilidad del manejo forestal y asegurar la producción de bienes para la sociedad, asegurando, al mismo tiempo, la integridad ecológica de los bosques. Este interés se ha traducido en la organización de varios talleres sobre la materia en España, Taiwán, China, Cuba y Canadá.

Este experto compatibiliza su labor de difusión de la ciencia ecológica en la revistas 'Ecosistemas' y 'Energy, Ecology and Environment', de las que es editor asociado, con sus labores de investigación sobre la sostenibilidad de la gestión forestal en los bosques navarros y su trabajo como profesor contratado doctor en el Departamento de Ciencias de la UPNA.

Selected online pick-ups

- 20 Minutos **(Spain)**
- EL Diario

http://www.europapress.es/navarra/noticia-investigador-upna-colabora-elaboracion-informe-bosques-agua-impulsado-naciones-unidas-20180715181910.html

Food and Agriculture Organization of the United Nations (FAO)

Understanding links between forests and water needed to solve water security problems

23 July 2018, Rome - The complex relationships between forests and water must be recognized and understood in order to solve the world's growing problems with water shortages, according to a report discussed at an event in World Forest Week at FAO headquarters in Rome.

'Forest and Water on a Changing Planet: Redefining the Narrative' reviewed a recent report from the International Union of Forest Research Organizations (IUFRO) which concluded that a growing global population and climate change are worsening water shortages.

Part of the solution to those shortages involves understanding the connections between forests and water, and working to sustainably manage both.

The IUFRO publication, titled 'Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities. A Global Assessment Report,' was prepared by the IUFRO-led Global Forest Expert Panel (GFEP) on Forests and Water.

The GFEP is an initiative of the Collaborative Partnership on Forests (CPF), which is chaired by Hiroto Mitsugi, Assistant Director General of FAO's Forestry Department. The report had been released in mid-July at the United Nations High-Level Political Forum (HLPF) on Sustainable Development in New York by IUFRO. It convened last Friday's World Forest Week event on forest and water with FAO.

The publication emphasized how central water is to attaining the Sustainable Development Goals and the Paris Agreement on climate change, as well as the close links between water and forests.

That connection is demonstrated by the fact that approximately 75 percent of available freshwater sources in the world come from forested watersheds. However, water is not often considered a priority in forest management and is often overlooked in international climate discussions, according to the GFEP report.

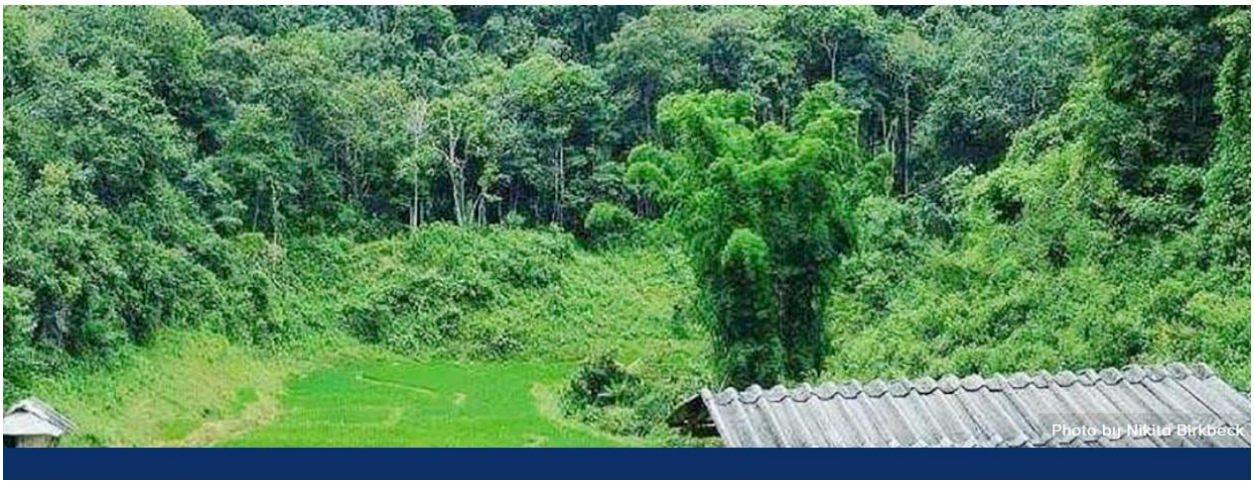
http://www.fao.org/forestry/news/94761/en/

IISD Reporting Services (International/Canada)

IUFRO Report Finds Forests Essential to Water Supply

NA MARIA LEBADA
Thematic Expert for 2030 Agenda for Sustainable Development (Romania), 24 July 2018

STORY HIGHLIGHTS
The publication, titled 'Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities,' presents a global assessment of scientific information on the interactions between forests and water.



The report presents the results of the sixth global scientific assessment undertaken in the framework of Global Forest Expert Panel on Forests and Water (GFEP) and provides a structured synthesis on the state of knowledge on the forest-water relationship.

10 July 2018: A report released at the UN High-level Political Forum on Sustainable Development (HLPF) finds that sustainably managing the world's forests will be key to ensuring safe and sustainable water supplies for all. The publication titled, 'Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities,' presents a global assessment of scientific information on the interactions between forests and water.

With 40% of the world's population affected by water scarcity and climate change threatening to increase the frequency of both floods and droughts in vulnerable areas, the publication highlights that the role of forests in the water cycle is as important as their role in the carbon cycle, especially in the face of climate change. In addition to being the lungs of the planet, the authors write, they also act as kidneys.
In addition to being the lungs of the planet, the authors write, forests are also the kidneys.

The report was prepared by the Global Forest Expert Panel on Forests and Water (GFEP), an initiative of the Collaborative Partnership on Forests (CPF) led by the International Union of Forest Research Organizations (IUFRO). More than 50 scientists from 20 countries contributed to the publication, which was contextually shaped by the 17 SDGs.

The report presents the results of the sixth global scientific assessment undertaken in the framework of GFEP and provides a structured synthesis of the state of knowledge on the forest-water relationship. The publication finds a clear policy gap in climate-forest-water relations and calls for a series of regional or continental studies to complement and extend the global assessment.

The authors highlight that any process for managing the trade-offs inherent in forest management must fully consider the wellbeing of local, indigenous, and other vulnerable communities. To that end, the report calls for social and environmental justice to be integrated into climate-forest-water policies, as well as for stronger participatory approaches to ensure that policy goals are sustainable and equitable.

[Publication: Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities] [ICRAF Blog]

http://sdg.iisd.org/news/iufro-report-finds-forests-essential-to-water-supply/

IISD Reporting Services (International/Canada)

Coverage of Selected Side Events at the 2018 High-Level Political Forum (HLPF 2018) 9-18 July 2018 | UN Headquarters, New York

Forests and Water on a Changing Planet:

Scientific Insights for Building Sustainable and Resilient Societies

Presented by Permanent Mission of Austria to the UN and International Union of Forest Research Organizations (IUFRO)

This event was convened to provide guidance to the HLPF on the linkages between Sustainable Development Goal 15 (SDG15) on forests and other SDGs and to launch the global assessment report, "Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities," by the Global Forest Expert Panel (GFEP) on forests and water (GFEP report).

Moderator Alexander Buck, Executive Director, IUFRO, opened the event, noting that all life depends on water and that an estimated three quartersof the world's supply comes from forested watersheds.

Philipp Charwath, Deputy Permanent Representative of Austria to the UN, underscored the importance of forests and water to his country, highlighted the interlinkages of forest ecosystems to SDGs, and hoped the outcomes of the GFEP report would have an impact on the 2030 Agenda for Sustainable Development.

Hossein Moeini-Meybodi, UN Forum on Forests (UNFF) - UN Department of Economic and Social Affairs (UN DESA), emphasized connecting science to policy making. He observed that few of the interventions on water during the previous day's HLPF session mentioned the link between forests and water conservation, and said the forest-water link needed to be highlighted so policy makers can make sound decisions.

Christoph Wildburger, GFEP and IUFRO, said that as the world population grows, the demand for water rises, and while the world has mobilized around the SDGs, which all linked to water, more attention is needed to highlight the forest-water connection. He explained that the GFEP report is about the climate-forest-water-people nexus.

GFEP Co-chair Meine van Noordwijk, World Agroforestry Centre (ICRAF) and Wageningen University, said the GFEP report was intended to inform relevant international policy processes, especially discussions on SDGs. He highlighted use of a risk management tool to structure the analysis and explained that the report focused on addressing three questions: do forests matter; who is responsible and what should be done: and how can be progress be made and measured. He said the forest has a role in modifying rainfall and climate in a way that is not captured under the UN Framework Convention

on Climate Change. He noted that scientific gaps still exist for creating an overarching policy and outlined different perspectives on the forest-water connection, including: no forest-no water/more forest-more water; more forest-less water; and, it depends. He hoped to see more recognition of the connections between forest, water and climate, perhaps through the SDG portfolio.

GFEP Co-chair Irena Creed, University of Saskatchewan, described the GFEP report's key conclusions and insights, including:

Forest-water ecosystem services are important for society;
Water is central to all 17 SDGs;

Climate, forests, water and people are inextricably inter-connected and, despite this complexity, they must be managed as a system;National governments should work together on global water governance;Managing forests for water requires the right kind of forest (or tree), at the right place and at the right time;New institutional and governance frameworks can play a key role in optimizing climate-forest-water management;National governments must focus on the role of forests for water (and water for forests), not just forests for carbon; and Outstanding knowledge gaps on the forest-water interactions within the climate-forest-water-people system must urgently be tackled.

Jaana Husu-Kallio, Permanent Secretary, Ministry of Agriculture and Forestry, Finland, emphasized the need to move from silo-type thinking, saying the biggest challenge is to reorganize and think from the nexus point of view. He said Finland's development policy "One world, common future" takes forests and water into account.

Joakim Harlin, UN Environment and Vice-Chair, UN-Water, stressed integrated water and land management and noted links between SDG6 and SDG15, including SDG6 Target 6.6 (protect and restore water-related ecosystems) and Indicator 6.6.1 and its connection to forest and mountain ecosystems. He urged participants to carry forward as a key message the links between the two SDGs.

During the ensuing discussion, topics included: lack of reference to water during HLPF interventions on SDG15; the need for a multi-sectoral and multi-disciplinary approach; inadequate training in hydrology in many countries; engagement of the private sector; the role of food security; and the possibility of developing a synthesis report that combines SDG6 and SDG15 for the next HLPF to provide informed policy advice.

The event concluded with the formal launch of the GFEP report, which is available online at: http://www.iufro.org/science/gfep/forests-and-water-panel/report/

http://enb.iisd.org/hlpf/2018/side-events/10jul.html

www.infrastructurenews

IFN (South Africa)

CSIR contributes to notable global climate report

Jul 13, 2018 | climate change, News

Several experts from the Council for Scientific and Industrial Research (CSIR) were involved in the development of a landmark report which looks at the link between forests, water, the climate and people.

The report, titled “The Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities,” was compiled by over 50 scientists from 20 countries.

Through the report , which was launched during the United Nations High-Level Political Forum on Sustainable Development in New York this week, scientists responded to questions regarding what people can do for and with forests to ensure a sustainable quality and quantity of water to support the health and wellbeing of both forests and people.

Contributions from the CSIR experts covered a broad range of topics across the report, including forest hydrology, climate and land-use change, and governance-related aspects, as well as multiple benefits and synergies in trade-offs.

The council says the involvement of its experts in this landmark assessment demonstrates a high regard for CSIR expertise, as well as acknowledgement of the unique and important South African perspective on forest and water interaction as the report includes several local case studies.

CSIR experts who contributed to the report include: CSIR chief researcher, Dr Emma Archer as a co-ordinating lead author; CSIR research group leader, Dr Mark Gush as a lead author; CSIR research group leader, Dr Marius Claassen as a co-ordinating lead author and CSIR senior researcher, Dr Lorren Haywood as a contributing author.

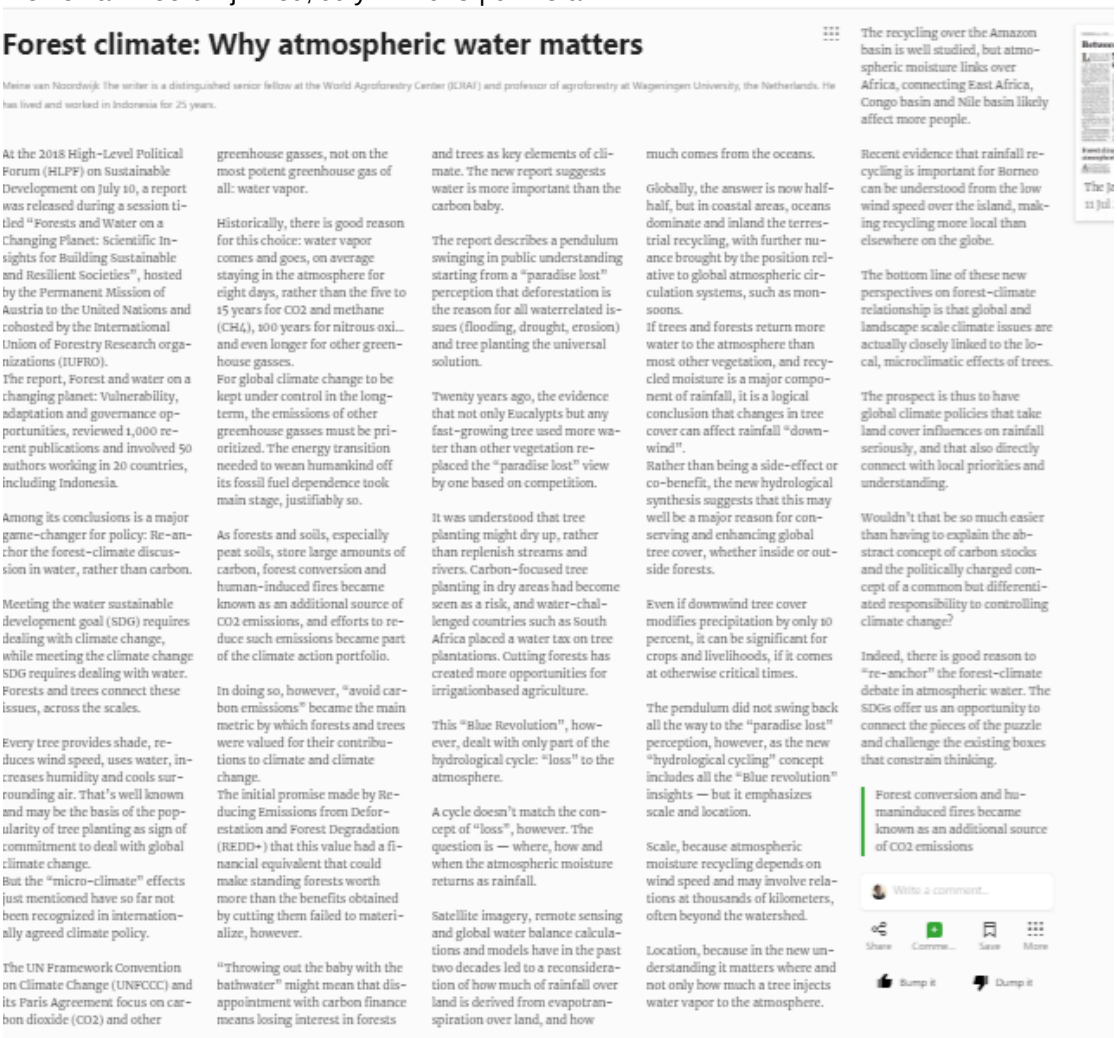
http://www.infrastructurene.ws/2018/07/13/csir-contributes-to-notable-global-climate-report/

TheJakartaPost

Jakarta Post (Indonesia)

Forest climate: Why atmospheric water matters

Meine van NoordwijkWed, July 11 2018 | 01:45 am



Forest climate: Why atmospheric water matters

Meine van Noordwijk The writer is a distinguished senior fellow at the World Agroforestry Center (ICRAF) and professor of agroforestry at Wageningen University, the Netherlands. He has lived and worked in Indonesia for 25 years.

At the 2018 High-Level Political Forum (HLPF) on Sustainable Development on July 10, a report was released during a session titled "Forests and Water on a Changing Planet: Scientific Insights for Building Sustainable and Resilient Societies", hosted by the Permanent Mission of Austria to the United Nations and cohosted by the International Union of Forestry Research organizations (IUFRO).
The report, Forest and water on a changing planet: Vulnerability, adaptation and governance opportunities, reviewed 1,000 recent publications and involved 50 authors working in 20 countries, including Indonesia.

Among its conclusions is a major game-changer for policy: Re-anchor the forest-climate discussion in water, rather than carbon.

Meeting the water sustainable development goal (SDG) requires dealing with climate change, while meeting the climate change SDG requires dealing with water. Forests and trees connect these issues, across the scales.

Every tree provides shade, reduces wind speed, uses water, increases humidity and cools surrounding air. That's well known and may be the basis of the popularity of tree planting as sign of commitment to deal with global climate change.
But the "micro-climate" effects just mentioned have so far not been recognized in internationally agreed climate policy.

The UN Framework Convention on Climate Change (UNFCCC) and its Paris Agreement focus on carbon dioxide (CO2) and other greenhouse gasses, not on the most potent greenhouse gas of all: water vapor.

Historically, there is good reason for this choice: water vapor comes and goes, on average staying in the atmosphere for eight days, rather than the five to 15 years for CO2 and methane (CH4), 100 years for nitrous oxi... and even longer for other greenhouse gasses.
For global climate change to be kept under control in the long-term, the emissions of other greenhouse gasses must be prioritized. The energy transition needed to wean humankind off its fossil fuel dependence took main stage, justifiably so.

As forests and soils, especially peat soils, store large amounts of carbon, forest conversion and human-induced fires became known as an additional source of CO2 emissions, and efforts to reduce such emissions became part of the climate action portfolio.

In doing so, however, "avoid carbon emissions" became the main metric by which forests and trees were valued for their contributions to climate and climate change.
The initial promise made by Reducing Emissions from Deforestation and Forest Degradation (REDD+) that this value had a financial equivalent that could make standing forests worth more than the benefits obtained by cutting them failed to materialize, however.

"Throwing out the baby with the bathwater" might mean that disappointment with carbon finance means losing interest in forests and trees as key elements of climate. The new report suggests water is more important than the carbon baby.

The report describes a pendulum swinging in public understanding starting from a "paradise lost" perception that deforestation is the reason for all waterrelated issues (flooding, drought, erosion) and tree planting the universal solution.

Twenty years ago, the evidence that not only Eucalypts but any fast-growing tree used more water than other vegetation replaced the "paradise lost" view by one based on competition.

It was understood that tree planting might dry up, rather than replenish streams and rivers. Carbon-focused tree planting in dry areas had become seen as a risk, and water-challenged countries such as South Africa placed a water tax on tree plantations. Cutting forests has created more opportunities for irrigationbased agriculture.

This "Blue Revolution", however, dealt with only part of the hydrological cycle: "loss" to the atmosphere.

A cycle doesn't match the concept of "loss", however. The question is — where, how and when the atmospheric moisture returns as rainfall.

Satellite imagery, remote sensing and global water balance calculations and models have in the past two decades led to a reconsideration of how much of rainfall over land is derived from evapotranspiration over land, and how much comes from the oceans.

Globally, the answer is now half-half, but in coastal areas, oceans dominate and inland the terrestrial recycling, with further nuance brought by the position relative to global atmospheric circulation systems, such as monsoons.
If trees and forests return more water to the atmosphere than most other vegetation, and recycled moisture is a major component of rainfall, it is a logical conclusion that changes in tree cover can affect rainfall "downwind".
Rather than being a side-effect or co-benefit, the new hydrological synthesis suggests that this may well be a major reason for conserving and enhancing global tree cover, whether inside or outside forests.

Even if downwind tree cover modifies precipitation by only 10 percent, it can be significant for crops and livelihoods, if it comes at otherwise critical times.

The pendulum did not swing back all the way to the "paradise lost" perception, however, as the new "hydrological cycling" concept includes all the "Blue revolution" insights — but it emphasizes scale and location.

Scale, because atmospheric moisture recycling depends on wind speed and may involve relations at thousands of kilometers, often beyond the watershed.

Location, because in the new understanding it matters where and not only how much a tree injects water vapor to the atmosphere.

The recycling over the Amazon basin is well studied, but atmospheric moisture links over Africa, connecting East Africa, Congo basin and Nile basin likely affect more people.

Recent evidence that rainfall recycling is important for Borneo can be understood from the low wind speed over the island, making recycling more local than elsewhere on the globe.

The bottom line of these new perspectives on forest-climate relationship is that global and landscape scale climate issues are actually closely linked to the local, microclimatic effects of trees.

The prospect is thus to have global climate policies that take land cover influences on rainfall seriously, and that also directly connect with local priorities and understanding.

Wouldn't that be so much easier than having to explain the abstract concept of carbon stocks and the politically charged concept of a common but differentiated responsibility to controlling climate change?

Indeed, there is good reason to "re-anchor" the forest-climate debate in atmospheric water. The SDGs offer us an opportunity to connect the pieces of the puzzle and challenge the existing boxes that constrain thinking.

> Forest conversion and humaninduced fires became known as an additional source of CO2 emissions

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http://www.thejakartapost.com/news/2018/07/11/forest-climate-why-atmospheric-water-matters.html

Southern Cross University, SCU (Australia)

Forests form buffer against water crisis: findings of new international report

Published 10 July 2018

Australia has traded its natural capital for economic growth to the detriment of the ecological integrity essential to the country's very survival, says a Southern Cross University environmental economist who has contributed to an international report investigating the link between forests, water, climate and people.

Professor Caroline Sullivan is a member of United Nations-supported Global Forest Expert Panel on Forests and Water, part of the International Union of Forest Research Institutions (IUFRO), which has today released its Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities. A Global Assessment Report.

"This international effort to highlight the interlinkages between forests, water, people and climate is very timely, given the pressures we now face on both human society and natural ecosystems," said Professor Sullivan.

"For example, here in Australia, we are facing water shortages, massive loss of biodiversity, rising incidence of floods and droughts, and loss of economic capital and human wellbeing."
More than 50 scientists from 20 countries contributed to this major assessment. This interdisciplinary panel is made up of experts in forestry, hydrology, meteorology, soil sciences, ecology, physics, chemistry, economics and political science.

Water security is key to achieving the UN's Sustainable Development Goals (SDGs). Yet, increasingly the world is facing water shortages. The link between forests and climate is regularly considered in decision-making, whereas that between forests and water remains under-represented.

The Murray Darling basin is mentioned in the report.

> *The case of the Murray Darling basin … is one example of a continuous and still unresolved conflict over ecological water allocations. The basin covers over 1 million km2 (14% of Australia's landmass) and contains over 30,000 wetlands. However, the introduction of strict water allocation rules in response to threats to the basin's capacity to cater to an increasing demand for water met with resistance from farmers depending on irrigation. Meanwhile, many areas of the floodplain forests of iconic Red Gums continue to decline. Conflicts between land and water users remain, and many forest, and former wetland, areas are consumed by bushfires that occur increasingly every year.*

"For the last 200 years we have traded off our natural capital to achieve economic growth and, just like other nations, we have failed to realise that the maintenance of a certain level of ecological integrity is essential to our very survival," said Professor Sullivan.

"On a global scale we are at a tipping point where changes in the way we do things have to be made. This situation is now referred to as the New Normal, which recognises that in a world with a human population of more than 7 billion, pressures we face today are not the same as those we faced in the past."

Professor Caroline Sullivan is an Environmental Economist with more than 25 years of experience in working in this interdisciplinary water/forest/land-cover/climate and policy space, and is the only representative from Australia involved in this effort.

Southern Cross University is a member of IUFRO. Other members of the Forest and Water Expert Panel are based in universities and research institutions from the USA, Canada, UK, Germany, China, Japan, Indonesia, Nepal, South Africa, Ethiopia, Kenya, Spain, Sweden, Switzerland and Austria.
According to the findings of this report, the kind of operational changes that we need to consider would include:

- Reversing land clearing (to reduce carbon emissions and protect biodiversity)
- Stopping soil mining (by ensuring soil health through a more biodynamic approach to farming)
- Reducing the area of hard surfaces in flood plains (to increase water infiltration and reduce flooding)
- Increasing vegetative cover at the landscape scale (encouraging land surface cooling, reducing the erosive effect of rainfall, especially in the tropics and subtropics, increasing infiltration to soils and groundwater)
- Recognising the long-distance effects that land clearing can have on rainfall (for example, removal of vegetation on the East Coast of Australia is likely to reduce rainfall levels experienced further west)
- At the political and economic level, we need to provide policies to bring about a redistribution of the benefits from the use of natural assets of the nation (eg, incentive schemes for landholders, increased royalty payments for extractive industries)
- At the macroeconomic scale, we need to integrate accounting for environmental change into economic accounts (ie, reorganising our macroeconomic systems to recognise the real differences between the loss of the stock of environmental assets, and the generation of the flow of income from them).

"The time to put private benefit before public good is over," Professor Sullivan said.
"Without a change in the way our production systems are managed and rewarded, we will, within decades, be faced with a future where conflict over scarce environmental resources will become an inevitability. The economic benefits from short-term political decision-making will not secure a safe human future. It is essential that we move beyond the temptations of immediate gain, to ensure that the lucky country that we all love will continue to survive for future generations of Australians."

https://www.scu.edu.au/engage/news/2018/forests-form-buffer-against-water-crisis-findings-of-new-international-report.php

World Agroforestry Centre, ICRAF (Kenya)

Forests and water are inseparable

By Andrew Stevenson · July 10, 2018

New report says forests are key to combating looming water crisis

The world is facing a growing water crisis: already, 40% of the world's population are affected by water scarcity, and climate change threatens to increase the frequency of both floods and droughts in vulnerable areas around the world.

A new report released today at the United Nations High-Level Political Forum on Sustainable Development in New York suggests that successfully managing the world's forests will be key to mitigating these risks and ensuring safe and sustainable water supplies for all.

The publication presents a comprehensive global assessment of available scientific information about the interactions between forests and water. *Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities* is a global assessment report prepared by the Global Forest Expert Panel on Forests and Water, an initiative of the Collaborative Partnership on Forests led by the International Union of Forest Research Organizations. The World Agroforestry Centre (ICRAF) is a member of IUFRO.

"In the assessment, we focused on the following key questions: Do forests matter? Who is responsible and what should be done? How can progress be made and measured?" said panel co-chair Meine van Noordwijk of ICRAF and Wageningen University, Netherlands.

The role of forests in the water cycle is at least as important as their role in the carbon cycle in the face of climate change. In addition to being the lungs of the planet, they also act as kidneys.

Xu Jianchu of ICRAF noted that, "while public attention has tended to focus on forests' potential as carbon sinks, from a local perspective water is often a greater priority."

Carbon-centred forestation strategies could have significant consequences on water resources; in some cases, efforts to increase carbon storage using fast-growing trees have had a negative impact on local water supplies.

According to Xu, who contributed to several chapters in the report, looking at the climate-forests-water-people system as a whole could help formulate policies that address both local priorities and global targets such as the United Nations Sustainable Development Goals.

According to Xu, who contributed to several chapters in the report, looking at the climate-forests-water-people system as a whole could help formulate policies that address both local priorities and global targets such as the United Nations Sustainable Development Goals.

For example, water-sensitive land management policies in the Hindu Kush and Himalayas have successfully revived natural springs which are a critical source of water for local communities.

As noted by panel co-chair Irena Creed of the University of Saskatchewan, Canada, “natural forests, in particular, contribute to sustainable water supplies for people in the face of growing risks. And it is also possible to actively manage forests for water resilience.”

The report also calls for nuance in both scientific assessments of forests and policy-making. Rather than simply classifying land cover as ‘forest’ or ‘non-forest’, for example, the publication emphasizes the need to pay attention to forest quality and how trees are arranged within a watershed.

In Vietnam’s Huong River Basin, the intensification of traditional swidden-fallow systems from 1989 to 2008 was not an explicit change in land use but it still had major consequences for water flows. Over that same period of time, forests in the headwaters of the basin recovered and expanded, which would ordinarily be expected to mitigate the risk of floods. Yet intensification of the swidden systems overwhelmed these effects and in fact exacerbated flooding.

The report concludes by identifying a clear policy gap in climate-forest-water relations and calls for a series of regional or continental studies to complement and extend the current global assessment. Filling this gap will not be a simple process, and the authors highlight the fact that any process for managing the trade-offs inherent in forest management must fully consider the wellbeing of local, indigenous and other vulnerable communities. To that end, social and environmental justice must be integrated into climate-forest-water policies, and stronger participatory approaches are needed to ensure that policy goals are sustainable and equitable.

The IUFRO-led Global Forest Expert Panel initiative of the Collaborative Partnership on Forests established the Expert Panel on Forests and Water to provide policy makers with a stronger scientific basis for their decisions and to specifically inform international policy processes and discussions on the 2030 Agenda for Sustainable Development and the related Sustainable Development Goals.

The International Union of Forest Research Organizations (IUFRO) is the only world-wide organization devoted to forest research and related sciences. Its members are research institutions, universities and individual scientists as well as decision-making authorities and others with a focus on forests and trees.

Related blogs
Connecting the dots between forests, water and climate
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The World Agroforestry Centre is a centre of scientific excellence that harnesses the benefits of trees for people and the environment. Knowledge produced by ICRAF enables governments, development agencies and farmers to utilize the power of trees to make farming and livelihoods more environmentally, socially and economically sustainable at multiple scales. ICRAF is one of the 15 members of the CGIAR, a global research partnership for a food-secure future. We thank all donors who support research in development through their contributions to the CGIAR Fund.

http://blog.worldagroforestry.org/index.php/2018/07/10/forests-and-water-are-inseparable/

United States Department of Agriculture

USDA Forest Service - Southern Research Station (USA)

News Release

International Experts Publish Global Assessment of Forests and Water

July 31, 2018

Research Triangle Park, NC — A newly published report presents the current state of knowledge on the relationships between forests and water across the planet. USDA Forest Service scientist Steven McNulty is among the report's coauthors who assessed global forests' capacity for supplying water resources to growing populations.

"All nations depend on a reliable source of clean water, and forests provide the resource over much the world. However, increasing human demand and climate change and variability are making water shortages more common for billions of people," says McNulty. "The objective of this study was to examine how adaptation, mitigation, and governance could be used to more equitably share and use forest water resources."

The eight-chapter report, "Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities," was prepared by members of the Global Forest Expert Panel on Forests and Water—an initiative of the Collaborative Partnership on Forests led by the International Union of Forest Research Organizations (IUFRO). McNulty, a research ecologist with the Forest Service Eastern Forest Environmental Threat Assessment Center and Director of the USDA Southeast Regional Climate Hub, is an IUFRO deputy-coordinator who served as a panel member with more than 50 internationally recognized scientists from 20 nations to develop the report.

McNulty and Dr. Emma Archer of South Africa co-led the report's chapter on determinants of the forest-water relationship, which highlights global trends within an interconnected social-ecological system. The chapter also discusses the factors driving changes to this system—including precipitation and air temperature, atmospheric chemistry influenced by air pollution, human-caused land use and land cover shifts, and increasing human populations and urbanization—that ultimately impact water quantity and quality at various scales and timeframes.

"No single factor determines forest resources, but climatic changes are the most important factor that determines water supplies. We can no longer rely on historical patterns of seasonal weather to predict water availability," says McNulty, who also contributed to five additional chapters in the report. "Managing forests such that they can adapt to these changes and stabilize water quantity and quality has never been more important."

The report was released on July 10 in New York at the 2018 United Nations High-Level Political Forum on Sustainable Development and is intended to inform policymakers and stakeholders in their efforts to support sustainable development and ensure access to clean water for all people around the world.

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https://www.srs.fs.usda.gov/news/659

UPNA – University (Spain)

Viernes 13 de julio de 2018 [Investigacion]

UN INVESTIGADOR DE LA UPNA COLABORA EN LA ELABORACIÓN DE UN INFORME SOBRE BOSQUES Y AGUA IMPULSADO POR NACIONES UNIDAS

Juan A. Blanco Vaca, doctor en Ingeniería Agronómica y miembro del Instituto IS-FOOD, integra un panel con 18 expertos de diez países

El investigador de la UPNA, Juan A. Blanco Vaca

Juan A. Blanco Vaca, doctor en Ingeniería Agronómica e investigador del Instituto de Innovación y Sostenibilidad en la Cadena Agroalimentaria (IS-FOOD) de la Universidad Pública de Navarra (UPNA), dentro del Grupo de Ecología y Medio Ambiente, forma parte, junto a otros 18 especialistas de diez países, de un panel de expertos en bosques y agua, impulsado por la ONU, que esta semana ha presentado en la sede de las Naciones Unidas en Nueva York (Estados Unidos) un informe sobre este cuestión.

Dicho documento recoge que bosques, agua, clima y humanos son un mismo sistema que carece de fronteras y, por tanto, la gestión de los recursos hídricos necesarios para mantener los objetivos de desarrollo sostenible y evitar la escasez de agua en el futuro debe planearse y ejecutarse integrando tanto al clima como a los bosques y los seres humanos.

El investigador de la UPNA forma parte de uno de los Grupos de Expertos Forestales Mundiales (GFEP, por sus siglas en inglés), surgidos dentro de la Asociación de Colaboración en materia de Bosques (ACB). Esta entidad es una alianza de catorce organizaciones internacionales vinculadas a la ONU para promover la ordenación sostenible de todos los tipos de bosques y reforzar el compromiso político sobre esta materia a largo plazo. La citada asociación surgió en 2001, impulsada por el Consejo Económico y Social de las Naciones Unidas. Está presidida por la FAO (Organización de Naciones Unidas para la Alimentación y la Agricultura) y cuenta con el apoyo del Foro de las Naciones Unidas sobre los Bosques (2000).

Los Grupos de Expertos Forestales Mundiales elaboran informes científicos con el fin de apoyar a organismos internacionales y gobiernos en la toma de decisiones. De uno de estos grupos, el de los Bosques y el Agua, forma parte el investigador de la UPNA.

El informe del Grupo de Expertos Forestales Mundiales sobre los Bosques y el Agua, iniciado en enero de 2017, busca contribuir a la Agenda 2030 para el Desarrollo Sostenible, relacionando dos de los objetivos: el 6 (agua limpia y saneamiento) con el 15 (vida de ecosistemas terrestres). El estudio está coordinado por la Unión Internacional de Institutos de Investigación Forestal (una red internacional de investigadores sobre bosques con sede en Viena, Austria). Los expertos que han trabajado con Juan A.

Blanco pertenecen a universidades e instituciones de investigación de Australia, Canadá, China, Estados Unidos, Indonesia, Nepal, Reino Unido, Suecia, Suiza y Suráfrica.

BREVE BIOGRAFÍA

Juan A. Blanco, ingeniero agrónomo y doctor en esta especialidad por la UPNA, trabajó como investigador y profesor durante siete años en la Universidad de la Columbia Británica (en Vancouver, Canadá). Allí se centró en el desarrollo de modelos informáticos de manejo forestal para ecosistemas, en especial, uno (denominado Forecast), que está siendo utilizado por varias compañías forestales en Norteamérica para planificar sus operaciones, y también lo usan para simular el manejo forestal de bosques en España, China y Cuba, entre otros países. Posteriormente, ejerció la docencia durante un año en la Zhejiang Agriculture and Forestry University (de Hangzhou, China).

En 2012, se incorporó a la UPNA con un contrato Ramón y Cajal. Un año después, obtuvo una ayuda Marie Sklodowska-Curie de la Unión Europea, dotada con 100.000 euros, para un proyecto de investigación de cuatro años sobre la influencia del cambio climático en el crecimiento del pino silvestre y de la haya en el Pirineo navarro. Autor de 41 artículos, 32 capítulos de libros y 72 comunicaciones a congresos, Juan A. Blanco trabaja en la aplicación de modelos ecosistémicos para mejorar la sostenibilidad del manejo forestal y asegurar la producción de bienes para la sociedad, asegurando, al mismo tiempo, la integridad ecológica de los bosques. Este interés se ha traducido en la organización de varios talleres sobre la materia en España, Taiwán, China, Cuba y Canadá.

Este experto compatibiliza su labor de difusión de la ciencia ecológica en la revistas “Ecosistemas” y “Energy, Ecology and Environment”, de las que es editor asociado, con sus labores de investigación sobre la sostenibilidad de la gestión forestal en los bosques navarros y su trabajo como profesor contratado doctor en el Departamento de Ciencias de la UPNA.

http://www.unavarra.es/actualidad/noticias?contentId=236694

Climate Action Network South Asia (CANSA)

Report Release: Forests and Water on a Changing Planet

CANSA Board Member and Nepal Water Conservation Foundation (NWCF) Chairman Dipak Gyawali was among the lead authors of the report on "Forests and Water on a Changing Planet: Scientific Insights for Building Sustainable and Resilient Societies" released on July 10, 2018 at the UN Headquarters in New York and has interesting things to say about. The report was released at a side event at the United Nations High-level Political Forum on Sustainable Development (HLPF 2018). Gyawali is a member of the Global Forest Expert Panel (GFEP) which produced this report that was released through the Union of Forest Research Organizations (IUFRO).

For those wanting a shorter article on it refer to an article published by the Himalayan Times.

https://cansouthasia.us9.listmanage.com/track/click?u=16bbaa9e2754d66fa484f7153&id=44dec9cdac&e=46b55681d2

Business Art (Austria)

Wälder federn Wasserkrisen ab
07.08.2018:

Über 50 Wissenschaftler aus 20 Ländern erarbeiten globale Studie zu Wechselwirkungen zwischen Wald, Wasser, Klima und Mensch.

Wasserfälle des Blauen Nils. Foto: istock-joel-carillet

Wasserkrisen drohen sich weltweit gefährlich zu verschärfen. Schon heute herrscht vielerorts extreme Wasserknappheit, die durch Bevölkerungswachstum und den rasanten Klimawandel weiter verstärkt wird.

Größeres Augenmerk auf die **Rolle von Wäldern zu richten kann ein Teil der Lösung sein**. Die Beziehungen zwischen Wald, Wasser, Klima und Mensch sind komplex und werden oft unterbewertet. Dabei sollten wir uns fragen: Was können wir mit dem Wald und für ihn tun, damit Wasser in ausreichender Menge und Qualität zur Verfügung steht, um Gesundheit und Wohlbefinden von Mensch und Wald nachhaltig zu sichern?

Mit dieser Frage beschäftigt sich ein neuer umfassender Bericht, der im Rahmen des Hochrangigen Politischen Forums für Nachhaltige Entwicklung (HLPF, engl.: High-Level Political Forum on Sustainable Development) 2018 der Vereinten Nationen in New York vorgestellt wird. Der Bericht betont die Notwendigkeit, sich mit den komplexen und oft ungewissen Wechselwirkungen zwischen Klima, Wald, Wasser und Mensch intensiver auseinanderzusetzen, um irrationale Entscheidungen von unbeabsichtigter Tragweite zu vermeiden.

Die englischsprachige Publikation mit dem Titel "**Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities. A Global Assessment Report**" wurde im Auftrag der UN-basierten „Collaborative Partnership on Forests" (CPF) von einer Gruppe internationaler Experten erstellt, die als „Global Forest Expert Panel (GFEP) on Forests and Water" unter Koordination der „International Union of Forest Research Organizations" (IUFRO), dem weltweit größten Netzwerk zur Waldforschung mit Sitz in Wien, zusammenarbeiteten.

„Die Auswirkungen des Klimawandels auf den Wasserhaushalt sind auch in Österreich unübersehbar: Gletscher schmelzen, Wetterextreme nehmen zu, regional sinken der Grundwasserspiegel und der Niederwasserabfluss in den Fließgewässern", erklärt die österreichische Bundesministerin für Nachhaltigkeit und Tourismus Elisabeth Köstinger und betont: „Wälder leisten einen unverzichtbaren Beitrag zu einem ausgeglichenen Wasserhaushalt und zur Sicherung der Wasserqualität, sind gleichzeitig aber auch direkt vom Klimawandel betroffen und herausgefordert. Umso wichtiger ist es, die Zusammenhänge zwischen Klima, Wasser, Wald und Menschen besser zu verstehen, um nachhaltig und verantwortungsbewusst handeln zu können."

Heute teilen sich mehr als sieben Milliarden Menschen die Erde mit rund drei Trillionen Bäumen. Sie alle brauchen Wasser zum Leben. Im Kampf gegen den Klimawandel ist der Wald für den weltweiten Wasserhaushalt mindestens ebenso bedeutend wie für den Kohlenstoffhaushalt. Man könnte sagen, der Wald ist nicht nur die „**grüne Lunge**" der Erde sondern auch ihre „**grüne Niere**". Folglich ist es wichtig, wenn nicht sogar lebenswichtig, sich mit dem System Wald-Wasser-Klima-Mensch umfassend und rechtzeitig auseinanderzusetzen.

„In unserer Arbeit haben wir uns auf **drei Kernfragen** konzentriert", erklärt Meine van Noordwijk (ICRAF und Universität Wageningen, Niederlande), einer der beiden Vorsitzenden der Expertengruppe:

1. Welche Rolle spielt Wald?
2. Wer ist verantwortlich und was ist zu tun?
3. Wie kann Erfolg erreicht und gemessen werden?"

Ufervegetation in der Mongolei - ein Land mit knappen Wasserressourcen. Foto: Alexander Buck

"Natürliche Störereignisse und menschliche Eingriffe beeinflussen die Beziehungen zwischen Wald und Wasser, wobei die Folgen von Zeitpunkt, Umfang, Intensität und Dauer der Einwirkung abhängen", sagt Irena Creed (Universität Saskatchewan, Kanada), die zweite Vorsitzende, und folgert: "Bedingt durch den

Klimawandel verändern sich die Einflüsse immer stärker, manchmal auch auf unerwartete Weise. Die zukünftige Waldbewirtschaftung muss daher immer auch den Faktor Unsicherheit berücksichtigen."

Leider hat Wasser in der Waldbewirtschaftung selten Priorität. "Vielleicht", meint Professor Creed, "liegt das daran, dass das gemeinsame Vorkommen von Wald und Wasser meist als selbstverständlich gesehen wird. Dabei tragen vor allem Naturwälder wesentlich zur nachhaltigen Wasserversorgung der Menschen angesichts steigender Risiken bei. Es ist auch möglich, den Wald so zu bewirtschaften, dass seine Rolle für den Wasserhaushalt gestärkt wird." So ist es zum Beispiel **einigen Ländern in der Region um Hindukusch und Himalaya gelungen, versiegte Quellen** durch wasserbezogene Maßnahmen der Flächenbewirtschaftung **wiederzubeleben**.

Ebenso wenig beachtet bleibt die Bedeutung von Wäldern und Bäumen für den Wasserhaushalt auch in den internationalen Klimadebatten. "Obwohl Wasser eine so lebenswichtige Rolle spielt – und sogar die stetige Kohlenstoffbindung in lebenden Baumbeständen ermöglicht – fehlt es leider in Wald- und Wasserwissenschaftskreisen sowie in der Politik oft an dem nötigen Verständnis für die größeren Zusammenhänge auf der Landschaftsebene," beklagt Professor van Noordwijk.

Wo Wasserknappheit herrscht, sollte Wasser in den Mittelpunkt der Diskussionen über die Wald-Klima Beziehungen gerückt werden, zumal sich politische Strategien und Bewirtschaftungsmaßnahmen, die den Wald nur auf seine Funktion als Kohlenstoffspeicher reduzieren, gravierend auf den Wasserhaushalt auswirken können. So wurde zum Bespiel in vielen **Aufforstungsprojekten der Wasserbedarf der neu entstandenen Blattfläche nicht berücksichtigt**, oder die verwendeten Baumarten kamen mit den Standortbedingungen nicht zurecht. Manchmal wurden schnellwachsende Arten gepflanzt, ohne die Folgen für die örtliche Wasserversorgung zu bedenken.

Wälder können Wasser auch über relativ weite Entfernungen hinweg verteilen. Vergrößert man beispielsweise die Wald- und Vegetationsfläche an einer Küste, die der Hauptwindrichtung zugewandt ist, das heißt, von der aus der Wind die von den Bäumen an die Luft abgegebene Feuchtigkeit in trockenere Regionen landeinwärts transportiert, ist das eine möglich Win-Win-Strategie. Die verfügbare Wassermenge im Nilbecken, zum Beispiel, wird womöglich von Änderungen der Flächennutzung im Tropenwaldgürtel des westafrikanischen Regenwaldes und Kongobeckens beeinflusst. Will man diese Wechselwirkungen zwischen Wald und Wasser nutzen, so müssen Forstwirte, Wassernutzer und andere betroffene Gruppen über hydrologisch zusammenhängende Landschaften hinweg kooperieren.

Veränderungen in den Beziehungen zwischen Wald und Wasser haben auch einen Einfluss auf Qualität und Umfang von Ökosystemleistungen des Waldes wie die Wasserversorgung oder forstliche Produktion, und in der Folge darauf, wo, wie und wem diese Leistungen zur Verfügung stehen. Daher müssen Regulierungen, die Wald und Wasser betreffen, immer auch Fragen von Verteilungsgerechtigkeit, Fairness und Rechten berücksichtigen. Besonders verwundbare und bereits an den Rand gedrängte Bevölkerungsgruppen dürfen keinesfalls weiteren Risiken ausgesetzt werden.

Bei der Entwicklung von Maßnahmen zur Anpassung an den Klimawandel wirken sich mögliche Kosten-Nutzen- Abwägungen oder Trade-offs nicht nur auf Holz und Wasser sondern oftmals auch auf die Nichtholzprodukte des Waldes aus. Gerade für ärmere Menschen ist die direkte Nutzung dieser Produkte in vielen Teilen der Welt jedoch existenzerhaltend. Das darf in der aufkeimenden Diskussion über Ökosystemleistungen und das Sicherheitsnetz, das diese vielen Menschen zum Überleben bieten, nicht vergessen werden. Trade-offs werden unweigerlich zu Konflikten führen.

Der Fall des **Murray-Darling-Beckens in Südostaustralien** ist eines von vielen Beispielen für einen andauernden und immer noch ungelösten Konflikt infolge ökologisch begründeter Wasserzuteilungen. Das Becken mit einer Fläche von über 1 Million km2 (14% der australischen Landmasse) umfasst mehr als 30.000 Feuchtgebiete. Die Einführung strikter Wassernutzungsregeln als Reaktion auf die Gefahr, dass der zunehmende Wasserbedarf die Kapazität des Beckens übersteigen würde, stieß auf den Widerstand der Landwirte, die auf die Bewässerung ihrer Anbauflächen angewiesen sind. Mittlerweile schreitet der

Niedergang vieler Auwälder, in denen auch der berühmte Rote Eukalyptus wächst, weiter voran. Die Konflikte zwischen Land- und Wassernutzern bleiben bestehen und viele Waldgebiete, die vorher Auen waren, fallen den alljährlich immer häufiger auftretenden Waldbränden zum Opfer.

Der Bericht kommt zu dem Schluss, dass **internationale Steuerungsmechanismen für optimale Beziehungen zwischen Klima, Wald und Wasser von entscheidender Bedeutung sein können**. Sie definieren Standards und Ziele wie die SDGs und bieten Foren, in denen diese diskutiert, verhandelt und vereinbart werden können, und sie ermöglichen eine Erfolgsbewertung. Ebenso bedarf es **neuer Formen politischer Zusammenarbeit – besonders über Sektoren und räumliche Einheiten hinweg – sowie stärkerer partizipatorischer Ansätze, damit die Politik mehr auf Strategien der Nachhaltigkeit als auf solche der Gewinnmaximierung setzt.**

Der Bericht ortet Lücken im politischen System, das die Zusammenhänge zwischen Klima, Wald und Wasser regelt. Diese Lücken gilt es zu füllen.

Wälder federn Wasserkrisen ab:Bericht und Policy Brief sind hier elektronisch verfügbar.

Die von IUFRO geführte Initiative 'Global Forest Expert Panels (GFEP)' der 'Collaborative Partnership on Forests' (CPF) richtete eine Expertengruppe zum Thema "Wald und Wasser" ein, um politisch Verantwortliche mit soliden wissenschaftlichen Informationen für Entscheidungen und Maßnahmen, die Wald und Wasser betreffen, auszustatten. Diese Informationen richten sich insbesondere an die relevanten politischen Prozesse und Diskussionen, die sich auf internationaler Ebene der Agenda 2030 für eine Nachhaltige Entwicklung und den zugehörigen Nachhaltigkeitszielen widmen.

Die International Union of Forest Research Organizations (IUFRO) ist eine weltweite Organisation, die sich mit Waldforschung und verwandten Wissenschaften befasst. Ihre Mitglieder sind Forschungsinstitute und Universitäten, einzelne Wissenschaftler und Entscheidungsträger sowie andere Gruppen mit einem thematischen Bezug zu Wald und Bäumen.

http://www.businessart.at/studie-waelder-federn-wasserkrisen-ab