

Water and Climate Change Policy: A Brief History for Future Progress ⁽¹⁾

By Maggie WHITE and John H. MATTHEWS

Alliance for Global Water Adaptation (AGWA)

Karin LEXÉN and Sofia WIDFORSS

Stockholm International Water Institute (SIWI)

and Diego J. RODRIGUEZ

The World Bank Group

For most of the water community today, it seems self-evident that sustainable freshwater resource management is critical to tackling climate change. Reducing greenhouse gas emissions through cleaner energy sources, sequestering carbon from the atmosphere, and enabling effective climate-impact adaptive mechanisms for agriculture, ecosystems, cities, and energy systems cannot succeed without taking into account freshwater resources. In turn, it is also understood that many aspects of climate policy have direct impacts on water management decisions, including national and regional energy and water sharing policies, investment and finance strategies for water, and how water projects and their purposes are framed. Historically, water and climate change have been poorly integrated institutionally, partially due to a lack of appreciation by both the climate and water communities of how deeply the two facets are entwined. In truth, much has been accomplished: institutions and roles in both communities have been evolving, and the outline of a new synthesis is emerging. This article describes in three parts how the water community has evolved over the past two decades in its articulation of water-climate policy and its engagement with the climate change community.

For most of the water community today, it seems self-evident that sustainable freshwater resource management is critical to tackling climate change. Reducing greenhouse gas emissions through cleaner energy sources, sequestering carbon from the atmosphere, and enabling effective climate-impact adaptive mechanisms for agriculture, ecosystems, cities, and energy systems cannot succeed without taking into account freshwater resources. In turn, it is also understood that many aspects of climate policy have direct impacts on water management decisions, including national and regional energy and water sharing policies, investment and finance strategies for water, and how water projects and their purposes are framed. Historically, water and climate change have been poorly integrated institutionally, partially due to a lack of appreciation by both the climate and water communities of how deeply the two facets are entwined.

“The language of water is the language of climate change.”
Carter Roberts, WWF-US.

The water community’s movement towards a consensus that water and climate change are inextricably linked began around the year 2000 while a shared water-climate

vision with the climate change community gained momentum in just the last few years. Neither group’s development of a shared vision has been well documented or described in the literature, so both sides lack a sense of progress in the 21st Century. In truth, much has been accomplished: institutions and roles in both communities have been evolving, and the outline of a new synthesis is emerging. The most recent global climate change policy conference in November 2016 – the 22nd Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP22) – marked notable actions towards blending water within climate policy. But how did progress towards shared water-climate policy emerge, and where might these forces be moving?

This article describes in three parts how the water community has evolved over the past two decades in its articulation of water-climate policy and its engagement with the climate change community. These relationships have been uncertain and occasionally troubled, but 2015 and

(1) This article was initially published by the Global Water Forum, February 2017.

2016 have shown dramatic advances in coherence within the water community and its level of sophistication in how to engage the climate change community – alongside the UNFCCC – and how to build on this history for the future.

The First Synthesis: Defining Problems and Players

International cooperation around water and climate change policy issues dates back only to the early 2000s; notable early initiatives, such as the Cooperative Programme on Water & Climate (CPWC), embraced this partnership. Organized and led by the Netherlands between 2004 and 2010, the CPWC focused on policy issues within the UNFCCC and the Intergovernmental Panel on Climate Change (IPCC) and on technical engagement dimensions among practitioners through groups such as the International Institute for Applied Systems Analysis (IIASA) and the IPCC. Utilizing this dual focus in most regions of the world, CPWC heralded a new, progressive linkage between water and climate change.

By 2010, awareness of the severity and intensity of realized and potential climate impacts on water began to seep into technical and political circles not just from early initiatives but also from publications. Three publications played transformative roles: “Stationarity Is Dead: Whither Water Management?” [1] (MILLY and *al.*, 2008), the IPCC’s technical report on climate change and water led by Bates and colleagues (2008) [2] and “Water Management, Water Security and Climate Change Adaptation: Early Impacts and Essential Responses” [3] (SADOFF and MULLER, 2009). The major emphasis during this period and in these voices was the fundamental linkage of water to climate adaptation. Sadoff and Muller wrote, “Water is the primary medium through which climate change will impact people, ecosystems and economies” [3]. These observations have become central to how the water community now frames the importance of water to climate adaptation.

Broader trends also influenced how policy makers saw water as an expression of national and global development and sustainability policies. The 2011 “Water-Energy-Food Nexus” conference in Bonn played a strong role in promoting the fundamental role of water in the economic and sustainable development of agriculture and energy even when water was relatively hidden from agriculture and energy investors and decision-makers. This “nexus” conference reoriented many development discussions around the systematic need for water (and water management) to achieve energy and food security; key issues in the Climate arena.

However, throughout this period it was still mostly the water community that was highlighting the connection. Water played a very limited role within the 2010 UNFCCC negotiations, which overwhelmingly targeted climate mitigation issues and largely avoided any connection of water and climate mitigation or of freshwater management and climate adaptation. For instance, the World Bank and the Mexican Water Commission (CONAGUA) organized a ma-

ior event during Cancun’s COP16 in 2010 around water and climate change policy and practice, but the event was unofficial and located far from the COP venue [4]. While the event served as an important milestone to publicly engage the water community on the need to integrate water in the UNFCCC agenda, it did not effectively engage the UNFCCC negotiators, and that left those present from the water community frustrated by the difficulty to engage within the formal UNFCCC settings.

COP16 provided a clear signal to the water community that it needed to adopt different communication strategies to successfully engage with the climate change community about the interconnected nature of water and climate change. A number of groups began to catalyze action. Earliest among them was the Water & Climate Coalition (WCC), an advocacy and policy group of NGOs and governments working to influence the UNFCCC. Led by the Stockholm International Water Institute (SIWI) and Stakeholder Forum for a Sustainable Future, the WCC made significant early strides with policy makers and national parties in the UNFCCC around water and climate issues. Up until 2012, the CPWC and the WCC activated several dozen NGO and government organizations and marked a significant transition in how the water community viewed climate change policy – especially in relation to adaptation – as well as serving as early ambassadors for the water community in its engagement with the climate community.

Ultimately, the 2000-2010 decade demonstrated to the water community the need for a new technical-policy synthesis to be developed within the water community; that could integrate with global policy processes, as well as develop a more robust ability to translate water language into climate issues that could persuade negotiators. These ideas continue to resonate today, and their articulation and acceptance within the water community marks a transition to the second, current period of water and climate cooperation.

A Second Entry into Global Policies: Water Flows Indoors

While the first period of international cooperation (roughly 2000-2010) emphasized the connection between water and climate adaptation, the second period (2012-2016) has been a transition towards viewing water as essential to both climate mitigation and climate adaptation and to the acceptance of water as a specific focus area within the UNFCCC. The second period of international cooperation saw the water community building up stronger interlinkages and showcasing the interdependencies of water and climate and the need for both communities to interact more; many state governments started to recognise and appreciate that linkage.

Inspired by the WCC and CPWC efforts, the Alliance for Global Water Adaptation (AGWA) emerged in 2010 with a focus on identifying technical and analytical approaches for incorporating climate risks into water management and investments. A network of NGOs, governments, de-



Photo © Peter Tvärberg/SIWI

Entrance of World Water Week organised by the Stockholm International Water Institute (SIWI), August 2015.

“Led by the Stockholm International Water Institute (SIWI) and the Stakeholder Forum for a Sustainable Future, the Water & Climate Coalition (WCC) made significant early strides with policy makers and national parties around water and climate issues.”

velopment banks, and private sector entities from around the world, AGWA initially focused on developing a suite of best practices for robust water resources management through the leadership of its practicing members. AGWA’s organizers, originally Water Partnership Program at the World Bank and the World Wildlife Fund (WWF-US), have expanded over time; in 2014 Stockholm International Water Institute (SIWI) joined the World Bank as an AGWA co-chair. SIWI had ended the WCC in 2012 to focus more on working with AGWA, which, by then was shifting its focus from a technical and practitioner orientation (exploring knowledge synthesis, decision support systems, and capacity building) to integrate technical and policy programs focused on influencing UNFCCC processes, programs, and actions. Since then, advocacy and strong communications for non-water audiences have become increasingly important over time as well, and in 2015 AGWA helped start the #ClimatelsWater initiative, which coordinates water community messaging and advocacy around global meetings. #ClimatelsWater is presently coordinated by the World Water Council (WWC) and led by a steering committee of twelve organisations. AGWA, SIWI, French Water Partnership, and INBO are leading members of that steering committee.

A critical first step to helping the climate community appreciate the water and climate linkage was to ensure wa-

ter was not viewed as a siloed issue by central climate change actors. The water community chose to engender this shift in outlook using the UNFCCC process. While the UNFCCC had traditionally viewed water as a “sector” on par with other sectors (agriculture, energy, cities, forests, ecosystems), groups such as AGWA argued that water is a cross-cutting theme for effective adaptation and mitigation, and as such freshwater (and adaptive water knowledge) is essential to meet goals within other UNFCCC sectors. As was put at a 2012 United Nations Economic Commission for Europe (UNECE) workshop: “water is a connector, not a sector.” A holistic vision of the relationship between economic development and sustainable freshwater resources has therefore subsequently underscored the water-food-energy nexus introduced at the 2011 Bonn conference.

This integrated view is now a critical element in global discussions on green growth and low-carbon development. The UNFCCC’s Nairobi Work Programme on Impacts, Vulnerability, and Adaptation to Climate Change (NWP) organized a substantive event focused on water and adaptation in Mexico City in 2011. This effort contributed to the decision at a UNFCCC inter-sessional meeting in Bonn the following year to recognise freshwater as an official thematic area of the NWP. NWP then produced a report for the 2013 Warsaw COP on the cross-cutting

role of water in meeting adaptation goals and surveying the state-of-the-art management of adaptation and water [5]. This inclusion of water by those in the climate change community was a significant shift.

Global policy efforts for water-climate policy cooperation show both continuity and expansion through increased engagement by state governments and multilateral organizations. Germany organized the Frankfurt Water Symposium in 2013 to link policy and technical perspectives on water and climate change. The Netherlands and Mexico led early policy efforts and remain significant contributors. Peru, South Africa, France, and Morocco have been especially effective and vocal in recent years following their leadership in their respective COPs. The OECD published a signal report on the economic implications of water and adaptation [6]. SIWI explored the need for integrating water into climate mitigation policy [7], a topic which the World Bank's *High and Dry* report further articulated [8].

These global efforts have resulted in raising UNFCCC awareness and in integrating water within and across the UNFCCC, as of 2015. While water is not mentioned at all in the Paris Agreement, it does appear in governments' proposed Nationally Determined Contributions (NDCs) for climate mitigation. NDCs are the implementation guides for countries to achieve the high-level goals for the Paris Agreement over time. It is in these, that majority of the adaptation sections address and prioritize water. The high level recognition for adaptation measures in the Paris Agreement and the underlying necessity of implementing water strategies, policies and programs to attain successful adaptation measures at the national level, have enabled water to be recognised as an underlying factor for the successful implementation of the Paris Agreement.

Water was also very visible at the COP21 with Paris dedicating a specific slot for water under a "Resilience Day" and the government of France sponsoring a "Water Day" filled with events and a dedicated official event with country representatives to collect and highlight alignment with the water community. Ministers of Environment of France and Morocco (Ségolène ROYAL and Hakima EL-HAITE, respectively) pledged full recognition of the essential role that water plays in adaptation and mitigation measures at a press conference.

The Water Day at COP21 also spurred the #ClimatelsWater initiative as well as events led by private companies like Arup and global organizations like the World Bank. Three alliances were also launched at Paris's COP21: the Paris Pact on Water and Adaptation to the Effects of Climate Change in the Basins of Lakes, Rivers, and Aquifers; the Business Alliance for Water and Climate Change; and the Megacities Alliance on Water under Climate Change. These alliances mobilized to show negotiators the depth and breadth of the recognition that water is central to climate mitigation and adaptation at different levels. They also highlight the full engagement of other stakeholders that are willing to contribute to the successful implementation of the Paris Agreement. COP21 underscored how both the water and climate communities begun to reco-

gnize their need to collaborate to achieve economic and sustainable development.

COP 22: A New Hope?

The preparation and follow-through of COP22 in November 2016 moved water even closer to the centre of the climate policy dialogue. In July 2016, the government of Morocco organized an international conference in Rabat on water security for climate justice, with strong African representation and almost 700 global attendees. The goal was to articulate a common vision across the water community in preparation for COP22, which became the "Blue Book on Water and Climate" [9]. The conference, attended by more than 20 African ministers of water and the environment, launched a plea and a new alliance named "Water for Africa."

At COP22 itself, an official non-state arena for policy dialogue emerged that had previously been incarnated as the Global Climate Action Agenda (GCAA) and the Lima Paris Action Agenda (LPAA). The new platform, launched at COP22, as the Marrakesh Partnership for Global Climate Action or "Action Agenda," has proven an important vehicle for the development of new partnerships. Fulfilling the Paris Agreement and implementing the NDC's relies on the recognition and mobilisation of non-state actors and thus the platform's purpose has been to coordinate state and non-state stakeholders and their work. The water community is strongly engaged in this platform in order to demonstrate how water sustains both climate mitigation and adaptation measures.

UNFCCC's formal recognition of the role of freshwater as an enabling mechanism became more evident at COP22 as well. Mobilisation of the water community through AGWA and #ClimatelsWater as well as efforts by France and Morocco resulted in specific days dedicated to water in the official "blue zone", with amongst others an official Water Action Day, and the Moroccan civil society "green zone". For the Water Action Day, a "dialogue" between non-national parties (including UN agencies, multilaterals, NGOs, and intergovernmental groups) was organized by Morocco and UNFCCC to create an "Outcomes Document" describing how the water community and the UNFCCC should work together going forward [10]. These outcomes are an important complement to global ambitions and local and national activities. A key recommendation to come out of COP22 is that COP23 replicate Morocco's effort of organizing a between-COP conference to align and coordinate the water community, similar to the 2016 Rabat conference, and maintain an official Water Action Day.

The Paris Agreement that came out of COP21 was ratified just before COP22 began in Marrakesh, which reoriented attention to the agreement's implementation. One of the key questions that therefore emerged was how the NDCs linking water and climate will transition from aspirational goals to actual projects that utilize water management best practices. In a potentially significant development, an NDC Partnership was launched at COP22 to facilitate

this transition, as well as help deliver on the Paris Agreement and on results linked to the 2030 Sustainable Development Agenda and the Sustainable Development Goals (SDGs). A coalition of countries and international institutions and donors are working together to provide technical and financial support for countries to achieve their ambitions. With freshwater as a dedicated goal for the 2030 Agenda and a cross-cutting theme for many SDGs, the SDGs and UNFCCC are becoming more aligned. Water will almost certainly be critical in these discussions.

Conclusion – Flowing Forward: COP23 and Beyond

The past two decades have shown that the water community must engage and collaborate with the climate change community. The water community has demonstrated resilience and flexibility in finding new channels for communication and has achieved significant progress in engaging the climate community as evidenced by the progress of incorporating water in the UNFCCC process and in policy more broadly as shown by the 2030 Agenda. Where might the current of policy take the water community in the near future?

The water community must continue to attend to NDC details for sustainable implementation and to pay close attention to climate finance arrangements and institutions. Both may prove to be important mechanisms for mainstreaming best practices for freshwater resource management into projects, particularly concerning investments initiated by non-state actors such as cities, the private sector, development banks, and civil society. Such a transition from broad policy to policy implementation will demand a much closer integration between technical and policy wings of the water community.

Perhaps the next opportunity for this integration will be COP23, to be hosted by Fiji Island in November 2017 in Bonn, Germany. Fiji has significant experience with adaptation relating to both marine and freshwater in a shifting climate. Combined with its proven record on water and climate policy, Germany's leadership role with the NDC Partnership and within the G20 could be powerful sources of leverage on both climate mitigation and climate adaptation and the role freshwater plays in both. The planned inter-COP water and climate conference described in COP22 "Outcomes Document"[10]. UNESCO-International Hydrological Programme (IHP) events and Stockholm World Water Week (focused on climate policy with special attention to wastewater management) may also prove significant paving events for COP23.

Strategically, the water community is complex, diverse, and diffuse; additional advocates may yet come into play beyond those already discussed. In 2016 UN secretary-general Ban Ki-moon and World Bank Group President Jim Yong Kim launched a "High-Level Panel on Water" [11]. While the High-Level Panel is oriented towards the SDGs, especially water supply and sanitation issues, its work includes finance and the enabling aspects of water for implementing a wide variety of SDGs. The High-Level

Panel could articulate the interdependence of the SDGs and the UNFCCC for long-term sustainability, particularly concerning resilience and reducing the impacts of water-related disasters.

Water and climate policy have the potential for broadly integrating roles across a wide range of conventions and issues. This integration will benefit all involved and ensure the long-term efficient use and provision of resources in the face of climate change. Because of actions undertaken by the water community since 2000, the water community is now well connected to many in the climate community who share value in the connection. The message that sustainable freshwater resource management is critical to tackling climate change continues to grow and develop through persistence, flexibility, and learning. These qualities must stay strong to foster further collaboration in the future.

If the statement that 'all rivers flow to the sea' is commonly used that is because there is a need to converge to a greater arena. 2015 was an extraordinary year where countries and their leaders decided that a better world must be left for the future generations. They laid the foundations through the Sendai Risk Disaster Framework, the Addis-Ababa Financing for Development Conference, the 2030 Transformative Agenda and the Paris Climate Agreement for goals that should be tackled in order to take action. Water flows through all these agreements and by embracing that, recognising its role and promoting its interconnected value, future generations might look back with relief and thankfulness, and not contempt.

References

- [1] MILLY (P.), BETANCOURT (J.), FALKENMAK (M.), HIRSCH (R.), KUNDZEWICZ (Z.), LETTENMAIER (D.) & STOUFFER (R.), "Stationarity Is Dead: Whither Water Management?", *Science* 319, 2008, pp. 573-574, <http://doi.org/10.1126/science.1151915>
- [2] IPCC, *Climate Change and Water*, BATES (B.), KUNDZEWICZ (Z), WU (S.) & PALUTIKOF (J.) (Eds.), Technical Paper of the Intergovernmental Panel on Climate Change, Geneva, Switzerland: IPCC Secretariat, 2008.
- [3] SADOFF (C.) & MULLER (M.), *Water Management, Water Security and Climate Change Adaptation: Early Impacts and Essential Responses*, Stockholm, Sweden: Global Water Partnership, 2009.
- [4] CONAGUA, *Diálogos por el Agua y el Cambio Climático Llamado a la Acción. Mexico Ciudad*, MX: Comisión Nacional del Agua de México, 2011.
- [5] UNFCCC, *Water and climate change impacts and adaptation strategies*, Geneva, Switzerland: UN Framework Convention on Climate Change, 2011 – <http://unfccc.int/resource/docs/2011/tp/05.pdf>
- [6] DOMINIQUE (K.), *Water and Climate Change Adaptation: Policies to Navigate Uncharted Waters*, n°WPBWE(2013)2/REV1, Paris, France: OECD Publishing, 2013, 121 p.

[7] LEXÉN (K.), MATTHEWS (J.) & ERIKSSON (M.), “Reducing Greenhouse Gases While Building Resilience – Cooperation towards Climate Mitigation and Adaptation Coherence”, in JÄGERSKOG (A.), CLAUSEN (T. J.) & HOLMGREN (K.) (Eds.), *Cooperation for a Water Wise World: Partnerships for Sustainable Development*, Stockholm, Sweden: Stockholm International Water Institute (SIWI), 2013.

[8] World Bank, *High and Dry: Climate Change, Water, and the Economy*, Washington, DC, ©World Bank, 2016 – <https://openknowledge.worldbank.org/handle/10986/23665>

[9] Kingdom of Morocco, Republic of France, World Water Council, *Water and Climate Blue Book*, Rabat, Morocco: Kingdom of Morocco, 2016 – http://www.worldwater-council.org/fileadmin/world_water_council/documents/publications/20161124_blue_book.pdf

[10] UNFCCC, *COP22 Outcome Document of the Action Event on Water*, Rabat, Morocco: UN Framework Convention on Climate Change, 2016 – http://unfccc.int/paris_agreement/items/10038.php

[11] <https://sustainabledevelopment.un.org/HLPWater>