Since it has originated in its contemporary state in the XIXth century, the international law applicable to freshwater resources has expanded to embody the diversification of water-related activities. Its scope now includes issues like energy production, agricultural irrigation, access to drinking water, and environmental protection. Thus, the legal regime has evolved to respond to the challenges arising from the management and protection of freshwater resources at the universal, regional and basins levels. It goes without saying that cooperation among riparian States is necessary in the light of their hydraulic interconnectedness. In her book *Cooperation in the Law of Transboundary Water Resources*, Christina Leb, an Associate Member of the University of Geneva’s Platform for International Water Law, offers an extensive introduction into the legal developments of the principle of cooperation in international water law. The book focuses primarily on highlighting prevailing trends in treaty practice in order to provide an analysis of the evolution, current state and future trends of the rules of cooperation in the context of shared freshwater resources. For the book, primary resources, decisions of international courts or tribunals and secondary literature were researched and analysed. The core of Leb’s analysis, however, consisted of examining the role of water treaties in the context of cooperative basin management and the principles and rules of cooperation included in the instruments. Her original method was based on an extensive evaluation of two hundred nineteen water treaties concluded among States since 1900. The assessments of the treaties were based on the degree of cooperation duties that were required for the States. Then, these cooperation obligations were classified into different categories and a quantitative assessment was completed based on their occurrence. Annex I offers a detailed account of the methodology used and the outcome of the analysis, including the assessment of each treaty.

By examining the principles and norms of international water law through the angle of cooperation, the book intends to illustrate that the challenges of transboundary water management can be mitigated by legal rules and principles promoting cooperative behaviours. Their hydrologic interdependence requires States to coordinate the management of their shared water resources to prevent mutual damages and to enhance beneficial effects. Through these cooperative relationships,
often secured by international treaties, riparian States have contributed to the crystallisation of an international water law, including customary rules and principles.\(^4\) The emergence of a general duty to cooperate on transboundary freshwater resources, through treaties and State practices, has been observed, which lead to the recognition of cooperation as a general principle of international water law, along with the principles of equitable and reasonable utilisation, the obligation not to cause significant harm, and others. While these principles and rules have grown through time, Leb expects that the scope of application of international water law will “[continue] to widen”\(^5\) on account of an increasing water demand from the global population and the effects of climate change on water distribution.

In part I, “Acknowledging interdependence”, Leb explores the physical nature of hydraulic interconnection and the motivation that guides States to engage in cooperative behaviour resulting from that interdependence. In chapter one, she notes that the dynamic nature of the water cycle challenges the notions of State independence and its absolute sovereignty over its territory and natural resources and underlines the need to coordinate the use of water resources. As a result, the legal concept of sovereignty has moved from a conceptualisation based on absolute independence towards a notion of inevitable need for cooperation in an interdependent world. States often agree to limit their territorial sovereignty and adopt cooperative behaviours because they expect additional benefits.\(^6\) In the context of transboundary water systems, it was demonstrated that cooperation increases their overall benefits, including ecological and economical benefits.\(^7\) Hydrologic interdependence and environmental concerns are driving cooperation among riparian States (along with other factors that play a role in the decision-making process, like the economy and national security) in many cases, because “mere coexistence is not a viable choice in situations in which States manage and utilise shared natural resources.”\(^8\) In chapter two, the author explores the development and expansion of the scope of international water law as a response to States’ hydraulic interconnectedness and the challenges of a coordinated management of shared resources. Law becomes an important tool in regulating State relationships because it makes the latter predictable, stable, and durable. Furthermore, it establishes a framework of agreed rules of conduct, institutionalised structures, and reliable parameters for regular interaction and sustained cooperation.\(^9\) If bilateral and multilateral treaties were first established to avoid conflicts – first in the context of navigation, and then the use of water resources – their purpose developed to encompass the harmonization of norms and the codification of standards for water management. Over time, water treaties became more comprehensive and regulation issues expanded as riparian States felt the need to establish rules to manage their interdependence. As a result, a general duty to cooperate was crystallised through coherent and continuous State and treaty practice.

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\(^4\) Ibid at 2.
\(^5\) Ibid at 3.
\(^6\) Ibid at 41.
\(^7\) Ibid at 25.
\(^8\) Ibid at 41.
\(^9\) Ibid at 252.
and is now recognised as one of the general principles of international water law.\(^{10}\)

Part II. “A general duty to cooperate: What does it mean?” analyses the principles and norms that form the current legal basis of cooperation in the law of transboundary water resources. Chapter three reflects on the development and legal status of the duty to cooperate and explores its relationship with other general principles: for Leb, “we should speak of (at least) a triangle of cornerstone principles”\(^{11}\) of international water law. Indeed, “the general duty to cooperate, the principle of equitable and reasonable utilisation, the principle of good neighbourliness […] interact, overlap and mutually support one another.”\(^{12}\) Chapter four explores the character and content of specific cooperation obligations and rights, including their definition as a procedural or substantial obligations. It is sometimes argued that the general duty to cooperate “serves as a bridge between substantive and procedural rules”\(^ {13}\) as substance and procedure are “intertwined in the obligation.”\(^{14}\) A number of specific obligations concerning information exchange have crystallised in international water law to enhance the cooperation process, such as data collection and exchange or notification in cases of emergency. According to Leb, while these obligations largely prescribe procedures that States are to follow, they also “contain significant substantive elements that define the character and content of the cooperation process that they are there to facilitate.”\(^{15}\) Thus, a clear distinction between the two sets of norms is hard to define in the context of international water law. In chapter five, the role of joint measures adopted by riparian States in managing transboundary water resources is addressed. The author underlines that States collaboration is not always regulated by legal instruments, however when they do, their interactions are designed in different ways: treaties often include “measures like the obligation to harmonise policy through consultation, implementation and co-ownership of joint projects and infrastructure or the establishment of joint institutions with independent decision-making power.”\(^{16}\) Because of the complexity of the hydraulic interdependence of riparian States, treaties are usually not limited to cooperation or coordination in one aspect of water management: for example, measures concerning the protection of ecosystems will include rules on fisheries management. Since they serve as platform for dialogue and interaction among States, joint mechanisms may serve as “vehicles”\(^{17}\) to expand cooperation to new issues or widen the scope of their geographic applicability.

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\(^{10}\) Ibid at 73. The legal nature of the duty to cooperate is debated as it “resides in the grey zone between definitions of the concepts of ‘specific obligations’ and ‘legal principles’; it is neither one nor the other but rather includes elements of both. The general duty to cooperate is a general obligation with a legal nature of its own: it has all the attributes of a legal principle and yet is an obligation of general nature” (ibid at 81). Leb uses Riedel’s definition of legal principle: “Legal principles represent legal standards that form a ‘normative umbrella’, which shapes State behaviour; they provide direction and give rise to specific obligations and rights.” (ibid at 73)

\(^{11}\) Ibid at 105.

\(^{12}\) Ibid.

\(^{13}\) Ibid at 110.

\(^{14}\) Ibid.

\(^{15}\) Ibid at 152.

\(^{16}\) Ibid at 195.

\(^{17}\) Ibid at 254.
Finally, in Part III (“Dealing with evolving challenges”), Leb considers where the evolution of cooperation among States might lead in a future characterized by a high variability in water accessibility across the globe and the possible consequences of climate change effects that will increase inequity in access to freshwater resources, especially in parts of the world already experiencing water stress. In chapter six, it is noted that international water law has crystallised the issue of legal protection of basic water needs of individuals: the Convention on the Law of Non-Navigational Uses of International Watercourses (UN Watercourses Convention) prioritises the satisfaction of vital human needs over other uses. As such, it has “the potential to ‘open doors’ to extraterritorial protection of international human rights obligations.”\(^{18}\) States would be under the obligation to “refrain from actions that would infringe on the ability of other States to comply with their human rights obligations.”\(^{19}\) Article 32 of the UN Watercourses Convention could establish a legal basis for an extraterritorial obligation towards individuals when a third State violates the essence of the international human rights. While the definition of “vital human water needs” used in international water law is more limited in scope that the definition of the human right to water, Leb argues that international water law can play a complementary role in promoting the satisfaction of vital human needs, especially through the general duty to cooperate. Finally, in chapter seven, the author notes that the global response to climate change will be based on cooperation and, since both require the creation of cooperation framework, the law of transboundary water resources will complement efforts to mitigate climate change. Furthermore, as climate change creates changes in the global hydraulic cycle, Leb argues that the rules of international water law are “well suited to address the effects of climate change”\(^{20}\) since they provide a legal basis for measures relevant in the context of climate change adaptation. In a context of increased interdependence, the effects of climate change on the hydraulic cycle have become a motivating factor for States to cooperate on a global scale.

For those looking for a broad introduction to the subject of cooperation in transboundary water resources management, Leb’s book will offer a clear overview. The book will also appeal to those who are interested by an inductive assessment of the subject through an extensive analysis of water cooperation instruments. However, the book presents a comprehensive and highly descriptive account of legal concepts or cooperation examples without (or rarely) presenting controversial issues or opposing theoretical approaches. It should also be added that, by presenting a variety of specific and unrelated cases of States cooperation in water management, the opportunity to propose a “larger picture” of the situation is sometimes missed. This lack of interrelation between the analysis of the examples and the general conclusion is also felt throughout the pages; while the book is divided in three sections, the links between the subjects are not always emphasised. However, the author’s well-detailed introduction and conclusion clearly outline a general overview of her thesis and argumentation. On the other hand, the way the book is divided will be convenient for

\(^{18}\) Ibid at 215.
\(^{19}\) Ibid.
\(^{20}\) Ibid at 249.
those looking for specific information on one of the aspects tackled by the author. It should also be noted that this book will be of interest for those exploring the connections between some characteristics of international water law and other domains of public international law. As such, it offers an introductory overview of cooperation in the broad context of international law and summarises the development of international water law. It also outlines a detailed description of various legal principles that are used in international environmental law and will therefore be of use to anyone interested in deepening their understanding of the subject. Finally, Leb’s account of the development, in the context of transboundary cooperation, of a legal protection of the interest of individuals is an argument worth exploring further in the current momentum to universal recognition of a self-standing human right to water. 21 Additionally, her analysis of the contribution of international water law to the global response to climate change offers new avenues to promote international cooperation to prevent or at least decelerate climate changes. As Leb concludes, we are witnessing a diversification of the international rules applicable to freshwater. 22 The question remains whether the duty to cooperate will expand from a local basin perspective to embrace the global hydraulic cycle and therefore expand the scope of the international law of transboundary water resources. *Cooperation in the Law of Transboundary Water Resources* suggests some interesting points of reflection for an increased cooperation and internationalisation of the law of freshwater resources.

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22 *Ibid* at 256.