

Climate-induced Migration and International Law. Assessing the Discursive Legal Construction of Climate Refugees

Abstract: The following research aims to focus on the legal steps taken by the international community in the definition and identification of climate-induced migration.

As an international legal framework is still missing, the challenges posited by environmental changes are often addressed in the decisions adopted by the Conference of the Parties (COP), the supreme decision-making body of the United Nations Framework Convention on Climate Change (UNFCCC). These decisions are used to implement, from a legal perspective, what previous international laws and regulations lack, as is the case with climate-induced migrants. Therefore, a corpus collating the decisions adopted by the COP (spanning from COP3, which took place from 1 to 10 December 1997 in Kyoto, Japan, to COP23, which was held from 6 to 17 November 2017 in Bonn, Germany) will be analysed by using Corpus Linguistics methodologies. The online corpus analysis platform Sketch Engine will be used to address the discursive construction of the environmental challenges discussed diachronically under the COP decisions. In this way, the following investigation will discuss the complex legal challenges associated with climate change-induced displacement under international law. Additionally, the paper also addresses terminological issues linked to the very definition of people who are forced to be displaced due to climate change-related problems. Therefore, a web-based corpus will be analysed to see how climate-induced migrants are defined and discursively constructed in the online environment.

Keywords: climate change, climate-induced migration, web as corpus, corpus-based discourse analysis, international law, terminology

1. Introduction

As the Earth's ocean and seawaters continue to rise, entire ecosystems are decimated or altered by the toxicity of industrial waste, and extreme weather events and disasters (such as cyclones, floods, and the desertification of certain areas) destroy specific regions, human populations are inevitably and forcibly displaced. The resulting displaced persons, generally referred to as 'climate-induced migrants' or 'environmental migrants', may either become internally displaced persons within their national borders or attempt to cross international borders as a means of survival.¹

¹ Abdikarim Ali, *Climate-Induced Migrants, International Law, and Human Rights: An Assessment*, unpublished MA Thesis (Ottawa: University of Ottawa, 2015). In this paper, the terms 'climate-induced migration' and 'environmental migration and displacement' are used interchangeably in order to refer to the phenomenon under investigation. However, it must be acknowledged that, in the academic literature, many different terms have been used to describe the phenomenon of displaced individuals moving on the grounds of events, conditions, and changes in the environment, such as 'ecomigrants', 'environmental refugees', 'climate displacees', etc., see Robert McLeman and François Gemenne, "Environmental Migration Research: Evolution and Current State of the Science", in McLeman and Gemenne, eds., *Routledge Handbook of Environmental Displacement and Migration* (London: Routledge, 2018), 3-16. While Section 4 will further explore some of the terminological aspects linked to this phenomenon, for the time being, in choosing the terms that have been adopted hereinafter, the following definition of what constitutes an environmental migrant according to the International Organisation for Migration (IOM) has been taken into consideration: "Environmental migrants are persons or groups of persons who, predominantly for reasons of sudden or progressive change in the environment that adversely affects their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad" (International Organisation for Migration, *Glossary on Migration*, Second Edition, International Migration Law No. 25 (Geneva: IOM, 2011), 33.

From an international legal perspective, the origins of the refugee question emerged in the early nineteenth century with the advance of extradition treaties and the principle of the non-extradition of political offenders.² However, it was in the aftermath of World War I that the increasing number of displaced persons, who lacked a legal status, provided the very basis for the development of international refugee protection instruments. Notwithstanding this urgent requirement, early forms of displaced persons' legal protection primarily consisted of the issuance of travel documentation, and only applied to "specific categories of refugees, on the basis of their ethnic origin, the failure of protection by the government of their country of origin, and the fact that they had not acquired the nationality of any other country".³ Therefore, a joint international strategy had not yet been developed, and nations tended to adopt different tools to rule on individual cases. International cooperation was only reached thanks to the establishment of the High Commission for Refugees in 1933, which was instituted in order to deal with the refugee crisis stemming from Germany. The High Commission was then officially incorporated into the League of Nations in 1938. In order to alleviate the massive amount of displaced persons from Germany, a temporary organisation named the United Nations Relief and Rehabilitation Administration (UNRRA) was established in 1943, which facilitated the repatriation of millions of displaced Europeans and provided emergency relief assistance.⁴ The status of remaining refugees was later addressed by the International Refugee Organisation (IRO), which was established in 1947. Finally, in 1950, the United Nations High Commissioner for Refugees (UNHCR) was created by the UN General Assembly as a subsidiary organ under Article 22 of the UN Charter.

One of the main aims of the UNHCR is to protect anyone who finds themselves outside their country of nationality, or any persons without a nationality, who is fleeing their country or former habitual residence out of a well-founded fear of persecution (i.e., due to their race, religion, nationality, political opinion) and, therefore, is unable or unwilling to avail of the protection of their home government or, in the case of the stateless, return to their habitual residence.⁵ The UNHCR's definition of protectable persons is interestingly similar to the 1951 United Nations Convention Relating to the Status of Refugees, which was signed in Geneva on July 28 that year and came into force on 22 April 1954.

The 1951 UN Refugee Convention represents the centrepiece in international refugee protection, defining a refugee as any person who is "unable or unwilling to return to their country of origin owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion".⁶ However, as can be seen from this definition, the 1951 UN Convention was limited in its scope. As a matter of fact, it was specifically drawn up in order to apply only to persons fleeing Europe "as a result of events occurring before 1 January 1951".⁷ A solution to these restrictions of the Convention arrived 16 years later with the establishment of the United Nations 1967 Protocol Relating to the Status of Refugees.⁸ The newly formed protocol abolished the 1951 Convention's definitional limitations and afforded the United Nations Convention Relating to the Status of Refugees complete universal coverage.

The definition offered with the implementation of the 1967 Protocol on the status of refugees, however, while being a turning point in international law, did not include climate-induced migrants as candidates who can be awarded international protection, since they cannot be justifiably taken into

² Agnès Hurwitz, *The Collective Responsibility of States to Protect Refugees* (New York: Oxford U.P., 2009).

³ *Ibid.*, 10.

⁴ Guy S. Goodwin-Gill and Jane McAdam, *The Refugee in International Law* (Oxford: Oxford U.P., 2007).

⁵ Clark Gray, "Human migration in a changing climate", *Global Environmental Politics* 13.1 (2013), 128–132.

⁶ United Nations High Commissioner for Refugees, *Convention and Protocol Relating to the Status of Refugees*, with an Introductory Note by the Office of the United Nations High Commissioner for Refugees (Geneva: UNHCR Communications and Public Information Service, 2011), 3.

⁷ *Ibid.*, 14.

⁸ *Ibid.*

account by international refugee law due to the absence of persecution. Jane McAdam, in her report *Climate Change Displacement and International Law*, argues that environmental migration and displacement posits extremely difficult challenges from a legal perspective because of three main factors.⁹ First, according to the author, the legal classification of refugees provided in the 1951 Convention and the implementation of the 1967 Protocol on the status of refugees can only be applied according to international law, meaning that it can only regard individuals crossing an international border. However, in most cases, environmental migration and displacement are largely internal forms of migration. In the last eight years, a total of 203.4 million internal environmental migrants and displaced persons (EMDPs) have been registered in connection with disasters and natural calamities.¹⁰ The most affected areas are India (3.7 million EMDPs), China (3.6 million) and Nepal (2.6 million). In addition to disasters and natural calamities, there are also forced migrations for environmental reasons that are more directly linked to factors of human origin. Droughts and development projects, for example, especially dams and urban development projects, are at the origin of tens of millions of EMDPs, albeit diluted over time and interacting with other natural or anthropogenic causes.

This observation brings us to the second factor highlighted by McAdam.¹¹ There are indeed significant challenges in classifying climate change as persons at risk of persecution. While “[c]limate processes, such as shoreline erosion, coastal flooding and rising sea levels, as well as more frequent and intense severe weather events, such as storms and cyclones, will affect agriculture, infrastructure, services, and the continued habitability of certain parts of the world”, these events can also threaten fundamental human rights such as “the right to life, health, property, culture, means of subsistence, and, in extreme cases, self-determination”.¹² While climate-induced disasters can thus lead to harmful consequences on human rights, they do not, however, constitute a form of persecution according to international law. This is mainly due to the legal identification of a ‘persecutor’, which remains the key obstacle for EMDPs, since they are not actually being persecuted by their home government but by the specific environmental events that threaten their lives.

Therefore, while the effects of climate change can be classified as a form of persecution, as McAdam points out in her final factor concerning the extremely difficult challenges to protecting EMDPs from a legal perspective, the language in international refugee law stipulates otherwise.¹³ As stated previously, persecution is only defined on the basis of religion, race, nationality, political opinion, or membership to a particular social group. In this sense, EMDPs cannot be regarded as refugees at all from a legal point of view, since they are not being persecuted on these grounds. Therefore, superior courts around the world still remain unified in their stance according to which climate-induced migrants cannot be classified as refugees, given that the 1951 UN Refugee Convention does not recognise individuals fleeing their countries in search of economic betterment, or as a result of natural disasters, as such.

These observations, hence, demonstrate how, from a legal point of view, institutional systems are still unprepared to protect and respond to the plight of climate-induced migrants.¹⁴ They undeniably seem to fall outside the scope and definition of the 1951 United Nations Convention on the Status of Refugees and the 1967 Protocol Relating to the Status of Refugees. While elite individuals continue to obstruct attempts to politically recognise and address the issues relating to climate-induced migration,

⁹ Jane McAdam, *Climate Change Displacement and International Law: Complementary Protection Standards* (Geneva: UNHCR, 2011).

¹⁰ Salvatore Altiero and Maria Marano, *Crisi Ambientali e Migrazioni Forzate: L'“Ondata” Silenziosa Oltre la Fortezza Europa* (Rome: Associazione A Sud – Ecologia e Cooperazione ONLUS, 2016).

¹¹ McAdam, *Climate Change Displacement*.

¹² *Ibid.*, 16.

¹³ *Ibid.*

¹⁴ Vera Ferreira, “Climate-Induced Migrations: Legal Challenges”, in Julia M. Puschunder, ed., *Intergenerational Responsibility in the 21st Century* (Vernon: Vernon Press, 2018), 107-122.

the international community continues to discuss the question of migration and climate change. Additionally, scant attention has been paid to the phenomenon of EMDPs by policymakers and academics, thus emphasising a strong disconnect between popular representations of the issue and the way in which it is viewed by these groups.¹⁵ Indeed, in becoming very leery of quantitative predictions, academics have tended to minimise the effects of such issues.

As an international legal framework is still missing, and while “[t]he UNFCCC and the Kyoto Protocol simultaneously do not focus and lack unequivocal provisions to address the menace of climate change-induced displacement and its impact on the social fabric and human rights”, the decisions adopted by the Conference of the Parties (COP) are used to implementing, from a legal perspective, what previous international laws and regulations lack, as is the case with climate-induced migrants.¹⁶ All the states that are parties to the UNFCCC are represented at the COP, during which they review the implementations of the UNFCCC and any other legal instruments that the COP adopts, and take the decisions necessary to promote and support the effective implementations of the UNFCCC, including institutional and administrative arrangements.

Bearing this in mind, the following investigation aims to analyse the way the COP has addressed specific concerns about environmental matters over the years by analysing a corpus spanning from 1997 to 2017 and collating the decisions approved by the COP. Given the legal pitfalls that have been pointed out, the COP can thus be seen as playing a seminal role in dictating the political agendas of states and the media representation of matters concerning environmental issues.¹⁷ In this way, framing how climate change has been discursively approached by the COP can shed light on what kind of climatic changes are addressed by this super-national body. As a matter of fact, another difficulty that has been underlined in the literature on EMDPs is the challenge of where the cause of climate-induced migration can be found.¹⁸ Given the multicausal nature of climate change-related issues, it might be beneficial to better understand what the COP addresses when it discusses the human-made as well as natural vulnerabilities that are the root causes of these forms of migration.

The present paper also wants to better define the linguistic status of EMDPs. Another issue that has been underlined in the literature is the fact that it seems to be difficult to grant legal protection to EMDPs due to the lack of appropriate terminology for individuals who have migrated due to climate change problems.¹⁹ Indeed, both Piguet *et al.* and White, reflect on the appropriate terminology used in the literature.²⁰ While the terms ‘climate refugees’ and ‘environmental refugees’ are still fairly used, the authors reject them and propose the terms ‘climate migrants’ or ‘climate-induced migrants’. This is due to the fact that these terms, according to Piguet *et al.* and White, more accurately reflect that most climate-induced migrations are at least partly voluntary and that most climate-induced migrants do not cross an international border and, thus, are not classified as refugees under international laws. While

¹⁵ Andrew Baldwin *et al.*, “Securitizing ‘Climate Refugees’: The Futurology of Climate-Induced Migration”, *Critical Studies on Security*, 2.2 (2014), 121-130.

¹⁶ Stellina Jolly and Nafees Ahmad, *Climate Refugees in South Asia: Protection Under International Legal Standards and State Practices in South Asia* (Singapore: Springer, 2019), 89.

¹⁷ Anne L. Laursen *et al.*, “Framing Climate Change in a Popularised Setting: The Case of the COP Conferences”, paper presented at the “Language(s) in Knowledge Dissemination” workshop, University of Modena and Reggio Emilia (Italy), 11-13 October 2012.

¹⁸ Neelopal Adri and David Simon, “A Tale of Two Groups: Focusing on the Differential Vulnerability of “Climate-induced” and “Non-climate-induced” Migrants in Dhaka City”, *Climate and Development*, 10.4 (2018), 321-336.

¹⁹ Benoit Mayer, “The International Legal Challenges of Climate-Induced Migration: Proposal for an International Legal Framework”, *Colorado Journal of International Environmental Law and Policy*, 22.3 (2011), 357-416; Chris Methmann and Angela Oels, “From ‘Fearing’ to ‘Empowering’ Climate Refugees: Governing Climate-induced Migration in the Name of Resilience”, *Security Dialogue*, 46.1 (2015), 51-68; Emily Wilkinson *et al.*, *Climate-induced Migration and Displacement: Closing the Policy Gap* (London: Overseas Development Institute, 2016).

²⁰ Étienne Piguet *et al.*, eds., *Migration and Climate Change* (Cambridge: Cambridge U.P., 2011); Gregory White, *Climate Change and Migration: Security and Borders in a Warming World* (Oxford: Oxford U.P., 2011).

the proposed terms are still imperfect in that they presume to identify a clear subset of migrants who have been induced to move primarily by climate changes, which even in this case does not capture the entirety of the complex picture, the following investigation wants to further analyse the way this typology of migrants has been terminologically defined by looking at a randomised corpus of online texts on the topic.

A second issue addressed by this paper in analysing the web corpus under investigation is the ongoing presence of competing narratives about the nature and magnitude of climate-induced migration. Previous investigations have stressed specific discourses surrounding EMDPs.²¹ Therefore, the present study wants to further investigate the online discursive construction of these individuals by adopting a corpus-based analytical approach.²² In this way, the present investigation will highlight emerging narratives regarding EMDPs so as to better define their discursive status.²³

2. Methodology and Data Collection

In order to analyse the way the COP has addressed matters related to the environment over the years, a corpus was manually collected by downloading the .pdf files of the decisions issued by the COP, spanning from 1997 to 2017.²⁴ The files were then converted into a .txt format and annotated using XML encoding.²⁵ The corpus, thus collected, comprised 407,108 word tokens, and was uploaded to the Sketch Engine online platform, which was used as the primary analysis tool for this investigation.²⁶ The XML encoding allowed for the creation of different sub-corpora, each one representative of a specific year (see Table 1).

²¹ Giovanni Bettini, “Climate Barbarians at the Gate? A Critique of Apocalyptic Narratives on ‘Climate Refugees’”, *Geoforum*, 45 (2013), 63-72; Bettini, “Climate Migration as an Adaption Strategy: De-Securitizing Climate-Induced Migration or Making the Unruly Governable?”, *Critical Studies on Security*, 2.2 (2014), 180-195; Bettini, “Where Next? Climate Change, Migration, and the (Bio)politics of Adaptation”, *Global Policy*, 8.1 (2017), 33-39; Romain Felli, “Managing Climate Insecurity by Ensuring Continuous Capital Accumulation: ‘Climate Refugees’ and ‘Climate Migrants’”, *New Political Economy*, 18.3 (2013), 337-363; Julian Reid, “Climate, Migration, and Sex: The Biopolitics of Climate-Induced Migration”, *Critical Studies on Security*, 2.2 (2014), 196-209; Bettini et al., “One Step Forward, Two Steps Back? The Fading Contours of (In)Justice in Competing Discourses on Climate Migration”, *Geographical Journal*, 183.4 (2017), 348-358; Katherine E. Russo, “Floating Signifiers, Transnational Affect Flows: Climate-induced Migrants in Australian News Discourse”, in Andrew Baldwin and Bettini, eds., *Life Adrift: Climate Change, Migration, Critique* (London: Rowman and Littlefield International, 2017), 195-210.

²² Paul Baker and Tony McEnery, “A Corpus-based Approach to Discourses of Refugees and Asylum Seekers in UN and Newspaper Texts”, *Journal of Language and Politics*, 4.2 (2005), 197-226; Baker, *Using Corpora in Discourse Analysis* (London: Continuum, 2006); Baker, *Sociolinguistics and Corpus Linguistics* (Edinburgh: Edinburgh U.P., 2010); Baker, *Using Corpora to Analyze Gender* (London: Bloomsbury, 2014); Baker et al., “A Useful Methodological Synergy? Combining Critical Discourse Analysis and Corpus Linguistics to Examine Discourses of Refugees and Asylum Seekers in the UK Press”, *Discourse and Society*, 19.3 (2008), 273-306; Baker et al., *Discourse Analysis and Media Attitudes: The Representation of Islam in the British Press* (Cambridge: Cambridge U.P., 2013); Baker and Erez Levon, “Picking the Right Cherries? A Comparison of Corpus-Based and Qualitative Analyses of News Articles about Masculinity”, *Discourse and Communication*, 9.2 (2015), 221-336.

²³ The author of this manuscript would like to thank the anonymous reviewers for their generous support, insightful criticisms, and constructive remarks. The reviews were extremely helpful in contributing to this final product. While the author could not always follow their advice, this manuscript reads in a more focused way thanks to their efforts. The author takes full responsibility for any time he has neglected to follow their advice.

²⁴ The decisions of the Conference of the Parties can be accessed online, see United Nations Climate Change, “Conference of the Parties (COP)”, <https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-cop>.

²⁵ Andrew Hardie, “Modest XML for Corpora: Not a Standard, but a Suggestion”, *ICAME Journal*, 38.1 (2014), 73-103.

²⁶ Adam Kilgariff et al., “The Sketch Engine”, in Geoffrey Williams and Sandra Vessier, eds., *Proceedings of the Eleventh EURALEX International Congress: EURALEX 2004* (Lorient: Université de Bretagne-Sud, 2004), 105-116; Kilgariff et al., “The Sketch Engine: Ten Years On”, *Lexicography*, 1.1 (2014), 7-36.

The Conference of the Parties Decisions Corpus (CPDC)		
<i>Sub-corpora</i>	<i>No. of word tokens</i>	<i>No. of word types</i>
COP3 – Kyoto, Japan (December 1997)	19,877	15,669
COP4 – Buenos Aires, Argentina (November 1998)	21,086	16,622
COP5 – Bonn, Germany (October 2000)	16,333	12,875
COP6 – The Hague, Netherlands (November 2001)	9,827	7,746
COP6-2 – Bonn, Germany (July 2001)	20,265	15,975
COP7 – Marrakech, Morocco (October 2001)	25,342	19,977
COP8 – New Delhi, India (October 2002)	14,161	11,163
COP9 – Milan, Italy (December 2003)	24,940	19,66
COP10 – Buenos Aires, Argentina (December 2004)	9,841	7,757
COP11 – Montreal, Canada (December 2005)	45,771	36,082
COP12 – Nairobi, Kenya (November 2006)	15,772	12,433
COP13 – Bali, Indonesia (December 2007)	14,009	11,043
COP14 – Poznan, Poland (December 2008)	12,325	9,716
COP15 – Copenhagen, Denmark (December 2009)	13,964	11,008
COP16 – Cancun, Mexico (November 2010)	14,792	11,660
COP17 – Durban, South Africa (November 2011)	12,371	9,752
COP18 – Doha, Qatar (November 2012)	16,468	12,982
COP19 – Warsaw, Poland (November 2013)	17,933	14,136
COP20 – Lima, Peru (December 2014)	27,483	21,665
COP21 – Paris, France (November 2015)	19,077	15,038
COP22 – Marrakech, Morocco (November 2016)	19,778	15,591
COP23 – Bonn, Germany (November 2017)	15,693	12,371
	<i>tot. 407,108</i>	<i>tot. 320,931</i>

Table 1. The Conference of the Parties Decisions Corpus (CPDC) and its sub-corpora

The data thus collected and annotated have been investigated by using Corpus Linguistics methodologies.²⁷ More specifically, the online corpus analysis platform Sketch Engine has been used to address the discursive construction of the environmental challenges discussed diachronically under the COP decisions.

The wordlist function available on Sketch Engine was used for the computation of keywords in the Conference of the Parties Decisions Corpus (CPDC). The wordlist was calculated by searching for lempos attributes.²⁸ A cut-off point of minimum frequency of five occurrences was imposed and, in order to further ensure that the selection of given items was not only due to their frequency but also to their dispersion in the corpus under investigation, the Average Reduced Frequency (ARF) was also imposed in the calculation of keywords.²⁹ The ARF is a statistical measure available on Sketch Engine that allows the “frequency for words with bursty distributions” to be discounted.³⁰ Indeed, thanks to

²⁷ Baker, *Using Corpora*; McEnery et al., *Corpus-Based Language Studies: An Advanced Resource Book* (London: Routledge, 2006); McEnery and Hardie, *Corpus Linguistics: Method, Theory and Practice* (Cambridge: Cambridge U.P., 2012).

²⁸ Compiling a keyword list by showing lempos attributes means allowing users not only to look at the lemmas that are most typically used but also to show next to the lemmas the type of the part of speech (POS) that has been automatically attributed to them by the Sketch Engine in-built tagger.

²⁹ Petr Savický and Jaroslava Hlaváčová, “Measures of Word Commonness”, *Journal of Quantitative Linguistics*, 9.3 (2002), 215-231.

³⁰ Kilgariff, “Simple Maths for Keywords”, in Michaela Mahlberg et al., eds., *Proceedings of Corpus Linguistics Conference CL2009* (Liverpool: University of Liverpool, 2009), http://ucrel.lancs.ac.uk/publications/cl2009/171_FullPaper.doc.

this statistical measure, “for a word with an even distribution across a corpus, ARF will be equal to raw frequency, but for a word with a very bursty distribution, only occurring in a single short text, ARF will be a little over 1”.³¹ In this way, this measure guarantees that the items featured in a wordlist are truly indicative of peculiarities in the corpus.

In order to study changing or enduring “ways that language is used in the construction of discourses”,³² a keyword analysis was performed on each sub-corpus of the CPDC by contrasting each one of them against a reference corpus comprising all the other sub-corpora in the CPDC. In this way, not only differences but also lockwords, that is, words that remain stable in their usage over time, have been highlighted.

As for the analysis of the specific discourses surrounding EMDPs, a web corpus was collected by using WebBootCaT.³³ The WebBootCaT tool, which is part of the Sketch Engine interface, allows the web to be crawled on the basis of a set of seed words, which are used to automatically download pages from the web. The seed words that have been used in the compilation of the Environmental Migration and Displacement Corpus (EMDC) are listed in Table 2.

WebBootCaT – Seed words
<i>climate change migrant*</i> , <i>climate change refugee*</i> , <i>climate displacee*</i> , <i>climate induced migrant*</i> , <i>climate-induced migrant*</i> , <i>climate migrant*</i> , <i>climate refugee*</i> , <i>ecomigrant*</i> , <i>environmental migrant*</i> , <i>environmental refugee*</i>

Table 2. Seed words used for automatic collection via WebBootCaT for the Environmental Migration and Displacement Corpus (EMDC)

The seed words for collection for the EMDC were selected, first, through an analysis of the literature on environmental migration and displacement.³⁴ A pilot corpus was then collected with WebBootCaT (the so-called Climate Refugees Corpus (CRC)). An analysis of the most frequently occurring n-grams in this preliminary corpus showed further terms related to EMDPs, thus expanding the list of seed words and allowing us to recompile a more encompassing corpus, that is, the EMDC, which is comprised of 3,453,077 word tokens representative of 202 URL domains.

In the following sections, a brief analysis of the most salient patterns spotlighted in the two corpora under investigation will be provided within the scope of the present study. Far from being a comprehensive analysis of the way environmental issues are discussed in the CPDC and how EMDPs are represented on the web, this study instead wants to shed light on the close relationship between law and social practices. As Mertz argues, law can be seen as “the locus of a powerful act of linguistic appropriation, where the translation of everyday categories into legal language effects powerful changes”.³⁵ In this sense, law can be seen as a valuable tool in order to translate and regulate the everyday social experiences of humankind into a stylised, professionalised and internally coherent form of discourse expressing a system of authority in society. Therefore, “as the rhetoric of a particular group or class, and as a specific exercise of power and of power over meaning ... legal language, like any other language usage, is a social practice and ... its texts will necessarily bear the imprint of such

³¹ Ibid.

³² Baker, *Using Corpora*, 1; see also Anna Marchi, “Dividing up the Data: Epistemological, Methodological and Practical Impact of Diachronic Segmentation”, in Marchi and Charlotte Taylor, eds., *Corpus Approaches to Discourse: A Critical Review* (London: Routledge, 2018), 174-196.

³³ Marco Baroni et al., “WebBootCat: A Web Tool for Instant Corpora”, in Elisa Corino et al., eds., *Proceeding of 12th EuroLex Conference* (Alessandria: Edizioni dell’Orso, 2006), 123-132; see also Marco Venuti, “The Female Husband: Masculinity and Femininity in Nineteenth-Century America”, in Giuseppe Balirano and Oriana Palusci, eds., *Miss Man? Language Gendered Bodies* (Newcastle upon Tyne: Cambridge Scholars Publishing, 2018), 2-18.

³⁴ See, for instance, Piguet et al., *Migration and Climate Change*; White, *Climate Change and Migration*; McLeman and Gemenne, “Environmental Migration Research”.

³⁵ Elizabeth Mertz, “Legal Language: Pragmatics, Poetics, and Social Power”, *Annual Review of Anthropology*, 23.1 (1994), 441.

practice or organisational background”.³⁶ In this way, by analysing the decisions adopted by the COP and the way in which the web discusses issues related to climate migrants, the following study aims to strengthen that link between institutional practices and lay discourses.

3. Discussion

In the following sections, some of the results which arose from the corpus-based investigation of the corpora collected for this study will be discussed. In particular, Section 3.1 examines the keywords computed in the analysis of the CPDC using the methodology described in Section 2. Instead of showing the frequency of each of the keywords in the different sub-corpora, only the ARF will be displayed so as to highlight the significance in terms of the frequency and distribution of each lemma in that specific component of the CPDC. Section 3.2, on the other hand, focuses on the lexical status of the seed words used for the collection of the EMDC. More specifically, the frequency for each of the seed words will be displayed and commented on. The distribution of some of them will then show how specific terminology regarding environmental migration and displacement tends to be adopted on the web. Finally, a word sketch analysis of the four most frequently used terms will be provided.

3.1 A Diachronic Analysis of the COP’s Decisions: Environmental Issues and Lockwords

In the following paragraphs, the results of the keyword analysis performed on each sub-corpus of the CPDC will be illustrated. The keywords have been calculated by contrasting each component of the CPDC to the rest of the corpus which, therefore, was used as a reference. Table 3 shows the first 10 keywords for each sub-corpus.

Keywords in the CPDC			
#	COP3	COP4	COP5
1	limitation-n (ARF: 352.2)	conclusion-n (ARF: 379.4)	see-n (ARF: 857.2)
2	protocol-n (ARF: 4226.0)	list-n (ARF: 332.0)	revise-v (ARF: 428.6)
3	dioxide-n (ARF: 251.5)	compilation-n (ARF: 284.5)	communication-n (ARF: 1469.4)
4	scientific-j (ARF: 301.9)	issue-n (ARF: 1138.2)	unfccc-n (ARF: 734.7)
5	technological-n (ARF: 905.6)	non-annex-n (ARF: 426.8)	secretary-n (ARF: 306.1)
6	total-j (ARF: 251.5)	assistance-n (ARF: 332.0)	workshop-n (ARF: 428.6)
7	assign-v (ARF: 301.9)	initial-j (ARF: 379.4)	guideline-n (ARF: 979.6)
8	change-v (ARF: 251.5)	intergovernmental-j (ARF: 284.5)	initial-j (ARF: 367.4)
9	advice-n (ARF: 1006.2)	regard-v (ARF: 284.5)	united-n (ARF: 1285.7)
10	sink-n (ARF: 402.5)	step-n (ARF: 237.1)	nations-n (ARF: 1102.1)
#	COP6	COP6-2	COP7
1	gef-n (ARF: 508.8)	behalf-n (ARF: 345.4)	agreements-n (ARF: 315.7)
2	cop-n (ARF: 814.1)	negotiation-n (ARF: 592.2)	capacity-n (ARF: 1894.1)
3	current-j (ARF: 508.8)	negotiate-v (ARF: 493.5)	bonn-n (ARF: 315.7)
4	compliance-n (ARF: 508.8)	china-n (ARF: 246.7)	environmentally-a (ARF: 315.7)
5	amount-n (ARF: 508.8)	central-n (ARF: 296.1)	sound-j (ARF: 315.7)
6	will-x (ARF: 2340.5)	statement-n (ARF: 740.2)	integrated-j (ARF: 236.8)
7	they-d (ARF: 712.3)	segment-n (ARF: 246.7)	strengthening-n (ARF: 197.3)
8	special-j (ARF: 712.3)	canada-n (ARF: 493.5)	coordinate-v (ARF: 236.8)
9	decide-v (ARF: 2238.7)	bonn-n (ARF: 592.2)	effectively-a (ARF: 197.3)
10	adverse-j (ARF: 508.8)	australia-n (ARF: 345.4)	country-driven-j (ARF: 236.8)

³⁶ Peter Goodrich, *Legal Discourse: Studies in Linguistics, Rhetoric and Legal Analysis* (London: Macmillan, 1987), 2.

#	<i>COP8</i>	<i>COP9</i>	<i>COP10</i>
1	consultative-n (ARF: 353.1)	conversion-n (ARF: 240.6)	capacity-building-j (ARF: 609.7)
2	initial-j (ARF: 706.2)	biomass-n (ARF: 280.7)	global-n (ARF: 2032.3)
3	more-a (ARF: 353.1)	soil-n (ARF: 401.0)	facility-n (ARF: 1930.7)
4	preparation-n (ARF: 988.6)	land-use-n (ARF: 1363.3)	environment-n (ARF: 2133.9)
5	cooperation-n (ARF: 706.2)	co2-j (ARF: 200.5)	bilateral-j (ARF: 711.3)
6	communication-n (ARF: 1412.3)	decrease-n (ARF: 240.6)	key-j (ARF: 508.1)
7	expert-n (ARF: 1129.9)	total-n (ARF: 481.2)	multilateral-j (ARF: 812.9)
8	continue-v (ARF: 1129.9)	documentation-n (ARF: 601.4)	agency-n (ARF: 508.1)
9	government-n (ARF: 423.7)	ipcc-n (ARF: 521.3)	opportunity-n (ARF: 508.1)
10	programme-n (ARF: 1977.3)	forestry-n (ARF: 1082.6)	experience-n (ARF: 609.7)
#	<i>COP11</i>	<i>COP12</i>	<i>COP13</i>
1	design-n (ARF: 458.8)	alternate-j (ARF: 507.2)	fee-n (ARF: 428.3)
2	publicly-a (ARF: 415.1)	joint-n (ARF: 380.4)	biennium-n (ARF: 571.1)
3	simplify-v (ARF: 480.7)	clean-j (ARF: 1268.1)	clean-j (ARF: 1284.9)
4	sum-n (ARF: 109.2)	question-n (ARF: 380.4)	kyoto-n (ARF: 5139.6)
5	propose-v (ARF: 1420.1)	authority-n (ARF: 634.0)	protocol-n (ARF: 4925.4)
6	valid-j (ARF: 109.2)	amend-v (ARF: 317.0)	serve-v (ARF: 2569.8)
7	written-j (ARF: 174.8)	concern-v (ARF: 443.8)	trust-n (ARF: 428.3)
8	actual-j (ARF: 262.2)	kyoto-n (ARF: 4501.6)	joint-j (ARF: 428.3)
9	documentation-n (ARF: 437.0)	serve-v (ARF: 3043.4)	share-n (ARF: 356.9)
10	reason-n (ARF: 196.6)	rule-n (ARF: 887.6)	cover-v (ARF: 571.1)
#	<i>COP14</i>	<i>COP15</i>	<i>COP16</i>
1	bank-n (ARF: 892.5)	consultative-n (ARF: 358.1)	cooperative-n (ARF: 473.2)
2	fund-n (ARF: 11034.5)	communications-n (ARF: 358.1)	achievement-n (ARF: 338.0)
3	cers-n (ARF: 405.7)	biennium-n (ARF: 429.7)	social-j (ARF: 540.8)
4	board-n (ARF: 8924.9)	inventory-n (ARF: 859.4)	long-term-j (ARF: 878.9)
5	chair-n (ARF: 811.4)	budget-n (ARF: 572.9)	working-n (ARF: 473.2)
6	service-n (ARF: 1298.2)	training-n (ARF: 429.7)	capability-n (ARF: 473.2)
7	world-n (ARF: 811.4)	national-n (ARF: 358.1)	enhanced-j (ARF: 540.8)
8	condition-n (ARF: 1217.0)	reduce-v (ARF: 429.7)	mitigation-n (ARF: 1757.7)
9	adaptation-n (ARF: 8843.8)	expert-n (ARF: 1074.2)	nationally-a (ARF: 473.2)
10	term-n (ARF: 1947.3)	long-term-j (ARF: 429.7)	technology-n (ARF: 2839.4)
#	<i>COP17</i>	<i>COP18</i>	<i>COP19</i>
1	wood-n (ARF: 404.2)	green-n (ARF: 728.7)	results-based-j (ARF: 446.1)
2	account-v (ARF: 808.3)	damage-n (ARF: 364.3)	forest-n (ARF: 2174.8)
3	dioxide-n (ARF: 727.5)	standing-n (ARF: 425.1)	platform-n (ARF: 390.3)
4	product-n (ARF: 404.2)	reaffirm-v (ARF: 364.3)	green-n (ARF: 613.4)
5	calculate-v (ARF: 565.8)	loss-n (ARF: 364.3)	standing-n (ARF: 501.9)
6	commitment-n (ARF: 5092.6)	acknowledge-v (ARF: 485.8)	coordination-n (ARF: 501.9)
7	land-n (ARF: 1697.5)	mitigation-n (ARF: 1214.5)	finance-n (ARF: 1561.4)
8	removal-n (ARF: 1616.7)	long-term-j (ARF: 546.5)	different-j (ARF: 446.1)
9	period-n (ARF: 3799.2)	recalling-n (ARF: 668.0)	summary-n (ARF: 334.6)
10	sink-n (ARF: 1212.5)	work-n (ARF: 2611.1)	reference-n (ARF: 948.0)

#	<i>COP20</i>	<i>COP21</i>	<i>COP22</i>
1	ambition-n (ARF: 509.4)	agreement-n (ARF: 6814.5)	biennial-j (ARF: 1011.2)
2	pathway-n (ARF: 254.7)	nationally-a (ARF: 1048.4)	finance-n (ARF: 4904.4)
3	gcf-n (ARF: 181.9)	goal-n (ARF: 419.4)	flow-n (ARF: 707.9)
4	temperature-n (ARF: 363.9)	communicate-v (ARF: 629.0)	workplan-n (ARF: 353.9)
5	move-v (ARF: 181.9)	determine-v (ARF: 1048.4)	financial-n (ARF: 707.9)
6	differentiate-v (ARF: 545.8)	serve-v (ARF: 2463.7)	standing-n (ARF: 606.7)
7	enhanced-j (ARF: 727.7)	lesson-n (ARF: 262.1)	billion-m (ARF: 303.4)
8	mitigation-n (ARF: 2328.7)	financial-n (ARF: 262.1)	green-n (ARF: 505.6)
9	agreement-n (ARF: 2656.2)	light-n (ARF: 262.1)	committee-n (ARF: 2426.9)
10	contribution-n (ARF: 2365.1)	refer-v (ARF: 2778.2)	challenge-n (ARF: 252.8)

#	<i>COP23</i>
1	dialogue-n (ARF: 1083.3)
2	workplan-n (ARF: 318.6)
3	standing-n (ARF: 828.4)
4	coherence-n (ARF: 318.6)
5	indigenous-j (ARF: 318.6)
6	finance-n (ARF: 1911.7)
7	goal-n (ARF: 382.3)
8	committee-n (ARF: 1911.7)
9	financial-n (ARF: 318.6)
10	welcome-v (ARF: 637.2)

Table 3. Lists of the top 10 keywords in the different sub-corpora of the CPDC

Due to reasons of space, the findings provided in Table 3 cannot be exhaustively commented on here. The lists, however, illustrate specific milestones in the evolution of the protocols adopted by the COP regarding environmental matters. For instance, it can be noticed that the focus slowly moves from issues related to air pollution (see keywords such as ‘dioxide’, ‘sink’, ‘CO₂’, etc.) to other forms of hazards (i.e., climate change-related issues; see keywords such as ‘wood’, ‘forest’, ‘land’, ‘temperature’, etc.). In this way, despite being limited or, rather, more restricted in its initial scope, the COP has slowly come to address a large variety of issues that impact human beings.

Another interesting result brought to the fore by the keyword analysis is the sudden colonisation of the CPDC by business discourse. Indeed, the financial crisis of 2007-2008 seems also to have impacted on the way the COP addresses specific issues. An increasing number of economic terms (e.g. ‘financial’, ‘bank’, ‘fund’, ‘fee’, etc.) can be observed in the years after the financial crisis, thus linking economic issues with environmental ones in a specific way. Consequently, it is not surprising to see a connection being made between natural resources and their safeguarding, and economic resources. When one is at stake, therefore, the other is compromised.

A series of lockwords that seem to be discursively stable over time is represented by all those terms that in a certain way are used to ‘reaffirm’ what previous COPs have established. The verb ‘enhance’, for instance, is repeatedly featured as a keyword in different subsections of the corpus, demonstrating its anaphoric reference to previous decisions. In particular, a quick collocation analysis (the statistical measure used was logDice; 5R/5L) of the term has demonstrated how it generally co-occurs with words such as ‘action’, ‘implementation’, and ‘cooperation’. Another interesting collocate of the verb ‘enhance’ is represented by the word ‘ambition’ (e.g., “In accordance with Article 4 of the Convention, all Parties to progressively enhance the level of ambition of their mitigation commitments”, taken from COP20). This term seems to be perfectly in line with what has been said previously regarding the COP’s continuous encouragement to implement previous decisions and, more importantly, switch the focus to the futurity of such actions. Therefore, one of the most salient discourses arising from the

keywords displayed in Table 3 is related to the failure of the parties to adopt the environmental strategies that the COP has suggested.

3.2 Defining Climate-induced Migration: Data from the Web

As for the analysis of the EMDC, the focus has been placed on the seed words that were used in its collection. Table 4 shows the number of occurrences and the normalised frequency (per million words) of the seed words.

Environmental migrants and displaced persons	No. of occurrences in the EMDC	Normalised frequency (per million words)
climate displacee*	19	5.50
ecomigrant*	25	7.24
climate induced migrant*	49	14.19
climate-induced migrant*	166	48.07
climate change migrant*	210	60.80
climate change refugee*	386	111.80
climate migrant*	916	265.27
environmental migrant*	1,005	291.04
environmental refugee*	1,466	424.55
climate refugee*	1,862	539.20

Table 4. Number of occurrences and normalised frequency (per million words) of the seed words used to collect the EMDC

As Table 4 shows, only four of the seed words used in the collection of the corpus seem to be frequently used on the web. While generalisations on the correctness of these terms cannot be made given the nature of the EMDC, which is only representative of online interactions, it is nonetheless interesting to notice that words such as ‘climate-induced migrant*’ or ‘ecomigrant’ are rarely used to refer to EMDPs. However, frequencies alone are not truly representative of the actual usage of the most frequently occurring seed words. Indeed, only the analysis of their distribution in the corpus allows us to better understand which of them are frequently employed by online users. Therefore, the following figures show the distribution of ‘climate migrant*’ (Fig. 1), ‘environmental migrant*’ (Fig. 2), ‘environmental refugee*’ (Fig. 3) and ‘climate refugee*’ (Fig. 4) in the corpus under investigation.

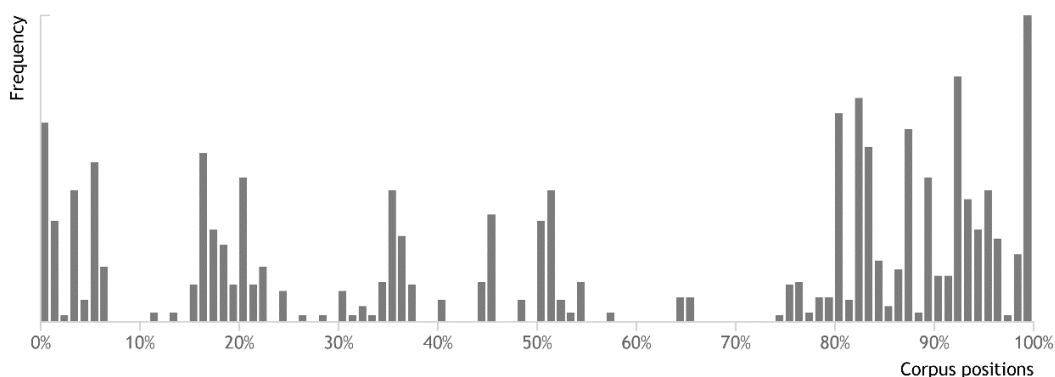


Fig. 1. Distribution of the seed word ‘climate migrant*’ in the EMDC

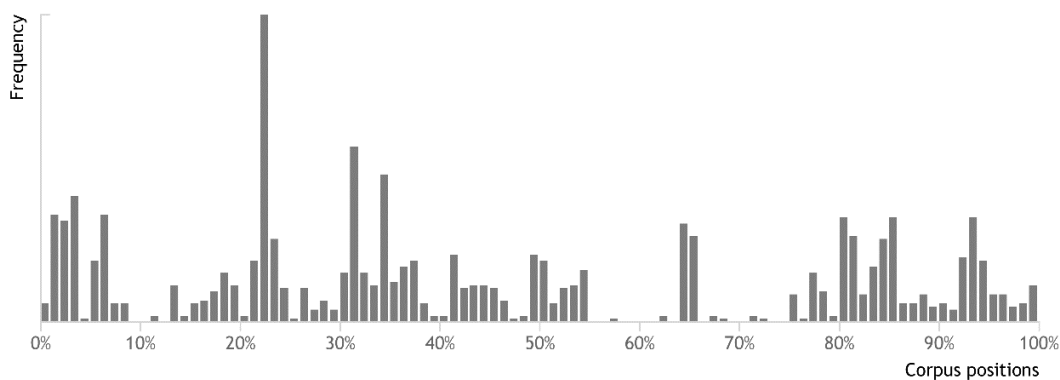


Fig. 2. Distribution of the seed word 'environmental migrant**' in the EMDC

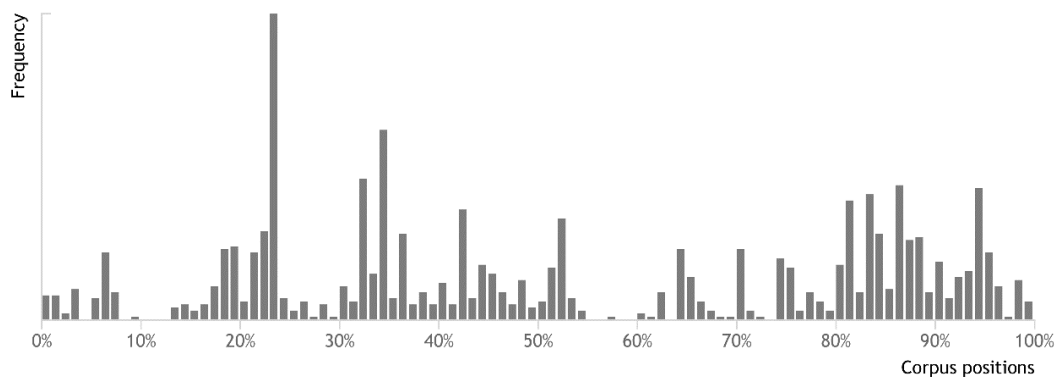


Fig. 3. Distribution of the seed word 'environmental refugee**' in the EMDC

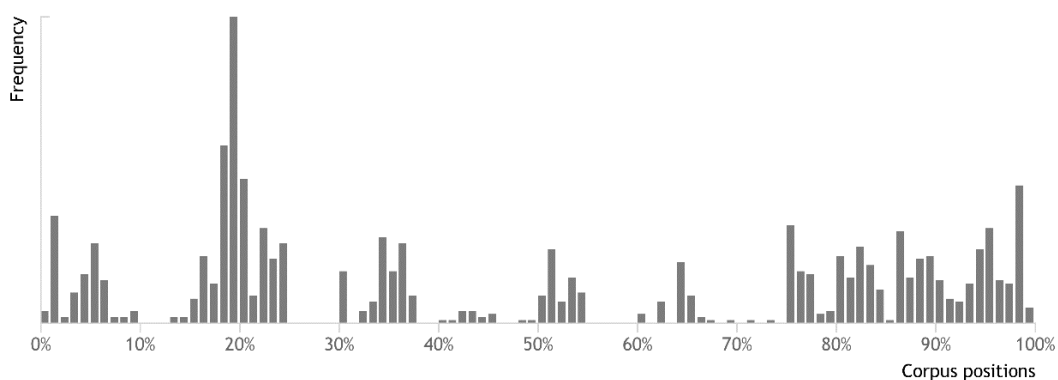


Fig. 4. Distribution of the seed word 'climate refugee**' in the EMDC

Of these terms, ‘environmental migrant*’, ‘environmental refugee*’ and ‘climate migrant*’ seem to be the ones that are most frequently used and evenly distributed in the corpus, while ‘climate refugee*’ seems to display a bursty distribution and, therefore, its usage seems to be relegated to specific texts in the corpus. In the following figures, the word sketches of ‘environmental migrant*’, ‘environmental refugee*’ and ‘climate migrant*’ are provided. A word sketch is a tool available in Sketch Engine that allows one to quickly access a summary of the linguistic environment that specific lemmas are apt to be found in. In this way, a summary of the collocational behaviour of the terms under investigation is provided, thus allowing us to look at the discourses these terms are usually found in.

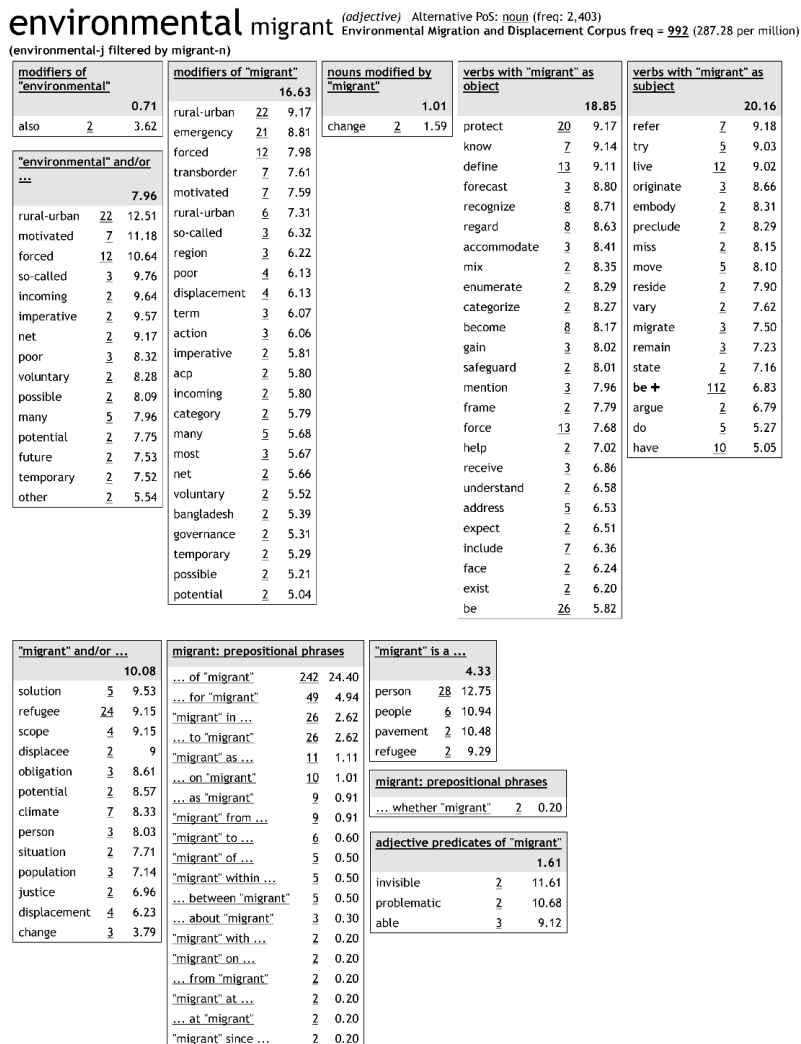
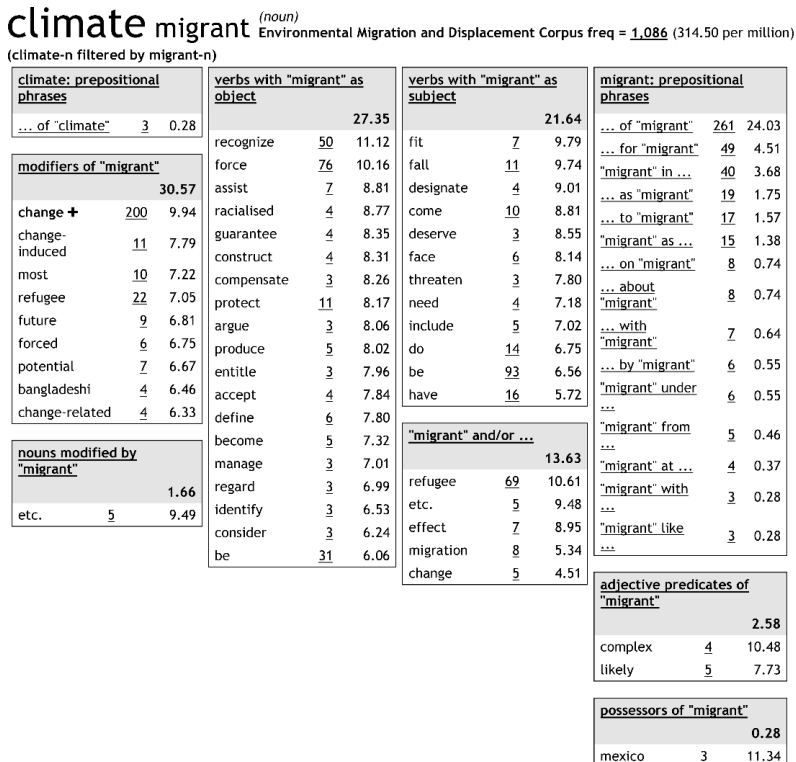
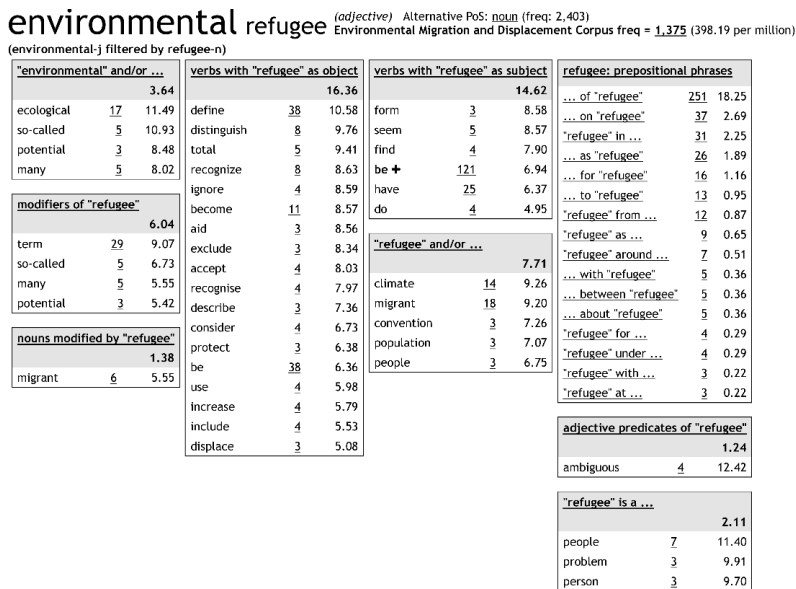


Fig. 5. Word sketch of ‘environmental migrant*’ in the EMDC



As can be seen from Fig. 5, ‘environmental migrant*’ usually seems to be found in relation to discussing a specific type of environmental migration and displacement, that is, when discussing internally displaced persons within their national borders. ‘Environmental refugee*’ and ‘climate migrant*’ seem to be more encompassing, even though the former generally seems to be used together with the word ‘ecological’ (i.e., ‘ecological and environmental refugee*’), thus highlighting another important aspect of the way these individuals are represented. Indeed, in the case of ‘environmental refugee*’, more attention seems to be placed not only on climate-induced migration linked to environmental issues but also anthropocentric reasons.

All the terms under investigation share, however, the same collocate, that is, the verb ‘recognize’. Indeed, one of the most frequently occurring discursive patterns that these terms are found in is represented by the lack of acknowledgement by the international community of this type of refugees, thus calling for immediate action in order to solve this.

4. Concluding Remarks

The present study aimed to place emphasis on some problems related to the definition of environmental migration and displacement, specifically from a terminological point of view. Human mobility in the context of climate change migration has indeed emerged as a distinct area of research, but policies are still lacking in the protection of EMDPs. The first question addressed in this paper was related to the way the Conference of the Parties (COP), which is the supreme decision-making body of the United Nations Framework Convention on Climate Change (UNFCCC), has discussed matters related to the environment over the years. Since its decisions are used to implementing what previous international laws and regulations lack from a legal perspective, as is the case with climate-induced migrants, the corpus has yielded some interesting results in the way that the failure to adopt given strategies and specific interests have been addressed over the decades. A second question addressed in this study was strictly related to the appropriate terminology for individuals who have migrated due to climate change or environmental hazards. While some of the terms that have been taken into consideration are rejected by some scholars, they nonetheless still appear regularly. Of course, further investigation needs to be carried out in order to analyse other genres and, therefore, map the usage of given terms more accurately. However, these preliminary results hope to be a stepping stone towards the better definition of environmental migrants and displaced persons, since, by simply trying to come together and adopt a specific term, this would lead to a possible recognition from a legal point of view, as this is something that is still missing.