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The Nature and Role of Regional Agreements in International Environmental Politics: Mapping Agreements, Outlining Future Research

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Abstract

Global agreements to mitigate climate change, conserve biodiversity or combat desertification typically take center stage in scholarly discussions about international environmental politics. Even though the United Nations Environment Programme reported ten years ago that regional agreements make up two-thirds of all international treaties, regional cooperation has by comparison either received scant attention or been conceptually and empirically lumped together with global treaties. This lack of knowledge about the historical and current scope of regional governance is a serious obstacle to understanding the architecture of global environmental governance and to overcoming current bottlenecks in international environmental cooperation. In response, we report on the outcome of an analysis that complements the most comprehensive database on international environmental agreements (iea.uoregon.edu) with variables for analysis at the regional level. We introduce a multidimensional typology of regional agreements based on contiguous/noncontiguous agreement membership, contiguous/noncontiguous spatial ambit, and whether membership and ambit are adjoining and/or coextensive. We discuss the theoretical and empirical relevance of the different types of agreements and the nature and prevalence of special cases. Given the previous lack of research in this area, our primary purpose is to present a systematic account of regional environmental governance, leaving causal analysis to our own and others' future research. We identify a number of knowledge gaps and analytical directions in the conclusion.

Keywords: regional cooperation, environmental politics, typology of international cooperation

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Bibliography

1 Introduction

Global agreements to mitigate climate change, conserve biodiversity, or combat desertification typically take center stage in scholarly discussions about international environmental politics.[1] Even though the United Nations Environment Programme (UNEP 2001) reported

1 Preliminary versions of this paper were presented at the Annual Convention of the International Studies Association, 16–19 March 2011, Montreal; the University of Geneva Scales Seminar, 29 March 2011; the German Development Institute/Environmental Change Institute workshop "The Fragmentation of Global Environmental Governance: Causes, Consequences, and Responses," 29–30 August 2011; and the Geneva Centre for

more than ten years ago that regional agreements make up two-thirds of all international treaties, regional cooperation has either received scant attention or been conceptually and empirically lumped together with global treaties. Indeed, scholarly work on international environmental governance frequently treats "international" and "global" synonymously, creating the impression that the universe of international environmental cooperation is principally populated by "global" environmental treaties. Yet a persistent stream of work has drawn attention to regional environmental governance as a subject of inquiry in its own right (Balsiger and VanDeveer 2010, 2012; Balsiger and Debarbieux 2011; Breslin and Elliott 2011). Despite numerous case studies and tentative overviews, however, there is no systematic knowledge of the extent of the phenomenon and, as a consequence, there has been practically no theory development.

We identify this fundamental lack of knowledge about the historical and current scope of regional governance as a serious obstacle to understanding the architecture of global environmental governance and to overcoming current bottlenecks in international environmental cooperation. For instance, it remains largely unclear whether regional environmental governance is an element of cooperative or conflictive "fragmentation" (Biermann et al. 2009: 19) and, hence, whether current levels of regional cooperation on general or specific environmental issues are adequate to address global environmental challenges. Generally, however, the case has been made that regional environmental agreements have a "collective action advantage" when compared to global agreements, as the greater similarity of interests, norms, perceptions and values at the regional level fosters international cooperation (for example, Conca 2012). The North–South split at the recent Rio+20 Summit has prompted Marke Halle of the International Institute for Sustainable Development to suggest that "national governments, acting regionally, begin to feel that they may make more progress within the region than they can make globally" (Halle 2012: 5).

The relative dearth of work on regional environmental cooperation persists despite renewed interest in regional politics among international relations (IR) scholars – for instance, under the guise of the "new regionalism" (Acharya and Johnston 2007; Breslin et al. 2002; Hurrell 2007; Fawn 2009). In IR and international political economy (IPE), this interest has been driven by historical developments such as the end of the Cold War and accelerated regional economic integration in Europe and elsewhere. By contrast, (one of) the principal turning point(s) for the field of international environmental politics was the 1992 United Na-

International Environmental Studies Seminar on International Environmental Problems, 11 May 2011. The authors would like to thank the participants at the events for their comments and suggestions. The authors would further like to thank Ron Mitchell for providing support with the underlying data for the present analysis as well for his comments on this draft. Special thanks go to Niko Steinhoff and Elisa Wege, research assistants at GIGA, for coding and validating the data. Finally, Miriam Prys would like to thank the GIGA for its support for this initiative, and Jörg Balsiger would like to thank the Swiss State Secretariat for Education and Research for its financial support for the COST Action IS 0802 project "Ecoregional Territorialization: Rescaling Environmental Governance" (EcoTREG).

tions Conference on Environment and Development, which ushered in a period of intense global negotiations for global treaties. As a consequence, the study of international regional politics continued to focus on security and economic integration, while international environmental politics largely neglected the regional dimensions of the environment–economy and environment–security nexus. Regrettably, these two subfields of international relations have generally talked past each other.

During the past few years, however, the study of regional environmental governance has attracted a small but growing following (Balsiger and Debarbieux 2011). In part, this has resulted from the steady accumulation of work on particular instances of regional environmental cooperation.[2] Some qualitative changes have nonetheless also contributed to this regional turn. To begin with, scientists and policy makers today recognize that global environmental change has spatially variable implications and that suitable adaptation measures may best be tailored for specific regions. In response, the next Assessment Report of the Intergovernmental Panel on Climate Change (AR5) will have a special focus on regional implications. Another factor is specific policy developments, particularly in the area of integrated water resources management, which in Europe and elsewhere has been reoriented toward the (often transboundary) river basin or watershed level. Finally, on a more negative note, the high-visibility stalemate in the global climate change negotiations has prompted scholars and practitioners to begin considering alternative architectures, and to highlight the potential advantages of smaller negotiation groups (Biermann et al. 2009: 24). Carbon emissions trading, as one of the more tangible manifestations of climate change governance, already has a distinctly regional flavor (Selin and VanDeveer 2009).

Against this background, our objectives in this paper are threefold. First, we propose a conceptual delineation of regional environmental cooperation. We do this through a new typology based on analytical distinctions between membership and spatial ambit on the one hand, and adjacency and contiguity on the other. We argue that it matters a great deal whether countries that are parties to an agreement are neighbors, whether the geographical focus of an agreement is contiguous, and whether membership and spatial focus are coextensive. These distinctions influence factors such as the types of environmental issues that are or can be addressed at the regional level, the degree of precision with which solutions can be defined, the level of trust and social capital that partners bring to negotiations, the dynamics that characterize agreement terms, and, one may argue, the potential for success that international environmental agreements may have. While many of these factors have been analyzed in classical approaches to international environmental politics, their spatial connotations have rarely been made explicit. The second objective of our paper is to report on our analysis of the international environmental agreements (IEA) database (Mitchell 2002–2011), which

2 On the other hand, regional agreements such as the Convention on Long-range Transboundary Air Pollution have been studied extensively, yet rarely from the perspective of their regional character (we thank Ron Mitchell for pointing this out).

we have enhanced with variables that correspond to the regional environmental governance (REG) typology we advance. This analysis focuses on intergovernmental treaties, which still constitute the bulk of activity (and research) in international environmental politics. Our third objective is to address a number of implications of our analysis and outline future areas of research. Given the previous lack of research in this area, our primary purpose is to present a systematic account of regional environmental governance, leaving causal analysis to our own and others' future research.

The paper proceeds as follows. Section 2 provides an overview of different theoretical approaches to regions and specifies how the concept is approached here. In Section 3, we operationalize regional environmental governance, present the resulting typological matrix, and illustrate it with examples. Section 4 presents the results of our analysis, which uses the IEA database as a point of departure. We offer an introduction to the database and summarize our results in terms of the historical and topical trends related to the types of regional environmental governance identified in our typology. Finally, we outline some implications of our findings and develop both potential applications for our framework and future research directions.

2 How to Study "Regions" and Regional Agreements

The phenomenon of the region offers a broad array of ontological and epistemological possibilities. While scholarly interest in regions has increased (again) over the past few years, the notion of the "region" itself remains as contested as ever.

2.1 Approximating the "Region"

The breadth of theories and approaches to regional (environmental) politics suggests that region and governance at the regional level "matter." Yet, crucially, these approaches also propose very different notions of what "region" as a concept or as a site of governance really means and what makes it different from other levels, particularly "global" or "local," which constitutes a challenge for any research project trying to shed light on regional dynamics of any kind. Indeed, the definition of the meaning of "region" as well as the understanding of what makes it significant and special is contested. The concept of a region evokes a broad set of different and contested connotations depending on discipline, subdiscipline or theoretical and metatheoretical outlook. There is "multidimensionality and pluralism" (De Lombaerde et al. 2010: 734) to the regional phenomenon.[3]

3 Varying according to author and discipline, a region can be understood as a subnational entity that is embedded within an overarching administrative and political unit (*microregions*) (Allen and Cochrane 2007) but which can also have a cross-border dimension (Söderbaum 2005); others, most prominently in the discipline of

How these regions come into existence, whether they are defined by hard, material factors, or whether the boundaries are exclusively drawn in the minds of actors within and external to them is another point of contention. The discussion on the phenomenon has moved away from the rather materialist, geopolitical approaches that assume that geography and natural strategic landmarks "naturally delimit" different regions of the world and that define regions as "larger territorial sub-units, between the state-level and the global system-level" (De Lombaerde et al. 2010: 736).[4] Instead, endogenous definitions of regions that refer to an internal cultural homogeneity or some form of regional interdependency have become preferred (Nye 1968; Deutsch 1954), even if these approaches, have, in turn, been equally criticized by so-called "regional building approaches" (Neumann 1999) for taking the existence of a region as a given (Murphy 1991: 23). According to the latter perspective, regions are necessarily contingent "discursive constructions" that come into existence through a process of political contestation (De Lombaerde et al. 2010: 738; also Neumann 1994: 58).

In recognition of this plurality of approaches, this paper takes an eclectic approach to regions that starts with a territorial foundation of "potential regions" within which various types and levels of "regionness" can develop (Ayoob 1999: 11; Hettne and Söderbaum 2002: 39; Hurrell 1995: 73). In doing so, it focuses on "international" or "transnational" regions that contain all or parts of at least two adjacent states. By including "parts" of the adjacent states in the definition, the paper offsets any rigid disciplinary distinction between micro- and macroregions. This step also somewhat mediates two potential weaknesses of many of the IR approaches: first, the overemphasis on (entire) states as the only significant actors and, second, the equation of regions with particular regional organizations that dominates comparative regionalism studies.

Among the aims of this research is the empirical assessment of what kinds of environmental agreements exist between adjacent states. We do not, however, predefine the formation of agreements as a process that takes place within existent regions, but rather allow for the possibility that it could also contribute to the formation of regions. This initial, minimal definition further allows us to deal with, for instance, the institutional and membership overlaps that frequently challenge conventional approaches to regional cooperation and institutionalization. Which "types of regions" actually emerge is best determined through empirical investigation, and the kind of typology and empirical overview we provide can help confirm both the relevance of this regional scale as well as the diversity of regions that become involved in environmental cooperation.

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international relations, assume that regions consist at least of two states, but can also take on continental extensions (*macroregions*) (cf. Buzan and Waever 2003; Cantori and Spiegel 1970; Warweigh-Lack 2008).

4 This "outside-in perspective" (Neumann 1994: 53) has traditionally been represented in classical geopolitics (Mackinder 1904; Spykman 1943). It has, however, also played a part in the conceptualization of regions in some of the central IR realist literature (Mearsheimer 2001; Waltz 1979).

2.2 Problematizing the Regional Dimension

This paper discusses *regional* environmental governance as distinct from other forms of governance, which implies that there must be something about the environmental politics (or politics in general) taking place at a regional level that differentiates it from politics at other, in particular national or global, levels. The particular hallmarks of regional as opposed to nonregional arrangements are based, above all, on proximity or adjacency. Implicit to our understanding of a region, proximity can imply higher levels of familiarity and cooperation; in many parts of the world, however, proximity can also promote insecurity and a sense of threat. Specific geographic or culturally specific issues might prevail in the interaction of actors, and context-specific factors such as streams of migration (both human and wildlife), water-sharing necessities and other cross-border environmental hazards might constitute decisive factors in regional environmental governance analyses – which could remain unnoticed when studied through the lens of conventional approaches.[5] Specifically regional explanatory factors could further arise from the fact that regions are embedded systems that are influenced not only by internal but also by external dynamics and, generally, are involved in contestations about membership, belonging, and, above all, boundaries.

Our approach thus helps to complement the existing literature on environmental governance beyond the state, which mostly applies "level-neutral" mechanisms that have been devised and tested for the international level. An important example is, for instance, the International Regimes Database (IRD) by Breitmeier, Young and Zürn. Among the regimes included in the IRD are distinctly regional regimes such as the Antarctic Regime, the Biodiversity Regime, the Climate Change Regime, the Danube River Protection Regime, the Inter American Tropical Tuna Regime, the Regime on Wetlands, and the Ozone Regime. While their database includes factors such as "tensions among individual members" (Breitmeier et al. 2006: 36), the spatial element of these tensions unfortunately gets lost.

It is thus easily imaginable that general theories are challenged by developments in a particular region. Our motivation for this paper lies in the argument that the regional level of interaction is not simply a microcosm or a replication of the global level of interactions (Prys 2010) and that it is important to know about what goes on at the regional level in order to start theorizing about the potential for effective regional environmental governance, about the forms in which it emerges, and where and within what kind of boundaries it might evolve. Across issue areas, theorizing about the emergence of regional cooperation and regional integration has a long history, from functionalism and neofunctionalism (Mitrany 1966; Haas 1958, 1970), in a debate that predominantly focused on Europe, to various takes by the more conventional IR theories, such as realism, on the phenomenon (Grieco 1995;

5 Indeed, not only in environmental studies but also in international relations in general there is a notion that this kind of "region" should be treated as a "separate level of analysis" (Buzan and Waever 2003; Hurrell 2005: 38; Acharya 2000).

Gruber 2001) to the so-called new regionalism debate, which includes approaches such as multilevel governance and constructivist-inspired understandings of the subject (Hettne 1999; Breslin et al. 2002).[6]

What we would like to add to this literature with our focus on "potential regions" is the recognition that "regionality" might – but does not have to – emerge without previous institutions in place. As we explain later, we identify and categorize different forms of "regionality" in environmental agreements (and this is easily expandable to other issue areas as well) with the help of logical combinations of contiguity in membership or spatial ambit, adjacency, and coextension; thus, we can encompass and capture the more traditional regional arrangements that have arisen, for example, within the European context without missing out on the nonconventional, nonstate forms of regional cooperation in those regions without functional organizations. A typical pattern of interaction that "conventional" approaches to regionalism struggle with but that our conceptualization can capture is the often-chaotic form of institutional multiplication in different regions – for instance, in South America and sub-Saharan Africa (Rowlands 2007). The resulting overlapping memberships in a multitude of different regional arrangements, for instance, in the realms of trade or environment, are potentially counterproductive to the actual goals pursued. Our approach also helps to step away from the assumption, nourished by functionalism but also implicit in the more modern approaches to regionalism, that in the face of an international, regional or transboundary "problem," cooperation will arise to somehow solve it. Instead, as noted above, regionality might not only foster cooperation but could also, as in the example of water sharing, generate conflict.

What this leads up to is that what we find is missing from the literature is a conceptualization of the meaning of space, proximity and regionality that goes beyond both conventional geopolitical arguments as well the fairly optimistic functionalist or neofunctionalist approaches.[7] In support of this line of argument, Söderbaum lamented that

> mainstream and rational international relations theory is characterized by an inability to problematize space … there has been a systematic exclusion of spatial analysis from the debate of global politics and there is a deep-seated theoretical inability in the dominant frameworks … to come to grips with social phenomena which cannot be represented solely through national scale.
>
> (Söderbaum 2005: 88)

6 For a summary, see Jong Choi and Caporaso (2002).

7 A useful starting point in this regard is offered by Buzan and Waever, who argue that regions can be defined with the help of specific structures or patterns of amity and enmity that facilitate the formation of specific regional security complexes (Buzan and Waever 2003). The analytical framework implies that there is a specific logic of interaction that builds on proximity, not only in geographical but also in cultural, ethnic or societal terms.

The political significance of a focus on regionality is a further motivation for this paper, as "the way in which we conceptualize environmental problems has a great deal of influence on how we address them" (Lipschutz 1999: 102). Climate change, for example, as one of the most pressing and most debated examples, is at its core the result of localized human activity. Moreover, most of the consequences of climate change will appear at the local or regional level. The choice of level of analysis is therefore vital in finding appropriate solutions. If we believe that regional arrangements have a potentially better chance of successfully addressing either specific or more holistically framed environmental issues, or both, we need to better understand the reality of existing arrangements of this type.

We thus build our argument on two general assumptions that make a difference in thinking about global and regional environmental governance: First, regions, as understood here, constitute spaces "in which some environmental problems can be addressed" and in which a "host of regionally framed environmental cooperation arrangements exist" already (Balsiger and VanDeveer 2010). This development frequently occurs side by side with the expansion of more general regional institutionalization in the areas of trade and security. That environmental vulnerability is frequently included in newer measures of security is but one example that regional environmental governance is likely a field in which current and future policy making is or will be taking place; yet at the same time our understanding and knowledge about REG is underdeveloped.

Second, analogous to what Allen and Cochrane (2007: 1171) have found about the relationship between different subnational governance structures and the national level, it is also true that from a global perspective "it is increasingly difficult to entertain a simple 'central versus regional government' binary [here: international versus national binary], as more networked arrangements disrupt traditional, hierarchical forms of regulation and coordination." The treatment of the regional level as a separate level of analysis with its own logic of interaction also implies that we can move beyond the dichotomy of global agreements versus subglobal fragmentation that has become a major theme in the literature on global environmental governance.[8] By focusing on the regional level, we acknowledge the possibility of a compatibility between the two levels as well as the fact that both have an existence in their own right and might equally contribute to effective environmental governance (Asheim et al. 2006). The type of empirical overview and attempt at categorization provided in this paper is a necessary starting point for assessing these complex theoretical questions.

8 Research on fragmentation focuses on the increasing number of institutions, norms, regimes and regulatory mechanisms that deal with environmental challenges at the global and subglobal levels (Biermann and Bauer 2005; Biermann et al. 2007; Oberthür and Gering 2006; Reinstein 2004; van Asselt 2007).

3 Operationalizing Regional Environmental Governance

Regions have been the subject of scholarly work in the field of international relations for a long time, as the variety of theoretical approaches outlined in the previous section demonstrates. In international environmental politics, case studies constitute a significant body of work. In both cases, however, the concept "region" has been underspecified. One of the reasons for this lacuna, we argue, is that the phenomenon itself is very diverse and in need of a more systematic conceptualization. In this section, we develop an analytical typology that produces a more refined understanding of regional environmental agreements and can serve as a basis for more nuanced theory building. We do so by conceptually categorizing and empirically characterizing these agreements, keeping in mind the coexistence of various forms of "regionality" that can be accommodated by theoretical understandings of regions. We differentiate between an agreement's membership (the parties that are signatories to it) and its geographical application – what we call its "spatial ambit" – using the recognition that the two are often but do not need to be congruent as a point of departure.

3.1 Differentiating between Membership and Spatial Ambit

In scholarship and international political practice, the attributes "international" and "global" are often used synonymously. This definitional imprecision is easily understood, and to some extent justified, when one considers the interconnected nature of life's fabric, something which scientists and the environmental movement have convincingly argued and demonstrated for many decades. Along these lines, Mitchell (2010: 114) suggests that "political rhetoric and scholarly analyses identify most [environmental] problems as Tragedies of the Commons, implying that all states are victims and would benefit from the problem's resolution." For some of these problems, this may be a reasonable argument. Excessive fossil fuel use, for instance, affects the atmosphere of the entire earth. Yet the spatial distribution of the problem's source and its consequences is highly uneven. While the political shorthand for this unevenness typically boils down to a North–South division, the spatial mosaic is much more complex, involving a variety of regions whose socioeconomic and biophysical characteristics shape their involvement in creating and addressing an environmental problem. Hence, we argue that the spectrum between the bilateral and the near universal that is used to cover international situations is too large to be lumped together analytically.

The spatial characteristics of membership constitute the first dimension of our proposed typology of environmental cooperation. Historically, international environmental problems were first tackled in regional contexts.[9] The landmark Trail Smelter arbitration of 1938–1941, which adjudicated the transboundary damage to US crops and forests from the noxious smoke of a Canadian smelter located in Trail, is characteristic of such regional environmental coopera-

9 The term "transboundary" itself is only one of several labels that scholars have applied to such contexts. Others include "transborder," "cross-border," "transfrontier," or "transnational" (see Chester 2006: 15).

tion, but the joint management of transboundary rivers, migratory birds, and fragile ecosystems are equally included in this category (Bodansky 2010; Chester 2006). It stands to reason that neighbors are more apt to address a particular environmental problem than nonneighbors. The environmental politics literature typically frames this dynamic in terms of victims or perpetrators, without, however, emphasizing the spatial dimension (for example, Mitchell 2010).

The types of environmental problems addressed by neighboring states (or, more generally, adjacent jurisdictions) give rise to the second analytical dimension in our typology, namely, spatial ambit. The literature conventionally distinguishes between local-cumulative, transboundary, and global commons problems. Local-cumulative environmental problems are instances of environmental degradation that manifest locally but have aggregate effects on larger spatial scales, such as deforestation or biodiversity loss. Transboundary environmental problems mostly refer to shared resources that may be harmed by one or more parties (due to the flow of water or air). Global commons problems include those which affect the high seas or the atmosphere, domains that no single state (or group of states) can own or control. The distinction between local-cumulative, transboundary, and global commons, however, is not clear-cut. On the one hand, different classes of problems are typically linked. On the other hand, not all problems of an international nature result in international cooperation. Combining the two dimensions membership and spatial ambit in a matrix generates four basic types of international agreements (Table 1), three of which we consider regional and further discuss in the following section.

Table 1: Four Basic Types of International Agreements (regional agreements are shaded)

		Membership	
		contiguous	noncontiguous
Spatial ambit	contiguous	core-regional	ambit-regional
	noncontiguous	membership-regional	nonregional

Source: Authors' compilation.

As noted above, the difficulty of defining precisely what is local, transboundary, or global helps explain why more and more environmental problems are being considered global problems, regardless of the feasibility of (and experiences with) addressing them at the global level. Some scholars suggest that framing environmental problems as global in nature has less to do with attempts to solve them than with tactical moves to hide the responsibility of the perpetrators (for example, Agarwal and Narain 1995). For this reason, and analogous to our emphasis on membership attributes as one possible manifestation of regionality, we identify the spatial characteristics of a problem *actually* addressed in an environmental agreement as a second, equally valid dimension. On the basis of the legal principle of "common but differentiated responsibility" (Principle 7 of the Rio Declaration), many global environmental agreements effectively distinguish between these two dimensions: whereas devel-

oped countries typically provide financial and technological investments, mitigative action is usually carried out in the developing world.

Discrepancies between agreement membership and spatial ambit, which we include in our analysis of regional environmental agreements, have a number of impacts. Most obviously, issues of sovereignty immediately come to the fore when a set of countries agree to address an environmental problem whose source or effects are not within their jurisdiction. Furthermore, the socioeconomic and cultural stakes involved in cooperating to mitigate negative environmental consequences vary considerably when citizens' "personal experiences and surroundings are implicated" (Lipschutz 1999: 106). Jurisdictional gaps resulting from the spatial discrepancy between membership and spatial ambit additionally complicate cooperation. Finally, power asymmetries are evident and a potential obstacle to cooperation when the cleavage between membership and spatial ambit is aligned with North–South divisions.

3.2 Contiguous, Coextensive, Adjoining

Differentiating between membership and spatial ambit implies the existence of a dual regionality, one with respect to membership and one with respect to spatial ambit. To further refine these dimensions, we propose the qualities of being contiguous, coextensive, and adjoining as additional variables.

Contiguous

The membership of an environmental agreement is contiguous if the territories of the members meet at their respective borders. In other words, pathways between any two parties can be completed without crossing the territory of a nonparty. Several scholars have highlighted the analytical importance of contiguity. Esty (1999: 1545), for instance, argues that "where countries share borders there may be some degree of recognized interdependence that will make possible negotiated outcomes on a reasonably fair and efficient basis." Due to the relatively greater ease with which people move between neighboring than between distant states, adjacency also promotes "neighbor emulation" (Brinks and Coppedge 2006).

We include a country's exclusive economic zone (200 nautical miles from the coast) in the definition of contiguity. Agreements between countries whose borders meet in the sea but not on land are therefore counted as having a contiguous membership. We refer to the opposite of contiguous as "noncontiguous." For instance, the membership of the Alpine Convention, which consists of the eight countries that share the European Alps (plus the European Union), is considered contiguous. An agreement between the United States and Chile, on the other hand, would be considered to have a noncontiguous membership. An agreement's spatial ambit is contiguous if the issue the agreement addresses is confined to a geographical region "of one piece." Hence, the Alpine Convention has a contiguous ambit, whereas the United Nations Convention to Combat Desertification does not. In sum, there are agreements that have a contiguous membership, a contiguous spatial ambit, both, or neither.

Coextensive

In contrast to contiguity, which is an *attribute* of membership *or* spatial ambit, the quality "coextensive" refers to a feature of the *relationship* between membership *and* ambit. An agreement's membership is coextensive with its spatial ambit when the latter covers the same area or is contained within the territory of the agreement's members. Coextensiveness comes in two forms: one type refers to situations in which the ambit of an agreement makes up *all or parts of* each of the signatories' territory (Alpine Convention), while the other applies to cases where an agreement's ambit is coextensive with *fewer* than all members, such as the 1973 Arrangement Relating to Fisheries in Waters Surrounding the Faroe Islands between Belgium, Denmark, France, (the Federal Republic of) Germany, Norway, Poland, and the United Kingdom. Both variants fall under the umbrella of "regional environmental governance."

Adjoining

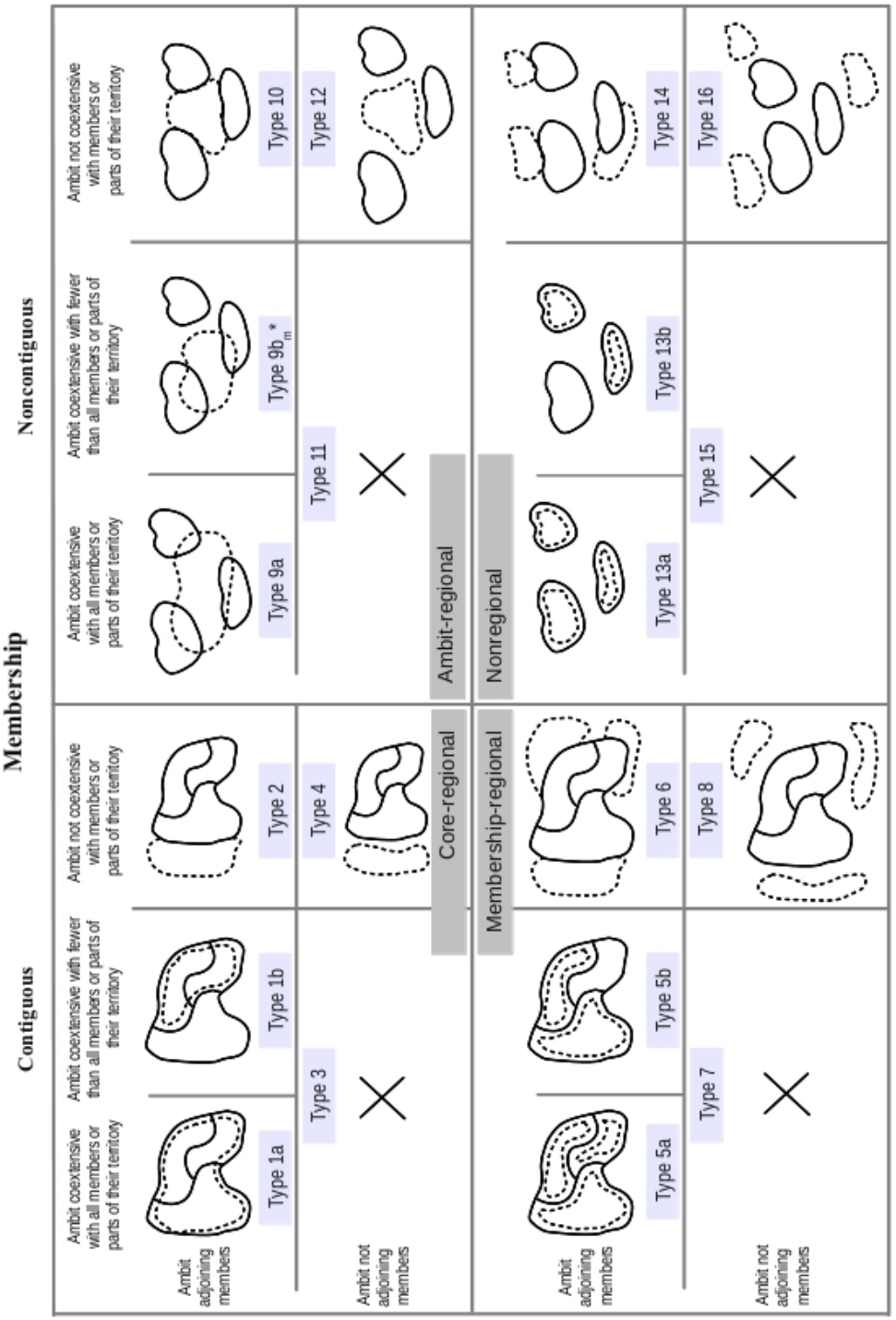
The quality "adjoining" further specifies the relationship between membership and spatial ambit. An agreement's membership and the spatial ambit to which the agreement applies can, if they are not coextensive, either adjoin (touch, border) or not. Although these are logical possibilities emerging from the combination of variables, situations in which membership and ambit are not adjoining are quite rare. In almost all environmental agreements, membership and spatial ambit are at least partially adjoining, as the numbers presented in Section 4 illustrate. The significance of a completely or partially coextensive or an adjoining relationship between membership and spatial ambit primarily relates to issues of sovereignty and sovereign control over overseas territories during the era of colonialism, and sometimes to the difficulties associated with commons resources – for instance, when the agreement relates to the high seas, where membership and ambit cannot be coextensive. The latter has become widespread in the context of fisheries management, such as in the 1972 Agreement between the United States of America and Japan concerning an International Observer Scheme for Whaling Operations from Land Stations in the North Pacific Ocean. In this case, not only are membership and ambit not coextensive, but membership is also noncontiguous.

Given the fairly open understanding of "regionality" we propose, all of these combinations can nevertheless fall under the larger umbrella of regional environmental governance. Figure 1 provides an overview of the complete typology of environmental agreements, including nonregional ones. We introduce the term "core-regional" for all agreements that are coextensive or nearly coextensive with regard to membership and ambit, and the terms "membership-regional" and "ambit-regional" for agreements where this is not the case. As these agreements also demonstrate different degrees of regionality, we classify this attribute using a spectrum that ranges from "very strong" to "very weak."

The combination of analytical distinctions introduced above generates a matrix with 20 cells, of which four are nonlogical possibilities and three yield no empirical cases.[10] This leaves 13 possible types, which are summarized and illustrated in Figure 1.

10 Logical noncases are types 3, 7, 11 and 15, where contiguous membership and spatial ambit with fully or partially coextensive membership and ambit imply that membership and ambit would also need to be adjoining.

Figure 1: Typology of International Environmental Agreements



Source: Authors' compilation.

Empirical noncases are types 5b, 6, and 14, though the European Union Habitats Directive would be a likely candidate for Type 5 (contiguous membership with coextensive but noncontiguous spatial ambit).

Our typology of environmental cooperation permits two preliminary observations, which we revisit after the results of the analysis are presented in the next section. First, by distinguishing between an agreement's membership and spatial ambit and adding contiguity, coextension, and adjacency as qualifying variables, we can generate a logically possible array of several more types of international environmental agreements than have previously been analyzed in the literature. Although confirmation of the typology's theoretical implications will require empirical testing, the justification of our analytical distinctions hinges on previously used explanatory variables, so that our more fine-grained array of agreements is likely to generate new insights.

Table 2: Types of Environmental Agreements and Their Regionality

Type	Name	Example	Regionality
1a	Core-regional	Statutes relating to the Development of the Lake Chad Basin (Cameroon, Central African Republic, Chad, Niger, Nigeria)	very strong
1b	Core-regional	Arrangement relating to Fisheries in Waters Surrounding the Faroe Islands (Belgium, Denmark, France, Federal Republic of Germany, Norway, Poland, United Kingdom)	very strong
2	Core-regional	North Pacific Driftnet Agreement between the United States of America and Japan	strong
4	Core-regional	Agreement between the Government of the United States of America and the Government of the Union of Soviet Socialist Republics on Certain Fishery Problems on the High Seas in the Western Areas of the Middle Atlantic Ocean (USA, ex-USSR)	medium-strong
5a	Membership-regional	Agreement On Cooperation in the Field of Peaceful Uses of Atomic Energy (China, Russia)	medium
9a	Ambit-regional	Indus Basin Development Fund Agreement (Australia, Canada, Germany, New Zealand, Pakistan, UK, USA, World Bank)	medium-weak
$9b_m$	Ambit-regional	Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (Albania, Bulgaria, Croatia, Cyprus, France, Georgia, Greece, Italy, Monaco, Morocco, Portugal, Romania, Spain, Tunisia)	medium
10	Ambit-regional	Agreement between the United States of America and Japan concerning an International Observer Scheme for Whaling Operations from Land Stations in the North Pacific Ocean (USA, Japan)	medium-weak
12	Ambit-regional	Eastern Pacific Ocean Tuna Fishing Agreement (Costa Rica, Guatemala, Honduras, Panama, United States of America)	very weak
$9b_b$	Nonregional	Agreement between the Government of the United States of America and the Government of Japan concerning Fisheries off the Coasts of the United States of America	none
13a	Nonregional	Convention on Biological Diversity	none
13b	Nonregional	Agreement on the Organization for Indian Ocean Marine Affairs Cooperation (Indonesia, Iran, Kenya, Mauritius, Mozambique, Nepal, Pakistan, Sri Lanka, Tanzania)	none
16	Nonregional	Convention on the Law of the Non-Navigational Uses of International Watercourses	none

Source: Authors' compilation.

Second, our typology reveals that international agreements cannot simply be divided between global and regional cooperation; rather, they are located on a gradient and exhibit different shades of "regionness." The dynamics of regional environmental cooperation can be expected to vary considerably across the various, broad types (core-regional, ambit-regional and membership-regional), for it matters a great deal – politically, economically, ecologically, and technologically – whether or not the geographical region that is the subject of an agreement is contiguous, and whether or not it is coextensive with the agreement's membership.

In sum, the approach we have chosen in developing the environmental cooperation typology is at once conceptually and empirically driven. While the model's differentiation between membership and spatial ambit served as a starting point, its extension to include adjacency, contiguity and coextension was in part a result of the analysis of the International Environmental Agreement Database. This combined approach has its advantages (analytical categories were derived in part from empirical observations); however, the typology's emergence from the IEA also has its limitations. Most prominently, since the focus of the analysis is on agreements between states as defined by international public law, emergent trends in environmental governance such as private governance or noncentral government cooperation cannot be captured. Interstate agreements under the Community Law of the European Union (Water Framework Directive, Habitats Directive, etc.) are similarly not included, nor are purely operational agreements such as project-based transboundary protected area management. For the detailed analysis below, we have limited ourselves to 2,227 bilateral and multilateral agreements signed between 1945 and 2005. Despite these limitations, we are confident that our analysis captures a significant share of international environmental cooperation, not least because the IEA remains the most comprehensive database available today. We address the further implications of our analysis in our conclusions.

4 Characterizing Regional Environmental Cooperation

With our analytical toolkit now in place, this section presents the results of our regional analysis of international environmental cooperation. To recall, we have intentionally selected a theoretically agnostic definition of region so as to generate a typology that can be used by scholars of different ontological traditions. Indeed, the regions we include in our analysis may exist in no other form than that produced by the agreement to which the "regional constituents" are parties. Insofar as an agreement is an expression of cooperation, however, it is reasonable to assume that the *potential* for some form of region building is there. The IEA database provides a "single source" repository for most information related to IEAs and the evaluation of their influence" (Mitchell 2002–2011). Last updated in 2012, the database includes over 1,100 multilateral environmental agreements (MEAs), over 1,500 bilateral environmental agreements (BEAs), and over 250 other environmental agreements, including agreements between governments and international organizations or nonstate actors, rather

than governments alone.[11] The IEA database thus constitutes one of the most, if not the most, comprehensive collections of international environmental agreements today. Although the agreements contained in the database can be searched by several criteria (date, subject field, lineage, membership, etc.), the database does not yielded any information concerning an agreement's regional status. Filling this gap was the primary goal of the regional environmental governance REG project. Because the collection also contains data sets of over 150 environmental indicators that are linked to the IEAs, there is vast potential for testing the implications of our typology vis-à-vis conventional explanatory variables.[12]

4.1 Descriptive Analysis of Regional Environmental Cooperation

The results of our analysis of international environmental agreements presented in this section include data for regional and nonregional cooperation.[13] Indeed, detecting trends that distinguish between the two, which in turn raises questions about analyses that treat the two synonymously, is one of the principal reasons for undertaking this study in the first place. Tables 3 and 4 provide an overview of the IEA types and the number of agreements included in our analysis.

Table 3: Agreements Included in the Analysis, by IEA Types, 1945–2005

Agreement Type	Number of Agreements Included in the Analysis
Multilateral environmental agreements (MEAs)	910 (40.8%)
Bilateral environmental agreements (BEAs)	1319 (59.2%)
Total	2227

Source: Authors' compilation.

11 The analysis in this paper covers the years 1945–2005 because data on bilateral agreements have not been collected systematically since 2005 (Ron Mitchell, personal communication). As of this writing, 89 agreements had been concluded during the period 2006–2011.

12 The scope of the international environmental agreements database is somewhat confined by the creator's definition of "international," "environmental," and "agreement." In the broadest terms, an IEA is defined as "an intergovernmental document intended as legally binding with a primary stated purpose of preventing or managing human impacts on natural resources" (Mitchell 2002–2011). As used in the IEA database, "international" refers to agreements involving two or more governments; "agreements" are instruments in which states consent to be bound; and "environmental" refers to agreements in which the prevention of human impact on the environment is the primary purpose. For more details on the definitions, see the project website online: <http://iea. uoregon.edu/>.

13 Coding more than 2,000 agreements according to a challenging typology was an enormous task that would not have been possible without the help of Niko Steinhoff and Elisa Wege. In addition to the initial coding (mostly performed by N. Steinhoff), we implemented a carefully designed iterative intercoder reliability test protocol (jointly performed by Elisa Wege, Jörg Balsiger, and Miriam Prys). Random rechecking and recoding eventually covered approximately 25 percent of the data set.

A look at the number of signatories per agreement offers additional insight into the structure of environmental cooperation in the post-WWII era. Of the 2,227 agreements included in the analysis, 1,319 or almost 60 percent, are of a bilateral nature. Of these, 691 (52.4 percent) are regional agreements, including 589 agreements where membership and spatial ambit are coextensive (core-regional agreements).

Perhaps surprisingly, bilateral treaties also make up a large share of nonregional agreements – that is, those for which neither membership nor ambit are contiguous. Of 878 nonregional agreements, 628 (71.5 percent) are bilateral.

Table 4: Number of Signatories per Agreement, by Type, 1945–2005

Number of Signatories	Matrix Type													
	Regional									Nonregional				
	1a	1b	2	4	5a	9a	9b$_m$	10	12	9b$_b$	13a	13b	16	Total (%)
2	589	39	4	12	5	24	NA*	4	14	237	377		14	1319 (59.2)
3 to 5	187	1			1	3	2	1	14		8	1	2	220 (9.9)
6 to 10	142					1	9				12	3	4	173 (7.8)
11 to 20	102				1	3	11	5	6		21	35	5	193 (8.7)
21 to 50	38	3				16	11	2	5		25	28	7	164 (7.4)
51 to 100	2						16	2			29	6	12	67 (3.0)
More than 100	1						38				40	2	10	91 (4.1)
Total	1096	41	4	12	7	47	89	14	39	237	512	75	54	2227

Notes: *Bilateral agreements of Type 9b (9bb) cannot be regional, since neither membership nor spatial ambit covers all or parts of at least two contiguous countries; these are instead counted under nonregional agreements.
Source: Authors' compilation.

4.2 Historical Evolution

For each ten-year period following World War II, international environmental agreements under which membership and spatial ambit were contiguous and fully coextensive (Type 1a) always accounted for the largest share of international environmental agreements (Table 5). The same is true of the four IEA clusters, with the exception of the period 1975–1984, when the core-regional and nonregional clusters contributed equally, and the most recent ten-year period for which there is reliable data for MEAs *and* BEAs (1995–2005), when the number of nonregional agreements (275) was higher than then the number of core-regional agreements (261).

Table 5 also confirms UNEP's (2001) suggestion of ten years ago that regional agreements constitute the majority of overall agreements. When considering only those agreements

signed since 1945, regional agreements make up 1,349 of 2,227 or 60.6 percent of international environmental agreements.

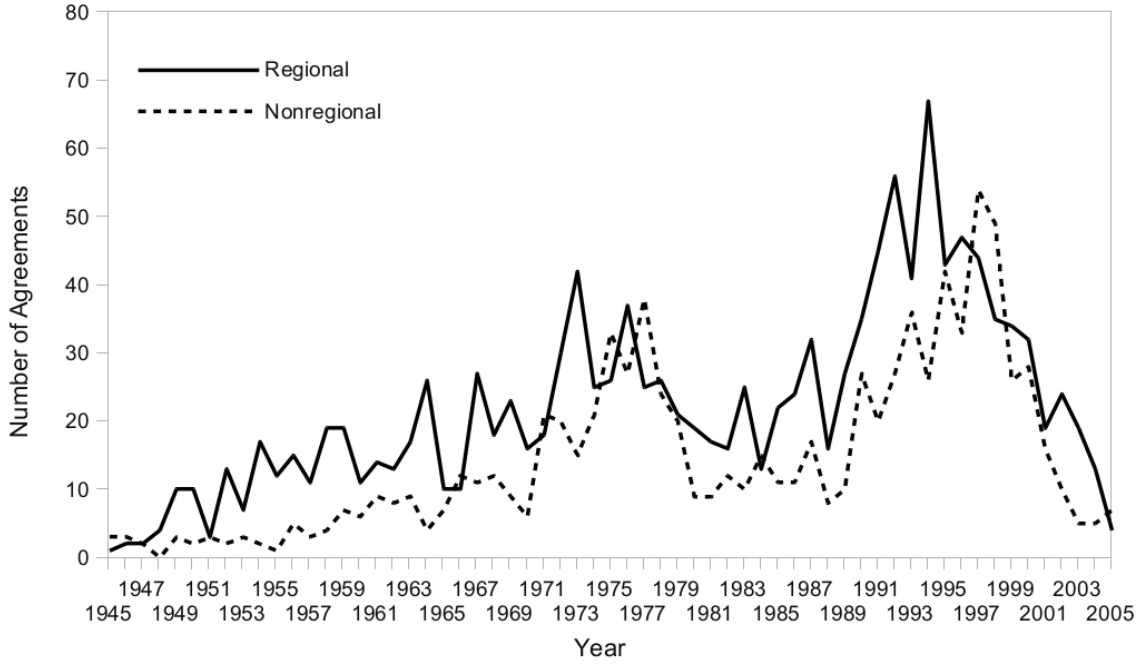
The historical trends for individual agreement types are closely aligned. Figure 2 illustrates the characteristic shape of environmental cooperation, with peaks in the mid-1970s (following the Stockholm Conference) and the mid-1990s (following the Rio Summit). The two figures also show what the decade totals used in Table 5 hide, namely, the dramatic overall decline in the number of international environmental agreements signed. As noted earlier, a number of factors may account for this trend, including the gradual saturation of issue areas to be regulated internationally and the spread of governance mechanisms that do not rely on intergovernmental agreements at all.

Table 5: Regional Environmental Agreements over Time, by Matrix Type, 1945–2005

	Type	1945–1954	1955–1964	1965–1974	1975–1984	1985–1994	1995–2005	Total (%)
Core-regional	1a	61	134	163	184	297	257	1096 (49.2)
	1b	1	4	19	10	3	4	41 (1.8)
	2	1	2			1		4 (0.2)
	4			9	3			12 (0.5)
Membership-regional	5a				1	2	4	7 (0.3)
Ambit-regional	9a		2	7	12	12	14	47 (2.1)
	$9b_m$	2	5	11	7	32	32	89 (4.0)
	10	1	4	2	4	3		14 (0.6)
	12	3	6	8	4	15	3	39 (1.8)
Nonregional	$9b_b$	5	6	44	92	55	35	237 (10.6)
	13a	5	33	71	81	108	214	512 (23.0)
	13b	13	12	10	13	15	12	75 (3.4)
	16		5	9	11	15	14	54 (2.4)
Total (%)		92 (4.1)	213 (9.6)	353 (15.9)	422 (18.9)	558 (25.0)	589 (26.4)	2227 (100.0)

Notes: $9b_m$: multilateral 9b; $9b_b$: bilateral.
Source: Authors' compilation.

Figure 2: Number of Agreements over Time for Types 1a and 13, 1945–2005



Source: Authors' compilation.

The "dual peak" evolution is reproduced when a distinction is made between regional and nonregional agreements. However, their development suggests that the number of regional agreements peaked approximately five years earlier than that of nonregional agreements. The reasons for this cannot be discerned from the data itself.

4.3 Subject Areas

The IEA database classifies agreements according to a series of subject areas, including energy, freshwater, habitat, nature, oceans, pollutions and species (Mitchell 2002–2011). Are some issue areas more prone to regional cooperation than others? Since the variables we have selected to develop our typology have strong spatial connotations, it should not come as a surprise that some subject areas demonstrate greater affinity with regional governance than others. In particular, natural resources that tend to be concentrated in particular geographical areas are likely to be more suitably managed through regional rather than nonregional agreements; the degree to which the agreements discriminate between specific resources may in turn influence membership contiguity. Table 6 provides a breakdown of agreements by subject area and IEA type, whereas Figure 3 illustrates the relative significance of regional and nonregional governance for each subject area.

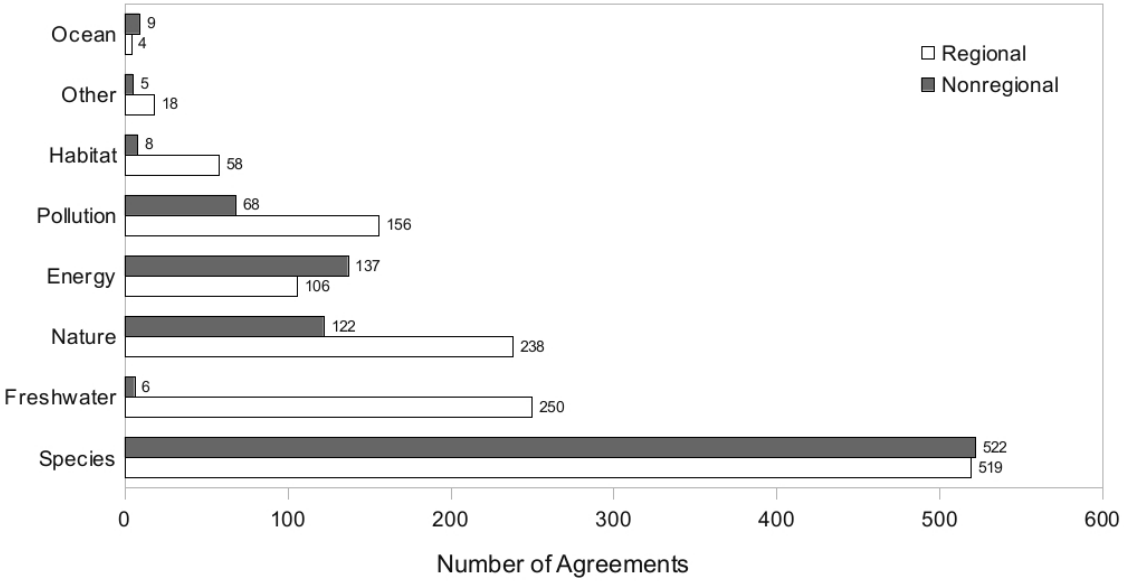
Table 6: Agreement Subjects, by Type, 1945–2005

Subject Group	Matrix Type													
	Regional									Nonregional				
	1a	1b	2	4	5a	9a	9bm	10	12	13a	9bb	13b	16	Total (%)
Energy	99	4			1	2				119	15	1	2	243 (10.9)
Freshwater	245	2					3			2	3		1	256 (11.5)
Habitat	28					14	3	1	12	5	2		1	66 (3.0)
Nature	208	3			2	8	12	2	3	67	39	3	13	360 (16.2)
Oceans	2							2		2			7	13 (0.6)
Pollution	96	1				2	57			45	2		21	224 (10.1)
Species	400	31	4	12	4	21	14	9	24	270	175	70	7	1041 (46.7)
Other	18									2			3	23 (1.0)
Total	*1096*	*41*	*4*	*12*	*7*	*47*	*89*	*14*	*39*	*512*	*236*	*75*	*54*	2227

Source: Authors' compilation.

Almost half of all international environmental agreements signed during the period 1945–2005 were in the subject area of species (46.7 percent), followed by nature (16.2 percent), freshwater (11.5 percent), and energy (10.9 percent). By contrast, agreements on oceans and habitats made up a small share, with 0.6 percent and 3.0 percent, respectively.

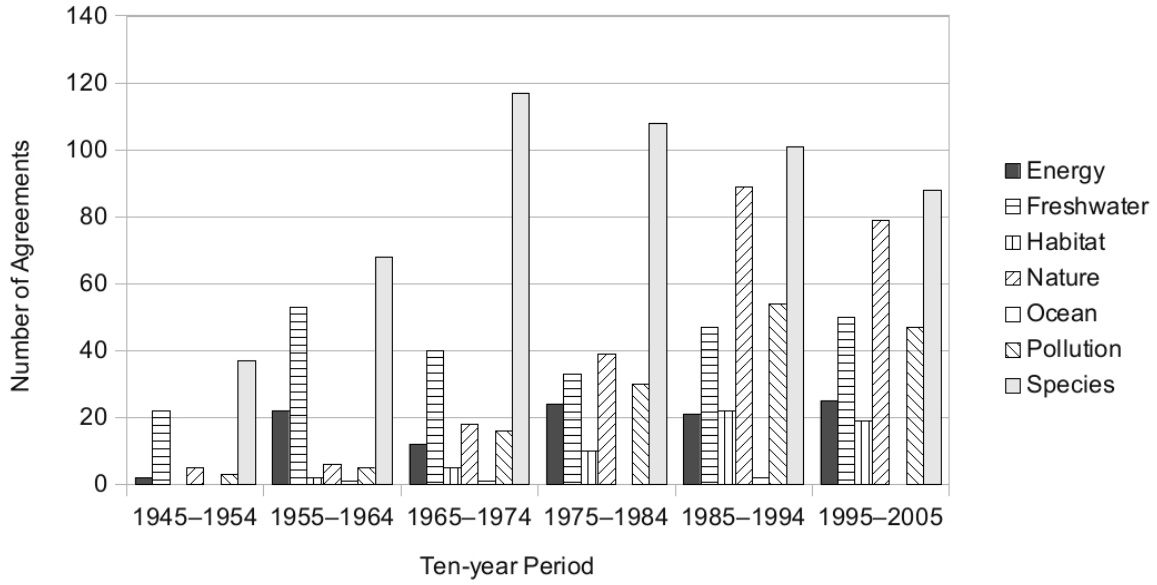
Figure 3: Agreement Subjects, Regional versus Nonregional, 1945–2005



Source: Authors' compilation.

The share of subject areas covered in regional as opposed to nonregional agreements reveals that some subjects are more likely to be covered under the former than the latter (Figure 3). For instance, whereas species agreements are distributed almost equally between regional and nonregional agreements, the share of regional agreements in the areas of freshwater (250 versus 6), nature (238 versus 122), and pollution (156 versus 68) far outweighs that of nonregional agreements. The only subject areas that are clearly more frequently covered in nonregional agreements are energy and oceans.

Figure 4: Regional Agreement Subjects over Time, 1945–2005



Source: Authors' compilation.

Finally, the subject areas covered in regional agreements have varied considerably over time, as Figure 4 illustrates. In line with the overall evolution of agreement prevalence, the numbers have increased over time for all subject areas, but the evolution has been uneven across the seven subject areas.

For instance, while the number of regional agreements for energy and freshwater increased between the periods 1985–1994 and 1995–2005, they decreased for all other subjects. During the other "boom-to-bust cycle" between 1965–1974 and 1975–1984, increases were evident in the areas of habitat, nature, pollution, and species, while the number of agreements signed in the areas of energy, freshwater, and oceans decreased. Overall, the domains species and nature have made up the largest share of regional environmental agreements during the last few decades, even though the relative contribution of species declined from a high of 54.9 percent of regional agreements during the period 1965–1974 to 28.0 percent for the period 1995–2005. The share of agreements related to nature increased from 8.5 percent to 25.2 percent during the same period.

4.4 Global Distribution of Regional Environmental Cooperation

Regional environmental governance is often seen as a predominantly Western phenomenon. The reasons for this include the long history of regional cooperation in North America and Europe, as well as the European Union's (EU) strong regulatory portfolio in the environmental domain. By contrast, our analysis shows that numerous examples exist elsewhere. The data in tables 7 and 8 illustrate the widespread nature of REG around the world. The distribu-

tion outlined below is analyzed on the basis of the UN world regions. In view of our suggestion that regions are not pre-given entities but require some degree of collective, institutionalized action, resorting to the UN world regions is not an optimal approach; however, it may be justified since many interactions concerned with international environmental agreements take place in and through UN mechanisms, some of which are organized on the basis of the world regions.

Table 7: Distribution of Regional Environmental Cooperation, 1945–2005

World (Sub)Region	Number of agreements that include at least one signatory from that region	Share of these that are regional
Africa	600	271 (45.2%)
Americas	988	535 (54.1%)
Asia	852	389 (45.7%)
Europe	1479	831 (56.2%)
Oceania	419	131 (41.1%)

Note: The delineation of world regions is available online: <http://unstats.un.org/unsd/methods/m49/m49regin.htm>.
Source: Authors' compilation.

Table 7 shows that the largest number of international environmental governance agreements included in this analysis involve countries from the UN-defined world region of Europe: between 1945 and 2005, 1,479 international environmental agreements included at least one signatory from Europe, and 988 included at least one signatory from the Americas. However, the level of participation on the part of countries from Africa, the Americas as a whole, Asia, and Oceania was also quite high. The data also show that whereas the majority of international arrangements that included at least one signatory from Europe or the Americas were regional agreements, the share of regional agreements with at least one signatory from Africa, Asia, or Oceania was less than 50 percent.

Table 8 shows that almost half of all international environmental governance arrangements concluded between 1945 and 2005 involved countries from one UN world region only. Of these, almost 80 percent concerned cooperation in which membership and/or ambit were contiguous.

Table 8: Interregional Environmental Cooperation

Number of UN world regions included in an agreement	Number of agreements	Share of these that are regional
1	1098 (49.3% of n=2227)	869 (79.1% of agreements in 1 UN world region)
2	704 (31.6%)	285 (40.5%)
3	122 (5.5%)	93 (76.5%)
4	49 (2.2%)	29 (59.2%)
5	254 (11.4%)	73 (28.7%)

Note: The delineation of world regions is available online: < http://unstats.un.org/unsd/methods/m49/m49regin.htm>.
Source: Authors' compilation.

5 Conclusion and a Future Research Agenda

In this final section we summarize the key findings and implications of our analysis, and we suggest a number of ways in which our typology may increase knowledge about international environmental cooperation in general and the possible consequences of regional cooperation and noncooperation for environmental governance in particular.

International environmental cooperation is a very heterogeneous phenomenon. Differentiating between the contiguity of an agreement's signatories and spatial ambit, as well as between adjacency and coextension of membership and ambit, we have derived three broad types of regional agreements. We have introduced the term "core-regional" for all agreements where membership and ambit are contiguous, adjoining, and coextensive; "membership-regional" refers to agreements where membership is contiguous and ambit is not; and "ambit-regional" refers to agreements where ambit is contiguous but membership is not. Not only does the array of international agreements include very different types, they also show different intensities of regionality: among the 2,227 agreements included in the analysis, 1,319 or almost 60 percent are of a bilateral nature. Of these, almost 60 percent are regional agreements, including almost 600 bilateral agreements where membership and spatial ambit are coextensive (core-regional). Perhaps surprisingly, bilateral treaties also make up a large share of nonregional agreements.

Analytically, we have thus helped to demonstrate that regionality comes in various forms; temporally, we have shown that regional environmental cooperation ebbs and flows more or less in line with nonregional international agreements; topically, our analysis reveals that regional agreements cover the entire spectrum of environmental issues, albeit quite unevenly. The provision of a tool and clear categories with which this volume of agreements can be sorted is thus the key contribution of this paper, and we expect it to enable future research to study specific issue clusters – for instance, where a large number of regional agreements coexist with global agreements, where the former have existed longer than the latter, or where the former are found in some regions and not others.

The theoretical significance of completely or partially coextensive membership and spatial ambit primarily relates to issues of sovereignty and sometimes to the difficulties of commons resources – that is, where membership and ambit are not coextensive because the agreement relates to the high seas. Partially coextensive membership and ambit may also occur where ecoregional initiatives cover only parts of two or more signatories' territories, for instance, in the case of river basins or watersheds. Where this is the case, local or regional authorities are often involved. Because such authorities are not recognized under public international law, their opportunities to participate in international environmental cooperation are curtailed.

Future research conducted in this area can build on the new categorizations of international environmental cooperation introduced here and, above all, on the empirical overview of agreements offered. An interesting topic to be explored could be, for example, whether an agreement's spatial ambit could be further refined on the basis of whether or not it follows ecological borders (watersheds, river basins, mountain ranges, etc.). This would enable the comparative analysis of the large and growing number of transboundary integrated water management initiatives and other terrestrial and marine agreements. Additional data could also be collected on the types of institutions that are built as part of agreements, and on their formality and functionality, to allow, for instance, a revisiting of previous studies' general arguments and findings (that is, those that do not differentiate between global and regional agreements) on compliance and effectiveness. Another issue to be addressed could be the problem of institutional overlap within nested regions, and whether the fragmentation of environmental governance in general or specific issue areas contributes to better, localized solutions or, indeed, distracts policy makers from cooperating within all-encompassing, effective institutions.

Such future research, however, needs to go beyond the closing of the empirical gaps. Among the more immediate possible contributions to theoretical REG approaches that are of particular interest to us is the testing of specific hypotheses on compliance and effectiveness – for example, with regard to variance across the different types of regional environmental agreements (core-regional, membership-regional, ambit-regional). What is, for instance, the potential value of regional cooperation for "relative speed of reaching agreement," for the "level of regulatory ambition" that can be realized, or, as indicated above, for the "level of potential participation of actors and sectors" (Biermann et al. 2009)? Beyond this, there are further issues that we can analyze because we have introduced this regional–global–local differentiation. Among them is the acknowledgment of the role of the international political system's structures and the power-political currents on which they are built (see also Hurrell 2005: 39; Mansfield and Milner 1999). One of the factors to be considered is the notion of embeddedness (Prys 2010). As stated above, many of the theories currently used to explain the performance, effectiveness or compliance of environmental regimes are intentionally situated at the global level –where, in our terms, membership and ambit are always and by definition

coextensive and noncontiguous – and this is where their assumptions are said to be valid. Moreover, in contrast to agreements or governance arrangements that are either universal or at least interregional in their scope, regional environmental agreements have to operate within an overarching international system determined by the global distribution of power and by international institutions. If we take this embeddedness seriously, we also need to study the "constitutive significan[ce] of external [f]actors for a region" (Godehardt and Lembcke 2010). Such factors could be particularly relevant in agreements that include members from outside the spatial ambit of the agreement. Another repercussion of regionality is that, for instance, regional cooperation on a specific issue might be hindered by the global engagement of important players from within the region in similar yet potentially contradictory regulatory frameworks that have a nonregional scope.

Nevertheless, it seems almost obvious that "regional specificity," such as historical amity or enmity (Buzan and Waever 2003), probably carries a lot of explanatory force on its own when one is looking at the functioning of particular environmental agreements. For example, we need to be aware of the very different preconditions in the "Global South" as opposed to the "North" and particularly Europe for regional environmental cooperation and make sure, as we have indicated throughout the paper, that we remain conscious of and account for these differences. Among the questions that arise in this regard are whether environmental regionalism is necessarily something that emerges from internal, regional dynamics, whether it is a response to global developments, and, and this somewhat overlaps with the issue of embeddedness, whether external actors can induce cooperative arrangements (for instance, through financial incentives) – and what difference the answers to these questions make to indicators of compliance, effectiveness and so forth. It seems, for instance, that it would be useful to take a closer look at the changes occurring with the emergence of climate change as a significant international issue and its mainstreaming into discussions about international development aid.

This kind of research is supported by some of the early data emerging from our database. Since membership and spatial ambit do not necessarily have to coincide in regional environmental agreements, such agreements may have a much wider membership than the actual agreement's spatial ambit – for instance, when the agreement involves external actors such as international organizations as direct participants or as funders. To note and to be aware of this extra-agreement involvement may generate new findings about the functioning of regional environmental initiatives.

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