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Abstract

Based on an empirical survey, this article analyzes how the professionals of international environmental organizations (IEOs) act as ‘entrepreneurs of cosmopolitization’ by seeking to establish connections between the various levels of scale they mobilize in their daily work. Drawing on an approach combining sociology and geography, it intends to show that these professionals mobilize a range of activities to meet a twofold requirement: firstly a requirement for universality, which corresponds to their status, to their determination to adopt a scientific approach and to the level of scale at which the problem of biodiversity loss was initially defined; and, secondly, a requirement for embedment in specific contexts. There is an inevitable amount of tension between these two types of requirement. This is inherent to the cosmopolitan perspective and leads to contextual arrangements between the global approach to environmental problems and the forging of alliances with national, regional or local institutions and actors, according to opportunities and requirements. Connecting the various levels of scale for environmental action unavoidably remains a partially achieved objective.

Keywords: cosmopolitization, level of scale, professionals, environment, biodiversity, international environmental organizations (IEOs)

Levels of scale and the cosmopolitization process

Many recent studies in social sciences have observed and analyzed the rise of a global level of scale for grasping environmental phenomena and problems. According to different authors (Cosgrove 1994; Jasanoff and Long Martello 2004; Ollitrault 2008), the possibility of seeing the Earth from space, which appeared in the 1960s, has played an important role in this rise. Moreover, the environmental crises that have come to light over the last few decades, such as acid rains, the hole in the ozone layer, climate change and biodiversity loss, have raised awareness about the transnational and sometimes global extent of these phenomena (Beck
1992). World summits on the environment, notably those of Stockholm (1972), Rio (1992), and Johannesburg (2002), as well as the institutions created on these occasions, have also contributed to this world-level approach to addressing environmental problems (Miller and Edwards 2001; Ivanova 2007). Finally, frames of thought promoting the idea that the responses to environmental problems should be designed on a global level of scale have lately become very popular. Here, the notion of ecosystem services is a particularly striking and topical example. This notion is underpinned by the claim that a general system aiming to assess the services provided by ecosystems, e.g. the filtration of water or the pollination of flowers, can be designed. Theoretically it is possible to compare the values of such services across time and space, to add them up, exchange or aggregate them, and eventually even to create a global market of ecosystem services. Widely disseminated by the Millenium Ecosystem Assessment (Millenium Ecosystem Assessment 2005), this approach has encountered much success² and a large majority of biodiversity actors seem to have adopted it, albeit hesitantly at times. All these events and developments have perpetuated and reinforced the idea that environmental problems cannot be tackled in the narrow or even outdated frame of nation-states and that “saving the environment” calls for a planetary frame of analysis and action.

However, this process of globalization of practices, institutions and cognitive frames does not disqualify other levels of scale³ and geographical entities, in the environmental field as in others. As shown by Kwa (2005), ecologists have succeeded in apprehending global changes while redefining the global level so as not to abandon their traditional interest in the study of local ecological systems (ecosystems, biogeographical regions, biomes, etc). Science policy (Ollitrault 2008) and political geography studies in domains as different as water (Swyngedouw 2004), tropical forests (Smouts 2004), upland management (Debarbieux and Price 2008) or climate change (Bulkeley 2005) have observed that the emergence of a global level of reflection and action has been accompanied by the requalification of lower levels and the establishment of new organization levels, networks and localities. Thus, there seems to be a general acknowledgement that globalization does not necessarily imply weakened lower organization levels of environmental knowledge and action; rather, it leads to an overall new configuration of places, areas and levels of scale. A growing number of authors consider that levels of scale cannot be viewed as nested, given and static anymore. Some have even suggested that the concept of scale should be rejected in its entirety, ‘expurgated from the geographic vocabulary,’ and replaced with a ‘flat ontology’ (Marston et al., 2005). While we
agree that levels of scale should not be reified, we are unconvinced by this suggestion. Indeed, it is not only the researchers who talk about levels of scale but the actors themselves who refer to them as categories of action (Moore, 2008) : how are we to understand the importance they attribute to levels of scale and the use they make of these if we abandon the concept? Instead, we intend to contribute to the understanding of how levels of scale are socially constructed (Marston 2000), how the global, the national and the local are reinvented (Robertson 1995) and always in a process of becoming (Herod, 2011: xvi). We believe that these inventions and constructions result from the ongoing efforts of actors who constantly rework levels of scale, as categories of action, and use them as strategic resources in their power relations (Swyngedouw 2000; Jasanoff and Long Martello 2004).

This article analyzes how the professionals of international environmental organizations construct levels of scale in their daily work, in a way that facilitates their circulation and that of environmental information between these levels. Drawing on an approach combining sociology and geography, it intends to show that they have developed a bricolage capacity (literally “tinkering capacity”)4. This enables them to navigate between the various levels of scale they define, to become embedded in situated contexts while promoting the global level as the frame for defining, analyzing and dealing with environmental problems. We shall see that this capacity is based on the deployment of a set of diversified activities5 that, to a certain extent, reconciles two types of requirement pertaining to global biodiversity governance and solves the tensions resulting from their coexistence in work practices: a requirement for universality, congruent with the very nature of international institutions and with the rise of environmental issues defined as global; and a requirement for embedment in localized contexts. This second type of requirement calls on studies relating to more restricted ecosystems, on the one hand, and fosters the development of partnerships with local and national decision makers, on the other. It involves adjusting environmental issues defined as global to situated and often competing constraints, expectations and interests.

It will therefore appear that the work carried out in international environmental institutions does not chiefly correspond to a globalization process (of stakes, problems, and actors). Rather, it illustrates a process of “cosmopolitization” (Beck 2004), that entails the restructuring of a complex system of spatial entities and levels of scale. Borrowed from Beck, the notion of cosmopolitization designates the simultaneity of the emergence of a global level of scale and the permanence of national and local levels of scale. In other words, individual and institutional actors are able to construct different levels of scale that can be weaved into
their daily activities. Indeed, adopting globalized discourses and practices does not prevent stakeholders from continuing to be locally embedded and to belong to a nation-state. This constant weaving to and fro is crucial to making the globe a relevant level of scale for environmental action. It entails forms of articulation loaded with opportunities but also with potential tensions and conflicts between multiple belongings and loyalties. The emergence of a global level of scale can even reanimate lower levels of scale: while it concerns humanity as a whole, the threat of generalized death that current societies are seen to generate by accelerating phenomena such as climate change greatly varies according to the living conditions of individuals and populations and according to regions. It also tends to redistribute and exacerbate inequalities that have become inextricably social and natural (Beck 2010). We therefore intend to show that the emergence and rise of a global level of scale for grasping environmental phenomena and problems do not rest only on unprecedented technologies and problems. They also rely on the aptitude of professionals to make deeply interconnected levels of scale, between which they can circulate, transporting and transforming along the way the environmental data and images they use and produce as well as the interests of a growing range of actors.

We shall focus here on the cosmopolitization practices of members of environmental institutions that tackle the question of biodiversity loss rather than that of climate change. Biodiversity is indeed a particularly suitable subject to reflect on the making and connecting of levels of scale in the work of international environmental institutions. Promoted by the Rio World Summit (1992), from the start the concept of biodiversity aimed to grasp the question of conserving the living at a planetary scale (Chauvet and Olivier 1993). It is important to keep in mind that biodiversity greatly varies across the earth’s surface according to physical and geographical characteristics of a nearly infinite diversity and to the way it is used by human societies, who are themselves a component of biodiversity.

Our survey highlights how biodiversity professionals seek to connect the various levels of scale they mobilize in their work. It was carried out in two institutions whose headquarters are based in or near Geneva: the International Union for the Conservation of Nature (IUCN), an inter- and non-governmental organization, and the European office of the Global Resource Information Database (GRID), which is part of the Division of Early Warning and Assessment (DEWA) of the United Nations Environment Programme (UNEP). These institutions pursue a twofold objective: producing knowledge and conserving biodiversity. Sitting at the frontier between the academic world and the world of nature conservation and
involving the participation of actors from both worlds, they can be considered as boundary organizations (Guston, 2001). This leads them to act at various levels of scale as they work to acquire good knowledge of environmental data and undertake actions in highly territorialized institutional contexts.

Moving from one institution to the other, we carried out a dozen semi-structured interviews, lasting from one to two hours, with professionals of these institutions. We also analyzed a number of the documents and databases they release. Contrary to other studies adopting an institutional approach to international organizations (for example Haas, 1994; Ivanova, 2007, 2010), we sought to reconstitute the spatial and scalar frames of individual reference. We tried to highlight the points of view and the daily work practices of individuals (See, for example Berry and Gabay, 2009). Thus, what we intend to bring to light is cosmopolitization in action in international biodiversity organizations.

I. Meeting the requirement for universality

The institutions we studied strive to apprehend the phenomena that impact biodiversity at a global level of scale. This objective is shared by the staff, as suggested, for instance, by what one of our respondents said about the Millenium Ecosystem Assessment:

“This was a process which was aiming to look at the relationship between the environment and people, biodiversity and people, in a kind of IPCC type of credible, global, international-based way, and that I found rather exciting” (IUCN, 1).

In this first section, we shall present three means used by the individuals interviewed to lend a universal dimension to their institutions and make the globe a relevant level of scale for environmental action: the inscription of their work in the scientific sphere; the production of tools to monitor, present and grasp biodiversity and its stakes at the planetary scale; the endorsement and adoption of cosmopolitan everyday practices and culture.

1. Benefiting from the universal image of science

According to the members of these institutions, they base their knowledge acquisition and production work on the rules of scientific method. Previous studies have shown that science is a persistent way to legitimize the work of environmental NGOs and that these can be studied as scientific actors both consuming and producing science (Eden et al. 2006). We found that
this also applies to intergovernmental institutions such as GRID-Europe, where we observed a strong belief in the universal reach of science.

By adopting practices and standards that connect them to the scientific community, the members of international institutions hope to confer to their work the dimension of universality that is commonly attached to science.

All our respondents insisted that the work carried out by their institutions was embedded in the realm of science. IUCN, which claims to play a major role in identifying and addressing environmental problems at a global level, was presented as “a science-based organization” (IUCN, 3) by the various people we met.

Nevertheless, the members of these institutions do not consider them as fully-fledged research bodies, in the sense that they often contribute only marginally to the production of new scientific knowledge:

“Rather scientific, but we're not a research organization. We do not do fundamental research ourselves. We do some applied research (...) I wouldn't call it a scientific research organization, but we use data, we add some value to the data.” (GRID-Europe, 1)

The members of GRID-Europe do not therefore define themselves as researchers or are reluctant to do so. However, they all have a solid academic background and have a PhD or at least a Master degree in geography or ecology (cf. Eden et al. 2006 and Yearley 1993). In short, the individuals involved in the making or organization of these tools either belong to the scientific world or have come from it, and continue to have close relations with it.

They systematically underlined the fact that their work is based on the latest scientific findings. The capacity to use scientifically validated knowledge is of paramount importance to them. As one respondent put it, “scientific credibility is to me the most important. We really have to make sure it's the best available science being used” (GRID-Europe, 1). It should be pointed out that IUCN recently (November 2009) hired a “Head of science”.

The tools designed by the institutions to explore biodiversity are organized according to this desire to be seen to do work that has a solid scientific grounding. IUCN produces the well regarded Red List of protected species. To do this, it relies on a network of volunteers amounting to thousands of people (“the biggest global conservation network”; IUCN, 2) spread across one hundred or so specialist groups. Not all the members of these groups are researchers; some are “practitioners” with a good knowledge of the subject dealt with by the group (“the SSC is really a mix of practitioners and academics”, IUCN, 3; “the commissions
tend to be a real mix of academicians, practitioners and policy-makers”, IUCN, 2). As opposed to academics, these practitioners work in the field and address practical conservation issues. Underlining the mixed composition of IUCN’s groups and commissions can be seen as a means to benefit from the universal reach of science while attempting to become embedded in localities dealing with situated issues of nature conservation.

The approaches brought to the fore are also those of science. Our respondents praise the notions of transparency and peer-review. They regard publishing in peer-reviewed scientific journals as particularly valuable. The classification of species in the Red List categories and the modifications of this classification over time obey strict and scientifically validated criteria and can be contested according to well established rules. The classification criteria themselves have been progressively revised and refined. As far as possible, the data mobilized are scientific too. This is underlined in the words of one of the respondents, “We do look of course at the scientific credibility of those data, so it has to be published and reviewed and come from good sources” (GRID-Europe, 1). For instance, the GRID-Europe early-warning team that releases “environment alert bulletins” stresses the fact that it uses data published by scientific journals.

Biodiversity professionals underline that their knowledge production and communication activity belongs to the scientific sphere. This confers on the knowledge the universal dimension generally associated with science. Moreover, they participate in the global-scale design of tools to define and tackle the problems their institutions want to raise and contribute to solving.

2. Designing globalized tools to define and tackle biodiversity problems

The creation of databases and simulation models has enabled climate specialists to address the climate in a new way, as a problem that was globalized from the start (Miller 2001). However, while biodiversity was defined as a planetary stake (Chauvet and Olivier, 1993), there was no real documenting of its state or its evolution at this level of scale, except for the Red List. The institutions we studied nevertheless consider the acquisition of better knowledge of planetary biodiversity as a goal to be reached, especially regarding the general knowledge of the state and distribution of ecosystems:

“But even some of the basic stuff, you know, we don't actually know how many species there are on the planet. […] That's growing slightly now but it's still a problem. When it comes to
the ecosystem scale, we don't even know where the world's habitats are. We have no idea where the world wetlands are. We hypothesize around rates of change about things we don't even know baselines for. We don't know where half the water mangroves are, I think still. So we have some challenges and just these really basic understandings about extent, let alone change” (IUCN, 2).

Thus, the goal of building up global knowledge of biodiversity is far from being achieved. There have been efforts to more precisely document the distribution of and changes to natural environments at a planetary level. This has resulted in significantly more accurate knowledge of a number of environmental aspects that are important for understanding biodiversity, such as topography:

“People are now sort of struggling and competing to try to improve precision at the global scale. We’re starting to have a digital elevation model available for the whole planet with a resolution of 30 meters; which is amazing. We have a resolution of 25 meters for Switzerland, so we nearly have the quality of data we have here for the whole planet, which is just unbelievable” (GRID-Europe, 4).

The institutions studied have progressively obtained the means to acquire worldwide data on natural environments. They strive to demonstrate, in practice, that the environment and its evolution can be documented at a global level of scale. This is notably the case of the GRID-Europe bureau, which contributes to the UNEP’s mission of monitoring and assessing the state of the environment across the planet. GRID-Europe is involved in the drawing up of the Global Environmental Outlooks (GEO). The four GEO reports that have been released so far provide information on the state of the environment at a global level, biodiversity being one of the components scrutinized.

Thanks to partnerships with several institutions, notably the National Aeronautics and Space Administration (NASA), the bureau members use a large amount of data obtained through remote sensing:

“We have carried out many satellite studies to see the state of deforestation, urban sprawl, droughts, etc., which have been used for the atlas of global change” (GRID-Europe, 2).

Remote sensing provides data from space about the state of terrestrial surfaces, thus facilitating access to information about regions for which it is difficult to perform ground surveys.
The members of the institutions studied have learned to use information and communication technologies that enable them to exchange with collaborators in different locations and to process huge amounts of data that would not exist without the current development of computational means (Bowker 2000). For instance, some of the members of GRID-Europe participate in a European project called Envirogrids. This project explores the possibility of computing geo-referenced data using big clusters of computers, such as those of the European Organization for Nuclear Research (CERN):

“We’re beginning to have data available at very large scales and it’s becoming more and more difficult to manage this on an ordinary computer. So we’re trying to explore the possibility of distributing the GIS calculations across large clusters of computers” (GRID-Europe, 4).

To analyze the data and communicate the information produced, our respondents also make abundant use of maps that consistently refer to a global level. The global biodiversity crisis in particular is often represented. The production and release of world maps showing the extension of specific and situated phenomena, such as algal blooms (image 1), strengthen the idea that we are indeed dealing with a planetary crisis.

Members of GRID-Europe have also been closely involved in the writing of the atlas “One Planet – Many People”, edited by the Division of Early Warning of North America and its Sioux-Falls bureau. The aim of this atlas is to provide “visual and irrefutable illustrations of environmental changes induced by natural processes and human activities.” By covering the surfaces concerned by deforestation or “rush for land”, satellite images have the considerable advantage of making the planetary dimension of the environmental crisis visible:

“The identification of environmental degradation through satellite analyses is a quite popular and efficient product. One doesn’t have to be an expert to interpret satellite images (...); the difference is very visual. So we make these products for the general public, our goal being to see to it that everybody can become aware of this global change and will modify their decisions as consumers” (GRID-Europe, 2).

With such equipment, biodiversity professionals produce knowledge that is globalized in several ways. The GEO reports thus contribute to making the globe a relevant object for environmental analysis and action. The GEO data portal that provides a complementary set of reusable data also promotes this level of reference. The reports and the portal are accessible from any location across the globe, provided there is an Internet connection, which is far from
being the case everywhere of course. The IUCN Red List also offers a global vision of the state of conservation of many known species. Moreover, the standardization of data and the technical conditions of their dissemination make it possible to exchange, compare and aggregate information that has been produced or utilized in countless places across the planet. Global pictures of the environment can therefore be produced using data collected on the ground. This circulation of data is mobilized to define the local and the global as highly interconnected:

“We're working with others to develop wiki-databases where experts can- you can have a global picture, but we're trying to build it from the bottom up, so you get expert local data on whatever it is you're interested in... could be kelp beds, for example: where they are and all the other information about them, and you put them into a global atlas. And so it does mean something locally as well as at the global level. So hitherto, a lot of the databases have been driven by the global-level analysis because there weren't the tools or the money available to build them from the bottom up. So I think that's where things are moving now.” (IUCN, 6)

Finally, once they have been processed, the data are frequently presented and discussed using maps that reinforce the global scale of reference, at least visually.

3. Protectors without borders

The knowledge presented and disseminated by biodiversity institutions is passed on and promoted by people whose culture and practices testify to a recurring reference to a planetary level of scale. During each of our visits to the IUCN headquarters in Gland, we made the same observation: the atmosphere was at once very confined – visitors have to provide identification and sign a register before entering – and very international. English is, by far, the most spoken language although Spanish is also common as are French and German, but to a lesser extent. The same can be said of the GRID-Europe offices. GRID-Europe frequently resorts to interns. These are often students from Geneva University who are sometimes hired following their internship. However, the head of the institution is American and the vice-head Dutch. National identity does not seem to matter. On the rare occasions when it does, this is in response to an objective to diversify staff origins and to form teams that are as cosmopolitan as possible.

Furthermore, we found our respondents to be well travelled. Indeed, the diversity of countries visited or in which they have worked during their career, sometimes over long spans of time,
is even greater than the diversity of national origins. For instance, Susan Mainka, IUCN “Head of Science”, is Canadian but worked for some time in China for the WWF. The positions held by our respondents lead them to travel all the time. For that matter, we often had difficulty meeting them, as they were often held up by countless meetings and conferences. Our requests for appointments were often met with “out of the office” messages, informing us that they were currently at the other end of the planet. As well as making physical trips, they also appear to travel virtually, regularly receiving and sending messages from and to localities across the globe. In this respect, biodiversity professionals are very similar to the key organisers of global justice networks (Routledge et al., 2007) and to the transnational knowledge workers explored by Colic-Peisker (2010), although the latter do not show the same fervour for activism as a number of our respondents.

This dense flow of people and information forms a space filled with practices and professional interactions and extending across a considerable number of the planet’s localities. This space formed of practices is added to that formed by the data collected and exchanged. Both spaces reflect the view of the members of these international organizations, i.e. that biodiversity is undergoing a crisis and that this crisis is planetary. This global level of scale is a level of practices and information just as much as it is a level where problems are framed and addressed. In this respect, it is a reflection of one of the aspects of the “cosmopolitization of reality” referred to by Ulrich Beck (2006 [2004], p. 184).

Although the members of these institutions carry out activities that help the institutions to become actors of the global governance of biodiversity, they also seek to meet the need to be embedded in localized contexts. In the second section of the article, we shall consider the second set of activities used to achieve this goal.

II. Becoming embedded in specific contexts

Social studies of science have demonstrated that scientific knowledge can appear as views from nowhere, detached from researchers and scientific communities, and from locales (Latour and Fabbri 1976; Latour 1989). According to Haraway, “Science has been about a search for translation, convertibility, mobility of meanings, and universality” (Haraway 1988, page 580). This explains the persisting conviction that science is universal (Jasanoff and Long Martello 2004, page 19). But the same scholars have shown that the most general claims are impossible without locales, be they the fields where scientists carry out their observations and
their measurements, the laboratories where they undertake their experiments and write their papers or the seminars and the journals where they discuss their results. Scientific practices are deeply situated, contextual and embodied\textsuperscript{10} (Haraway 1988; Livingstone 2003; Jasanoff and Long Martello 2004). This is also the case of the practices implemented by our respondents to produce knowledge. Moreover, in order to optimize their actions, they define the regions where they are to intervene by building partnerships with local actors and adjusting international issues to the expectations, interests, and possibilities of these local individuals.

1. **The unavoidable field**

Naturalists well know that biodiversity is influenced by a number of complex factors (climatic, geological, pedological, etc), and is therefore infinitely varied across the surface of the globe. Biodiversity is also studied within a system of analytic scales (Biome, biogeographical region, ecosystem, biotope, etc) so that its state and evolution may be diagnosed in detail. Its analysis calls for field investigations: despite the promises of remote sensing (Kwa, 2005), the need for empirical knowledge still means that somebody has to “go and see” in nearly all cases. This is why study perimeters have had to be defined. More often than for the climate, which is frequently regarded as less dependent on local physical and geographical characteristics (Godard, 2005), initiatives related to biodiversity juggle with levels of scale on which observation and analysis are based and those of existing institutions. Scientific knowledge on biodiversity thus rests on quantities of localized practices and entities aiming to take into account the spatial nature of phenomena.

Many collaborators of these biodiversity institutions pay particular attention to this fact. They have a solid background in several disciplines (mainly geography and ecology but also veterinary medicine, etc.). Their studies and research often lead them to undertake scientific field surveys and to focus in particular on *in situ* observations. Planetary scale statements about biodiversity are often based on such observations:

“Something terrible is taking place and it is visible even at the individual scale. Even during my life, between my childhood and now, everything has decreased. In the field, it’s obvious that everything’s disappearing, not at the speed of generations, but from one year to the next. […] I went to Brazil last summer, I had been there 27 years before, exactly in the same area,
but it isn’t the same anymore, it isn’t the same country: everything was uprooted to grow sugar cane, or eucalyptus... So in a few decades drastic changes have been made” (IUCN, 2).

They are thus very much aware that the methods favoured by this type of institution – modelling, remote sensing, sets of indicators, etc. -, also demand that field surveys be carried out beforehand, to collect data, and afterwards, to validate and interpret the observations or deductions:

“We can suggest limits for national parks and we did it, in this bureau. We said: this is where you still have an outstanding biodiversity, at least when looked at from space, and we suggest that this is where the limit should be drawn. So we can provide this type of quantification but, of course, meticulous work is needed, based on an inventory and long-term studies that cannot be carried out from space, as far as I know” (GRID-Europe, 2).

Our survey therefore highlights the importance of science in terms of the ability of our respondents to articulate different levels of scale and to enable their institutions to be global actors capable of adapting to the diversity of national and local contexts. Because science draws simultaneously from localized practice and universal knowledge (Latour 1989; Hine 2008: 40), it appears as a means to respond both to the requirement for universality and to the requirement for embedment in the particular contexts facing international environmental institutions. Its dual nature would therefore seem to be particularly precious for transnational biodiversity professionals who need to move between different levels of scale.

2. Defining “policy-relevant” regions

The members of these biodiversity institutions also have to take perspectives related to political territorialities into consideration. While they recognize that scientific robustness is essential, they also point to the need for political relevance. In our discussions with them, they continuously underlined their recourse to “policy-relevant science” (IUCN 1, 2, 4; GRID-Europe, 1, 2, 3, 4, 5). As we shall see, this involves trade-offs and an ability to move from one institutional level to another, not without a certain amount of tension being generated.

Indeed, those who design and run biodiversity-related scientific devices do not want to know just for the sake of knowing but for the sake of preserving biodiversity and bettering its foreseeable future. Thus, they seek to produce knowledge that is liable to shape environmental public action. They hope that the knowledge they provide will be mobilized by political decision makers and will have a positive influence on biodiversity management. This is what
they call “policy-relevant knowledge”. This wish to put available knowledge to good use, rather than to produce new knowledge, has encouraged some to give up a purely academic career and to quickly join an action-oriented institution:

“I never did a PhD and never intended to do a PhD. I found it much more interesting to see how science was taken up in decision-making, in policy processes but also in terms of how people implement conservation practice on the ground and development on the ground. So looking at “the interface between science and policy in practice was what I found most interesting. I wanted to get involved in implementing, understanding, and supporting that to happen in practice” (IUCN, 1).

Their determination to make knowledge useful acts as an incentive to integrate into their work of designing and operating tools related to biodiversity monitoring and management some of the points of view, concerns, objectives, and rationales of the actors who design and implement environmental public policies at different territorial levels. This imperative is felt even more strongly when a biodiversity organization has regional and national offices in charge of keeping in touch with the state departments concerned by these levels of scale. The members of these regional offices are therefore particularly keen to initiate circumscribed and applied projects, if only to justify their mission.

It is in this context that GRID-Europe promoted the drafting of Regional Environment Outlooks (REO) to back up the series of Global Environmental Outlooks (GEO) produced. The former cover the Carpathians and the Caucasus. Outlooks have also been created at national and local levels, as well as in large cities that were interested. GRID-Europe would like to produce more of these outlooks but is restricted by its budget. It is worth noticing that this “rediscovery of the local level” also took place in the field of climate change: the IPCC experts also started to regionalize or localize their studies on climatic impacts (Jasanoff and Long Martello 2004: 7). This swing between levels of scale is clearly motivated by the hope to be more policy-relevant:

“With the years we have thought “Well, we should try to become more policy-relevant and also work at the regional- at the level where policies are usually made, and you can have the biggest influence, and from there the whole idea was born to do regional, sub-regional, national level, even city-level outlooks. So from the global down to the real local level to try to become more- that's the bottom line, to become more policy-relevant.” (GRID-Europe, 1).
The move to encompass political entities in the outlook processes has often led to negotiations about the outlooks’ perimeter and content. The production of REO is systematically preceded by discussions with local authorities and national governments where the aim is to circumscribe the study perimeter and the outlook’s topics. These preambles lead to choices that take into account geopolitical considerations (top strategies for cooperation or competition between neighbour states) just as much as scientific considerations (the region at stake, whether mountain range or transnational watershed, having to correspond to a national entity acknowledged by the scientists):

“There is always a highly political discussion about the territories to include. But this normally occurs at an early stage of the process since we have to define the places where we will go and get the data” (GRID-Europe, 5).

For instance, defining the REO perimeter for the Carpathians and the simultaneous discussion about the Carpathian Convention perimeter came up against the highly diverging points of view held by the Hungarian and Romanian governments in terms of the region to be delineated: the former promoted a broad perimeter capable of including the living places of Romania’s important Hungarian minority; the latter wanted to stick to a more restricted topographical limit (Fall and Egerer 2004).

With these multiple levels of scale relating to environmental assessment, those involved regularly have to juggle with the perimeters and embeddedness of their respective institutions. States may require environmentally-relevant regions (defined according to criteria that can vary from one institution to the next) to fit in with their administrative and political divides in order to facilitate future work. A desire to be pragmatic can lead to trade-offs regarding the divides and according to “scientific” criteria. One example of this is the taking into account of the administrative partition of state members in the delineation of European biogeographical regions.

Thus, both national administration rationales and international relations can impact the designation of the regions studied and, sometimes, the splitting up of space into regions that are relevant for biodiversity studies.

3. Adjusting to the interests of situated actors

Finally, negotiations with respect to the perimeters and contents of environmental outlooks have also involved data and goals in some cases. GRID-Europe first turned primarily to
scientific institutions to obtain biodiversity-related data but it progressively felt obliged to use the states’ official environmental data, even if these were of lesser scientific quality:

“We at UNEP, we are an intergovernmental organization like the U.N., so we are sort of obliged to work with governments who are our major stakeholders, our major clients so to speak, to use data that officially come from the country, then again, we know that some of the data is not always the best data, perhaps, or not scientifically sound. There are also science universities who improve those data sets, at least they claim to improve them, and then- so on the other hand there is the challenge to be scientifically sound as much as you can, to work with science organizations and also policy relevant and work with governments. So there can also be some conflict between the two” (GRID-Europe, 1).

Administrations, governmental and infra-governmental agencies do not only provide the data for environmental outlooks. They sometimes influence the work according to their own views and interests. The environmental outlooks being undertaken in a growing number of regions, countries and cities are not the same everywhere because the chief concerns of the regions’ decision-makers influence the content of the work. The professionals of IEOs we interviewed underlined their will to take into consideration the concerns of their regional and national partners:

“Of course it has to address the most important issues, issues that can be addressed by governments and other decision-makers so that there can be some practical influence of the report. Where you can write about all sorts of issues, but if it really cannot be solved or people cannot see how they can address it, then it's not very relevant, but really to focus a bit on issues that can be addressed, that are high on the agenda in countries and regions” (GRID-Europe, 1).

Moreover, because they want their work to have concrete effects on biodiversity management, the members of international biodiversity institutions more frequently set out to meet local decision-makers and integrate some of their goals and concerns:

“I think with the years we have been trying to involve more activists, basically because we have been doing this work more and more at the regional and sub-regional and even national, city levels. So from that, automatically it follows that you have more collaboration with those actors” (GRID-Europe, 1).

The frequently used expression of “policy-relevant science” therefore refers to pragmatic compromises, negotiated in the course of the action.
Finally, the capacity of states or subnational entities to influence biodiversity assessment or governance is not limited to adapting contents or modalities. This sometimes takes the form of resisting global initiatives that can be perceived as a short-term threat to the interests and autonomy of action of such entities or states. “Megadiverse” countries, such as Brazil, were somewhat reluctant to create an institution to act as an “IPCC for biodiversity”\(^\text{12}\). Several of our respondents interpret this reluctance as the states’ determination to defend their sovereign rights to exploit and manage their natural resources as they wish. They believe that the representatives of these countries objected to the constitution of a global device for monitoring and regulating biodiversity out of fear that a better knowledge of biodiversity at a planetary scale would lead to international pressures to preserve it:

“There are big issues regarding the states’ sovereignty over their biological resources. As a consequence, the reluctance to create a space of scientific production independent from the political realm is huge in all emerging countries, notably China, India, and Brazil in particular. Brazil has calmed down a bit but it was very much afraid of having somebody telling them what the state of Amazonia is and what they ought to do about it” (IUCN, 2).

To sum up, connecting global and lower levels of scale entails discussing and negotiating with various territorialized actors about how to delineate environmental regions, which data to mobilize and which issues and interests to take into account. The professionals of IEOs travel between levels of scale, transporting data, images and interests and transforming them along the way, clearly acting as ‘entrepreneurs of cosmopolitization’.

### 4. The under-representation of non-Western collaborators

This movement to integrate local and national levels is facilitated by the presence of personnel from regions where the institutions want to work. At the time of our fieldwork, GRID-Europe launched an REO in the Balkans and the Dinaric Arc and appointed a consultant from former Yugoslavia to write a preliminary document and facilitate work sessions with the governments and environmental institutions of the different countries involved. His knowledge of several languages in the region, and of its geography and history, proved to be highly valuable in discussions with local actors. It meant that blunders could be avoided and the REO project promoted.

However, this use of individuals from the regions studied is often only temporary. The aforementioned consultant called in for the Balkans-Dinaric Arc REO was hired on a short-
term basis. There has thus been no long-term partnership established. More generally, this short-lived recourse to local experts significantly highlights the fact that a very large majority of the permanent staff of international institutions are from Western European countries and North America, and more precisely from English-speaking countries. Although the members of the institutions we met are characterized by a cosmopolitan culture and have worked in a long list of Northern and Southern countries, their non-local origin is a serious obstacle to the institutions’ capacity to respond to the twofold requirement of universality and openness to territorialized situations: the cosmopolitanism of biodiversity professionals cannot compensate for the scarcity and, in some cases, the lack of collaborators familiar with the regions where the institutions work and their particularities. Moreover, although English caters to the need for universality, its hegemonic position is an obstacle to discussions with local actors, preventing close and long-lasting relationships from being established with them (about the language issue in global justice networks, see Routledge and al. 2007). So the composition of the permanent staff of biodiversity institutions, characterized by the predominance of Northern country representatives, limits the possibility of adjusting global initiatives to diversified cultural and political contexts, despite the temporary recourse to personnel who are more familiar with them.

The institutions’ human, material and financial means appear to be relatively restricted, especially in relation to the scope of the work to be accomplished. A bureau such as GRID-Europe cannot produce increasing numbers of regional outlooks on the state of the environment. It is obliged to make choices, to the detriment of any cohesion between its different levels of action. For instance, its project to perform an REO in the Balkans and Dinaric Arc was postponed and then abandoned between our fieldwork and the time of writing, because of lack of funding. This example suggests that connecting the global level of scale to lower levels remains a very partially achieved objective: connections are established between the global, as it is conceived of and practised by the professionals of IEOs, and particular places rather than between levels of scale in general.

**Conclusion**

Cosmopolitization is a process that notably entails making levels of scale that can be interconnected and dealing with the resulting tensions. The simultaneously geographical and sociological perspective adopted has enabled us to show that the levels of scale for environmental action and their interconnections are not pregiven but enacted through
practices, notably those of the professionals of IEOs. In particular, our survey has highlighted how biodiversity professionals carry out a range of socio-technical activities in order to confer a global dimension on their dedication and their local activities. They strive to promote their institution as an actor of biodiversity governance by meeting a twofold requirement: firstly a requirement for universality, which corresponds to their status, to their determination to adopt a scientific approach and to the level of scale at which the problem of biodiversity loss was initially defined; and, secondly, a requirement for embedment in specific contexts, in order to be able to take into account the variability of biodiversity and of the political and institutional contexts in which it is addressed. There is a certain amount of tension between these two types of requirement. This is inherent to the cosmopolitan perspective and leads to contextual arrangements between the global approach to biodiversity problems and the establishment of links with national or local institutions and actors, according to opportunities and requirements. This is how a situated environmental cosmopolitanism emerges, performed through the actors’ practices and characterized by the making and entanglement of various levels of scale. Through their practices, the professionals of IEOs gradually define the various levels of their action as interconnected: local phenomena are presented as examples and consequences of global processes; global pictures of the environment incorporate data collected on the ground; the professionals themselves continuously move from global meetings to local and national arenas. As they make it, the global becomes a relevant and meaningful level of scale, linked with territorialized phenomena and issues.

The findings of our survey suggest that the emergence of a global level of biodiversity monitoring and management does not necessarily lead to a departure from local problems and act like a steamroller (as described by Jamison 1996: 25). There appears to be much more fluctuation involved: the rediscovery of the local level did not occur solely in the domain of traditional ecological knowledge but also in that of the scientific devices used to monitor and manage biodiversity. Moreover, the actors’ capacity to adapt globally designed devices to the particular circumstances in which they are engaged (and notably to the reality of the situation of the states with which they have to cooperate) might call for a downwards revision of the weight attributed by international studies to rules and norms in the “regimes” in charge of environmental problems (Haas 1989).

Nevertheless, our survey also reveals a number of limits to the actors’ ability to navigate between the different levels of scale at which their institutions act. These limits are set by the scarcity of available means and the time-consuming work of making levels of scale that can
be linked up, at least partially. They also stem from the tenuous presence of individuals with the cognitive, cultural and linguistic skills required for the integration of non-Western views in a cosmopolitan approach to biodiversity problems and for the invention of other forms of cosmopolitanism, based on alternative ways of defining and practising the various levels of scale and of interconnecting them.

Endnotes

1 This global apprehension clearly appears, for instance, in the title of the influential book by R. Dubos and B. Ward, published in 1972, Only one Earth.

2 It also triggered much criticism (see, for example, McCauley 2006).

3 In this article, we shall use the concept of scale to designate an articulated system of spatial levels (called levels of scale or scale levels) that makes it possible to organize knowledge, collective action, and the distribution of political competences.

4 Levi-Strauss (1962) used the word bricolage to designate the ability to combine different sources of knowledge.

5 In this text, we chose to identify the various activities mobilized by the institutions’ members rather than to focus on one in particular. Each of them is currently being thoroughly scrutinized in the GLO-rete research programme, devoted to the regionalization of environmental action in Europe. This programme is financed by the Swiss National Fund for scientific research (fund CR1011_125414) and is coordinated by Bernard Debarbieux.

6 The official name of this bureau is UNEP-DEWA-GRID Europe. To simplify things, it will be called GRID-Europe in the following pages.

7 Intergovernmental Panel on Climate Change.

8 Species survival commission.

9 According to the GRID-Europe web site, “In a deliberately journalistic style but based on cutting-edge scientific information, the bulletins are aiming at explaining the causes and the consequences of a wide range of problems threatening global to local ecosystems and the human environment.” http://www.grid.unep.ch/product/publication/EABs.php (13/12/10).

10 Scientific knowledge production begins at one level as a deeply local activity. It takes place in field sites, laboratories and on computer screens; equally, its production is embedded in

11 On the pragmatism and versatility applied by environmental NGOs to legitimize their knowledge, see Eden et al. 2006.

12 More precisely, the institution in question is the “International Platform for Biodiversity and Ecosystem Services” (IPBES).

References


