

# **World Wide Green Web**

A study on the organizational networks of environmental organizations

**Erik den Hollander**

Student number: 6949886

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Universiteit Utrecht

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Supervisor: prof. M.H.D. van Leeuwen

Second reader: dr. J. Wiering

## Abstract

As concerns about the environment have been increasing, so has the number of environmental international non-governmental organizations (EINGOs). This study examines the networks of these EINGOs, distinguishing between connections with other non-governmental organizations (NGOs) and intergovernmental organizations (IGOs). Various explanations for varying quantities of these connections are suggested, such as age of the organization, location of headquarters, as well as the number and type of discourse that an EINGO uses. Using an existing dataset, differences between the organizational networks of EINGOs are identified and discussed. The findings tell that age, as well as the number and type of discourse are significant predictors of the number of connections to NGOs and IGOs. Based on these findings, advice is proposed to EINGOs on how to optimize their organizational networks.

Keywords: Environment; non-governmental organizations; intergovernmental organizations; network; connections;

### List of frequently used abbreviations

IGO	Intergovernmental Organization
NGO	Non-governmental Organization
INGO	International Non-governmental Organization
(I)NGO	This term is used in the hypotheses, as the data does not specify whether the NGO is national or international.
EINGO	Environmental International Non-governmental Organization
TSMO	Transnational Social Movement Organization
UIA	Union of International Associations (produce the Yearbook of International Organizations, which was used to create the dataset)

## Introduction

For over half a century, climate change is becoming an increasingly prominent issue in both politics and everyday life. This initiated during the 20<sup>th</sup> century when the view on nature shifted. Where nature was first seen as a resource that could be controlled and used for human advancement, it is now seen as a life-sustaining global ecosystem (Frank, 1997). However, not everybody shares this view towards nature, environment, and climate change and believes that actions should be taken to prevent the latter, even though this issue has gained more traction in general. Research has shown that polarization about environmental issues has increased over the last decade (Dunlap et al., 2016; McCright, 2016).

To make their concerns heard, environmental activists and concerned citizens have formed Non-Governmental Organizations (NGOs). These organizations are defined as follows by the Union of International Associations (UIA):

*“A non-governmental organization (NGO) is a legally constituted organization created by private persons or organizations without participation or representation of any government. The term originated from the United Nations, and is usually used to refer to organizations that are not conventional for-profit business.”* (UIA, n.d.-a)

The UIA is a research institute that documents International Non-Governmental Organizations (INGOs), and qualifies NGOs as an INGO if the organization has members in three or more countries. There is a great variety in the topics and goals of INGOs, such as human rights, women’s emancipation or non-violent conflict resolutions. Sometimes INGOs are also classified as Transnational Social Movement Organizations (TSMOs). TSMOs, however, are a subset that contains certain INGOs, but does not cover the whole spectrum of INGOs (Smith et al., 2021). TSMOs are explicit in their goals to change the status quo, which is not universal for all INGOs, as some INGOs are just cooperative alliances, such as the International Olympic Committee. Nonetheless, for almost all environmental INGOs (EINGOs), the main subject of this paper, it is true that these fit the description of a TSMO, because they usually try to alter the way in which nature and the general environment is being treated (Keck & Sikkink, 1998).

Ever since the nineteenth century, there has been an increase in the number of INGOs, with brief interceptions in growth during both the first and second World War (Boli & Thomas, 1997). In more recent decades, when the topics of climate change and environmental protection became more prominent, there has also been an increase in EINGOs (Frank, 1997; Smith et al., 2018). Since the aforementioned perception towards nature shifted and the first

effects of climate change became apparent (Callener, 1938; Revelle & Suess, 1957; Potter et al., 1975; Manabe & Stouffer, 1980; Shukla et al., 1990), there has also been an increase in treaties to preserve nature (Frank et al., 2000; Andrews, 2008; Keiter, 2008). However, implementing effective environmental policies remains challenging for a number of reasons.

For many countries, especially developing countries, there is a perceived conflict between economic development and environmental protection (Walter & Ugelow, 1979; Liobikiene & Butkus, 2018). Extracting and burning fossil fuels and chopping tropical forests to create space for agriculture can lead to economic prosperity, for example, but harms the environment in the process. More sustainable alternatives are often more expensive or require technology which can be difficult to acquire for developing countries (Lee, 2005; Amankwah-Amoah, 2019; Tabrizian, 2019). Furthermore, some scholars state that economic growth might harm the environment on the short term, but will enhance environmental protection on the long term following the environmental Kuznets curve, but this model remains disputed (Cole et al., 1997; Stern, 1998, 2004; Tamazian et al., 2009; Destel & Sarkodie, 2019; Suki et al., 2020). Therefore, many believe that environmental policies should be instituted on an international level, as part of a cooperation between developed and developing countries (Ringius et al., 2002; Oberthür & Kelly, 2008; Khan & Robers, 2013; Vogler, 2014). However, it has been difficult for these groups of countries to come together and make legislation that is satisfactory to all sides. Following the difficulties that emerged during the processes of creating international environmental policies, an increase in Intergovernmental Organizations (IGOs) occurred (Boli & Thomas, , 1997; Grigorescu, 2007). These organizations, such as the United Nations Environmental Programme, were founded to help find common ground between different parties and implement international environmental policies.

As thoughts on environmental policy often differ, many involved parties try to advocate their interests. These parties are actors in a global debate as environmental policies have become more globally orientated (Frank, 1997). They interact with each other in an intergovernmental arena and include state governments, IGOs, INGOs, and Transnational Corporations (TNCs). In this intergovernmental arena, network connections are very important for EINGOs (Keck & Sicking, 1998; Tallberg et al., 2015, Smith et al. (2021)). Network connections can help EINGOs to get a seat at the table at important conferences or attain consultative status for intergovernmental bodies, such as United Nations agencies. Connections can also be used to share and obtain information or other valuable resources.

As more and more EINGOs emerge, it is important to study how they interact with one another and with other organizations in the intergovernmental arena. Environmental policies usually affect a lot of people and organizations either directly or indirectly, such as through restrictions on lifestyle or taxes on environmentally harmful behaviour and products (Civantos et al., 2012; Pecl, et al., 2017). It is therefore important to understand the role of EINGOs in this decision-making process that leads to these policies. The field of INGOs and TSMOs is a relatively new subject in the social sciences and there is still much to be researched about the roles and influence of INGOs (Boli & Thomas, 1997; Bloodgood, 2011; Bloodgood & Schmitz, 2013; Tallberg et al., 2015), and especially EINGOs (Keck & Sicking, 1998; Allen & Hadden, 2017; Hadden & Jasny, 2017; Partelow et al., 2020). This study will expand on the work from Smith et al. (2021), who found new trends in organizational networks of INGOs, and take a closer look at EINGOs and differentiate between different discourse categories. A distinction will be made between four different discourses, based on the typology from Partelow et al. (2020): Environmental Management, Climate Politics, Environmental Justice, and Ecological Modernization. This paper will help to fill the gap in existing knowledge by combining earlier findings on organizational networks with environmental discourse typologies, to gain further understanding on the impact of EINGOs. In order to shed new light on the organizational networks, this study will aim to answer the following questions:

Research questions:

Q1: How do the organizational networks of EINGOs differ depending on their discourse?

Q2: How can the difference between these different types of EINGOs be understood?

Q3: How can EINGOs optimize their organizational networks?

## Theory

In this section, the intergovernmental arena in which EINGOs operate will be discussed by applying world polity theory. World polity theory gives a framework, which helps to understand how international policies come about, and which organizations are involved in the process. Following this, hypotheses are formulated based on resource mobilization theory. Resource mobilization theory is a sociological theory that identifies critical resources that a social movement needs in order to be successful. Finally, differences amongst EINGOs are identified based on discourse.

### *World polity theory*

When observing EINGOs, it is important to understand in which setting they operate and why they operate there. According to World polity theory, INGOs operate in an international arena, whereby World Polity functions as a framework in which global relations and processes can be analyzed (Boli & Thomas, 1997; McNeely, 2012). This idea was first developed by John Meyer from Stanford University, which is why it is also known as the “Stanford School of global analysis” (Boli et al., 2011).

World polity theory is a macro theory derived from political and social sciences. In the framework it presents, interdependent actors are identified alongside institutionalized rules. The most prominent actors are nation-states and their governments, IGOs, INGOs and Transnational Corporations (TNCs). In accordance with world polity theory, there is a world culture. This world culture contains a shared set of norms and goals, which condemns or condones behavior by actors. For example, while each nation-state is different, they all strive towards economic growth, prosperity, and general well-being for their citizens and condone behaviors and policies that work towards these goals. World culture is dynamic, as the shift in general perception towards nature during the 20<sup>th</sup> century illustrates. INGOs can be seen as carriers of world culture (McNeely, 2012). These organizations carry the growing concerns about the environment from the citizens into the intergovernmental arena, where environmental policies are being decided upon. Through this, environmentally responsible processes can become part of world polity.

For EINGOs to impact world polity, or affect environmental decision-making in general, organizational networks are important (Keck & Sicking, 1998; Tallberg et al., 2015). As a lot of impactful policies are now being made by IGOs like the European Union Environment Programme and the United Nations Framework Convention on Climate Change (Frank, 1997; Boli, 2005; Tallberg et al., 2015), connections to IGOs can give EINGOs a say

in the decision-making process. This can happen through applying for and obtaining consultative status. However, this advisory role is often not officially registered (Albin, 1999). Furthermore, ties to IGOs can also help to raise awareness for a specific cause and help to put this item on the international political agenda (Björkbom, 1999).

An organizational network that connects to other NGOs or INGOs<sup>1</sup> can be also be beneficial (Keck & Sicking, 1998; Murdie & Davis 2012; Tallberg et al. 2015). These connections can be used to share research and information, gain crucial contacts, or collaborate to exert more pressure as a larger group. Compared to other actors in the intergovernmental arena, INGOs have limited financial funds and manpower (McNeely, 2012). An organizational network with ties to similar organizations who are willing and able to share resources helps to mitigate this.

Due to processes of globalization, such as developments in communication technology and decreasing travel costs, it has become easier for INGOs to come and stay in contact with each other (Hadden & Bush, 2020). This is in accordance with the small-world phenomenon, which holds that people and organizations are increasingly interconnected due to ongoing globalization (da Sool Pool & Kochen, 1978; Watss, 1999; Travers & Milgram, 2011). This is confirmed by the 2018 study of Smith et al., which found that TSMOs, which includes most EINGOs, are increasingly interconnected. However, the question remains: do all EINGOs have similar organizational networks?

### *Resource mobilization theory*

According to resource mobilization theory, the success of social movements, in this case EINGOs, is dependent on the available resources and how these are utilized (McCarthy & Zald, 1977; Klandermans, 1984; Edwards & McCarthy, 2004). Five types of resources are identified: moral, cultural, social organizational, material, and human resources. Resources are often combined to achieve a desired result. For instance, an INGO might use material resources, such as a computer and internet access, in combination with human resources to send out e-mails trying to recruit new members. To find appropriate recipients for these emails, a list with email addresses is needed, which you might get from another organization, utilizing the organizations social organizational resources. An organization with many resources will have more success than an organization with less resources (Edwards & McCarthy, 2004). In the given example, a longer list of recipients or a better crafted email will increase the number of newly recruited members. Applying resource mobilization theory,

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<sup>1</sup> Hereafter called (I)NGO if it is uncertain whether an organization is national or international.

it follows that EINGOs with a larger amount of available resource and the capacity to utilize these efficiently, have larger organizational networks.

It also important to take into account how long the organizations have existed, as older organizations have had more opportunity to acquire resources. A study by Mitchel et al. (1991) on the developments of environmental organizations in the USA during the years 1960-1990, found that older organizations have more members and more budget than younger organizations. This increased amount of material and human resources results in a larger organizational network. This is applicable to connections to IGOs as well as other (I)NGOs. Thus it is expected that older EINGOs have a larger organizational network than younger EINGOs.

Hypothesis 1a: Older EINGOs have more connections to IGOs than younger EINGOs

Hypothesis 1b: Older EINGOs have more connections to (I)NGOs than younger EINGOs

When comparing the connections of different EINGOs, it is also important to take into account geographical characteristics (Mitchell et al, 1991; Boli, , 2005; Murdie & Davis, 2012). Much research has been done towards the differences between INGOs located in the ‘Global North’ and the ‘Global South’ (Smith & Wiest, 2005; Parks & Roberts, 2008; Shumate & Dewitt, 2008; Linnér & Jacob, 2011; Murdie & Davis, 2012; Gereke & Brühl, 2019; Smith et al., 2021). The Global North refers to richer, more developed countries. This is operationalized as those countries that were part of the Organization for Economic Co-operation and Development (OECD) before 1975 (Smith & Wiest, 2012). These include most Western European and North American countries, but also countries like Japan and Australia.

Historically, the majority of INGOs have been located in the Global North (Smith & Wiest, 2005; Hadden & Bush, 2020). Located in the sense that the headquarters is in a country that belongs to the Global North. This also holds true for IGOs (Vogler, 2014). Following resource mobilization theory, resources are more accessible for organizations in the Global North. For instance, INGOs in the Global North have more financial means on average, which means it is easier for these organizations to attend conventions and expand their organizational networks (Murdie & Davis, 2012). Therefore, it is expected that EINGOs in the Global North have a larger organizational network than their counterparts in the Global South.

Hypothesis 2a: EINGOs located in the Global North have more connections to IGOs than EINGOs located in the Global South



Hypothesis 2b: EINGOs located in the Global North have more connections to (I)NGOs than EINGOs located in the Global South

### *Discourses*

As the number of EINGOs has been steadily increasing in the past decades (Smith & Wiest, 2012), this study also aims to identify possible differences in organization networks amongst EINGOs. Not all EINGOs operate in the same way and neither are their goals exactly the same. To give a few examples, the African Greens Federation has a goal to unite environmentally concerned Africans and with combined forces influence governments to implement greener policies (UIA, n.d.-b). The European Network for Sustainable Tourism Development aims to reduce climate change by making the tourism sector more environmentally sustainable. The Foundation for International Environmental Law and Development wants to create international laws that protect the environment on a global level and create environmental justice (UIA, n.d.-c). Along with the increase in the total number of EINGOs, a variety of approaches and objectives connected to environmental sustainability has arisen.

As this research aims to identify differences in the organizational networks of EINGOs, a classification will be made based on the type of discourse they use to strive towards their goals. To give meaning to the word discourse, this paper uses the definition of discourse as formulated by Dryzek (2006, p. 8):

“A shared way of apprehending the world, comprising a system of ideas, definitions, and values that structure understanding and action.”

Recently, Sandbrook et al. (2019) identified some key differences between certain EINGOs and their supporters and came up with three types of EINGOs: people centered conservation, science-led ecocentrism and capitalists conservation. However, this distinction mainly concerns nature conservation, and does not really delve into other segments of the EINGO spectrum.

Thus, this paper will use the typology from Partelow et al. (2020). This is a recently updated classification based on a large number of EINGOs, which also builds on earlier typologies such as the ones of Brulle (1996) and Bäckstrand & Lövbrand (2006). By analyzing the mission statements of 679 EINGOs, Partelow and colleagues identified four main discourses that can be used to classify most EINGOs. These four discourses are environmental management, climate politics, environmental justice and ecological modernization. These four discourses are not necessarily exclusive as some EINGOs might

carry out multiple of these discourses. The narrative descriptions of the discourses and associated indicator terms are stated in table 1.

*Table 1 Explanation of the four discourses (Partelow et al. 2020)*

<b>Discourse</b>	<b>Narrative Description</b>	<b>Indicator Terms</b>
Environmental Management	Sustainably managing and conserving the environment and natural resources through science, capacity building and international cooperation with a focus on protected areas, air quality, forests and energy	Environmental management, air quality environmental conservation nature conservation, sustainable environmental, capacity build, nature resource management, forest, environmental sustainable, science, international cooperation, sustainable energy
Climate Politics	Working with government and civil society across multiple levels from local to international to address global climate change and build a good future	Level, change, local, international, work, good, national, government, climate change, civil, future, global, social, climate
Environmental Justice	Pursuing justice by empowering people and communities to live in a way that respects nature and cultural diversity and guarantees human rights and the rights of indigenous peoples	Right, live, people, nature resource, culture diversity, human right, indigenous people, nature, culture, human, justice, empower, resource, people live, community
Ecological Modernization	Working with business and civil society to develop policy and pursue innovative responses to global climate change by focusing on greenhouse gas emissions and renewable energy development	Energy, take, business, climate change, climate, greenhouse gas, policy, renewable energy, issue, greenhouse gas emissions, civil society, global climate, national, civil, innovation

These discourses are not exclusive of one another, as organizations can partake in more than one of these discourses. Based on resource mobilization theory, these hybrid EINGOs can have more use of large organizational networks that are beneficial for them, than EINGOs that mainly focus on one discourse (Edwards & McCarthy, 2004). As these hybrid organizations operate in different fields, there is wider range of potential allies in their mission towards a greener planet. For example, an EINGO that focusses on ecological modernization, connections with engineers are beneficial as these can be helpful when coming up with technological innovations. However, connections to engineers are a lot less valuable for an EINGO that solely focuses on environmental justice and protecting animal rights, which would have more use for a connection to a law school to recruit new lawyers. An EINGO that partakes in both of these discourses will have uses for both types of connections. Thus it is expected that multiple discourse EINGOs have a larger organizational network.

Hypothesis 3A: Multiple discourse EINGOs have more connections to IGOs than single discourse EINGOs

Hypothesis 3B: Multiple discourse EINGOs have more connections to (I)NGOs than single discourse EINGOs

For certain discourses, a larger list of connections to IGOs can be more beneficial than for other discourses. For EINGOs with an environmental management, climate politics, or environmental modernization discourse, a high number of connections to IGOs is beneficial. These discourses generally focus on the implementation of global environment policies and hope to achieve their goals by cooperation. In order to successfully implement policy, it is necessary to collaborate with the other actors in this arena, which include IGOs. This is based on world polity theory and the intergovernmental arena in which international policy is made (McNeely, 2012).

On the contrary, when organizations are focusing on environmental justice, it may be less advantageous to be officially connected to IGOs. Organizations with an environmental justice discourse often use an outside strategy (Dür & Mateo, 2013; Dellmuth & Tallberg, 2017). This means that they don't form direct connections with policy making organizations, but use an outside strategy to put pressure on these organizations, for instance by mobilization of the public opinion. A recent study towards organizational connections by Smith et al. (2021), stated that INGOs that prefer an outside strategy are unlikely to have connections to IGOs, calling these INGOs 'rejectionists', as they reject direct cooperation with IGOs. They found that this organizational attitude was prevalent with EINGOs that pursue environmental justice. As it is not possible to have a negative number of connections, it is therefore expected that the discourses of environmental management, climate politics and ecological modernization have a positive effect on the number of connections to IGOs, whereas environmental justice does not.

Hypothesis 4a : An environmental management discourse will have a positive effect on the number of connections to IGOs

Hypothesis 4b : A climate politics discourse will have a positive effect on the number of connections to IGOs

Hypothesis 4c : An ecological modernization discourse will have a positive effect on the number of connections to IGOs

Connections to other (I)NGOs are generally considered beneficial (Keck & Sikkink, 1998; Tallberg et al., 2015), as they allow for the access and sharing of resources. Campaigns towards international environmental legislation usually raise claims about sovereignty and property, which involves substantial economic costs (Keck & Sikkink, 1998). A larger network with a common pool of usable resource can help to make these campaigns possible. Networks can also be used to find common goals and strategies and work together to achieve these aims. Keck & Sikkink (1998) describe multiple examples in which a NGO network can help to advocate a cause, but do not mention specific discourses for which these networks can be more beneficial. Smith et al. (2021) state that rejectionist INGOs, do also invest in their network connections with other (I)NGOs. A study that compared environmental discourses by Bäckstrand & Lövbrand (2006), stated that for all discussed discourses a large network of NGOs can be beneficial, although this study did use an alternative discourse typology. Therefore it is not expected that connections to other (I)NGOs differ between organizational discourses.

Hypothesis 5: There is no difference in the number of connections to (I)NGOs based on organizational discourse

## Methods

### *Data*

For this research a dataset developed by Smith et al. (2019) was used. The dataset contains information about TSMOs registered in the *Yearbook of International Organizations*, which holds data collected by the Union of International Organizations. As stated before, TSMOs includes nearly all EINGOs, which is why this dataset was used. The data in the *Yearbook* is partly collected by the UIA from websites, newspapers and conference summaries, and partly submitted by the INGOs themselves (UIA, 2021). This information includes the year of foundation, the country where the INGO is headquartered, organizational goals and network connections. The dataset used in this research is an extension of the dataset that is made by Smith & Wiest (2012). This dataset, as well as earlier versions of it, has been used in earlier studies towards INGOs (Smith & Wiest, 2005; Cole & Perrier, 2019; Rademacher, 2020).

As not all organizations submit and update their information or can be collected by the UIA itself from other sources, not all data was available for all of the INGOs in the dataset (UIA, 2021). There are also variables which are not filled in by the INGOs or UIA, but by the creators of the dataset, such as the field in which the organization is active, which is deduced from the organizational aims (Smith et al., 2019). INGOs for which no organization aims were reported, were removed from the dataset for this research.

In the original dataset from Smith et al., an INGO qualified as an EINGO if one of its organizational aims was identified as an environmental goal by the researchers. However, this also included INGOs whose primary goal is not environmental, such as the International Federation for Peace and Conciliation, whose main goal is non-violent conflict resolution (Smith et al., 2019). As this research focusses on the organizational networks of EINGOs in particular, so organizations whose primary goal is environmental, INGOs for which the primary organizational goal was not environmental were removed from the dataset. This was done by examining each organization and its goal in the dataset, and removing the ones that not have a primary environmental goal.

For EINGOs that have reported a number of connections to other NGOs, but not to IGOs, it is assumed that they have 0 connections to IGOs. This was also done by Smith et al. (2021), as they claim it is unlikely that organizations have reported their connections to NGOs but not their connections to IGOs if they have these.

The aims of the remaining 287 EINGOs are analyzed and are coupled to the aforementioned environmental discourses from Partelow et al. (2020), being environmental management,

climate politics, environmental justice and ecological modernization. A dummy variable was constructed for each of these discourses and a score of 1 was given to an EINGO on a discourse variable if that organization practices this discourse. As these discourses are not exclusive, organizations can score on multiple of the discourse variables. The discourses are coupled to organizations based on the indicator terms and narrative description formulated by Partelow and colleagues as presented in table 1. Table 2 presents the outcomes of the classification of the discourses.

**Table 2** Results of classification of discourses of 287 EINGOs

	Environmental management	Climate Politics	Environmental Justice	Ecological Modernization	Number of Hybrid Organizations
Total number	167 (58.2%)	79 (27.5%)	89 (31.0%)	89 (31.0%)	134 (46.6%)

The numbers in table 2 show how often an organizational discourse was identified. There were no unidentified cases. The score between brackets show how much of the total number (287) of EINGOs partook in this particular discourse. So of the 287 analyzed EINGOs, 58.2% of these practice a discourse towards environmental management. The other discourses were encountered less frequent.

Another variable was computed, that combined the scores of the four discourse organizations. This variable thus presented the number of discourses that each organization partakes in, ranging from 1 to 4. This variable is used to test the third hypothesis concerning the number of discourses that an organization partakes in.

In the dataset from Smith, there already was a dummy variable indicating whether an organization has its headquarters in the Global North. 216 of the 287 EINGOs had their headquarters in the Global North, which is about 75%. A number of explanations for this are discussed in the research of Smith & Wiest (2005), on the uneven distribution of INGOs.

### *Research design*

In order to test the proposed hypotheses, analyses were performed using the program IBM SPSS Statistics 26. To test the hypotheses several multiple regression analyses were performed. A complication that occurred during these analyses was that the dependent variables which were used, the number of connections to IGOs and the number of connections to (I)NGOs, was non-normally distributed. Multiple ways of transforming the dependent

variable to obtain a normal distribution were performed, but none of these led to normally distributed values. There was also a mild deviation from homoscedasticity, meaning that the standard error varies across the dependent variable. The amount of homoscedasticity was judged based on a scatterplot, as SPSS doesn't support other tests for homoscedasticity, for instance a Breusch-Pagan test. After meeting with a statistical consultant, a choice was made to use the non-transformed data and perform a bootstrap analysis, as it was only a mild deviation from homoscedasticity. Bootstrapping is a method that gives more reliable outcomes than a standard multiple regression analysis when dependent variables are non-normally distributed (Diaconis & Efron, 1983). Bootstrapping multiplies the available data on the dependent variables and draws random samples of this multiplication based on the original number of cases. Based on the 287 original cases in this study, the analysis is performed and estimates are given. This process is done multiple times, and the average of the estimates are presented.

Thus, each of the multiple regression analyses were performed with a bootstrap of 5000 samples, in order to mitigate the effects of the non-normally distributed dependent variables and the mild heteroscedasticity. The confidence intervals that resulted from bootstrapping should give a reasonably robust impression of the effects of the independent variables on the dependent variables. However, the results should be interpreted with some caution, because of the mild deviation from homoscedasticity.

To test all hypotheses four analyses were performed. Two for each dependent variable, being connections to IGOs and connections to (I)NGOs. In the first analysis for each dependent variable (model 1 & 2), the number of discourses per EINGO is used, as well as the age of the organization and the location of the headquarters. In model 3 & 4, the variable containing the number of discourses was replaced by the dummy variable for each individual discourse. This was necessary to test the fourth and fifth hypothesis, which measure the differences between the discourses.

## Results

This section shows the descriptive statistics of the used variables and the results of the analyses that were performed in order to test the hypotheses.

### *Descriptive statistics*

**Table 3** Descriptive statistics

	N	Min	Max	Mean	SD
Connections to IGOs	287	0	22	2.29	3.551
Connections to (I)NGOs	287	0	45	4.30	5.441
Age of organization	287	4	118	24.11	14.181
HQ in Global North	287	0	1	.75	.432
Type of discourse					
Environmental management	287	0	1	.58	.494
Climate politics	287	0	1	.28	.447
Environmental justice	287	0	1	.31	.463
Ecological modernization	287	0	1	.31	.463
Number of discourses	287	1	3	1.4774	0.521

Table 3 shows the descriptive statistics of all the variables used in each of the models. The average number of connections from EINGOs to IGOs is 4.30. There were 110 organizations that reported 0 connections to IGOs. The highest number of connections to IGOs was reported by Greenpeace International: 22. Only 25 organizations reported 0 connections to other (I)NGOs. This is also indicated by the higher mean of 4.30. The highest number of connections to (I)NGOs was reported by Ban Terminator Campaign with 45 connections. This is an organization that aims for governmental bans on what they call “terminator technology”, which are genetically engineered plants that produce sterile seeds.

There is large difference in the age of the organizations. The two youngest organizations had only existed for 4 years when this dataset was made, which are CDM Watch and People’s Movement on Climate Change. The oldest organization - that has existed for 118 years - is the International Friends of Nature, which was established in 1895. The number of discourses vary between 1 and 3. Most organizations have either one ( $N=153$ ) or two discourses ( $N=131$ ) and only 3 organizations were classified as having 3 discourses.



## Analyses

Hypothesis 1a states that older EINGOs have more connections to IGOs than younger EINGOs. Hypothesis 2a states that EINGOs with their headquarters in the Global North have more connections to IGOs than EINGOs with their headquarters in the Global South. Hypothesis 3a states that multiple discourse EINGOs have more connections to IGOs than single discourse EINGOs.

**Table 4** Impact of age, location of headquarters and number of discourses on connections to IGOs

	B	95% CI		SE
Constant	-1.038	-2.926	0.483	0.860
Age of organization	0.061**	0.024	0.117	0.024
HQ in Global North	-0.021	-0.954	0.880	0.470
Number of discourses	1.267**	0.552	2.055	0.383
R <sup>2</sup>	0.096			
F	10.011			

**Note:** \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$ ;  $N=287$ ; based on 5000 bootstrap samples; CI = Confidence Interval; LL = Lower Limit; UL = Upper limit

Table 4 shows the results of the multiple regression analysis with the variables for the number of discourses, age of the organization and dummy indicating the impact of the location of the headquarters on the number of connections to IGOs. This model is significant,  $F(3, 283) = 10.011$ ,  $p < .001$ , and does explain a medium amount of variance ( $R = .096$ ). The negative value for the constant might seem strange, as it seems impossible to have a negative number of connections. However, since all of the EINGOs were classified to have at least one type of discourse, the negative value is mitigated by the coefficient of the number of discourses ( $B = 1.267$ ). For instance, if an EINGO in the Global North has two discourses and is 35 years old, the EINGO is estimated to have 3.305 connections to IGOs according to this model. An EINGO in the Global South that is 20 years old and practices one discourse will have 1.449 connections to IGOs. The variables for discourses ( $p = .002$ ) and age of organization ( $p = .007$ ) are significant, but location of the headquarters is not ( $p = .965$ ). These findings confirm hypothesis 1a, meaning that older EINGOs do have more connections to IGOs than younger organizations. Hypothesis 2a is not confirmed, as the location of the headquarters did

not have a significant effect. Hypothesis 3a is confirmed, as the number of discourses does increase the number of connections to IGOs significantly.

Hypothesis 1b states that older EINGOs have more connections to (I)NGOs than younger EINGOs. Hypothesis 2b states that EINGOs located in the Global North have more connections to (I)NGOs than EINGOs located in the Global South. Hypothesis 3b states that multiple discourse EINGOs have more connections to (I)NGOs than single discourse EINGOs.

**Table 5** Impact of age, location of headquarters and number of discourses on connections to (I)NGOs

	B	95% CI		SE
		LL	UL	
Constant	0.242	-2.126	2.399	1.147
Age of organization	0.041	-0.004	0.096	0.025
HQ in Global North	0.688	-0.605	1.992	0.655
Number of discourses	1.734**	0.551	2.996	0.623
R <sup>2</sup>	0.043			
F	4.276			

**Note:** \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$ ;  $N=287$ ; based on 5000 bootstrap samples; CI = Confidence Interval; LL = Lower Limit; UL = Upper limit

Table 5 should be interpreted the same way as table 4, only this time the dependent variable is connections to (I)NGOs. This model is also significant,  $F(3,283) = 4.276$ ,  $p = 0.006$ , but explains a small amount of variance ( $R = .043$ ). Compared to the previous model, the constant value is positive, which results from the higher mean of connections to (I)NGOs than the mean of connections to IGOs. Based on this model, an EINGO of 24 years old, located in the Global North and practicing two discourses has 5.382 connections to (I)NGOs. A Southern EINGO of 10 years old with one discourse will only have 2.386 connections to (I)NGOs. In this model, only the number of discourses is a significant predictor ( $p = .006$ ) for the number of connections to (I)NGOs. The effects of age ( $p = .088$ ) and location of headquarters are not significant ( $p = .290$ ). This means that hypothesis 1b and 2b, about the effects of age of organization and location of headquarters are rejected. Hypothesis 3b is confirmed, as the number of discourses does have a significant positive effect on the number of connections to (I)NGOs.

Hypothesis 4 states that the discourses (a) environmental management, (b) climate politics and (c) ecological modernization have a positive effect on the number of connections to IGOs.

**Table 6** Impact of the type of discourse, age and location of headquarters on connections to IGOs

	B	95% CI		SE
		LL	UL	
Constant	-1.134	-2.889	0.401	0.830
Type of discourse				
Environmental management	1.551**	0.527	2.634	0.543
Climate politics	1.820**	0.753	3.007	0.569
Environmental justice	0.835	-0.026	1.782	0.461
Ecological modernization	1.161	0.074	2.382	0.558
Age of organization	0.041*	0.020	0.112	0.023
HQ in Global North	-0.001	-0.958	0.896	0.468
R <sup>2</sup>	0.103			
F	5.333			

**Note:** \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$ ;  $N=287$ ; based on 5000 bootstrap samples; CI = Confidence Interval; LL = Lower Limit; UL = Upper limit

Table 6 shows the impact of the specific type of discourse on the number of connections to IGOs. The variables age of organization and location of headquarters were included in this model as control variables. This model was significant,  $F(6,280) = 5.333$ ,  $p < .001$ , and explains a medium amount of variance ( $R = .103$ ). A 25 year old, Northern EINGO that would partake in environmental management and ecological modernization has 2.602 connections to IGOs according to this model. A 40 year old EINGO that has an environmental justice discourse and is located in the Global South will only have 1.341 connections to IGOs. The discourse types of environmental management ( $p = .006$ ), and climate politics ( $p = .001$ ) have a significant effect, that of ecological modernization ( $p = .051$ ) was borderline significant, and that of environmental justice ( $p = .084$ ) not at all. Age had a significant effect ( $p = .012$ ) on the number of connections to IGOs, which the location of the headquarters did not have ( $p = .999$ ). This means that hypothesis 4a and 4b are confirmed. Hypothesis 4c, is not confirmed although the positive effect of ecological modernization was borderline significant.

The fifth hypothesis states that there are no significant differences in the number of connections to INGOs based on the varying discourses.

**Table 7** Impact of the type of discourse, age and location of headquarters on connections to (I)NGOs

	B	95% CI		SE
		LL	UL	
Constant	0.423	-1.895	2.621	1.160
Type of discourse				
Environmental management	0.816	-0.661	2.279	0.747
Climate politics	1.859	0.092	3.819	0.951
Environmental justice	2.003*	0.345	3.853	0.896
Ecological modernization	1.534*	0.123	2.999	0.744
Age of organization	0.049*	0.005	0.104	0.025
HQ in Global North	0.832	-0.546	2.226	0.710
R <sup>2</sup>	0.052			
F	2.560			

**Note:** \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$ ;  $N=287$ ; based on 5000 bootstrap samples;

CI = Confidence Interval; LL = Lower Limit; UL = Upper limit

Table 7 shows the final model of this paper and the impact of the type of discourse on the number of connections to (I)NGOs. This model is significant,  $F(6,280) = 2.560$ ,  $p = .02$ , and explains a little to medium amount of variance ( $R = .052$ ). Following this model, a 25 year old Northern EINGO with an environmental management discourse has 3.296 connections to (I)NGOs. A 25 year old Southern EINGO with an environmental justice and ecological modernization discourse will have 5.185 connections to (I)NGOs. Contrary to the previous model with IGO connections, for NGO connections the discourses environmental management ( $p = .291$ ) and climate politics ( $p = .057$ ), are not significant, while environmental justice ( $p = .028$ ) and ecological modernization ( $p = .040$ ) do have significant positive effects. The control variable of age of the organization was borderline significant ( $p = .046$ ), while the location of the headquarters was again not significant ( $p = .248$ ). This means that hypothesis 5 is rejected, as there are discourses that have a significant effect on the number of connections to (I)NGOs, these discourses being environmental justice and ecological modernization.

## Conclusion

This research aimed to identify differences in organizational networks between different types of EINGOs by answering the following questions:

Q1: How do the organizational networks of EINGOs differ depending on their discourse?

Q2: How can the difference between these different types of EINGOs be understood?

Q3: How can EINGOs optimize their organizational networks?

First, EINGOs were classified based on their discourse. Then the effect of these discourses on the number of connections to (I)NGOs and IGOs was measured, as well as the effect of the age of the organization and the location of the organization's headquarters.

The first set of hypotheses concerned the impact of age on the number of connections to both IGOs and (I)NGOs. The positive effect of age on the number of connections was significant in three out of the four models. In the model presented in table 5 the effect of age on the number of connections to (I)NGOs was not significant. As a control variable in the last model (table 7), age of the organization did have a significant positive effect on connections to (I)NGOs. The discrepancy between these two findings can have multiple causes. The second model gives a more accurate representation of the effect of age, as the effects of the different discourses are separated, thus explaining more overall variance. Another cause could be that a bootstrap was performed for these models. Even though the number of bootstrap (5000) is quite high, there can still be different values every time this model is run. However as the p-value of age in table 5 (.088) is quite high, it is unlikely that when this analysis had been run again, the effect would have been significant. On these grounds, it cannot be concluded that age has a positive effect on EINGOs connections to other (I)NGOs.

The second set of hypotheses regarded the location of headquarters of the analyzed EINGOs. Derived from resource mobilization theory, EINGOs with their headquarters in the Global North were expected to have more connections to both IGOs and (I)NGOs. Contradictory to this expectation, in none of the models was the effect of the location of the headquarters significant. In the models regarding connections to IGOs, the effect of a Global North headquarters was even negative, although still not significant. This hypothesis was based on resource mobilization theory, as previous studies had found that Northern EINGOs generally had more resources than Southern EINGOs. The findings of this study could imply that these resources are not utilized for a larger organizational network.

A positive relation was expected between the number of discourses of an EINGO and the organizational connections to both IGOs and NGOs. This expectation was confirmed for

IGO connections by the model shown in table 4, as well as for (I)NGO connections as shown by the model in table 5. This expectation was derived from resource mobilization theory. This finding confirms that for multiple discourse EINGOs, more types of connections can be beneficial, resulting in larger organizational networks.

The fourth and fifth hypotheses regarded the type of environmental discourse of the EINGO. A positive effect of environmental management, climate politics and ecological modernization on connections to IGOs was expected, based on the inside lobby strategy. For environmental management and climate politics these expectations were confirmed, but not for ecological modernization, although this effect was borderline significant. Implicit with these hypotheses was an expectation that the environmental justice discourse did not have a positive effect on connections to IGOs, based on outsider lobby strategies. This expectation was also confirmed. This finding does support the notion that environmental justice discourse EINGOs more often opt for outsider strategies, on which basis this hypothesis was stated.

It was hypothesized that there was no significant effect of discourse on the number of connections to (I)NGOs. This hypothesis is rejected, as environmental justice and ecological modernization did have a significant positive effect. These findings indicate that connections to similar organizations are more frequent for EINGOs with these discourse compared to environmental management or climate politics discourse EINGOs. It seems that the claim that connections to similar organizations are beneficial for EINGOs (Keck & Sicking, 1998; Tallberg et al., 2015) might be too general. Although this study does not take into account whether the low number of connections to (I)NGOs for the environmental management and climate politics discourses are the results of conscious choices by the EINGOs or the result of a lack of resources to form these connections. Another possible explanation for the lower amount of (I)NGO connections for environmental management discourse EINGOs is offered by Cooley & Ron (2002), who state that competition can arise when too many organizations try to claim the same resources. The environmental management discourse was the most frequent discourse in this study, which could indicate a lot of competition. However, this argument does not explain why the climate politics discourse also had a low number of connections to (I)NGOs, as this was the least frequent discourse.

Summarizing the findings of all the models, the type of discourse had a significant effect in some cases, as did age in most of models. These factors can help to understand some of the differences of organizational networks between EINGOs, but in all models a large amount of variance still remained unexplained. Therefore more research towards the organizational networks of EINGOs is required to gain more insights on this topic.

## Discussion

This research was performed using data that was partly submitted by the organizations themselves, which increases the internal validity of the findings. However, not all EINGOs go through the effort or have the human resources to submit their information to the UIA, resulting in exclusion from this research. This can especially hold true for organizations based in the Global South, as they generally have less resources at their disposal. The UIA itself does acquire information from organizational websites and news articles, but this does not guarantee that all the needed information is acquired for each organization. Some organizations might also experience a language barrier when communicating with the UIA, as many of the Southern organizations are from Spanish speaking countries. Because of this, it cannot be said with certainty the ratio between EINGOs in the Global North and the Global South (3:1) in this dataset is representative of the real world ratio, which could compromise the external validity of this research. However, this should not directly affect the results of the regression analysis.

For the analyses of this research, data on organizational connections from the Yearbook of International Organizations by the UIA was used. As the data collected by this organization is used in a multitude of studies on the topic of INGOs, it can be assumed that this data is quite reliable. However, EINGOs report their own organizational connections and these are not confirmed from the other side of the connection. Thus organizations could potentially submit false information to create an illusion of a larger or smaller network, although there is no evidence to support this claim.

The dataset used in this research created by Smith et al. (2019) did not specify whether a connection to an NGO, was in fact to a national or international organization, which is why the term (I)NGO was used in this study. Furthermore, only the number of connections to (I)NGOs was reported in this dataset. It can be argued that a connection to a large and longstanding INGO like Greenpeace is more beneficial than a connection to a small, recently founded NGO. For future research on this topic, it would be beneficial to get more insight in the type of (I)NGO that these EINGOs are connected to.

In the used dataset, the youngest organizations had existed for four years, being CDM Watch and People's Movement on Climate Change. In the dataset from Smith et al. (2019), there were also more recently founded organizations. These were however not included for the analysis as they were either not primarily aimed at preserving the environment or had not reported their network connections. An example of the latter being the African Green

Network, which was founded in 2010.

Both of the dependent variables in this research had a mild deviation from homoscedasticity, as well as being non-normally distributed. This was mediated by using a bootstrap method, but the results of the analyses should still be interpreted with some caution. To make these findings more robust, other types of analyses could be used to see if similar effects are found, such as Gaussian mixture models, as it was not possible to do these kinds of analyses in the scope of this thesis.

As this research only used cross sectional data from the year 2013, future research based on longitudinal data can provide new insights on the measured effects. For instance, has the effect of organizational age declined, increased or remained stable throughout the years? It would also be very interesting to research whether the current COVID-19 pandemic has had an effect on organizational networks. A lot of conventions were cancelled, reducing the opportunities for organizations to come in contact with one another. On the other hand, some conventions were held online, which could have made these conventions more accessible for organizations that could otherwise not physically attend these events, potentially increasing accessibility for small EINGOs with limited funding. This could lighten the financial strain that some EINGOs in the Global South experience, as it is cheaper to attend an online conference, then to fly out to a physical event.

Another way to gain more understanding towards the organizational networks of EINGOs, is to study the type of members that these organizations have. Dellmuth & Tallberg (2017) and Sandbrook et al. (2019) both mention the impact of the type of members on the type of discourses that the organization practices. It would be interesting to see whether the type of members has a direct effect on the organizational network or whether this is moderated by the type of discourse, as this research has shown that certain discourses can have an effect on organizational connections.

A similar argument can be made for research towards other type of connections. This study focused on two types of connections, those to IGOs and (I)NGOs. Another type of connections, those from EINGO to corporations, can also be interesting to study in relation to organizational discourse. This can build on the work from Hoffmann (2009) who studied American environmental NGOs and their corporate connections.



## Policy Advice

How can EINGOs optimize their organizational networks?

This paper was written in order to gain more insight into the organizational networks of EINGOs. This section will discuss how these insights can be used in order for EINGOs to optimize their networks. The goal of this optimization is to increase the organization's advocacy output on environmental topics and legislation.

### *On connections to NGOs*

For network optimization, it is important to understand the functions of network connections. The discussed literature suggests that connections to other NGOs are almost always beneficial for INGOs, with Murdie & Davis (2012) stating that these connections allow INGOs to utilize a common good of information, research and contacts. Should EINGOs therefore simply attain as much connections to other NGOs as possible? This remains to be determined. Cooley & Ron (2002) found that the increasing number of EINGOs also leads to competitive struggles. Financial constraints can become a problem as funding for EINGOs can be difficult to acquire, and a higher number of total EINGOs means more competition for this. Carpenter (2007) states that connections to certain NGOs might subvert EINGOs from their initial organizational goal. Meaning that the goals of smaller organizations can be overshadowed by the goals of larger organizations. Because of the competitive element between EINGOs, it is therefore not always beneficial for EINGOs to mindlessly obtain as many connections to NGOs as possible. EINGOs should aim to connect with organizations with similar aims and discourses (Hadden & Jasny, 2017). This means that the information that can be acquired through these connections is more valuable than information coming from organizations with other goals and discourses.

As it is important for EINGOs to select the right NGOs to make connections to, the question becomes how can EINGOs find the right organizations to take up in their network? EINGOs should submit information about themselves to the UIA, as this information ends up in the Yearbook of International Organizations. This is one of the most complete overviews of the international civil society. By submitting correct and extensive information about their organizational goals, their members, their funding and other important traits, EINGOs can use the *Yearbook* to connect with similar EINGOs. EINGOs need to understand that the *Yearbook* not only functions as an information source for scholars, but that this source can also be used to gain critical connections.

### *On connections to IGOs*

The question of how beneficial the connections to IGOs are for EINGOs also does not have a straightforward answer. Smith et al. (2021) mention that recently founded INGOs have become more selective in their connections to IGOs. By opting for an outside strategy towards IGOs, these rejectionist INGOs can more easily criticize and mobilize the public opinion against policies of IGOs. By formally cooperating with these organizations, it might seem as if the EINGOs condone the behavior of the IGOs, which some EINGOs don't want to do. These EINGOs find that the current power dynamics in the intergovernmental arena do not facilitate enough, or at least fast enough, change towards greener policies. They find that the current global structure does not work and because of this do not want to officially align themselves with the other actors in this structure. Ergo, the rejectionist approach can also be seen as a critique on the current policy making processes.

On the other side of the coin, there are the insider strategies (Dellmuth & Tallberg, 2017; Smith et al., 2021). Organizations that use the insider strategy try to affect the policy making processes from within. For this approach connections to IGOs are required. As this insider-outsider strategy paradigm is only recently applied INGOs, it remains unclear which approach yields the best results. For now, the advice for EINGOs could be based on their view towards the current processes that occur in the intergovernmental arena and its actors. If they think their interest can be represented inside the current status quo, insider strategies might suit these organizations and obtaining IGO connections is beneficial. If an EINGO has the view that the current global political order does not provide an adequate system that can bring about the change in policies that it wants, outsider strategies would better suit these organizations, combined with a low number of connections to IGOs.

Thus the advice that can be given to EINGOs is not straightforward. The models that were presented in this paper were also not particularly robust, due to the nature of the dataset. However, it is certain that to accommodate more accurate future research, EINGOs should invest in their communication with the UIA. In addition, this is also an indirect investment in the EINGOs own connections to other (I)NGOs. The advice on connections to IGOs, is for organizations to reflect on the political arena that they find themselves in, and whether they agree with this setting as being adequate or not. With this, the current research attempts to give the first directions for EINGOs attempting to improve their organizational networks, and researchers studying the subject.

## References

- Albin, C. (1999). Can NGOs enhance the effectiveness of international negotiation? *International Negotiation*, 4(3), 371-387.
- Allen, J., & Hadden, J. (2017). Exploring the framing power of NGOs in global climate politics. *Environmental Politics*, 26(4), 600-620.
- Amankwah-Amoah, J. (2019). Technological revolution, sustainability, and development in Africa: Overview, emerging issues, and challenges. *Sustainable Development*, 27(5), 910-922.
- Andrews, R. (2008). *Managing the environment, managing ourselves. A history of American environmental policy*. Yale University Press.
- Bäckstrand, K., & Lövbrand, E. (2006). Planting trees to mitigate climate change: Contested discourses of ecological modernization, green governmentality and civic environmentalism. *Global Environmental Politics*, 6(1), 50-75.
- Björkbom, L. (1999). Negotiations over transboundary air pollution: The case of Europe. *International Negotiation*, 4(3), 389-411.
- Bloodgood, E. (2011). The interest group analogy: International non-governmental advocacy organisations in international politics. *Review of International Studies*, 37(1), 93-120.
- Bloodgood, E., & Schmitz, H. (2013). The INGO research agenda: A community approach to challenges in method and theory. In B. Reinalda (Ed.), *Routledge Handbook of International Organizations* (pp. 67-79). Routledge.
- Boli, J. (2005). Contemporary developments in world culture. *International Journal of Comparative Sociology*, 46(5), 383-404.
- Boli, J., & Thomas, M. (1997). World culture in the world polity: A century of international non-governmental organization. *American Sociological Review*, 62(2), 171-190.
- Boli, J., Gallo-Cruz, S., & Mathias, M. (2011). World society, world-polity theory, and international relations. *Oxford Research Encyclopedia of International Studies*.  
<https://doi.org/10.1093/acrefore/9780190846626.013.495>
- Brulle, R. (1996). Environmental discourse and social movement organizations: A historical and rhetorical perspective on the development of US environmental organizations. *Sociological Inquiry*, 66(1), 58-83.
- Callener, G. (1938). The artificial production of carbon dioxide and its influence on temperature. *Quarterly Journal of the Royal Meteorological Society*, 64(275), 223-240.
- Carpenter, R. (2007). Setting the advocacy agenda: Theorizing issue emergence and nonemergence in transnational advocacy networks. *International Studies Quarterly*, 51(1), 99-120.
- Civantos, E., Thuillier, W., Maiorano, L., Guisan, A., & Araújo, M. (2012). Potential impacts of climate change on ecosystem services in Europe. *BioScience*, 62(7), 658-666.
- Cole, M., Rayner, A., & Bates, J. (1997). The environmental Kuznets Curve: an empirical analysis. *Environment and Development Economics*, 2(4), 401-416.
- Cole, W., & Perrier, G. (2019). Political equality for women and the poor: Assessing the effects and limits of world society, 1975–2010. *International Journal of Comparative Sociology*, 60(3), 140-172.

- Cooley, A., & Ron, J. (2002). The NGO scramble: Organizational insecurity and political economy of transnational action. *International security*, 27(1), 5-39.
- Da Sool Pool, I., & Kochen, M. (1978). Contacts and influence. *Social networks*, 1(1), 5-51.
- Dellmuth, L., & Tallberg, J. (2017). Advocacy strategies in global governance: Inside versus outside lobbying. *Political Studies*, 65(3), 705-723.
- Destel, M., & Sarkodie, S. (2019). Investigation of environmental Kuznets curve for ecological footprint: The role of energy and financial development. *Science of the Total Environment*(650), 2483-2489.
- Diaconis, P., & Efron, B. (1983). Computer-intensive methods in statistics. *Scientific American*, 248(5), 116-131.
- Dryzek, J. (2013). *The politics of the earth: Environmental discourses*. Oxford University Press.
- Dunlap, R., McCright, A., & Yarosh, J. (2016). The political divide on climate change: Partisan polarization widens in the U.S. *Environment: Science and Policy for Sustainable Development*, 58(5), 4-23.
- Dür, M., & Mateo, G. (2013). Gaining access or going public? Interest group strategies in five European countries. *European Journal of Political Research*, 52(5), 660-686.
- Edwards, B., & McCarthy, J. (2004). Resources and social movement mobilization. In D. Snow, S. Soule, & H. Kriesi (Eds.), *The Blackwell companion to social movements* (pp. 116-152). Blackwell Publishing Ltd.
- Frank, D. (1997). Science, nature, and the globalization of the environment 1870-1990. *Social Forces*, 76(2), 409-435.
- Frank, D., Hironaka, A., & Schofer, E. (2000). The Nation-State and the Natural Environment over the Twentieth Century. *American Sociological Review*, 65(1), 96-116.
- Gereke, M., & Brühl, T. (2019). Unpacking the unequal representation of Northern and Southern NGOs in international climate change politics. *Third World Quarterly*, 40(5), 870-889.
- Grigorescu, A. (2007). Transparency of intergovernmental organizations: The roles of member states, international bureaucracies and nongovernmental organizations. *International Studies Quarterly*, 51(3), 625-648.
- Hadden, J., & Bush, S. (2020). What's different about the environment? Environmental INGOs in comparative perspective. *Environmental Politics*, 30(1), 202-223.
- Hadden, J., & Jasny, L. (2017). The power of peers: How transnational advocacy networks shape NGO strategies on climate change. *British Journal of Political Science*, 49(2), 637-659.
- Hoffman, A. (2009). Shades of green. *Stanford Social Innovation Review*, 7(2), 40-49.
- Keck, M., & Sicking, K. (1998). *Activists beyond borders - Advocacy networks in international politics*. Cornell University Press.
- Keiter, R. (2008). *Keeping faith with nature: Ecosystems, democracy, and America's public lands*. Yale University Press.
- Khan, M., & Robers, J. (2013). Adaptation and international climate policy. *Wiley Interdisciplinary Reviews: Climate Change*, 4(3), 171-189.

- Klandermans, B. (1984). Mobilization and participation: Social-psychological expansions of resource mobilization theory. *American Sociological Review*, 49(5), 583-600.
- Lee, D. (2005). Agricultural sustainability and technology adoption: Issues and policies for developing countries. *American journal of agricultural economics*, 87(5), 1324-1334.
- Linnér, B., & Jacob, M. (2011). From Stockholm to Kyoto and beyond: A review of the globalization of global warming policy and North-South relations. *Globalizations*, 2(3), 403-415.
- Liobikiene, G., & Butkus, M. (2018). The challenges and opportunities of climate change policy under different stages of economic development. *Science of the Total Environment*, 642, 999-1007.
- Manabe, S., & Stouffer, R. (1980). Sensitivity of a global climate model to an increase of CO<sub>2</sub> concentration in the atmosphere. *Journal of Geophysical Research: Oceans*, 85(10), 5529-5554.
- McCarthy, J., & Zald, M. (1977). Resource mobilization and social movements: A partial theory. *American Journal of Sociology*, 82(6), 1212-1241.
- McCright, A. D. (2016). The politicization of climate change and polarization in the American public's views of global warming, 2001–2010. *The Sociological Quarterly*, 52(2), 155-194.
- McNeely, C. (2012). World polity theory. *The Wiley-Blackwell Encyclopedia of Globalization*. <https://doi.org/10.1002/9780470670590.wbeog834>
- Mitchell, R., Mertig, A., & Dunlap, R. (1991). Twenty years of environmental mobilization: Trends among national environmental organizations. *Society & Natural Resources*, 4(3), 219-234.
- Murdie, A. (2014). The ties that bind: A network analysis of human right international nongovernmental organizations. *British Journal of Political Science*, 44(1), 1-27.
- Murdie, A., & Davis, D. (2012). Looking in the Mirror: Comparing INGO Networks Across Issue Areas. *The Review of International Organizations*, 7(2), 177-202.
- Oberthür, M., & Kelly, R. (2008). EU leadership in international climate change policy: Achievements and challenges. *The International Spectator*, 43(3), 35-50.
- Parks, B., & Roberts, J. (2008). Inequality and the global climate regime: Breaking the North-South impasse. *Cambridge Review of International Affairs*, 21(4), 621-648.
- Partelow, S., Winkler, K., & Thaler, G. (2020). Environmental non-governmental organizations and global environmental discourse. *PloS one*, 15(5). Retrieved from <https://doi.org/10.1371/journal.pone.0232945>
- Pecl, G., Araújo, M., Bell, J., Blanchard, J., Bonebrake, T., Chen, I., . . . Colwell, R. (2017). Biodiversity redistribution under climate change: Impacts on ecosystems and human well-being. *Science*, 355(6332). <https://doi.org/10.1126/science.aai9214>
- Potter, G., Ellsaesser, H., Maccraken, M., & Luther, F. (1975). Possible climatic impact of tropical deforestation. *Nature*, 258(5537), 697-698.
- Rademacher, H. (2020). Transnational social movement organizations and gender mainstreaming bureaucracies: an event history analysis, 1981-1998. *International Journal of Sociology*, 50(6), 445-472.
- Revelle, R., & Suess, H. (1957). Carbon dioxide exchange between atmosphere and ocean and the Question of an increase of atmospheric CO<sub>2</sub> during the past decades. *Tellus*, 9(1), 18-27.

- Ringius, L., Torvanger, A., & Underdal, A. (2002). Burden sharing and fairness principles in international climate policy. *International Environmental Agreements*, 2(1), 1-22.
- Sandbrook, C., Fisher, J., Holmes, G., Luque-Lore, R., & Keane, A. (2019). The global conservation movement is diverse but not divided. *Nature Sustainability*, 2(4), 316-323.
- Shukla, J., Nobre, C., & Sellers, P. (1990). Amazon deforestation and climate change. *Science*, 247(4948), 1322-1325.
- Shumate, M., & Dewitt, L. (2008). The North/South divide in NGO hyperlink networks. *Journal of Computer-Mediated Communication*, 13(2), 405-428.
- Smith, J., & Wiest, D. (2005). The uneven geography of global civil society: National and global influences of transnational association. *Social Forces*, 84(2), 621-652.
- Smith, J., & Wiest, D. (2012). *Transnational social movement organization dataset, 1953-2003*. Ann Arbor, MI: Inter-university Consortium for Political and Social Research.
- Smith, J., Gemici, B., Plummer, S., & Huhges, M. (2018). Transnational social movement organizations and counter-hegemonic struggles today. *Journal of World-Systems Research*, 24(2), 372-403.
- Smith, J., Hughes, M., Plummer, S., & Duncan, B. (2021). Inter-organizational relations in transnational environmental and women's activism: Multilateralists, pragmatists, and rejectionists. *Globalizations*, 18(2), 300-320.
- Smith, J., Plummer, S., & Hughes, M. (2017). Transnational social movements and changing organizational fields in the late twentieth and early twentieth century. *Global Networks*, 17(1), 3-22.
- Smith, J., Wiest, D., Hughes, M., Plummer, S., & Duncan, B. (2019). Transnational Social Movement Organizations Dataset (TSMOD), 1953-2013. Harvard Dataverse. <https://doi.org/10.7910/DVN/NRUBSV>
- Stern, D. (1998). Progress on the environmental Kuznets curve? *Environmental and Development Economics*, 173-196.
- Stern, D. (2004). The rise and fall of the environmental Kuznets curve. *World Development*, 32(8), 1419-1439.
- Suki, M., Sharif, A. A., & Suki, N. (2020). Revisiting the environmental Kuznets curve in Malaysia: The role of globalization in sustainable environment. *Journal of Cleaner Production*(264). <https://doi.org/10.1016/j.jclepro.2020.121669>
- Tabrizian, S. (2019). Technological innovation to achieve sustainable development—Renewable energy technologies diffusion in developing countries. *Sustainable Development*, 27(3), 537-544.
- Tallberg, J., Dellmuth, L., Agné, H., & Duit, A. (2015). NGO Influence in International Organizations: Information, Access and Exchange. *British Journal of Political Science*, 48(1), 213-238.
- Tamazian, A., Piñeiro, J., & Vadlamannati, K. (2009). Does higher economic and financial development lead to environmental degradation: Evidence from BRIC countries. *Energy Policy*, 37(1), 246-253.

- Travers, J., & Milgram, S. (2011). An experimental study of the small world problem. In M. Newman, A. Barabási, & J. Watts (Eds.), *The structure and dynamics of networks* (pp. 130-148). Princeton University Press.
- Union of International Associations. (n.d.-a). *What is a non-governmental organization (NGO)?* Retrieved February 10, 2021, from Union of International Organizations: <https://uia.org/faq/yb2>
- Union of International Organizations. (n.d.-b). *African Greens Federation UIA Yearbook Profile*. Retrieved May 25, 2021, from Union of International Organizations: <https://uia.org/s/or/en/1122268721>
- Union of International Organizations. (n.d.-c). *Foundation for International Environmental Law and Development UIA Yearbook Profile*. Retrieved May 25, 2021, from Union of International Organizations: <https://uia.org/s/or/en/1100018885>
- Union of International Organizations. (2021). *Yearbook of International Organizations 2021-2022*. Union of International Organizations.
- Vogler, J. (2014). The international politics of sustainable development. In G. Atkinson, S. Dietz, E. Neumayer, & M. Agarwala (Eds.), *Handbook of sustainable development* (pp. 432-445). Edward Elgar Publishing.
- Walter, I., & Ugelow, J. (1979). Environmental policies in developing countries. *Ambio*, 8(2), 102-109.
- Watts, D. (1999). Networks, dynamics, and the small-world phenomenon. *American Journal of Sociology*, 105(2), 493-527.