Imagining the Future at the Global and National Scale: A Comparative Study of British and Dutch Press Coverage of Rio 1992 and Rio 2012

Iina Hellsten*, Amanda J. Porter & Brigitte Nerlich

Climate change and imagined futures are intricately linked, discussed by policy-makers and reported in the media. In this article we focus on the construction of future expectations in the press coverage of the 1992 and 2012 United Nations conferences in Rio de Janeiro in British and Dutch national newspapers. We use a novel combination of methods, semantic co-word networks and metaphor analysis, to study imagined futures. Our findings show that between 1992 and 2012 there was an overall shift from future-oriented hope to past-oriented disappointment regarding implementing international agreements on climate change policy, but with subtle and interesting differences between the UK and The Netherlands. Certain national differences seem to be stable over time and are indicative of rather dissimilar policy cultures in two nations which are geographically quite close.

Keywords: climate change; newspapers; semantics; metaphors; Rio; media

Introduction

In 1992 the first Rio Earth Summit (United Nations Conference on Environment and Development) took place, one of the key events in longstanding public and policy debates about global environmental change and climate change. The summit was attended by world leaders and attracted substantial media attention. Media coverage and public attention to climate change have tailed off after the 2007 publication of the...
Fourth Assessment report (AR4) of the United Nations Intergovernmental Panel on Climate Change (IPCC). In 2012, climate change was again on the agenda with the twentieth anniversary Rio Earth Summit also dubbed Rio+20 (United Nations, 2011). Some government leaders attended but media attention was muted.

While climate change is a global issue, nations respond to it differently. Between 1992 and 2012, communication and social science scholars have devoted increasing attention to studying media reactions to issues related to climate change, both globally and locally (e.g. Anderson, 2009; Boykoff, 2007; Grundmann & Krishnamurthy, 2010; Nerlich, Forsyth, & Clarke, 2012; Young & Dugas, 2012), but none has been devoted to a comparison of UK and Dutch media reactions to climate change. Moreover, media coverage in The Netherlands alone has attracted relatively little scholarly attention (but see, van der Sluijs, van Est, & Riphagen, 2008; Versteeg, 2011). This article aims to fill this gap by studying press coverage of the two summits in the UK and The Netherlands.

The UK and The Netherlands are geographically close, share weather systems and climates, and have coastal regions around the North Sea threatened by sea level rise and flooding. However, they have different national policy agendas regarding climate change, different histories and cultures, as well as quite distinctive relations to Europe. Comparing press coverage in these two countries at two points in time provides a unique opportunity to examine the construction of global and national futures in spatial, political, and temporal contexts that are similar and different in interesting ways.

Both countries are expected to be severely affected by global warming, in particular in terms of sea level rise and flooding (DEFRA, 2009; IPCC, 2007; Veraart & Bakker, 2009). However, policy responses to these threats have been quite different. The Netherlands has a long history of flood protection policies that only recently considered threats of climate change as central. A National Adaptation Strategy, aiming at making the country “climate proof” was signed by ministries in 2007, and new advice by the Delta Commission, assigned by the Ministry of Transportation and Water Management, was signed in 2008 (Termeer, Biesbroek, & van den Brink, 2011, p. 45). Policy responses have focused on the adaptation to climate change as part of longstanding regional concerns about flooding. In the UK, policies around climate change have had a national focus, but, with a view of becoming global leaders in climate change mitigation. Through the UK Climate Impacts Program, the UK was the first country to include adaptation policy as part of law by enacting the Climate Change Act in November 2008. This led to the governmental Adaptation to Climate Change Program in 2008–2011 (Jordan et al., 2012). Issues of flooding are normally addressed by the Department of Environment, Food, and Rural Affairs, which implemented a Flood and Water Management Act in 2010 (DEFRA, 2010), which was severely tested in the 2014 winter floods in England.

Since both Rio summits were international climate meetings, we expect both international and EU issues to be discussed in both countries and both years, with a particular focus on adaptation and mitigation as responses to an estimated sea level
rise (also, Termeer et al., 2011). We also expect UK newspapers to represent the UK as a world leader in climate change policies (Carvalho, 2005) and Dutch newspapers to pay more attention to national issues, in particular related to sea level rise. This cross-cultural comparison is also a cross-temporal one, as media reactions in both countries are studied at two crucial points in time, 1992, when climate change rose to international political prominence, and 2012, when climate science has become highly politicized and international political action has become all but impossible due in large part to a polarization of opinion after “climategate” and the global financial crisis in 2008/2009 (Nerlich, 2010; Painter, 2011). We focus on media reporting on the Rio meetings “[a]s a forum for the discourses of others and a speaker in their own right, the media have a key part in the production and transformation of meanings” (Carvalho, 2007, p. 224). These meanings reflect, and shape, national policy responses to climate change over time. We expect that the coverage will change from setting climate change policy agendas in 1992 to focusing on policy responses in 2012, in both countries.

Our analysis focuses in particular on ways in which different meanings in the media create future expectations about climate change. The construction of future expectations will be studied in two ways; first, by using semantic co-word analysis, which provides an overview of core concepts and key actors in the national media; and second, by using metaphor analysis to study emerging meanings in more qualitative detail. In the following sections we will explain the theoretical background on imagining futures, as well as our methods. We shall then go on to present our findings and discuss their significance for environmental communication.

Conceptual and Theoretical Background

Many studies have shown that climate change perceptions and media reporting changed substantially between 1992 and 2012 (e.g. Carvalho & Burgess, 2005; Kahan, 2012) with a heightening of attention around the 1997 Kyoto protocol and the 2007 IPCC report. However, things have changed dramatically since then, especially after the 2009 climategate. Pidgeon has pointed out that:

[...]

The 2012 Rio + 20 summit was held in very difficult circumstances compared to the 1992 one, and the futures that could be imagined at these two points in time were different. The 2012 summit happened against the historical background of the 1992 summit, providing people with a temporal anchor point for reflections on the past and the future.

A research line on the sociology of the future (Adam, 2005, 2006, 2011), and on the sociology of expectations (Brown & Mike, 2003), has concentrated on the temporal construction of complex social issues, showing that expectations of the
future play an important role in structuring how people act in the present. Borup, Brown, Conrad, and van Lente (2006) claim that:

> expectations are foundational in the coordination of different actor communities and groups (horizontal co-ordination), and also mediate between different scales or levels of organization (micro-, meso-, and macro-vertical co-ordination). They also change over time in response and adaptation to new conditions, or emergent problems (temporal co-ordination). (p. 286)

In her critique of the metaphor of the future as an empty territory to be colonized, Adam (2005) makes a distinction between “future presents” and “present futures” (also in Brown & Mike, 2003) in order to argue that the future is always already occupied by the future visions, plans, and decisions of predecessors that have already turned into realities or are in the process of becoming realities (Adam, 2006, p. 8). Present futures are the realm of management, policy-making, and organizational practice, and refer to futures that are in the making in the present due to the complex interactions between various actors making decisions in the present. In brief, present futures are under control in the present (Adam, 2006). By contrast, the concept of future presents refers to “not yet” futures, a world that we can set in motion, but over which we have no control. Notably, both present futures and future presents are grounded in present values and morals (Adam, 2011).

Adam stresses that “our present was our predecessor’s empty and open future: their dreams, desires and discoveries coming to fruition, their imaginations, creative innovations and impositions materialising in our present” (Adam, 2011, p. 593). The present and the future are relative concepts that change when some sets of meanings are realized in the succeeding presents. In this way time also impacts space, as actions taken in the past according to imaginations regarding futures, will structure how we live on this planet and shape it. The tension between present futures and future presents adds an important dimension to social scientific research interested in studying emergent and complex social issues such as climate change.

In order to make our present futures and future presents visible, metaphors can be used to anchor hopes and fears and to frame problems and solutions. These metaphors change over time as particular decisions are made globally and locally and they can also influence these decisions.

**Aims and Objectives**

We ask to what extent different media responses are shaped by experiences of national and global pasts and how they contribute to shaping expectations of national and global futures. We compare these responses by focusing on media representations of two events, one in the more distant past (Rio 1992) and one in the more proximal past (Rio 2012). Specifically, we ask:

RQ1: What future expectations were constructed in Dutch and UK newspapers in response to Rio 1992?
RQ2: What future expectations were constructed in Dutch and UK newspapers in response to Rio 2012?
RQ3: How do these future expectations differ between The Netherlands and the UK and what can this tell us about climate change policy in these two nations?

Methods

In line with many other types of comparative analyses of climate change debates, we have taken newspaper coverage as a proxy for such debates. We focused on national newspapers because climate change adaptation policies are constructed at the state level (Termeer et al., 2011). Both Rio 1992 and Rio 2012 were global events that are not likely to be covered by regional and local newspapers (Barranco & Wisler, 1999). We collected the UK and The Netherlands national newspapers during the conferences in 1992 (11–13 June 1992) and in 2012 (20–22 June 2012) using the LexisNexis database for the Dutch papers and Nexis® Academic database for the UK newspapers to collect the articles (removing duplicates using a moderate similarity setting). The search terms were “Rio and climate” in English and “Rio and klimaat” in Dutch.

We selected national newspapers in both countries in order to be able to compare the coverage in two EU countries, not just, as is more usual, EU countries and the USA, for example (Grundmann & Krishnamurthy, 2010). The 2012 meeting attracted more attention than the 1992, meeting and many more newspapers covered the meeting in 2012 than in 1992. In 2012, for example, there were 13 Dutch newspapers covering the Rio + 20 meeting, while in 1992 only 3 newspapers published on the meeting. This is partially due to the expansion and diversification of the news market and the inclusion of some online sources, such as, in the UK, Guardian Unlimited (Figure 1).

We used a mixed methods approach to analyze the data: semantic co-word maps, and metaphor analysis, combining a more coarse-grained quantitative approach with a more fine-grained qualitative one.

First, we drew semantic co-word maps extracted from newspaper headlines using an automated text analysis tool for semantic maps. This tool helps to compare the levels of codification in different types of texts, such as scientific articles and

![Figure 1](image_url). Newspaper articles covering the Rio 1992 and Rio + 20 meetings in the UK and Dutch national newspapers.
newspapers (Leydesdorff & Hellsten, 2005) and to detect changing implicit frames in
case studies. The semantic maps method uses specific routines and
software (www.leydesdorff.net) to construct networks of co-occurring words
using texts as data. We used the tool to calculate the co-occurrences of words in
newspaper headlines in the four sets of data (NL1992, NL2012, UK1992, and
UK2012). The headlines provide well-codified data for the semantic maps (Leydes-
dorff, 2012). We used the resulting cosine normalized matrices for the network
visualization in Pajek, an open network analysis and visualization tool (http://vlado.fmf.uni-lj.si/pub/networks/pajek/). For the visualization in Pajek, we used the
Kamada−Kawai graph layout algorithm that results in most readable maps (Kamada
& Kawai, 1989). The cosine matrices use the vector space for the visualization that
represents coordinates instead of relational space. Distances in the visualization are
based on similarity in the distributions of words in documents and not on the
relations among words (Leydesdorff & Vaughan, 2006). This allowed us to gain a
first overview of which particular words, including particular actors and organiza-
tions, are highlighted in headlines to gain readers’ attention.

Second, to complement the semantic maps based on the headline words of the
news items, we close-read the full text of the newspaper items, and coded them
manually, paying particular attention to the main metaphors. Metaphor analysis is a
qualitative text analysis method that has been used for several case studies on, for
example, genetics and genomics (Nerlich & Hellsten, 2004), but also climate change
coverage (Nerlich, 2010; Nerlich & Koteyko, 2009; Ungar, 1992; Nerlich & Jaspal,
2012). The authors adopted the following qualitative coding procedures. The full text
of the four corpora of newspaper articles (UK1992, UK2012, NL1992, and NL2012)
was read repeatedly by the first and third author of this article in order to extract
salient metaphorical expressions. These collections of expressions were compared
between the two coders and almost all metaphors had been coded in the same way by
both coders. The authors collated the expressions jointly into clusters of metaphors,
which were then labeled according to the standard (conceptual) metaphor analysis as
introduced by Lakoff and Johnson (1980). Examples of metaphorical expressions are
highlighted in the following, illustrative sentences: “She rebutted his argument,” “she
attacked every weak point in my argument,” and so on. The overarching (conceptual)
metaphor is in this case: ARGUMENTS ARE WAR (usually rendered in small capitals).
We did not carry out a statistical analysis of conceptual metaphor frequency, as the
numbers were too small. Our analysis focused in particular on what kinds of futures
were constructed through the use of metaphors of hope, progress, and solutions, as
opposed to metaphors of hopelessness and disappointment, for example.

Results: Rio Meetings in 1992 and 2012

In the next sections, we first discuss our results regarding the Rio 1992 meeting in
both countries, focusing first on the semantic maps and then on the metaphors used
in the newspapers. Second, we discuss our findings regarding the coverage of Rio 2012 meeting, again focusing first on the semantic maps and then the metaphors.

**Rio Earth Summit in 1992**

In 1992 the Rio meeting was covered by *The Guardian, The Times, The Independent*, and the *Daily Mail*. These papers published 18 news items in three days, which constitutes a rather small set of news items, but is sufficient for the semantic co-word analysis. The main topics in the UK coverage were closely linked to the formal agenda of the summit, emphasizing the various phases of the meeting, such as problems in reaching an agreement on the protection of forests (especially the Amazon), future action to be taken to reduce greenhouse gases, the financial settling of the costs of the climate change and biodiversity treaties, population growth, as well as the political, including the role of the then American president George H. W. Bush, and the then British Prime Minister John Major.

In the headlines the words “Earth,” “Summit,” “Rio,” “world,” “Major,” and “greens” connect the sub-topics focusing on the present, such as for example, signing the actual Treaty (left upper corner), the rhetoric used during the conference (right lower), the limited scale of protests (right below), and the agreement on US goods that should be taxed to pay for Rio agreements (lower right). Some headlines focused on the future, such as the pledge to stop the baby boom (right upper corner) and the struggle over ecological benefits (right middle; (Figure 2).

In order to analyze sub-debates more in detail, we read the news items. Global warming was treated as one of the major global problems, including deforestation, the spreading of deserts and population growth—the other main topics of the Rio meeting: “The population explosion had replaced nuclear war as the greatest threat to the world, John Major warned yesterday. If the baby boom continued it would destroy the world, the Prime Minister said” (Greig, *Daily Mail*, June 13, 1992). Care for future generations as well as the planet were major topics. “Today we are here, not to argue for a national cause, but for the future of our planet” (Brown, *The Guardian*, June 13, 1992). This shift from the local present to the global future was noted by Vidal, the *Guardian*’s environmental correspondent: “In three-and-a-half hours the ‘planet earth’ count was on 10, there had been at least dozen mentions of ‘our survival as a species’ and more than 20 ‘future generations’” (Vidal, *The Guardian*, June 13, 1992). These urgent calls to save the planet and its population do not specify how this will be achieved. In 1992, the main issue seems to be to attract attention to global problems of the future, beyond national agendas, rather than specifying global or national solutions. Much is still undefined in this future present.

In The Netherlands, the Rio 1992 summit was covered by three national newspapers: *Trouw, Algemeen Dagblad*, and *NRC Handelsblad* that published altogether 22 news items in 11–13 June 1992. The main topics covered were the financial aspects of the summit, in particular EU finance, protection of forests, and Dutch ministers meeting Presidents of former Dutch colonies during the meeting. The Dutch coverage consists of separate sub-debates that are not linked via specific
words (Figure 3). The main cluster is connected via the word “Rio” (right upper corner) and contains sub-debates emphasizing the present, for instance, about the church being disappointed about the meeting (kerkenraad teleurgesteld) and EU billions spent on the summit (EG-miljarden aan milieutop). The second cluster is connected by the words “leads” (leidt) and “Jan Pronk,” the name of the then Development Minister. The third, and only future-oriented cluster, focuses on the EU policy on sustainable development (EG; Figure 3).

The Dutch papers adopt a quite negative tone when covering the meeting, and words like “doubt” (twijfel), “disappointed” (teleurgesteld), and “no money” (geen geld) are present in the headlines. There is no sense of urgency related to climate change as a global future problem. The Dutch newspapers cover issues that go beyond the agenda of the Rio Earth Summit, but are important for present Dutch national politics, such as Prime Minister Lubbers meeting with President Soeharto of Indonesia (right corner in connected cluster), Indonesia having been a Dutch colony, the crisis in Venezuela that led to president Perez not attending the meeting (left side in the second connected cluster; Venezuela is situated very close to the Dutch Antilles in the Caribbean), and a meeting of President Venetiaan of Suriname and the Dutch Minister Pronk (lower right corner in the second connected cluster; Suriname was a Dutch colony until 1975, and was still economically dependent on The Netherlands in 1992).
This orientation of covering the meeting as a present event, not linked to a significant future expectation, is a remarkable difference to the UK press. In other words, while John Major was calling for urgent global action that transcends national interests, the Dutch papers emphasized national interests and preoccupations. Where the coverage is global, it is linked to the Dutch colonial past.

In summary, in the UK papers in 1992 the emphasis was on the planet as a whole in order to call for action to protect future generations. This positioned the UK as taking the lead in finding solutions and shaping the still undefined future, marking a shift from future presents to present futures. In this sense, the political strategy is to call for urgent attention to climate change and other agenda points of the Rio 1992 meeting, as affecting everyone’s future. By contrast, the Dutch papers used the Rio meeting as an opportunity to discuss local political issues and, at the same time, emphasize the importance of EU policy on climate change, representing the transfer of responsibilities from national to transnational level. However, the focus was still mainly on Dutch national politics, but seen through its global colonial past. Overall, there is a difference between the global and the future being the focus of UK news coverage and the national or locally European, as well as the present and the past, being the focus of Dutch coverage.

Metaphors of Rio Earth Summit in 1992

In the British newspapers, the Rio 1992 Earth Summit was metaphorised in terms of war, journey, disease, and a circus, with the journey metaphor being the most prominent one. The journey metaphor was used to conceptualize political processes in terms of steps into the future: “if such steps were not taken, he said, the earth
would destroy itself” (Oakley & McCarthy, *The Times*, June 13, 1992); as a road: “As important as the road to Rio has been, what matters more is the road from Rio” (Brown, Rocha & Tisdall, *The Guardian*, June 13, 1992); or as a milestone: “The Prime Minister said the climate convention and biodiversity treaty, both of which he had signed, were not the end of the road, they were crucial milestones” (Brown, *The Guardian*, June 13, 1992). Metaphorising public issues in terms of steps taken on a road is an effective way of binding the present (a particular summit) to the future. The journey metaphor functions as a future-oriented way to approach public issues as processes instead of single events.

The metaphors of circus, war, and journey were also used in the Dutch newspapers, along with the additional metaphor of colonialism. The most prominent metaphor was the rather disparaging circus metaphor. This constructs a present orientation, reflected in a general description about the Rio summit: “a political circus” (een politiek circus). In the same article, the metaphor of war was in use in terms of weapons “lot of saber rattling” (veel wapen gekletter; Knipen & Westerwoudt, *NRC Handelsblad*, June 13, 1992). Again the focus is on the present meeting instead of future journey. Similar to the UK newspapers, the Dutch newspapers also used the metaphor of journey to discuss first steps taken in environmental protection, and the economic progress (vooruitgang), as well as obstacles that may impede the progress of the journey—but in the context of covering the Rio summit as taking place in the present: “The financial issue is one of the main obstacles for the success of the conference” (De financiële kwestie is een van de grootste obstakels voor het wel slagen van de conferentie; Steketee, *NRC Handelsblad*, June 12, 1992). Interestingly, the Dutch newspapers also used (or rather quoted) the metaphor of colonialism in the sense of the West dominating debates about futures in non-Western countries: “Agarwal calls the western plans for forests ‘environmental colonialism’” (“Milieu-kolonialism,” noemt Agarwal de westere plannen met bossen; Schwartz, *Trouw*, June 13, 1992). This is interesting in the context of a coverage that also deals with old Dutch colonies in relation to climate change.

**Rio + 20 meeting in 2012**

The Rio + 20 meeting in 2012 was covered by *The Guardian* (and its online version Guardian Unlimited), *The Daily Telegraph* (and its online version, The Telegraph), *The Independent* (and its online version, i-independent), *The Daily Mail* (and its online version, MailOnline), *The Express*, and *The Times*. These 10 papers (including four online outlets) published 49 news items on 20–22 June 2012. The main topics were the various phases of the meeting, the expected weak results of the meeting, and comparisons between 2012 and 1992, with emphasis on the slow progress made in the past two decades. There was both a looking back to the coverage in 1992 and a looking forward, with expectations of a better future being, however, rather muted.

Surprisingly, in 2012 the British newspapers used much longer headlines than in 1992. Consequently, the semantic map is more complex, showing several partly overlapping sub-debates. The most frequently used words are, as one might expect,
“Rio + 20,” “summit,” and the name of the UK’s Deputy Prime Minister, Nick Clegg. In 1992 John Major, the then Prime Minister, had attended. In 2012 it was just the Deputy Prime Minister. Other words such as “world,” “leaders,” “text,” “development,” “sustainability,” and “Greenpeace” show up prominently (Figure 4).

Future expectations are discussed, but mainly through the lens of present actions taken by industry leaders. A new focus is cutting CO₂ or carbon dioxide emissions (lower middle), a clear future-oriented climate mitigation strategy. There is no longer talk about forests or rivers like the Amazon. However, this future-oriented mitigation strategy is discussed as the present responsibility of top firms, that is, industry rather than governments. At the same time, the papers cover several cases of protecting nature, such as Greenpeace’s campaign to establish an “Arctic,” “sanctuary,” (left, upper side), and an experiment to fly a solar-powered plane in the “Moroccan,” “desert” (right upper corner). The role of China is now central, as part of growing concerns about developing countries and emerging economies increasing emissions. Overall, the Arctic replaces the Amazon and China replaces Brazil in terms of topics.

The 2012 Rio event does not create a positive future expectation. Rather, the overall tone is negative, as represented by the words “disappointment” and “failure” in the map and in the full news items: “so why, 20 years after the first such summit, are they about to fail the world” (Lean, The Daily Telegraph, June 20, 2012), or “more than 150 world leaders and ministers kick off the Rio + 20 Earth Summit today amid widespread disappointment about the strategy they will adopt to put the global economic on a more sustainable path” (Watts & Ford, The Guardian, June 20, 2012) or just plainly: “Rio: Killing the earth since 1992” (Delingpole, The Telegraph, June 22, 2012). Delingpole is a well-known climate skeptic and his killing metaphor refers to

Figure 4. UK national newspapers on Rio + 20 meeting, 20–22 June 2012; 49 news items, 64 unique words occurring twice or more often, cosine > 0 > 0.385 using Kamada–Kawai algorithm.
the way that environmentalists are, in his view, destroying the planet, rather than climate change.

The meeting was also described as a “washout” (Lean, *The Telegraph*, June 22, 2012) and a “hoax” (Gray, *The Telegraph*, June 22, 2012), leading to a “rubber-stamp job” (Watts & Vaughan, *The Guardian*, June 21, 2012). The rubber stamp metaphor, which, like the killer metaphor does not fit into an overall conceptual metaphor, highlights the loss of enthusiasm in global environmental change policies, which some even regard as unnecessary in the context of constructing climate change as a hoax. This negative framing is also apparent in the headline of an article by George Monbiot (a leading green activist; Monbiot, *The Guardian Unlimited*, June 22, 2012): “Rio + 20 draft text is 283 paragraphs of fluff,” where the word “fluff,” like the words “wash-out” and “rubber stamp,” highlights the way that climate change is no longer seen as a substantial and important issue.

Compared to the calls for saving the planet (as a whole) by binding state-level agreements in 1992, in 2012 this has changed to a more present-oriented focus on positioning big businesses as the leaders, and the lifestyle of private consumers toward sustainability. The focus is more on economic recovery than on “saving the planet.” On the other hand, there were some initiatives that tried to force businesses, to contribute to reductions in greenhouse gas emissions. For example, *MailOnline* covers plans for forcing big businesses to report their CO₂ emissions (Gray *The Telegraph*, June 21, 2012), “Top firms must file a greenhouse audit,” and “Latest plan by zealot Clegg for more red tape” (Cohen, *MailOnline*, June 20, 2012). At the same time, consumers are exhorted, for example, to “Eat less meat” to save the planet (Collins, *The Daily Telegraph*, June 20, 2012). In summary, the newspaper coverage emphasizes future climate change mitigation via concrete present policy-actions and technology innovations that aim at decreasing carbon dioxide emissions, hence *present futures*. While the debate in 1992 aimed at putting climate change on the public agenda as a still undefined global problem (*future present*), in 2012 the UK papers report on the different presently oriented actions taken to reduce greenhouse gas emissions, and to protect vulnerable parts of the world, such as arctic areas (*present futures*).

In 2012, the Dutch national papers *De Telegraaf, de Volkskrant, Metro, Nederlands Dagblad, NRC Handelsblad, Algemeen Dagblad, Boerderij Vandaag, Het Parool, Het Financiële Dagblad, NRCNext, Reformatorisch Dagblad, SPITS, and Trouw* cover the Rio + 20 meeting. Altogether these 12 newspapers published 41 news items. In the Dutch papers, the meeting is also covered as a failure. However, the papers stress that The Netherlands may not be such a failure as it hosts pioneering efforts to, for example, use renewable energy to power aeroplanes and providing train passengers with the option to calculate their transportation CO₂ emissions. Reference is also made to the exemplary role of the island of Aruba (which seceded from the Dutch Antilles in 1986) toward 100% sustainable energy economy. Again, as in 1992, Dutch politics still focuses on its colonial past and the present of the meeting. The Dutch papers emphasize that the Rio + 20 meeting is overshadowed by the financial crisis in
Europe, which has led several political leaders to refrain from attending the meeting, including the Dutch Prime Minister Rutte, as well as Obama, Merkel, and Cameron (Anonymous, *De Telegraaf*, June 22, 2012).

In *Figure 5* we have taken into account all headline words, because the Dutch papers used only 16 unique words more than twice. The debate was more fragmented in 2012 than in 1992, though distinctly present oriented. The main clusters deal with Dutch delegates using renewable energy (“frituurvet,” “frituurolie”) to fly to the meeting (upper middle), the Rio meeting being overshadowed by the European financial crisis (left middle), and conflicting interests (“botsende,” “belangen”; right middle). The Dutch papers also mention the Copenhagen meeting which is framed as having left a “hangover” (kater; lower middle) which, probably, hinders clear thinking in 2012 (*Figure 5*).

The main focus is on present innovations in Dutch business (*present futures*). For example, the airline company KLM uses biofuel made from discarded deep-fat fryer oil (chips are sort of a national dish in The Netherlands) to fly Dutch delegates to the meeting (Anonymous, *De Telegraaf & Heijne, de Volkskrant*, June 20, 2012). The fact that Queen Beatrix will fly “greener” also hits the headlines: “Koningin Beatrix gaat groener vliegen” (anonymous, *Nederlands Dagblad*, June 20, 2012). The news about the island of Aruba (part of the Antilles in the Caribbean) aiming at full sustainability, hits the headlines as well (Luttikhuis, *NRC Handelsblad*, June 20, 2012).

The Dutch newspapers pay attention to the consequences of climate change in developing countries, such as children dying as a result of polluted water (kinderen, sterven, vuil, water) and the link to developed countries’ efforts to protect biodiversity while the list of endangered species is increasing (lijst, bedreigde, dieren, planten, ...

*Figure 5*. The Dutch national newspapers on Rio+20 meeting, 20–22 June 2012; 41 news items, 120 unique title words (all words included), cosine > 0 > 0.817 using Kamada–Kawai algorithm.
Both UK and Dutch papers cover CO₂ emissions as the main cause of global warming, but in The Netherlands, this is linked to national, already existing innovations, such as a CO₂ comparison tool for train passengers (middle, reizigers, CO₂vergelijking). Similar to the UK papers, the Dutch papers describe the Rio + 20 meeting as a disappointment and a failure. For example, de Volkskrant describes the meeting as “Of course, as a top meeting, the top has already failed” (Natuurlijk: als top is de top bijvoorbaat mislukt; Persson, de Volkskrant, June 20, 2012), and “Weak agreements in Rio” (Slappe afspraken in Rio) “Progress of the last 20 years in danger” (Vooruitgang van afgelopen 20 jaar wellicht in gevaar; anonymous, Spits, June 20, 2012). The Reformatisch Dagblad suggests that the meeting should be called Rio–20 instead of Rio + 20 meeting (anonymous, Reformatisch Dagblad, June 21, 2012).

In both 1992 and 2012, the Dutch coverage focused on presently relevant national issues, in 1992 on issues not directly linked to climate change, and in 2012 on Dutch innovations in climate change mitigation. The semantic maps of the Dutch newspapers are less structured because of the focus on a wider variety of local and national issues as compared to the more global focus in the British newspapers.

Metaphors in Rio + 20 coverage in 2012

The variety of metaphors used in discussing climate change has increased in the 2012 coverage as compared to that of 1992. While the basic metaphor of JOURNEY is still present in the coverage in both countries, there are new metaphors such as BUILDING/CONSTRUCTION, TIPPING POINT/LIMITS, and RELIGION.

In the British and Dutch newspapers, the meaning of a JOURNEY has partly changed, and is expressed in terms of “steps back,” “no progress,” and “dead end” (UK papers), and as “progress in danger,” and “journey backwards” (Dutch papers). Despite this reversal in orientation of the journey metaphor, there is still some future orientation, albeit toward a bleak future.

A new conceptual metaphor of CONSTRUCTION/BUILDING is used in the UK newspapers, in terms of pillars, for example: “A key objective of the talks is to interlink ‘three pillars’—economy, society and environment” (Watts, Guardian Unlimited, June 21, 2012) and building blocks: “Malik said basic building blocks would be needed to come up with a suitable measure” (Vaughan, Guardian Unlimited, June 21, 2012). This metaphor implies that global warming is a problem that can be solved by present political actions, and coordination between economy, society and environment. The related metaphor of BLUEPRINT is present in both the UK and The Netherlands papers, referring to the Kyoto agreement as “a 6000 pages blueprint for action” (Vidal, The Guardian, June 20, 2012) and to Aruba as a blueprint (blauwdruk) for other small islands toward generating sustainable energy (Luttikhuis NRC next, June 21, 2012). Reference is also made to the Rio + 20 meeting to “set up a blueprint” (Persson, de Volkskrant, June 20, 2012).

In addition to the metaphors of CONSTRUCTION, the UK newspapers use another new metaphor, TIPPING POINT, in the context of warnings about reaching the limits of planet Earth (Lean, The Daily Telegraph, June 20, 2012). Metaphors of BOUNDARIES
and limits are used in both the UK and the Dutch papers: “We cannot go on living beyond the Earth’s boundaries” (Vidal, *The Guardian*, June 20, 2012) and carrying capacity of the earth (“draagkracht van de aarde”; anonymous, *Nederlands Dagblad*, June 22, 2012) or just simply: “the limits have been reached” (De grens is bereikt; de *Water, de Volkskrant*, June 21, 2012). The metaphors of limits and boundaries have been used frequently in covering environmental issues, already present in the title of the Club of Rome report “Limits to growth” (Meadows et al., 1972). They were absent in our 1992 coverage but reemerged in the 2012 coverage. These metaphors indicate that future expectations are now defined in terms of present limitations.

In summary, in 2012, both the UK and the Dutch papers highlighted the Rio + 20 meeting as a disappointment and a failure, setting a bleak future. At the same time, the focus has changed from seeing climate change as a state level policy and governance issue to that of businesses and companies—and to climate change mitigation. Present actions increasingly define future possibilities.

**Discussion and Conclusion**

Our results show consistent differences over time and across the two EU countries. While the coverage in the UK papers in 1992 focused on a yet undefined future, and positioned climate change as one of a series of global problems, the Dutch papers discussed local political issues and implications for Europe in the present. The UK 1992 coverage was characterized by a view of the future still in the making, while Dutch one had a present orientation, with no well-defined future expectations. This may indicate a more general difference in climate policies in these two countries, with The Netherlands being more focused on national interests. In 2012, both UK and Dutch papers highlighted the Rio + 20 meeting as a disappointment and a failure. The constructed futures in both countries changed from hope to disappointment. At the same time, the focus shifted from positioning climate change as a state-level policy and governance issue to positioning it as the responsibility of industry and commerce. While in 1992, the future in terms of climate change was seen as generations away, in 2012, the coverage focused on the coming few years. In 2012, the coverage of both countries was characterized by “present-futures,” or futures that are in the making in the present due to the complex interaction between the various actors making decisions in the present in anticipation of (possible) futures (Adam, 2006).

Each national press focused on different temporal aspects and expectations of climate change. One consequence of the “present futures” focus in Dutch media is that responsibility for climate change is delegated to local practices of people and businesses. Such an approach may be beneficial for mitigating climate change by focusing on local solutions through specific actions. UK newspapers, especially in 1992, favored a more global approach to climate change, positioning climate change as one of a series of global problems, and called for urgent attention to climate change, as affecting everyone’s future. Future presents are not fully guided by the actions taken in the present. This complexity was well known in 1992 and is well known now, but it has increased over time. More knowledge of weather and climate
systems being accumulated which seems to increase complexity and uncertainty, and with political systems reacting in increasingly polarized ways to climate change, globally and locally. One benefit of this temporal focus is that climate change is taken seriously as a global problem. However, it may depict the problem as “uncontrollable” and beyond solution. These differences in the expected and constructed futures have important implications for policy-making in the UK and The Netherlands. Policy-makers in both countries should be more aware of the different actions called for in the context of different views on how global warming may affect their national futures in a European and global context. Interestingly, the temporal comparison across 1992 and 2012 coverage revealed that the focus in the Dutch newspapers remained the same, and the UK focus changed from “future presents” to “present futures.”

A notable similarity between The Netherlands and UK media coverage is the framing of climate change in 2012 as a responsibility of industry and businesses. Compared to calls for saving the planet (as a whole) by binding state-level agreements in 1992, in 2012 this changed to positioning firms and big businesses as the leaders toward sustainability. Existing research on businesses in emergent strategies for addressing climate change in the Global 500 (Kolk & Pinkse, 2005) has shown that there is still a great deal of managerial discretion in which paths are followed to reduce greenhouse emissions. If the responsibility for climate change is shifting to businesses, this could mean a shift toward a focus on solutions, though far from any agreement on a common solution.

Another similarity between the countries media coverage are the 2012 negative framings of the Rio meeting. Both the UK and Dutch press depicted Rio as a disappointment and failure. One consequence of this negative framing (see Boykoff, 2008; Brossard et al., 2004; Carvalho & Burgess, 2005) is the potential to create a public perception that climate change is such a complex social problem that trying coming to any solution will eventually result in a dead end. Rather than shifting responsibility to a nation, or to a set of businesses and industries, responsibility potentially becomes a mute issue as Rio solutions offer little hope for change.

In 2012, both the UK and the Dutch papers highlighted the Rio +20 meeting as a disappointment and a failure. This change is related to the shortening of the imagined futures, also visible in metaphors that emphasize backwards development instead of the optimistic future orientation that characterized the 1992 Rio Earth Summit coverage. These differences in future orientations may have policy implications for climate change as a global issue in these two countries. For example, there have been reports that The Netherlands may face legal action over climate change because of not prioritizing the reduction in greenhouse gas emissions (Harvey, 2012), or, as one blog said “Netherlands caused Hurricane Sandy” (Real Science, 2012). There is need for more research into the link between media representations of constructed futures and metaphors.

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Notes

1. The Rio 1992 Earth Summit took place, officially from 3 to 14 June 1992, but the first week consists of preparation of the actual meeting taking place between 11 and 13 June 1992. We also conducted semantic maps analysis on 7 days preceding the meetings in both countries and both years. However, the three days during the meetings were most illuminating for our purposes, since the press in The Netherlands hardly covered the meeting a week before the starting of the meeting—publishing only 7 and 9 news items in 1992 and 2012, respectively, as compared to 45 and 62 news items published in the UK national press in the same time period. This difference in the number of news items in the two countries makes it impossible to compare the UK and Dutch coverage before the meeting. The number of news items during the actual meetings was almost equal in both 1992 and 2012 coverage in the two countries.

2. In order to focus on the national coverage of the two Rio meetings, we included all the national newspapers covering the 2012 meeting instead of restricting the analysis on only those newspapers that covered the 1992 meeting. Hence, our analysis represents the whole overall attention to the meetings, and the content in the newspapers.

3. The procedure for co-word maps is as follows: The headlines of the news items were saved as a text.txt document, and a word frequency list, words.txt, was created using TextStat open software tool (http://www.niederlandistik.fu-berlin.de/textstat/). A stopword list of common words with little semantic relevance, such as “the,” “he,” and “with,” was compiled to the file stopword.txt to be removed from the analysis, and saved in the same folder with the text.txt and words.txt. Plural s was automatically removed (e.g., the words “car” and “cars” were stemmed into the single word, “car”). The routine calculates the co-occurrences of the headline words in the set of all the headlines, and automatically constructs matrices of words versus documents that result both in relational co-occurrence matrices and positional cosine normalized matrices (Egghe & Leydesdorff, 2009), using Salton’s Index (Salton & McGill, 1987). While the analysis was conducted using ti.exe program, Pajek was used for the visualization of the cosine.dat file. (For more information on the ti-exe routine, see Vlieger & Leydesdorff, 2010).

4. The cosine is formulated as follows:

\[
\text{Cosine}(x, y) = \frac{\sum_{i=1}^{n} x_i y_i}{\sqrt{\sum_{i=1}^{n} x_i^2 \sum_{i=1}^{n} y_i^2}} = \frac{\sum_{i=1}^{n} x_i y_i}{\sqrt{(\sum_{i=1}^{n} x_i^2) \times (\sum_{i=1}^{n} y_i^2)}}
\]

Where \( x_i \) and \( y_i \) refer to the score of the \( i \)th row (e.g., document) in column \( x \) or \( y \) (e.g., different words).

5. All translations from Dutch to English are our own translations.

6. The increase in the number of newspaper reporting on the Rio meeting in 2012 means increased amount of attention to the issue. Since we were interested in the media responses by national newspapers in the two moments in time, we included all national newspapers in 1992 and 2012.

References

Adam, B. (2005). Futures in the making: Contemporary practices and sociological challenges. ‘Sociology of the future’ session, Philadelphia, PA: ASA.

Adam, B. (2006, June 21–23). Futurescapes: Challenge for social and management sciences, Retroscapes and futurescapes – Temporal tensions in organizations. International Conference, Palazzo d’Aumale, Terrasini.

Adam, B. (2011). Wendell Bell and the sociology of future: Challenges past, present, and future. Futures, 43, 590–595. doi:10.1016/j.futures.2011.04.007
Anderson, A. (2009). Media, politics and climate change: Towards a new research agenda. Sociology Compass, 3, 166–182. doi:10.1111/j.1751-9020.2008.00188.x

Anonymous. (2012, June 20). Kabinet vliegt op frituurolie [The government flies by chip fat]. De Telegraaf, p. 1.

Anonymous. (2012, June 22). Toilet [WC]. De Telegraaf, p. 8.

Anonymous. (2012, June 20). Koningin Beatrix gaat groener vliegen [Queen Beatrix goes green when flying]. Nederlands Dagblad, p. 4.

Anonymous. (2012, June 22). De andere werkelijkheid van Rio+20 [The other reality of Rio+20]. Nederlands Dagblad.

Anonymous. (2012, June 21). We kunnen deze top beter Rio min 20 noemen [We might better call this Rio summit minus 20]. Reformatorisch Dagblad, p. 9.

Anonymous. (2012, June 20). Slappe afspraken in Rio [Weak agreements in Rio]. Spits, p. 11.

Barranco, J., & Wisler, D. (1999). Validity and systematicity of newspaper data in event analysis. European Sociological Review, 15, 301–322. doi:10.1093/oxfordjournals.esr.a018265

Borup, M., Brown, N., Konrad, K., & van Lente, H. (2006). The sociology of expectations in science and technology. Technology Analysis & Strategic Management, 18, 285–298. doi:10.1080/09537320600777002

Boykoff, M. T. (2007). Flogging a dead norm? Newspaper coverage of anthropogenic climate change in the United States and United Kingdom from 2003–2006. Area, 39, 470–481. doi:10.1111/j.1475-4762.2007.00769.x

Boykoff, M. T. (2008). Media and scientific communication: A case of climate change. Geological Society, London, Special Publications, 305(1), 11. doi:10.1144/SP305.3

Brossard, D., Shanahan, J., & McComas, K. (2004). Are issue-cycles culturally constructed? A comparison of French and American coverage of global climate change. Mass Communication & Society, 7, 359–377. doi:10.1207/s15327855mcs0703_6

Brown, B. (1992, June 13). Earth Summit: Major pledges 100m pounds plus expertise for a better world: Nuclear threat ‘has been replaced by new peril of global self-destruction’. The Guardian, p. 8.

Brown, P. (1992, June 13). Earth Summit: Insults mask struggle for ecology deal; Paul Brown charts the course of argument that could lead world towards real benefits. The Guardian, p. 9.

Brown, N., & Mike M. (2003). A sociology of expectations: Retrospecting prospects and prospecting retrospects. Technology Analysis & Strategic Management, 15(1), 3–17. doi:10.1080/0953732032000046024

Brown, P., Rocha, J., & Tisdall, S. (1992, June 13). Bush lays down Rio gauntlet; Call for new global meeting. The Guardian, p. 1.

Carvalho, A. (2005). Representing the politics of the greenhouse effect: Discursive strategies in the British media. Critical Discourse Studies, 2(1), 1–29. doi:10.1080/17405900500052143

Carvalho, A. (2007). Ideological cultures and media discourses on scientific knowledge: Re-reading news on climate change. Public Understanding of Science, 16, 223–243.

Carvalho, A., & Burgess, J. (2005). Cultural circuits of climate change in U.K. broadsheet newspapers, 1985–2003. Risk Analysis, 25, 1457–1469. doi:10.1111/j.1539-6924.2005.00692.x

Cohen, T. (2012, June 20). Top firms ‘must file a greenhouse audit’: Latest plan by zealot Clegg for more red tape. MailOnline.

Collins, N. (2012, June 20). ‘Eat less meat’ to save the planet. The Daily Telegraph, p. 16.

De Water, M. (2012, June 21). ‘Behandel de aarde niet als oud vod’; Duurzaamheidstop Rio+20 volgens actievoerders lost groene economie het klimaatprobleem niet op [‘Don’t treat the earth as garbage’; Sustainability summit Rio+20, according to activists a green economy won’t solve the climate problem]. de Volkskrant, p. 20.

DEFRA. (2009). Adapting to climate change – UK climate projections. London: Department for Environment, Food and Rural Affairs.
DEFRA. (2010). Flood management Act. Retrieved from http://www.defra.gov.uk/environment/flooding/legislation/

Delingpole, J. (2012, June 22). Rio: Killing the earth since 1992. The Telegraph. Retrieved from www.blog.telegraph.co.uk

Egghe, L., & Leydesdorff, L. (2009). The relation between Pearson’s correlation coefficient r and Salton’s cosine measure. Journal of the American Society for Information Science and Technology, 60, 1027–1036. doi:10.1002/asi.21009

Gray, L. (2012, June 21). Report your greenhouse gas emissions from next year, firms are told. The Daily Telegraph, p.10.

Gray, L. (2012, June 22). Rio +20: Biggest ever UN summit ends with faint glimmer of hope; The biggest ever United Nations conference on the environment has been condemned as a ‘hoax’ by UK charities for spending millions of taxpayers’ money to do little more than come up with a list of aspirations on saving the planet without any concrete action. The Telegraph, Retrieved from www.telegraph.co.uk/

Greig, G. (1992, June 13). Stop the world baby boom, pleads Major. Daily Mail, p. 2.

Grundmann, R., & Krishnamurthy, R. (2010). The discourse of climate change: A corpus-based approach. Critical Approaches to Discourse Analysis across Disciplines, 4(2), 113–133.

Harvey, F. (2012). Dutch government may face legal action over climate change. The Guardian, Retrieved November 14, from, http://www.guardian.co.uk/environment/2012/nov/14/dutch-legal-action-climate-change

Heijne, S. (2012, June 20). De eerste groene trans-Atlantische vlucht voert naar Rio; Reportage Duurzaam vliegen naar de klimaatop [The first green trans-Atlantic flight to Rio; Report Sustainable flying to the climate summit]. de Volkskrant, p. 22.

Hellsten, I., Dawson, J., & Leydesdorff, L. (2010). Implicit media frames: Automated analysis of public debate on artificial sweeteners. Public Understanding of Science, 19, 590–608. doi:10.1177/0963662509343136

IPCC Core Writing Team (2007). Synthesis Report. In R. K. Pachauri, & A. Reisinger (Eds.), Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, IPCC, Geneva.

Jordan, A., van Asset, H., Berkhout, F., Huitema, D., & Rayner, T. (2012). Understanding the Paradoxes of Multilevel Governing: Climate Change Policy in the European Union. Global Environmental Politics, 12(2), 43–66. doi:10.1162/GLEP_a_00108

Kahan, D. (2012). Why we are poles apart on climate change. Nature, 488, 255–255. doi:10.1038/488255a

Kamada, T., & Kawai, S. (1989). An algorithm for drawing general undirected graphs. Information Processing Letters, 31(1), 7–15. doi:10.1016/0020-0190(89)90102-6

Knipen, K., & Westerwoudt, T. (1992, June 13). Rio’ gaat aan burger en bedrijf voorbij [Rio bypasses citizens and businesses]. NRC Handelsblad, pp. 17–18.

Kolk, A., & Pinkse, J. (2005). Business responses to climate change: Identifying emergent strategies. California Management Review, 47(3), 6–20. doi:10.2307/41166304

Lakoff, G., & Johnson, M. (1980). Metaphors we live by. Chicago, IL: Chicago University Press.

Lean, G. (2012, June 20). Today, 100 world leaders will descend on Rio for the Earth Summit. The problems they confront are critical - so why, 20 years after the first such summit, are they about to fail the world. The Daily Telegraph, p. 21.

Lean, G. (2012, June 22). Rio+20 Earth Summit is a washout: The climate change conference produced an inconsequential agreement that will not take action on any of the urgent issues. The Telegraph. Retrieved from blog.telegraph.co.uk

Leydesdorff, L. (2012). Radical constructivism and radical constructedness: Luhmann’s sociology of semantics, organizations, and self-organization. Constructivist Foundations, 8(1), 85–92.
Leydesdorff, L., & Hellsten, I. (2005). Measuring the meaning of words in contexts: Automated analysis of "monarch butterflies", "frankenfoods" and "stem cells." _Scientometrics_, 67, 231–258. doi:10.1007/s11192-006-0096-y

Leydesdorff, L., & Vaughan, L. (2006). Co-occurrence matrices and their applications in information science: Extending ACA to the web environment. *Journal of the American Society for Information Science Technology*, 57, 1616–1628. doi:10.1002/asi.20335

Luttikhuis, P. (2012, June 20). Aruba wordt klimaatneutraal: Met hulp van Richard Branson wordt eiland 'levend laboratorium'. *NRC Handelsblad*, p. 8.

Luttikhuis, P. (2012, June 21). Aruba moet klimaatneutraal met hulp van Branson; Ondertussen op Aruba [Aruba must become carbon neutral with the help of Branson: Meanwhile, on Aruba]. *NRC.NEXT*.

Meadows, D. H., Meadows, D. L., Randers, J., & Behrens III, W. W. (1972). _The limits to growth: A report to the Club of Rome_. New York: Universe Books. Retrieved from [http://web.ics.purdue.edu/~wggray/Teaching/His300/Illustrations/Limits-to-Growth.pdf](http://web.ics.purdue.edu/~wggray/Teaching/His300/Illustrations/Limits-to-Growth.pdf)

Monbiot, G. (2012, June 22). Rio + 20 draft text is 283. *Guardian Unlimited*, paragraphs of fluff guardian.co.uk

Nerlich, B. (2010). 'Climategate': Paradoxical metaphors and political paralysis. *Environmental Values*, 19, 419–442. doi:10.3197/096327110X531543

Nerlich, B., Forsyth, R., & Clarke, D. D. (2012). Climate in the news: How differences in media discourse between the US and UK reflect national priorities. *Environmental Communication*, 6(1), 44–63. doi:10.1080/14693062.2012.702982

Nerlich, B., & Hellsten, I. (2004). Genomics: Shifts in metaphorical landscape between 2000 and 2003. *New Genetics and Society*, 23, 255–268. doi:10.1080/1463677042000305039

Nerlich, B., & Jaspal, R. (2012). Metaphors we die by? Geoengineering, metaphors and the argument from catastrophe. *Metaphor and Symbol*, 27(2), 131–147. doi:10.1080/10926488.2012.665795

Nerlich, B., & Koteyko, N. (2009). Compounds, creativity and complexity in climate change communication: The case of ‘carbon indulgences’. *Global Environmental Change*, 19, 345–353. doi:10.1016/j.gloenvcha.2009.03.001

Oakley, R., & MacCarthy, M. (1992, June 13). Major promises pounds 100m more for green projects. *The Times*.

Painter, J. (2011). _Poles apart: The international reporting of climate change scepticism_. Oxford: Oxford University, RSIJ.

Persson, M. (2012, June 20). Hoe iedereen een stukje toekomst wil: Analyse Botsende betalen op de grootste milieutopt ooit [How everyone wants a piece of the future: Analysis Conflicting interests at the largest ever environmental summit]. *de Volkskrant*, p. 22.

Pidgeon, N. (2012). Public understanding of, and attitudes to, climate change: UK and international perspectives and policy. *Climate Policy*, 12, 85–106. doi:10.1080/14693062.2012.702982

Real Science. (2012). Netherlands caused Hurricane Sandy. Retrieved November 15, from, [http://stevengoddard.wordpress.com/2012/11/15/netherlands-caused-hurricane-sandy/](http://stevengoddard.wordpress.com/2012/11/15/netherlands-caused-hurricane-sandy/)

Salton, G., & McGill, M. J. (1987). _Introduction to modern information retrieval_. New York: McGraw-Hill.

Schwartz, K. (1992, June 13). EG-miljarden voor milieupro top Rio [EU-billions for environment in Rio]. *Trouw*, p. 1.

Steketee, H. (1992, June 12). Pronk leidt overleg over financiën [Pronk leads the meeting on financial issues]. *NRC Handelsblad*, p. 1.

Termeer, C., Biesbroek, R., & van den Brink, M. (2011). Institutions for adaptation to climate change: Comparing national adaptation strategies in Europe. *European Political Science*, 11(1), 41–53. doi:10.1057/eps.2011.7

Ungar, S. (1992). The rise and (relative) decline of global warming as a social problem. *The Sociological Quarterly*, 33, 483–501. doi:10.1111/j.1533-8525.1992.tb00139.x
United Nations. (2011). *About Rio + 20*. Retrieved from http://www.unccd2012.org/about.html
van der Sluijs, J., van Est, R., & Riphagen, M. (2008). *Room for climate debate: Perspectives on the interaction between climate politics, science and the media*. Retrieved from http://www.rathenau.nl/uploads/tx_tferathenau/Room_for_climate_debate.pdf
Vaughan, A. (2012, June 21). Rio + 20 summit: Thursday as it happened. *Guardian Unlimited.*
Veraart, J. A., & Bakker, M. (2009). Climateproofing The Netherlands. In F. Ludwig, B. Kabat, H. van Schaik, & M. van der Valk (Eds.), *Climate change adaptation in the water sector* (pp. 110–122). London: Earthscan.
Versteeg, W. (2011). *Klimaatdebat 2011: Media analyse*. Planbureau voor de leefomgeving.
Vidal, J. (1992, June 13). Earth Summit: Time runs out on world leaders; John Vidal takes a rhetoric count as the conference draws to a close. *The Guardian*, p. 9.
Vidal, J. (2012, June 20). Rio + 20 conference: Analysis, In 20 years since I was first here, the ambition has faded away. *The Guardian*, p. 16.
Vlieger, E., & Leydesdorff, L. (2010). *How to analyze frames using semantic maps of a collection of messages? Pajek manual*. Retrieved from http://www.leydesdorff.net/indicators/pajekmanual.2010.pdf
Watts, J., & Ford, E. (2012, June 20). Rio + 20 conference: Pressure for deal at Rio summit - but will leaders hold their nerve? The conference was billed as a ‘once in a generation’ opportunity for global sustainability, but there are signs it will end with a whimper not a bang. *The Guardian*, p. 16.
Watts, J., & Vaughan, A. (2012, June 21). Dismay as Rio talks turn into rubber-stamp job: Pre-negotiated text has few concrete measures UN chief urges leaders to be more ambitious. *The Guardian*, p. 11.
Watts, J. (2012, June 21). Eurozone crisis and US presidential race damaged Rio +20 prospects’. *Guardian Unlimited.*
Young, N., & Dugas, E. (2012). Comparing climate change coverage in Canadian, English- and French-language print media: Environmental values, media cultures and the narration of global warming. *Canadian Journal of Sociology/Cahiers Canadiens de Sociologie*, 37(1), 25–54.