

# From COP12 in Nairobi (2006) to COP15 in Copenhagen (2009): Coverage of Climate Change in Online Spanish-Speaking Media

De la Cumbre de Nairobi (2006) a Copenhague (2009): cobertura del cambio climático en medios digitales en español

Da cúpula de Nairobi (2006) para Copenhague (2009): cobertura da mudança climática na mídia digital em espanhol

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## ABSTRACT

Using framing approach, this paper analyses the coverage of Climate Change (CC) issues during the international Summits of Nairobi (COP12-2006), Bali (COP13-2007), Poznan (COP14-2008) and Copenhagen (COP15-2009). We carried out a content analysis of 372 news items from 30 Spanish-speaking online media. The results indicate that the most quoted sources are the politicians, and when they appear the news items tend to show a frame of conformity. The investigation concludes that more than half of the news comes from wire services and it is demonstrated the absence of topics related with the CC in the local agenda.

**Keywords:** Media coverage, climate change, climate summits, framing, mass media.

## RESUMEN

Desde la perspectiva del framing, el presente trabajo analiza el tratamiento informativo del cambio climático (CC) durante las cumbres internacionales de Nairobi (COP12, 2006), Bali (COP13, 2007), Poznan (COP14, 2008) y Copenhague (COP15, 2009) en 30 medios digitales en español. Los resultados del análisis de contenido de 372 textos informativos muestran que las fuentes predominantes son los políticos y que su aparición en los textos tiende a mostrar un marco de conformidad. El estudio concluye que más de la mitad de las noticias proviene de servicios de agencias y se evidencia la ausencia de temas relacionados con el cambio climático en la agenda local.

**Palabras clave:** Cobertura mediática, cambio climático, cumbres del clima, encuadres, medios de comunicación.

## RESUMO

A partir da perspectiva de enquadramento, este artigo analisa a cobertura da imprensa sobre as mudanças climáticas (CC) durante as cúpulas internacionais de Nairóbi (COP12, 2006), Bali (COP13, 2007), Poznan (COP14, 2008) e Copenhague (COP15, 2009) em 30 meios digitais espanhóis. Os resultados da análise de conteúdo de 372 textos informativos mostram que as fontes predominantes são os políticos e que sua aparição nos textos tende a mostrar um marco de conformidade. O estudo conclui que mais da metade vem de serviços de agências de notícias e a ausência de questões relacionadas com as alterações climáticas na agenda local é evidente.

**Palavras-chave:** Cobertura da mídia, alterações climáticas, cimeiras climáticas, enquadramento, meios de comunicação social.

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## INTRODUCTION

Since the international scientific community confirmed that the human being is the main culprit of climate change (CC), experts from different disciplines have studied the social and cultural aspects of CC; among them, journalistic discourses on the matter. The interest has focused on understanding how media establishes, organizes, and frames the issues related to CC. The most significant volume of research has taken place mainly in developed countries, around aspects ranging from uncertainty about CC (Zehr, 2000) to the informative treatment of CC (Boykoff & Boykoff, 2004; Boykoff & Robert, 2007; Carvalho & Burgess, 2005; Cottle, 2009; Grundmann, 2007; Nielsen & Kjærgaard, 2001).

Previous studies show an increase in CC media coverage during certain specific international events, especially during the celebration of the Conference of the Parties (COP) in the United Nations Framework Convention on Climate Change (UNFCCC), known as Climate Summits (Anderson, 2009; Boykoff & Robert 2007; Schäfer, Ivanova & Schmidt, 2012). The analysis of 27 countries around the world by Schäfer et al. (2012) showed that CC coverage increased between 1996 and 2010, specifically during the COP. Similarly, other studies have looked at “peaks” of attention concerning CC in the media at certain times. In the United Kingdom, coverage quadrupled from 2003 to 2006 due to the success of Al Gore’s documentary, *An Inconvenient Truth* and the publication of the Stern Review (Boykoff & Robert, 2007, p. 6).

Most of the investigations have monitored traditional media (press and TV), but there are few empirical studies that analyze the contents related to CC in online media. In addition, studies have been developed mainly in the United States and European countries, so authors as Anderson (2009, p. 176) suggested that future work could explore the reasons why there are different levels of coverage of the subject in different countries and why the views of developing countries are rarely exposed. Thus, this paper analyzes the coverage of climate change in the Spanish-speaking online media. The study is articulated with works by Piñuel, Águila, Teso, Marino and Gaitán (2012), Suárez, Arcila and Piñuel (2013) and Arcila, Mercado, Piñuel and Suárez (2015).

Specifically, this research aims to analyze the way in which Spanish online media presented the news on CC during the COP12 in Nairobi, the COP13 in Bali, the COP14 in Poznan and the COP15 in Copenhagen, held in the month of December of the years 2006, 2007, 2008 and 2009, respectively.

## CLIMATE CHANGE IN THE MEDIA

The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as a variation of climate attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is added to natural climate variability observed over comparable time periods (Pachauri & Reisinger, 2007). A step towards adopting measures in the fight against climate change is social awareness, a task in which the media can play a key role. Hence the great interest in investigating the journalistic approach to CC in the media since its first mentions in 1930’s newspapers such as the *New York Times* (Boykoff & Roberts, 2007). It was not until the 1980s that the subject began to stand out on the front pages of the media. In 1988, the United States suffered from a hot summer and intense droughts and NASA scientist James Hansen warned about global warming (Ungar, 1992). That same year the Intergovernmental Panel on Climate Change (IPCC) was created within the United Nations Environment Programme (UNEP) as well as the World Meteorological Organization (WMO) (Boykoff & Robert 2007; Ungar, 1992).

Carvalho and Burgess (2005, p. 1463) indicate that thereafter, CC has acquired greater political importance since various political actors used scientific studies to generate different arguments and agendas. The speech Margaret Thatcher gave on September 27, 1988 to the Royal Society, warning about the dangers of changes that human being were submitting the Earth to, had a great impact on the media, and resulted in the initiation of a debate to promote solutions (Carvalho & Burgess, 2005). Environmental problems began to transcend science into politics and the media in countries such as the United States (Antilla, 2005; Boykoff & Boykoff, 2004, 2007; Boykoff & Robert, 2007; Grundmann, 2007; Ungar, 1992), the United Kingdom (Carvalho & Burgess, 2005) and Germany (Grundmann, 2007).

The influence of media ideologies in the journalistic approach on CC was also demonstrated by Carvalho & Burgess (2005) with their analysis of the speech of the newspapers *The Guardian*, *The Independent* and *The Times* between 1985 and 2003, which led them to conclude that the coverage of CC is closely linked to the political agenda (p. 1467). In Spain, León and Erviti (2011) examined the role of the scientific controversy through an analysis of the coverage of the Copenhagen Summit in two Spanish newspapers (*El País* and *El Mundo*). The results showed that the controversy is related to the editorial position of each outlet. The newspaper *El País*, with a center-left political position, accepts the anthropogenic and the scientific consensus. By contrast, *El Mundo*, center-right, highlights the controversy. This study confirms that the political ideology can function as a filter that prevails over scientific knowledge. In that sense, the representation of the controversy is apparently legitimized when it complies with the journalistic standard of balance. The authors concluded that the balance only applies when it is useful to present points of view linked to the political one in its editorial position (León & Erviti, 2011, p. 57).

Boykoff and Robert (2007) analyzed the forty most influential English-speaking newspapers in the world during the period from 1987 to 2006. The authors confirmed that the news treatment was marked by events of international order, including the publication of the reports of the IPCC in 1990, 1995 and 2001; the creation of the UNFCCC in 1992; the Kyoto Protocol in 1997 and the effects of Hurricane Katrina in the United States in 2005. In addition, previous literature has revealed that most of the information has its origin in international news agencies (Kunelius & Eide, 2012; Painter, 2010; Takahashi, 2013; Takahashi & Meisner, 2013; Zamith, Pinto & Villar, 2013); meaning that the news are published without taking into account the contexts and local realities (Liu, Lindquist & Vedlitz, 2011).

Regarding the analysis of climate change in the Spanish-speaking media, several studies have focused on the Spanish case (Águila, 2013; León & Erviti, 2011; Lopera & Moreno, 2014; Piñuel & Teso, 2012; Suárez et al., 2013). Fernández-Reyes, Piñuel-Raigada and Vicente-Marino (2015) have studied media coverage of climate change in Spain in three national newspapers (*El País*, *El Mundo* and *La Vanguardia*) from January 2000 to November 2014, noting that the media attention on

this issue “describes a sinuous path, (...) with a constant presence (...), but following a certainly irregular pattern” (p. 135): poor coverage until 2006; boiling point in 2007; and decline, with undulations, from 2008 to 2013, including the unusual coverage of the Copenhagen Summit at the end of 2009. These authors have observed a further increase of attention at the end of 2013 and 2014, waiting for the Paris Summit in 2015.

As indicated by Zamith et al. (2013), empirical work on CC in regions such as Latin America have been scarce while developing countries are vulnerable to the effects of CC. Therefore it is important to analyze the coverage of Spanish-speaking media in relation to CC issues and to know who the sources involved in the news are.

The Konrad Adenauer Foundation Climate Change Report (2008) discusses the treatment of CC in the Latin American press, showing the little participation of politicians from each region. Other works focused on countries such as Argentina have also shown CC as an international issue (Mercado, 2012; González, 2012). González (2012) says that although CC is a prominent issue of the international agenda, it fails to stand out as an issue that also involves local sectors (p. 8). Different aspects of the media coverage of CC in countries such as Peru (Takahashi, 2013), Mexico (Gordon, Deines & Haaavice, 2010) and Chile (Dotson, Jacobson, Kaid & Carlton, 2012) have also been analyzed. Zamith et al. (2013) compared the informative treatment in the newspapers *The New York Times* (United States), *La Nación* (Argentina), *Folha de São Paulo* (Brazil) and *El Tiempo* (Colombia). Between 2008 and 2010, *The New York Times* and *Folha de São Paulo* published more articles highlighting public accountability, governance, economic impact and competitiveness, while *La Nación* and *El Tiempo*, which are media of Nations with smaller economies and lower carbon emissions, have more fear-mongering in their stories. In addition, the results indicate that there is an excess of confidence in government sources, with the exception of the voices of experts who can explain more accurately a scientific problem.

## THEORETICAL PERSPECTIVE AND RESEARCH QUESTIONS

This research is based on the theory of *framing*, which attributes to the media a generating function of frameworks or schemes of interpretation of reality.

According to Tankard (2001), a frame “is a central organizing idea of the informative content that provides a context and suggests what the issue is through the use of selection, emphasis, exclusion and the development” (p. 3). Sádaba (2008) notes that *frames*, insofar as structure, are able to choose and reduce information; its function is to “organize the world of the media audience, indicating how they have to think about it” (p. 99).

According to Entman (1993), *framing* is “selecting some aspects of the perceived reality and making them more notable in a communicative text, in a way that promotes a definition of the particular problem, causal interpretation, moral assessment and/or a recommendation of processing the described topic” (p. 52). As explained by Sádaba (2001, p.167), whatever journalists present in the news give a picture of what is happening. Journalists select the facts, characters, sources or key words to recount events from a particular frame (Nisbet, 2009).

The main goal of this study is to analyze the informative treatment climate change has in online Spanish-speaking media during the COP held in Nairobi (2006), Bali (2007), Poznan (2008) and Copenhagen (2009), taking into account the results of the work by Arcila, Mercado, Piñuel and Suarez (2015) that analyze the coverage of the summits in Cancun (2010) and Durban (2011). Thus, the research questions posed to meet the objective from the theoretical perspective of framing are the following:

- RQ1. What sources were used by online Spanish-speaking media to inform about CC during the summits held from 2006 to 2009?
- RQ2. What is the *origin* of the information?
- RQ3. What is the dominant frame?
- RQ4. What are the solutions presented in the news about CC?
- RQ5. Is there a relationship between the type of sources that appear and the framing of the texts?

## METHOD

To analyze the coverage of CC in online Spanish-speaking media during the summits of Nairobi (2006), Bali (2007), Poznan (2008) and Copenhagen (2009), a content analysis of a sample of news published on informational web sites in Spanish was carried out, following the classic criteria of this quantitative technique (Krippendorff, 2004) and the definition of Piñuel and

Gaitán (1995), according to which content analysis refers to “a set of interpretive procedures and techniques of corroboration and verification of hypothesis applied to communicative products (messages, texts or discourses) or to previously registered communicative interactions that constitute a document, in order to extract and process relevant data” (p. 519).

Regarding the treatment of the contents and the set theory, it is possible to focus attention on different aspects ranging from the selection of the sources to frameworks of interpretation in the elaboration of the content. This study has placed its emphasis on both aspects. Therefore, the source (who speaks?) as well as the origin of the information (who produces it?) is analyzed. On the other hand, the way in which the information is presented, i.e., the stance of the discourse (if the information expresses conformity or confrontation) and the conclusion proposed (if solutions are presented or rather *impasses* are emphasized) are considered. These frameworks are based on the study of Piñuel et al. (2012), and allow analyzing the way in which the media are presenting information and how CC issues are communicated to citizens.

## MEASURES

The following categorical variables were measured (understanding the categories *position of the discourse* and *proposal of conclusion* as *frames* of the informative piece):

- a) **Who speaks?** It refers to the first source of news.
  - a.1. *Affected/victim*: people who have been affected by the effects of CC;
  - a.2. *Witnesses*: citizens who declare or speak out as witnesses over any event related to CC;
  - a.3. *Expert/technician*: scientists or academics who give a technical opinion;
  - a.4. *Politician*: representatives of the political sector, the Government or legislative bodies that act independently (not representing a unique voice of all politicians, nor that of a political party);
  - a.5. *Alleged perpetrator*:: those presumed responsible for CC;
  - a.6. *Activist*: individuals in defense of the environment or other types rights (social, economic, etc.);
  - a.7. *Social organizations*: organizations or an articulated network of social work against CC;
  - a.8. Other.

- b) **Origin of the news:**
- b.1. News wire service;
  - b.2. Reporter;
  - b.3. Mixed;
  - b.4. None.
- c) **Stance of the discourse:**
- c.1. *Express conformity*: Climate change and its consequences (political and economic) are not considered a problem that must be resolved quickly and the actions to control it seem enough to resolve it;
  - c.2. *Express confrontation*: Unlike the previous category, this includes the news in which journalists or sources have any disagreement regarding the actions carried out in the fight against CC and its consequences;
  - c.3. *Is not committed to any positions in particular*: The news just make simple informative reports on summits and topics related to CC, without any treatment in depth. There is neither compliance nor confrontation.
- d) **Proposal of conclusion:**
- d.1. *Proposed solution to a CC problem*: this framework refers to the news that proposes solutions to the problems caused by CC. For example, they propose ideas, government policies, and activities for the citizens or other solution in order to counteract the effects of CC.
  - d.2. *Impasse (without solution)*: Unlike the previous framework, the news finishes with the problems of CC, but do not mention solutions.
  - d.3. *It proposes no problem or solution*: it does not show any problem or solution.

#### SAMPLE

For sample analysis (Table 1), 372 informative pieces were selected using the following criteria:

- (a) The most popular online media in twelve Spanish-speaking countries were chosen (Argentina, Bolivia, Chile, Colombia, Ecuador, El Salvador, Spain, Mexico, Nicaragua, Panama, Dominican Republic and Uruguay) through the popularity ranking established by Alexa.com. From this listing, we selected online media offering free access to its news (n = 30).

- (b) The news containing the words “climate change” were identified, through the search of Google News and others in digital editions archives (since some media were not indexed in the database of the search tool). The analysis period was November and December of 2006, 2007, 2008 and 2009, i.e., before, during and after the Conference of the Parties that were held in Nairobi (2006), Bali (2007), Poznan (2008) and Copenhagen (2009). The search yielded a total of 372 articles.

The search term “climate change” was used, the official name used by the United Nations Framework Convention on Climate Change (UNFCCC) to refer to a change of climate which is attributed directly or indirectly to human activity.

In total, the 372 news articles collected were archived in HTML format before starting the analysis. Subsequently, manual verification of each news article was conducted to detect the existence of repeated parts, errors in release dates and to check if the news referred to the issue of CC.

#### VALIDITY AND RELIABILITY

The instrument for the content analysis was the same used in the study of Arcila et al. (2015). Initially the instrument of data collection was subjected to a test of validity of content through a *panel of experts* that involved three researchers from different countries on the issue of media and climate change. The reviewers' suggestions were incorporated into the instrument. Then, a reliability test was performed through an inter-coder test to a sample of 100 news on CC. The study specifically used both Cohen's Kappa coefficient (k), as well as Krippendorff's alpha (KA) to analyze the degree of accordance between encoders for categorical variables. The results were as follows: Who speaks? (k = 0.837; KA = 0.837), *position of the discourse* (k = 0.963; KA = 0.963), *proposal of conclusion* (k = 0.876; KA = 0.876) and origin of the news (k = 0.900; KA = 0.900). All these variables achieved the minimum expected values for k and KA: 0.60 for k according to Neuendorf (2002); and 0.70 for KA according to Hayes and Krippendorff (2007).

#### ANALYSIS

The analysis of the results was carried out using the SPSS (Statistical Package for the Social Sciences)

Table 1: Final sample and source of analyzed media

Country	Digital Media	Total of news	Alexa Ranking	Source of data
Argentina (n=57)	<i>El Perfil</i>	3	4.472	Google News
	<i>La Nación</i>	39	1.114	<a href="http://buscar.lanacion.com.ar/buscador">http://buscar.lanacion.com.ar/buscador</a>
	<i>Infobae</i>	15	1.255	Google News
Bolivia (n=38)	<i>LosTiempos.com</i>	28	38.953	<a href="http://www.lostiempos.com/buscar-hemeroteca-criterios.php">http://www.lostiempos.com/buscar-hemeroteca-criterios.php</a>
	<i>Hoybolivia.com</i>	8	113.515	Google News
	<i>Fmbolivia</i>	2	394.572	Google News
Chile (n=55)	<i>El Mercurio de Valparaíso</i>	2	142.535	Google News
	<i>Emol</i>	53	2.736	<a href="http://buscador.emol.com/noticias/">http://buscador.emol.com/noticias/</a>
Colombia (n=23)	<i>El Tiempo.com</i>	3	1.950	Google News
	<i>El Universal.com.co</i>	17	30.485	<a href="http://www.eluniversal.com.co/ediciones-antteriores">http://www.eluniversal.com.co/ediciones-antteriores</a>
	<i>Semana.com</i>	3	19.767	Google News
Ecuador (n=36)	<i>El Universo</i>	15	8.483	Google News
	<i>El Comercio.com</i>	21	14.685	<a href="http://www.elcomercio.com/search/?query=ediciones%20anteriores">http://www.elcomercio.com/search/?query=ediciones%20anteriores</a>
El Salvador (n=13)	<i>El Salvador.com</i>	4	14.582	Google News
	<i>La Prensa gráfica</i>	9	19.917	Google News
	<i>20 Minutos</i>	5	1.768	Google News
	<i>Diario de Navarra</i>	10	28.482	Google News
	<i>El País</i>	10	377	Google News
Spain (n=43)	<i>El Mundo</i>	12	398	Google News
	<i>La Razón</i>	1	8.467	<a href="http://www.larazon.es/busquedas/resultados">http://www.larazon.es/busquedas/resultados</a>
	<i>La Vanguardia</i>	2	1.768	Google News
	<i>La Voz de Galicia</i>	1	4.476	Google News
	<i>Las Provincias</i>	1	10.377	Google News
	<i>El Siglo de Torreón</i>	34	4.423	<a href="https://www.elsiglodetorreon.com.mx/archivo/">https://www.elsiglodetorreon.com.mx/archivo/</a>
México (n=79)	<i>El Siglo de Torreón</i>	34	4.423	<a href="https://www.elsiglodetorreon.com.mx/archivo/">https://www.elsiglodetorreon.com.mx/archivo/</a>
	<i>El Nuevo Diario</i>	4	8.108	Google News
Nicaragua (n=13)	<i>La Prensa.com.ni</i>	9	7.832	<a href="http://www.laprensa.com.ni/2009">http://www.laprensa.com.ni/2009</a>
	<i>Prensa.com</i>	3	20.062	<a href="http://www.prensa.com/historico/">http://www.prensa.com/historico/</a>
Dominican Republic (n=8)	<i>Hoy digital</i>	8	16.451	Google News
Uruguay (n=5)	<i>El País.com.uy</i>	5	11.205	Google News
<b>Total: 12 countries</b>	<b>Total: 30 digital media</b>	<b>372 news articles</b>		

Source: Own elaboration.

Table 2: Details of the variable "Who speaks?" reflected as the source of the discourse

	2006		2007		2008		2009		Total	
	N°	%	N°	%	N°	%	N°	%	N°	%
Affected / Victim	0	0.00	1	1.23	0	0.00	5	1.81	6	1.40
Witnesses	0	0.00	1	1.23	0	0.00	3	1.09	4	0.93
Expert / Scientist	8	44.44	45	55.56	24	43.64	103	37.32	180	41.86
Politician	8	44.44	29	35.80	27	49.09	118	42.75	182	42.33
Alleged perpetrator	0	0.00	0	0.00	0	0.00	6	2.1	6	1.40
Activist	1	5.56	2	2.47	3	5.45	13	4.71	19	4.42
Social organizations	0	0.00	3	3.70	1	1.82	15	5.43	19	4.42
Other	1	5.56	0	0.00	0	0.00	13	4.71	14	3.26
Total	18	100	81	100	55	100	276	100	430	100

Source: Own elaboration.

program. Given that variables were fundamentally categorical, a descriptive analysis was initially carried out (frequencies and percentages), and later on the non-parametric test for excellence in social sciences took place to measure associations between categorical variables, known as the Chi-square test of Independence ( $X^2$ ). Once the existence of associations was established, the standardized residuals were reviewed in contingency tables to determine the source of relationship.

## RESULTS

The data show that the sources used (table 2) in the news about CC from 2006 until 2009 (RQ1) are mainly politicians (42.33%), followed by experts (41.86%), social institutions and activists (4.42%), the affected (1.40%) and witnesses (0.93%). The fifteen most often mentioned names in CC news during the COP were identified (table 3). The President of the United States, Barack Obama, can be seen in the first place ( $n = 67$ ); then Yvo de Boer ( $n = 38$ ), former Executive Secretary of the UNFCCC; and thirdly Ban Ki-moon ( $n = 29$ ), eighth Secretary General of the United Nations. Three Presidents of Latin America were also mentioned: Felipe Calderón ( $n = 18$ ), Luiz Inácio Lula da Silva ( $n = 18$ ) and Evo Morales ( $n = 13$ ). Since the issue of CC is built globally, it also involves actors recognized on that same scale. Most of the names are internationally recognized politicians.

Therefore, during the summits prior to the COP15, politicians were the most cited sources and they remained so after the Summit of Cancun (COP16)

and Durban (COP 17), according to the mentioned previous work of Arcila et al. (2015). Politicians appear as the main source in 36.8% of the analyzed parts in 2010 and 2011, while experts only accounted for 14.6%. The waning presence of experts can be seen after the Copenhagen Summit. Yet while in the summits analyzed in this work witnesses are cited in only 0.93% of the information, in 2010 and 2011 they were the second most quoted source (20.9%).

Table 3: Frequency of the most mentioned names in the news on CC

Source of the news	Mentions
Barack Obama	67
Yvo de Boer	38
Ban Ki-moon	29
Nicolas Sarkozy	24
Al Gore	22
Felipe Calderón	18
George W. Bush	18
Luiz Inácio Lula da Silva	18
Wen Jiabao	18
José Luis Rodríguez Zapatero	16
Angela Merkel	15
Fredrik Reinfeldt	14
Evo Morales	13
Gordon Brown	13
José Manuel Durão Barroso	13
Greenpeace	12

Source: Own elaboration.

In accordance with the frames highlighted by the *position of the discourse* (RQ3), the results showed a greater number of informative pieces that expressed *conformity* (43.20%), versus those that expressed *confrontation* (38.71%) within the information. As you can see in table 5, in 18.01% of the news *there was no commitment to a position* in particular.

Since the United States did not ratify the Kyoto Protocol in 2009, year in which the climate summit in Copenhagen was held, the media highlighted their participation in COP15, and consequently the news reflected the conformity of the intervention of President Barack Obama and his commitment to reduce emissions. For example, this conformity can be seen in the news article entitled “Denmark remarks the presence of President Obama in Climate Change Summit” [*Dinamarca destaca presencia de Obama en cierre de cumbre sobre cambio climático*] (EFE, 2009, December 5), in which the Danish Prime Minister, Lars Løkke Rasmussen, pointed out that the presence of the President of the United States favored the signing of an ambitious agreement.

In the same way, the *proposals of solution* (table 6) were analyzed. This category references to the fact if in the articles appears a solution to a problem caused by CC or not (RQ4). The results show that, in general terms, 46.24% of cases items *did not propose a solution*, even though it posed the problem. However, much of the news (41.94%) *clearly proposed a solution*. Articles that *neither posed the problem nor the solution* represented 11.83%.

With the aim of finding significant associations between the category “*who speaks?*” (the source), the

frame of the news (*position of the discourse*) and the presence of solutions, a series of statistical tests ( $X^2$ ) (RQ5) were carried out.

When politicians appear, it is more likely that the news will express conformity [ $X^2(1, N = 372) = 38.059, p < 0.001$ ] ( $3.0 > 2.58$ ), while there is a lower tendency that the news will not compromise any position in particular ( $6.1 > 2.58$ ). When grouping two sources, activist and social entities [ $X^2(1, N = 372) = 6.483, p < 0.05$ ], it is found that there is a greater probability that the article will express confrontation ( $2.5 > 1.96$ ). On the other hand, the presence of politicians in the news is associated with a greater likelihood that the article will propose a solution [ $X^2(1, N = 372) = 25.059, P < 0.001$ ] ( $3.7 > 2.58$ ), and a lower tendency to not mention either the problem or the solution ( $4.3 > 2.58$ ). The analysis of the data showed no association between the origin of the information and the sources' category (*who speaks?*).

Table 4: Details of the variable “Origin of the news?” that reflects whether the news has been prepared by the own outlet or if it comes from news agencies

	Origin of the news	
	N°	%
News wire service	243	65.32
Reporter	121	32.52
Mixed	8	2.15
Total	372	100

Source: Own elaboration.

Table 5: Details of the variable “position of the discourse”, which reflects if the news / information expresses conformity or confrontation

	2006		2007		2008		2009		Total	
	N°	%	N°	%	N°	%	N°	%	N°	%
Express conformity	4	26.67	28	43.08	27	57.45	102	41.63	161	43.28
Express confrontation	7	46.67	25	38.46	15	31.91	97	39.59	144	38.71
Is not committed to any positions in particular	4	26.67	12	18.46	5	10.64	46	18.78	67	18.01
Total	15	100	65	100	47	100	245	100	372	100

Source: Own elaboration.



Table 6: Details of the variable "proposal for the conclusion", which reflects if the news article / information poses solutions or highlights impasses

	2006		2007		2008		2009		Total	
	N°	%	N°	%	N°	%	N°	%	N°	%
Proposed solution	3	20.00	26	40.00	24	51.06	103	42.04	156	41.94
Impasse (without solution)	10	66.67	33	50.77	21	44.68	108	44.08	172	46.24
No problem statement	2	13.33	6	9.23	2	4.26	34	13.88	44	11.83
Total	15	100	65	100	47	100	245	100	372	100

Source: Own elaboration.

## DISCUSSIONS AND CONCLUSIONS

The data reveals that in the coverage of CC politicians play a slightly greater role than the experts. These results correspond with the ones of Dotson et al. (2012), who analyzed 1,065 CC articles published in two Chilean newspapers in the years 2003, 2005 and 2007. The results show that politicians were the most quoted source in *El Mercurio* (57%), *La Nación* (68%), while scientists accounted for 22% and 21% of the articles, respectively. In any case, compared with other sources, politicians and experts are those most frequently quoted.

In 1987 and 1988, scientists were the main sources that dominated the news about the greenhouse effect and CC. Since 1989, politicians, government officials and interest groups have become the most quoted source (Wilkins, 1993). Coverage increased in the British and the American press, who were increasingly politicized (Boykoff & Boykoff, 2004; Carvalho & Burgess, 2005). Carvalho and Burgess (2005) concluded that the coverage of CC is closely linked to the political agenda.

According to our study, in 2009, the year in which the summit was held in Copenhagen (COP15), the experts had the lowest percentage of participation compared to the previous years (37.32%), and spect that was also highlighted by Painter (2010). While hundreds of scientists were present at the summit, this source only accounted for 12% of the actors cited in the articles.

On the other hand, the news' frames between 2006 and 2009 expressed greater conformity (43.28%) and although in almost half of the analyzed parts (46.24%) *there are no solutions proposed*, many of the

articles do mention some (41.94%). According to Heras (2013), "the perception of climate change as a 'process without solution' is deeply un-mobilizing, so it is necessary to give visibility to answers or solutions". The predominance of the framing *conformity* highlights the expectations generated with the participation of the United States at COP15 and the hope to reach an agreement so that the greatest number of countries really commits to reducing the emissions of CO<sub>2</sub>.

Most of the examined news about CC came from international news agencies, as demonstrated by other studies carried out in the Latin American press. Takahashi (2013) found in its investigation that approximately one third of the 409 journalistic texts analyzed in the media of Peru (2000-2010) came from news agencies, which possibly limited Peruvian journalists in using their own sources of information.

The analyzed information largely have this problem as a global issue; as a result, the actors who appear as sources, especially politicians, are international figures, as it is evidenced in the list of the fifteen most mentioned persons. The aforementioned evinces the absence of issues related to climate change initiated in the local agenda.

Some CC actors (social and activist organizations) have a greater tendency to be positioned by the media in a confrontation stance, to show disagreement with solutions or policies of some Governments to combat the effects of CC. This result coincides with the research of Arcila et al. (2015). On the other hand, when a politician appear, there is a greater likelihood that the news article will have a position of compliance and, at the same time, there is a greater tendency that the article will conclude with a solution. The news present compliance

when politicians mention their commitment to reduce emissions of gases or propose a financial aid. Therefore, there is a relationship between *who speaks* and the way in which the discourse is presented.

According to the results, it can be argued that theoretical frameworks such as *framing* (or framing theory) can be still applied in studies to understand the media messages, printed or digital. The way in which media present the events may vary depending on whether certain sources are or not included in the information; hence, the process of framing a story begins at the moment in which the journalist selects *who speaks* about CC. Journalists recount not only facts, but they choose within the text elements that influence how it may be interpreted by the audience.

This study on online media in Spanish speaking countries can be useful for further studies in the socio-cultural aspects of CC. The data showed that many of the news articles published during the summits

of Nairobi, Bali, Poznan and Copenhagen came from international agencies. Politicians were the most cited sources and the relationship between the selected sources and framing was demonstrated.

Finally, limitations existed regarding the sample size and the search tools of the news on websites. Specifically, in some cases both *Google News* as well as the files of the media consulted picked up only partially the total of information originally published, which could have affected the number of pieces selected for this study. It is important that future research continues exploring media in Latin America and in vulnerable countries to its effects, incorporating the analysis of media coverage and other approaches that are related to CC. Also, it is required to incorporate specific studies (qualitative and quantitative) that allow understanding of the context in which the production of information takes place in newsrooms in Spanish-speaking countries.

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