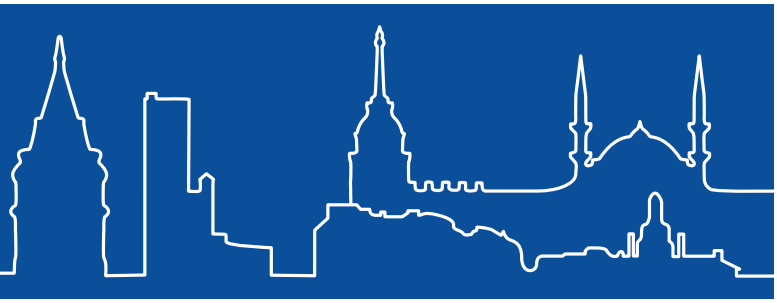
IPC–MERCATOR POLICY BRIEF



Media Coverage of Climate Change

THE WORLD VERSUS TURKEY

Ömer Lütfi Şen

EXECUTIVE SUMMARY

It is sensible to expect the climate change issue to heat up in the international agenda during the second half of 2013 as the UN's Intergovernmental Panel on Climate Change (IPCC) will start to release the fifth assessment report (AR5) on climate change late this year. The release of the AR5 and the possible preceding and alongside debates as well as speculations on its outcomes will likely help attract the attention of the national as well as international media. The present survey suggests that extreme weather events, especially the long lasting ones such as drought, when coincide with such activities help boost the mass media coverage of the climate change issues because in recent years there is a tendency in the mass media to readily link such events with climate change regardless of whether there is a scientifically verified relation between them or not. The survey also implies that the abundance of the national agenda with other issues such as poverty and terrorism does not necessarily suppress the coverage of climate change issues in Turkey. It is important to recognize that the mass media help interpret and translate complex scientific information about climate change and plays a crucial role in bringing it to the attention of the policy makers and broader public. This study also suggests that the climate scientists and activists should better utilize the high media attention times, often triggered by extreme weather events in recent years, to reach more people and inform the broader public about the causes and effects of the climate change to increase public awareness in this regard.

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The priority given to the climate change topic in the global agenda changes over time. It is possible to treat the coverage of this issue in the mass media as an indicator of the level of the priority given to it. Mazur and Lee (1993) indicate that it is the amount of media attention (not the substantive content of the news articles) that primarily determines the level of public concern about the environmental issues. Thus, studies have been carried out to analyze the temporal change of the number of news/articles published/covered on this topic in the US and UK media and the national circulation English-language newspapers in other countries (e.g., Sampei and Aoyagi-Usui, 2009; Boykoff, 2007). Researchers in the Center for Science and Technology Policy Research (CSTPR) of the University of Colorado-Boulder have been undertaking such a study for a while. On monthly basis, they compile data from 50 newspapers across 20 countries and make them available on their web site (CSTPR, 2012) as a resource for those who are interested in the trends of climate change related articles in the world. According to the figures provided on this site, if we, for the time being, put aside the many spikes that are apparently in response to the short-term events, the number of the articles rises after 2004, makes a peak in 2007 and declines thereafter, albeit showing a tendency to increase after 2011. It is possible to observe another high coverage period during 2001 in the US and UK media archives, which are available from the year 2000 forward, but the numbers are much lower than those in 2007. Amongst the many spikes in the data, it is fair, though, to mention the one in late 2009 as it indicates the highest number ever reached. One of the conclusions one can draw from these figures is that the media coverage of climate change issues changes substantially over time. It is certainly intriguing to explore what factors there are behind these changes. If these factors could be identified correctly, then it will be an immense value to the climate scientists and activists in keeping the issue warm most of the time perhaps, and developing more efficient ways to communicate it to the policy makers as well as to the broader public.

Conferences involving world leaders, destructive hurricanes making landfall, prolonged droughts influencing critical agricultural and water resources regions, floods inundating large areas, deadly heat waves, water pollution and many other natural and environmental disasters certainly attract the attention of the mass media. The UN's 1992 "Earth Summit" in Rio de Janeiro, the 2012 hurricane "Sandy" that struck New Jersey and New York and caused many deaths and billions of dollars in damage, the 2012 drought that affected the "grain belt" states of the US and caused significant declines in the crop yield, the 2011 floods in Thailand that caused more than 800 deaths and over 40 billion dollars in damage, the 2003 heat waves in Europe that were held responsible for the deaths of more than 18.000 people, and the 2010 water pollution caused by the Gulf of Mexico oil spill are just a few to mention here.

There is no doubt that the media pays much attention to the UN organized conferences and meetings on environmental issues, especially when the US and the European leaders attend, but such meetings are occasional, and therefore they usually cause spikes in the temporal coverage.

On the other hand, natural disasters that have become more frequent during recent years help enormously to keep the climate change issue in the global agenda for longer periods. Although a concrete link between the two has not been established yet, the media usually chooses to reflect such events in connection with the climate change issue.

In order to explore the factors behind the changes in the global media coverage of climate change in the past ten years or so, it is logical to go over a chronology of the major events including UN conferences on climate change and greenhouse gas emissions, climate change related films and documentaries and natural disasters that took place during that period. For instance, the IPCC released the third assessment report (TAR) in 2001, and this event is most likely related with the increased media coverage during that year. The TAR states that global warming is "very likely" with possible surprises, and indeed, during the last decade the world has experienced the fall of many previous climate records including the minimum Arctic sea ice extent.

It could be argued that the realization of the previous climate change predictions helped increase the media confidence on the climate change science in part, which then contributed positively to the coverage of the climate change issues in recent years.

A number of successive events starting from the year 2004 helped increased the number of the climate change articles in the media (Wearth, 2013; Boykoff and Roberts, 2007). Hollywood film "The day after tomorrow", which depicts the catastrophic consequences of climate change, was released in 2004. Kyoto Protocol, which sets binding obligations on the industrialized countries to reduce their emissions of greenhouse gasses, went into effect in 2005. In the same year, Hurricane Katrina struck the Gulf Coasts of the United States, and caused over 1800 deaths and more than 80

Billion US dollars in damage. The documentary film, "An inconvenient truth", in which the former US vice president Al Gore shares his concerns about the climate change, was released in 2006. The following year, the IPCC released the fourth assessment report (AR4), which warned that serious effects of global warming have become evident, confirming the warnings made in the previous assessment report. "The 11th hour", a documentary film about the state of the natural environment, which was produced by Leonardo DiCaprio, was released in 2007. Amongst the three consecutive films, it was the Al Gore's movie that received the greatest media attention (Wearth, 2013). In 2007, the lowest Arctic Sea ice extent was reported and there were widespread drought events in different parts of the world including Northern America, Australia, Europe and the Middle East. It seems that the preceding deliberately produced films paved the way and the coincidence of the release of AR4 with the exceptional droughts and record Arctic sea ice decline made 2007 a golden year in terms of the media coverage of climate change.

Following years we see a decline in the coverage that lasted until 2009 in which the UN Climate Change Conference took place in Copenhagen. It was one of those UN conferences involving the world leaders that established high expectations but failed to negotiate any binding agreements. Just before Copenhagen summit, strangely enough, thousands of emails from a prominent climate research institution in the UK were stolen anonymously, and excerpts containing words that might cause mistrust in public were released to influence the meeting. The subsequent independent investigations found no flaw in neither the data sets used to illustrate the global warming nor the results of the analysis carried out by the researchers in this institution, however, this event, quickly dubbed "climategate" controversy by the media, caused a big damage in the credibility of the climate scientists. The media covered this event and the Copenhagen meeting extensively. In the UK, the number of climate change related articles reached all time high. It is therefore plausible to hold these two prominent events responsible for that spike in 2009.

Since that year, there have been other UN conferences including the one in Doha during late 2012, but unfortunately, none has produced any remarkable outcome. The Doha meeting resulted just in the extension of the life of the Kyoto Protocol until 2020. During the last quarter of 2012, there were other events that had extensive coverage in the media. Hurricane Sandy, extreme drought conditions in the mid-west US and Mayan apocalypse story are just the three to mention. Hurricane Sandy devastated the densely populated northeastern coasts of the US, and caused over 130 deaths and more than 60 billion dollars in damage. The long-lasting drought conditions in the US affected the crop yield, and this situation is foreseen to increase the food prices in 2013. The media linked these two events with the climate change in the reports. During the debates on Maya apocalypse story, several commentators mentioned the end of the Mayans that was caused by the landscape change driven climate change according to some recent publications (Kennett et al., 2012). These three events resulted in a tendency to increase the number of the climate change related articles in the media, especially in the western media, after 2011.

In addition to the international coverage, we attempted to analyze the national coverage numbers, as, to the best of our knowledge, this has not been done before. Also, no English-language newspaper from Turkey was included in the aforementioned survey by CSTPR researchers. In our survey, four newspapers that have daily distribution in Turkish and have a working web-based archive were considered. These are Hürriyet, Milliyet, Zaman and Radikal. The climate change related words "climate change" and "global warming", and natural hazards related words "drought" and "precipitation and flood" were searched in the archives on the official web sites of these newspapers. In addition to these, the number of articles with the keywords "economic crisis" and "PKK and terror" were searched on the same archives to check whether the abundance of domestic issues affect the climate change coverage negatively. The survey covers the twelve-year period between 2001 and 2013.

The time scale is yearly, therefore the intra-annual variability, as presented by CSTPR survey, is not a subject considered in this study due to the difficulty of obtaining such data on the archives of the Turkish newspapers.

The year-to-year change of the total number of newspaper articles consisting of the climate change related words, i.e. "climate change" and "global warming", is shown in Figure 1. The number of the "global warming" articles is relatively low (less than 500 per year) until the year 2007 when it makes an outstanding jump to around 3200. It then exponentially decreases to below 500 in the year 2012. The number of articles with the words "climate change" illustrates a somewhat horizontal course with relatively low numbers until 2006. After that, it increases stepwise until 2009 when it reaches a peak with about 1400 articles, and starts to decline thereafter but remains over 500 in 2012. If we only consider the bulk trends, we could state that the Turkish media has a similar temporal coverage of climate change issues with the

international media. This is understandable as the climate change issues are generally global in nature. But it is known that the level of coverage changes from region to region, and country to country (see, for instance, the regional coverage figures on CSTPR web page). Some events are covered extensively in some countries while they are virtually ignored in others. There may also be domestic issues that may either give rise or suppress the coverage of climate change issues. Given these facts, it will be an important contribution if we could identify some of the climate change related factors that affect the media coverage of climate change in Turkey. For this, let's go over the major events that took place in Turkey as well as the international ones that involve Turkey.

After a long struggle, finally in 2001, Turkey, at its request in the UN's Marrakesh meeting that its economy to be recognized as a transition one, was removed from the Annex II list of UNFCCC (United Nations Framework Convention on Climate Change), which includes industrialized countries who committed technical and financial transfers to developing countries to assist them in climate change mitigation and adaptation. During late 2000 and early 2001, central Anatolia and the Thrace part of Turkey were under the influence of severe drought conditions. There has been a tendency in recent years to report the extreme events in relation with global warming or climate change. It seems that neither these two events nor the international ones including the release of TAR in 2001 by the IPCC had a big impact on the climate change coverage in Turkey.

In 2007, Turkey released the first National Communication on Climate Change to UNFCCC, which basically describes the economic, demographic, and energy sector developments and the consequences these have had for Turkey's greenhouse gas emissions. It is not known whether its releasewas deliberately made in 2007, but the timing of the release was certainly perfect for the maximum benefit in terms of the communication of climate change to the policy makers. In 2007, as in different parts of the world including the continental US, the severe drought events were affecting the western Turkey too. In fact, the three major cities of Turkey (Istanbul, Ankara and Izmir) were under the influence of exceptional drought conditions in this year, which severely depleted the water resources of these cities. The extreme conditions persisted through 2008 too. The municipalities in these cities struggled hard to bring water from quite distant water resources to meet the domestic water use demand. After the prolonged drought, wet conditions with floods commenced to prevail throughout Turkey in 2009. A major rainstorm and the resulting flood event in Istanbul caused over 30 deaths and millions of Turkish Liras in damage. The media was quick to associate the long-lasting exceptionally dry conditions of 2007 and 2008 and the destructive floods of 2009 with the global warming and climate change. It could be argued that the national issues in these years helped increased the climate change coverage in the Turkish media. In 2009, Turkey also ratified the renowned Kyoto Protocol. The swinging climate conditions in these years might have contributed to this decision. The wet conditions persisted in 2010. 2011 was a relatively dry year but the conditions were not as bad as those in 2007 or 2008, so the media attention to climate change issues continued to decline.

It seems that the years with high climate change coverage coincide well with the years with extreme weather events.

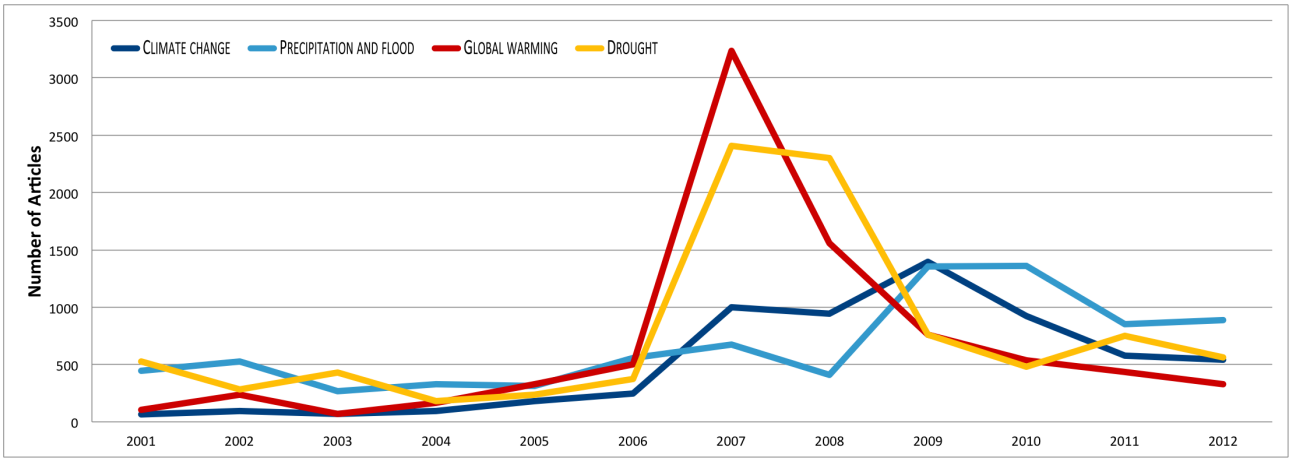


Figure 1. *Number of newspaper articles including the keywords "climate change", "precipitation and flood", "global warming", and "drought" separately.*

"Source: Hürriyet, Milliyet, Zaman and Radikal web-based archive between 2001-2013."

Thus, in order to see the relation of "drought" and "precipitation and floods" with the climate change in the media coverage, we assembled similar data from the same newspapers and plotted them on the same graph. It turns out that the number of articles consisting of the word "drought" depicts a somewhat similar course to that mentioning "global warming" while the number of articles with the words "precipitation and floods" follows a similar temporal track to that with "climate change". Indeed, the correlation coefficients (0.90 and 0.75 respectively) reflect these close relations. It is possible to draw two important conclusions from these relationships. The first one is that the natural hazards that affect Turkey, especially the major cities, evoke global warming/climate change issues and give rise to the coverage of them in the media. The second is that the Turkish media implicitly links drought events to global warming while severe precipitation and floods to climate change. This survey also reveals that there is a clear temporal distinction in the use of the words "climate change" and "global warming" during the high coverage period. It seems that the word "global warming" was selectively used to express climate change in some years, and the word "climate change" in other years. The correlation coefficient between the coverage of the two for the whole period is 0.6, which is not low but not as high as one expect it to be. They are, of course, not the same words, but commonly used for each other in these days. Climate change has a more comprehensive meaning. It encompasses the changes in the climate (precipitation, temperature, etc.) related to natural variability as well as human induced alterations in the earth-atmosphere system. Global warming, which indicates an upward trend in temperature, is only a phase in the climate change, like global cooling. They both could be used at the present times, as climate is currently warming, thus changing. The media chooses to use global warming when dry conditions persist probably because the dry conditions readily evoke global warming, but when the conditions swing to the other side, i.e. become wet, then the media cannot readily see the link, albeit it is perfectly fine to use them together, i.e. "global warming" and "precipitation and floods", instead it uses climate change to express the link. The distinction in the use of "global warming" and "climate change" is not considered in the CSTPR surveys, so it is not know how the international media treats them.

It is known that the agenda of Turkish media is usually overwhelmed by the domestic entrenched problems such as poverty and terror, which are not directly related with the climate change or global warming.

Because they make the Turkish media quite busy, it is intriguing to check whether the high coverage of such issues divert the attention of the media away from the climate change issues. Figure 2 shows that the number of articles with the keyword "economic crisis" remains relatively high for the whole period except for the years between 2004 and 2007. Those with the keyword "PKK and terror" gradually increase from 2001 to 2007 when it makes a peak. Thereafter, they decline a bit but still remain high. If considered together, since they are not related with the climate change issues, it seems that their high coverage times somewhat coincide with the climate change extensive coverage times. Although it is difficult to infer that the abundance of such issues does not affect the coverage of climate change issues at all, the data shown in both figures suggest that the dominance of the poverty and terror issues in the agenda does not preclude the Turkish media from giving high coverage to the climate change issues.

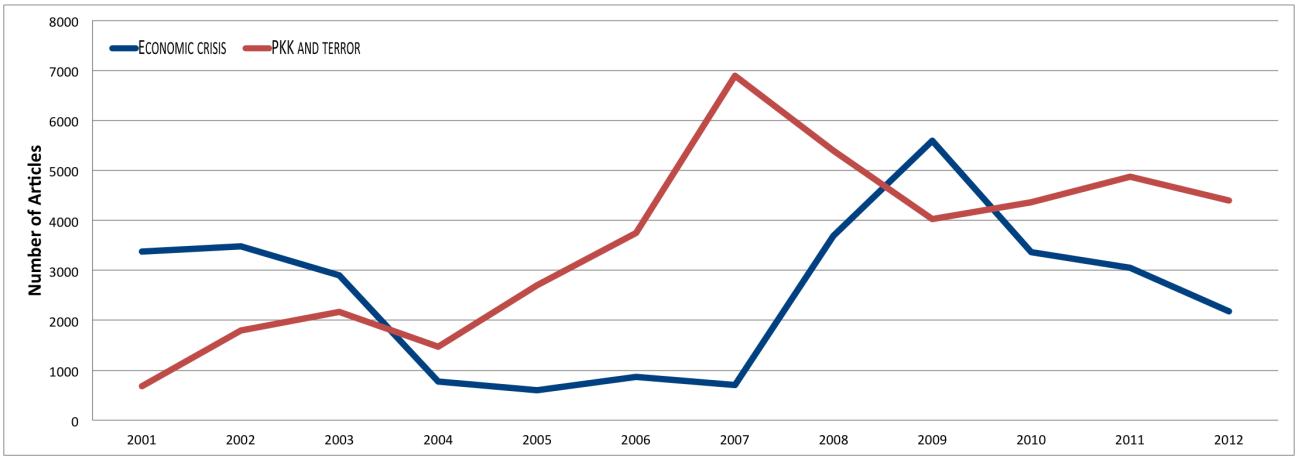


Figure 2. *Number of newspaper articles including the keywords "economic crisis" and "PKK and terror" separately (due to a problem in the search engine, the number of articles with the keyword "PKK and terror" could not be counted for the years between 2001 and 2005, therefore the total yearly numbers for "PKK and terror" does not include those from Radikal).*

"Source: Hürriyet, Milliyet, Zaman and Radikal web-based archive between 2001-2013."

According to a 2010 public survey (Çarkoğlu and Kalaycıoğlu, 2010), Turkish people, despite their concern, do not place the environmental issues such as climate change and pollution to an upper slot in the priority list for Turkish politics. The difficulty of raising and keeping a low priority topic in the public's agenda is therefore apparent. Some surveys indicate that television and daily newspapers are the primary sources of information for the public in the developed countries (Project for Excellence in Journalism, 2006). The developing countries should be no exceptions. For this reason, the climate scientists and activists have no luxury to underestimate the power of television and newspapers in reaching the broader public. But the media does not usually broadcast or report such issues for the sake of public service, it usually acts on events that have value to report. There is no doubt that the extreme weather events receive high attention from the media, and the good thing is that the related news is usually given within the context of climate change in recent years. Given this fact, the climate scientists and activists could develop better strategies to get the correct message across and increase the public awareness on climate change. Many experiences have shown that the timing of an activity is very important to have a big impact. One of the best examples is related to the Congressional testimonies of James Hansen, a prominent climate scientist in the US, on global warming (Wearth, 2013). His first testimony was in November 1987, and the media gave little attention to it. The second one was in June 1988, when there were heat waves and droughts across the US, and it received enormous attention from the media. I used to enjoy watching the surfers waiting to catch the next big wave off the North Shore of Oahu, Hawaii. Once they caught it, they could have covered quite a distance, but if they fell for a smaller one due mostly to impatience, then they would have ended up in the water in short distance. Analogous to this, one strategy, which could be called "wave effect", could involve the preparation for the next wave of the extreme weather event(s) and utilization of this wave to effectively and efficiently communicate the climate change issues to increase the climate change awareness amongst people. Moser and Dilling (2004) describe such opportunities as 'teachable moments', that is the key times to draw the public attention to climate change.

The quality of the message should not be disregarded in this endeavor. According to the same 2010 public survey, Turkish people do not have sufficient knowledge about climate change as many participants link its cause to ozone hole. This, together with the fact that people learn primarily from mass media, implies that the contents of the news reports are not informative enough. The present survey does not investigate the quality of the content of the climate change related news reports in Turkey, but the aforementioned two findings of the 2010 public survey suggest that not only the quantity with good timing but also the quality of the climate change news should be increased in Turkey. The former could be perhaps driven by the events themselves; however, the latter greatly depends on the existence of well-equipped news reporters in terms of environmental issues. Unfortunately, the Turkish media appreciably lacks such reporters.

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ANNEX I

Table. *Yearly number of articles in four Turkish newspapers that include the keywords "climate change", "global warming", "drought", "precipitation and flood", "economic crisis" and "PKK and terror". The newspapers are Hürriyet, Milliyet, Zaman and Radikal.*

	Climate Change	Global Warming	Drought	Precipitation and Flood	Economic crisis	PKK and terror
2001	65	104	526	445	3376	675
2002	95	238	284	525	3486	1798
2003	68	69	432	265	2903	2170
2004	97	165	181	327	772	1472
2005	180	330	235	313	598	2697
2006	245	501	376	555	862	3747
2007	1001	3236	2409	672	700	6896
2008	942	1559	2302	408	3688	5402
2009	1397	761	762	1353	5594	4024
2010	925	536	483	1362	3360	4360
2011	575	434	751	853	3053	4879
2012	544	327	564	887	2178	4395