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# Measuring and modeling Russian newspaper coverage of climate change



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#### ABSTRACT

As a significant emitter of greenhouse gases and a country rich in fossil fuels, Russia plays a crucial role in achieving a comprehensive solution to climate-related challenges. Yet, Russia's official position on climate change has varied considerably since the beginning of global negotiations, with the country playing everything from policy leader to laggard. While there are a number factors that shape domestic policy positions, this study offers a comprehensive investigation of newspaper coverage on climate change in Russia. How have Russian newspapers discussed the issue since the Yeltsin era? We approach this question by compiling the largest data set of Russian newspaper coverage to date, which includes 11,131 climate-related articles from 65 papers over a roughly 35 year period. After introducing a "computer assisted" approach to measure the core themes running through climate change coverage, we statistically evaluate the national- and newspaper-level factors associated with how coverage is framed, focusing attention on 23 high circulation papers over the period from 2000 to 2014. We find that national-level predictors—particularly economic conditions—are highly influential in determining whether climate change is covered and how the issue is framed, while paper-level factors such as the presence of an energy interest and ownership structure also have notable effects. Overall, this study offers a rich data set and useful methods to better understand the drivers of climate communication in Russia.

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### 1. Introduction

As the world's fourth largest greenhouse gas (GHG) emitter, Russia remains a vital piece of any comprehensive and effective plan to mitigate the harmful effects of climate change (UNFCCC, 2014). Although Russia played a pivotal role in the Kyoto Protocol's acceptance (Afionis and Chatzopoulos, 2010; Andonova, 2008), its current commitment to reducing GHG emissions remains unclear. Recently, Russia announced its withdrawal from the second commitment period to the Kyoto Protocol (Bedritsky, 2014), eliminated expenses on energy efficiency from the 2015 federal budget (Davydova, 2015), and released a set of "intended nationally determined contributions" (INDCs) that could increase GHG emissions considerably above current levels by 2030 (Levin

and Damassa, 2015). It is thus an open question as to whether Russia will be a leader or laggard in the pursuit to negotiate and implement an effective solution to the challenges posed by anthropogenic global warming.

Understanding Russia's position on climate change policy requires careful consideration of the international and domestic factors that promote or impede cooperation. While a diverse array of factors have been suggested in the literature, media coverage is seen to play a crucial role in various aspects of the climate debate. First, considering the agenda-setting function of mass media (McCombs and Shaw, 1972) and its influence in shaping public opinion in Russia (White and Oates, 2003), news coverage offers a useful means to discern domestic support for climate change action. Discerning public opinion is crucial, as only roughly 3 in 10 Russians believe that climate change is a serious problem and overall concern has decreased by roughly 10% since 2010 (Stokes et al., 2015). Second, mass media also play an important role in translating state views of climate change to national and international audiences, particularly in nations with limited press freedom (Bell, 1994; Boyce and Lewis, 2009; Boykoff, 2012; Butler

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<sup>&</sup>lt;sup>1</sup> Replication data and code are provided at https://github.com/traviscoan/russian\_newspaper\_coverage\_of\_CC.git.

and Pidgeon, 2009; Davidsen and Graham, 2014; Dirikx and Gelders, 2009; Doulton and Brown, 2009; Grundmann and Scott, 2012; Lockwood, 2009; Lyytimäki, 2011). Having a long history of close relations with the state, Russian media coverage often serves as a window into official government positions on climate policy and thus inform interested parties on how to understand Russia's position at future climate change negotiations (Poberezhskaya, 2015).

Against this backdrop, we examine the evolution of Russian media discourse on global warming in the post-Soviet era. Although a number of studies examine climate change-related communication in Russia (Poberezhskaya, 2014; Tynkkynen, 2010; Wilson Rowe, 2009; Yagodin, 2010), past work is limited both in terms of the time period under study and the number of media outlets examined. We contribute to the literature by (1) compiling the largest corpus of Russian newspaper coverage on the issue of climate change, collecting 11,131 relevant articles from 65 newspapers over the time period from May 1980 to May 2014; (2) introduce a computer assisted approach to content analysis appropriate for a large corpus of documents; and (3) offer a multi-level statistical framework for assessing the drivers of media coverage in Russia. To our knowledge, this study offers the first large-scale analysis of Russian print media coverage of climate change that statistically evaluates how both paper and national level characteristics shape climate discourse. Overall, the evidence suggests that economic conditions are more likely than political factors to explain climate coverage, while paper-specific characteristics-such as energy interests, ownership structure, and ideology—also play a role. Our study thus questions arguments on the predominant influence of political personalities over climate change discourse in the country and suggests a range of alternative explanations for how the media covers the problem.

## 2. Media coverage of climate change in Russia: theory and hypotheses

The importance of mass media in communicating climate change risks has been stressed by a variety of scholars (Bell, 1994; Boyce and Lewis, 2009; Boykoff, 2012; Butler and Pidgeon, 2009; Carvalho and Burgess, 2005; Davidsen and Graham, 2014; Dirikx and Gelders, 2009; Doulton and Brown, 2009; Grundmann and Scott, 2012; Lockwood, 2009; Lyytimäki, 2011; Olausson, 2009). Often the first point of contact between the public and climate science, the media is tasked with the crucial role of interpreting the somewhat abstract and difficult to comprehend scientific discourse (Beck, 1992; Boykoff and Boykoff, 2007; Carvalho, 2007; Nelkin, 1987; Rapley and De Meyer, 2014). Olausson and Berglez (2014 p. 251) suggest that scholarly investigations into media coverage of climate change issues should expand inquiries of the power dynamics within national media discourses: "it is vital to examine who becomes the 'primary definer' of the climate issues." In other words, it is crucial to identify the role of mass media in "setting the agenda" (Newell, 2006; Boykoff and Boykoff, 2004; Carvalho and Burgess, 2005) and "framing" the debate around the policy and science of global warming (Boykoff, 2007a; Boykoff and Rajan, 2007; Carvalho, 2007).

The media's ability to define the issue of climate change does not take place in a vacuum—mass media both shapes and is shaped by social, political, and economic forces. Bailey et al. (2014 p. 199) note, in their comparative study of Spanish and American media coverage of climate change, that "media portrayals of climate (un)certainty are steeped in the historically contingent space of ideology, culture, and politics, where various actors and institutions battle to shape public understanding and engagement." When studying Russia, one observes a historical progression marked by an ambiguous relationship between the media, the

state, and key economic actors. Towards the end of the 1980s and in the early 1990s, the media became an influential actor in the regime change process through its increasingly open criticism of the old regime and growing support of emerging political actors (Coyne and Leeson, 2009; Mickiewicz, 1999; Strovskiy, 2011; Voltmer, 2000). During the presidency of Boris Yeltsin, the mass media's political role swung from that of active support for the ruling elite to extreme criticism of some of its more questionable political decisions (for example, the war in Chechnya, see Grabel'nikov, 2001). Furthermore, Yeltsin's presidency was marked by the growth in power of the so-called "oligarchs" and their expanding control over the media market (Lipman and McFaul, 2001; Zassoursky, 2001). The dawn of the Putin era in Russian politics further signified a move towards the centralisation of the media market and the re-establishment of state authority in the public discourse (Becker, 2004; Zassoursky, 2004). Moreover, when studying media coverage of climate change, it is important to consider that the "oligarchs" and the state have close connections to the Russian fossil fuel industry, with such "gas giants" as Gazprom owning a large number of national media outlets (Toepfl, 2013). As described below, the interests of such owners are expected to shape newspaper coverage of climate change.

### 2.1. Presidency and Kremlin loyalty

Richard Sakwa (2010: viii) argues that Russia is a "dual state" where "the legal-normative system based on constitutional order is challenged by shadowy arbitrary arrangements." For example, one may argue that power in the country is disproportionately skewed towards the president or towards key political figures (for instance, Putin's personal domination over Russian politics Hanson, 2010). Regarding Russia's climate policy, research suggests that stagnation in policy development may be explained by Putin's personal negative attitude towards this environmental problem (Henry and Sundstrom, 2012). At the same time, the recent positive change in national climate affairs could be attributed to Medvedev's striving for a green economy and modernization (Monaghan, 2012). Therefore, we suggest that while pro-Kremlin newspapers are expected to closely follow the state's agenda on climate change, their coverage will adjust depending on whether Putin or Medvedev is in power. Where Putin's presidency would have a negative impact on the quantity of articles and qualitatively on their content, the discussion will steer away from the sensitive issues of domestic politics and emphasize the costs of climate action. Under Medvedev's leadership, we expect to see an increase in coverage, with more discussion dedicated to energy efficiency, international cooperation, domestic politics, and science.

### 2.2. Newspaper ownership, interests and ideology

As Andonova (2008) argues, we cannot oversimplify Russia's political process by narrowing it down to the changes at the executive level. Therefore, we need to consider a range of other societal and newspaper-level variables that may determine newspaper attention to climate change. By examining the UK quality press, Carvalho (2007, p. 223) discusses how the media representation of climate change, "is strongly entangled with ideological standpoints." In Russia, the ideological orientation of the newspapers should be treated with caution, as the distinction between left, center, and right is often blurred and must be considered in the context of media ownership structures and their governmental connections. That said, as demonstrated by previous research on the influence of a newspaper's political leanings on their approach to climate change coverage (Carvalho and Burgess, 2005; Carvalho, 2007; Poberezhskaya, 2015), we expect that

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