

# Rethinking «Fuerza Mayor» in a World of Anthropogenic Climate Change

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## Abstract:

This article addresses the question of whether extreme weather events should form the basis for individuals or even the States, may be exempted from complying with its legal obligations.

The old, but still very viable institution of force majeure can empower both companies and nations to absolve themselves of their responsibilities and duties. However, in a world where human-induced climate change is proven, could we say that such disasters are truly «natural»? Does it make sense, from a legal and factual matter, that they continue to allow the parties to be exempt from liability when modern science has shown that in all probability people, not some enigmatic power, have caused most universally of the problems that hold us harmless looking?

Force majeure is based on the idea that the «man» somehow is separate from «nature». This article challenges this idea and argues that, in many cases, no longer makes sense to apply the institution of force majeure. At least, judges should be very careful in doing so for reasons of public policy and allocation of risks. In addition, the contracting parties must have enough caution to claim that they may be able to exempt themselves from future liability clauses appealing «force majeure».

## Keywords:

Climate change – Global warming – Extreme weather – Force majeure – Act of God – Contract law – Contract law defenses – Torts liability defenses – International environmental law

## Content:

1. Introduction – 2. What is Fuerza Mayor/«Act of God»? – 3. The «human/nature» separation – 4. The relevance of Fuerza Mayor today – 5. Rethinking the doctrine – 6. Conclusion

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## 1. Introduction

Torrential rains, melting glaciers, mudslides, droughts, wildfires, heat waves in some locations and unusual cold spells in others; the news reports of our rapidly changing weather are familiar around the world. This article addresses the question of whether extreme weather events should work as an excuse for private parties or even nation states from having to perform their obligations.

While there may still be some remaining resistance among some people towards the scientifically established fact that mankind is responsible for climate change, this article takes the viewpoint that climate change is happening and, importantly, that «[h]uman interference»<sup>1</sup> has «been the dominant cause of the observed warming since the mid-20th century».<sup>2</sup>

In fact, science demonstrating the onset of climate change is increasingly grim: global temperatures reached their highest levels in the history of modern records during the 2001–2010 time period and continue to rise.<sup>3</sup> The decade included a more than 2000% increase in the loss of human life from heat waves,<sup>4</sup> not to mention the threatened future and current loss of animal and plant species. New facts about the diverse problems of climate change continue to surface. In August 2013, for example, the journal *Science* reported that shifts in climate are strongly linked to human violence around the world, such as spikes in domestic violence in India and Australia, increased assaults and murders in the United States, ethnic violence in Europe, land invasions in Brazil, police violence in Holland, and civil conflicts throughout the tropics.<sup>5</sup>

The Fifth Assessment Report by the Intergovernmental Panel on Climate Change («IPCC») recently concluded that it is «extremely likely» (i.e., at 95%–100% certainty) that human activity is the principal cause of climate change. Thus, there can no longer be reasonable discussions about whether or not this problem is man-made and, accordingly, about whether or not human action is necessary to solve the problem.<sup>6</sup> Moreover, the IPCC stressed that climate change has a negative impact on human development in countries that are more sensitive to climate change, in particular — Peru.<sup>7</sup>

Peru «is already feeling the effect of global warming».<sup>8</sup> Ranked «the third<sup>9</sup> most vulnerable country in the world to climate-induced disasters, Peru's vulnerability is compounded by the dependence of agriculture and fishing on current climatic conditions».<sup>10</sup> A United Nations Development Program («UNDP») has published a report detailing some of the impact of global warming on Peru. It explains:

*[i]n the last period, [increasingly] extreme events have battered regions of the country: the highest level recorded in the Amazon River flooded the city of Iquitos in April 2012; the largest flood recorded in the Rimac River threatened the capital in December of the same year; the most intense and prolonged rainfall recorded in Arequipa seriously affected the city in February 2013; and, recently, a snowfall record for 48 hours accumulated five feet of snow in the province of Carabaya (Puno) and other areas of the southern Andes.<sup>11</sup>*

This report also found that «[i]n general, people living in developing countries are 79 times more

1 CHRISTOPHER B. FIELD ET AL, CLIMATE CHANGE 2014: IMPACTS, ADAPTATION, AND VULNERABILITY 3 (IPCC 2014) available at [https://ipcc-wg2.gov/AR5/images/uploads/IPCC\\_WG2AR5\\_SPM\\_Approved.pdf](https://ipcc-wg2.gov/AR5/images/uploads/IPCC_WG2AR5_SPM_Approved.pdf).

2 *Id.* n.1.

3 WORLD METEOROLOGICAL ORG., THE GLOBAL CLIMATE 2001–2010: A DECADE OF CLIMATE EXTREMES 3 (2013), available at [http://wmo.int/ged/\\_1119\\_en.pdf](http://wmo.int/ged/_1119_en.pdf).

4 Andrea Vittorio, *Last Decade Sees 'Unprecedented' Extremes, Highest Temperatures on Record, U.N. Says*, INT'L ENV'T REP. (BNA) No. 15, at 1008 (July 3, 2013). For example, the 2003 heat wave in Europe caused more than 66,000 deaths and the 2010 one in Russia more than 55,000. WORLD METEOROLOGICAL ORG., *supra* note 3, at 7–8.

5 Kathleen Maclay, *Warmer Climate Strongly Affects Human Conflict and Violence Worldwide, Says Study*, BERKELEY NEWS CTR. (Aug. 1, 2013), <http://berkeley.edu/strongly-affects-human-conflict-and-violence-worldwide-says-study/>.

6 THOMAS F. STOCKER, IPCC, 2013: SUMMARY FOR POLICYMAKERS. IN: CLIMATE CHANGE 2013: THE PHYSICAL SCIENCE BASIS. CONTRIBUTION OF WORKING GROUP I TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 4 n.2 (P.M. MIDGLEY ed.).(2013) reprinted in CAMBRIDGE UNIVERSITY PRESS available at [http://www.climatechange2013.org/images/report/WG1AR5\\_SPM\\_FINAL.pdf](http://www.climatechange2013.org/images/report/WG1AR5_SPM_FINAL.pdf).

7 *Id.* at 1261 («In contrast to the warming over the continental interior, a prominent but localized coastal cooling was detected during the past 30 to 50 years, extending from central Peru».)

8 Arabella Fraser, *The Cost of Climate Change: Peru Feels the Heat of Global Warming*, PERU SUPPORT GROUP, Nov. 30, 2006, <http://www.perusupportgroup.org.uk/article-174.html>.

9 Dan Collyns, *Why Climate Change Threatens Peru's Poverty Reduction Mission*, THE GUARDIAN, Dec. 13, 2013, <http://www.theguardian.com/global-development/poverty-matters/2013/dec/13/undp-climate-change-peru-poverty-reduction>.

10 Fraser, *supra*.

11 Programa de las Naciones Unidas para el Desarrollo, Cambio climático puede poner en riesgo el progreso en el desarrollo humano del Perú [Climate change could jeopardize progress in human development in Peru], Nov. 28, 2013, <http://www.pe.undp.org/content/peru/es/home/presscenter/articles/2013/11/28/cambio-clim-tico-puede-poner-en-riesgo-el-progreso-en-el-desarrollo-humano-del-per/>.

likely to be affected by disasters than those living in developed countries». <sup>12</sup> Peru «is one of the countries most vulnerable to climate change». <sup>13</sup>

Taking the country as a whole, «Peru is not short of water,» however, «[g]lacier retreat will have a major impact on water availability . . . with Peru anticipated to become the only South American nation to experience permanent water stress» within the next decade. <sup>14</sup> Moreover, the impact of global warming goes well beyond agriculture because «[g]lacial waters are also crucial to electricity generation through hydro-power». <sup>15</sup>

Without a doubt, «[c]limate change is the result of a *current* human crisis». <sup>16</sup> Peru has already «lost 39% of its tropical glaciers due to a 0.7° C temperature rise in the Andes between 1939 and 2006». <sup>17</sup> It is anticipated that by 2100, the average temperature could rise as little as much as 5.3° C. <sup>18</sup> In fact, global temperatures have already risen 0.85°C since 1880. <sup>19</sup> This trend could spell disaster for the ecologically sensitive country.

Climate change will cause myriad problems, many of which to companies conducting national or international business. Climate-related problems will also affect countries at the national and international levels. Companies and governments alike may seek to avoid responsibilities and duties by relying on the doctrine of *fuerza mayor*, which in English is known as «acts of God». Historically, this doctrine has covered and still continues to cover unforeseeable disasters, typically often weather-related natural events. But in a world with a rapidly changing climate, are such disasters truly «natural»? In other words, do they still amount to *fuerza mayor*/«acts of God» providing a warranted defense against liability claims (in torts) or contractual performance obligations when, for example, the IPCC's Fifth Assessment Report states that the likelihood that climate change is man-made may be as high as 100%?

This old, but still viable, legal doctrine rests on the notion that «man» is somehow separated from nature and that only nature – or, in English-language countries, «God» – can be blamed for extreme weather events that are unpredictable, unforeseeable, and unavoidable. However, modern technology and knowledge has proved

this to be false. Legal practitioners, scholars and judges are coming to the realization that it may not make legal sense to continue to apply the doctrine anymore. At least, it needs to be rethought, redefined and clarified given today's knowledge about climate change.

In this article, I will first define the legal concept of *fuerza mayor* and closely related doctrines with a very brief look at their history. This will help demonstrate the modern problems in using *fuerza mayor* to excuse one's responsibilities in the case of extreme weather events. I will then examine the modern use of the doctrine in contracts law, torts, United States environmental law, and, very briefly, public international law. I doing so, I will critique the doctrine, which is becoming an inaccurate and scientifically incorrect notion; a mere legal fiction that no longer has much use or relevance. This is so because man is *not* somehow separated from «nature;» we are a closely intertwined part of it. Furthermore, we know that our pollution has already affected the climate and creates increasingly frequent and extreme weather events.

Thus, the notion that some superior power – whether that is called *fuerza mayor* or an «act of God» – is solely responsible for these weather events is simply no longer plausible nor should it be granted much legal weight, if any.

For reasons of public policy, since mankind has to a very large extent created climate change, it is debatable whether we at the same time should be allowed to excuse ourselves from our duties if, or rather *when*, extreme weather affects our private or professional obligations. Of course, it is impossible to say that any one given company or person has caused climate change. Never allowing for the excuse may thus in some cases be too harsh. But reconsidering *fuerza mayor*/«acts of God» has become a necessary part of legal thinking given the changes the world is undergoing and which now seem more or less unpreventable.

## 2. What is *Fuerza Mayor*/«Act of God»?

In English, the phrase most commonly used to seek escape from statutory, contractual or torts-related liability is «act of God». In Spanish-speaking countries, the concept is known as «*fuerza mayor*»

<sup>12</sup> *Id.* (Translated using Google Translate.)

<sup>13</sup> *Id.*

<sup>14</sup> *Id.* («[B]y 2025»).

<sup>15</sup> *Id.* («One of the rivers likely to be most affected, Mantaro, generates about 40% of energy used by the country, and drives most of the industrial plants in Lima»).

<sup>16</sup> *Id.* (emphasis added).

<sup>17</sup> Collyns, *supra*.

<sup>18</sup> Myanna Dellinger, *Narrowed Constellations in a Supranational Climate Change Regime Complex: The «Magic Number» is Three*, 37 *Fordham Int'l L.J.* 373 (2014).

<sup>19</sup> IPCC, *Climate Change*, *supra* note 6, at SPM-3.

or «caso fortuito». In French, it is «force majeure,» a term which is also sometimes used in English.

Whereas the phrase «act of God» mainly relates to weather-related events, fuerza mayor/force majeure also covers events such as strikes, wars, civil unrest, and other allegedly unforeseen and unpreventable events. However, readers should bear in mind that the special legal concerns which this article addresses to a very large extent relate not to the broader set of events that might be classified as fuerza mayor, but rather to the more specific alleged helplessness of man in relation to nature and the - hopefully dwindling - notion that extreme weather events are not caused by people, but are perhaps rather a creation of nature itself or, if one takes a religious view, God.<sup>20</sup> Because this article has been written for a Spanish-speaking audience and is to be translated from English into Spanish, the article will mainly use the term «fuerza mayor» unless a reference to the English expression is relevant or necessary. Apart from the occasionally using the word «God» to develop the arguments of this article, the article is entirely non-secular and does not express any opinions on whether or not God exists.

Most Ibero-American laws rely on the concepts fuerza mayor and caso fortuito as the main sources of impediments to perform one's obligations or duties and the excuse from having to perform them.<sup>21</sup> For example, Peru's Código Civil states that «Caso fortuito o fuerza mayor es la causa no imputable, consistente en un evento extraordinario, imprevisible e irresistible, que impide la ejecución de la obligación o determina su cumplimiento parcial, tardío o defectuoso» (Article 1315) and «La obligación se extingue si la prestación no se ejecuta por causa no imputable al deudor» (Article 1316). In other words, all that seems to be required is ordinary diligence and that a possible non-performance is «not attributable» to the party seeking excuse. But the concept of what constitutes «ordinary diligence» in times of climate change is changing. One may even argue that at least indirectly, parties in fact have always some effect on weather-related events as all human beings do. However, it is doubtful that the latter is enough for a court to hold that a party cannot be excused since the link between *each* of

our actions and climate change overall has still not been clearly identified.

Further, the definitions of fuerza mayor and caso fortuito provided by Ibero-American authors are not uniform and some confusion has arisen.<sup>22</sup> Fortunately, all the laws that rely on these concepts use them as synonyms and define them as a single concept: «fuerza mayor and caso fortuito is the unforeseen event that is impossible to resist, like a shipwreck, an earthquake, the capture of enemies, the acts of authority executed by a government official» and «forces of nature».<sup>23</sup> Other Ibero-American laws base the discharge of obligations on the closely related notion of «impossibility» due to unforeseen and/or inevitable events with no reference to the concepts of fuerza mayor or caso fortuito. Similarly, the concept of «impossibility» may apply to «an inevitable event, the effects of which were not possible to avoid or prevent».<sup>24</sup> The event must impede the performance absolutely.<sup>25</sup> Even grave difficulties imposed by government rules or other control measures may not make a performance «impossible» to perform.<sup>26</sup> (If it does not, the doctrine of «hardship» may apply.) However, all Ibero-American laws concur on the necessary elements of the defense,<sup>27</sup> which in this article will simply be called fuerza mayor (or, when referring specifically to English-language legal systems, «acts of God»). As the Mexican Supreme Court has explained:

*Independientemente del criterio doctrinal que se adopte acerca de si los conceptos fuerza mayor y caso fortuito tienen una misma o diversa significación, no se puede negar que sus elementos fundamentales y sus efectos son los mismos, pues se trata de sucesos de la naturaleza o de hechos del hombre que, siendo extráneos al obligado, lo afectan en su esfera jurídica, impidiéndole temporal o definitivamente el cumplimiento parcial o total de una obligación, sin que tales hechos le sean imputables directa o indirectamente por culpa, y cuya afectación no puede evitar con los instrumentos de que normalmente se disponga en el medio social en el que se desenvuelve, ya para prevenir el acontecimiento o para oponerse a él y resistirlo.<sup>28</sup>*

In English-language common law, the notion that «acts of God» could provide a defense to liability

20 As regards the English-language phrase «act of God,» it should be noted that in today's increasingly secular world, some doubt has been cast on the desirability of the use of a legal phrase in English that relies on the existence of a God. *Bowman v. Columbia Tel. Co.*, 179 A.2d 197, 201 (Pa. 1962). See also *Goldberg v. R. Grier Miller & Sons, Inc.* 182 A.2d 759 (Pa. 1962)

21 Edgardo Munoz, *Impossibility, Hardship and Exemption under Ibero-American Contract Law*, 14 VJ 175-92, 178 (2010).

22 *Id.* at 178.

23 Munoz, *supra* note 21, at 178.

24 *Id.*

25 *Id.* at 185.

26 *Id.*

27 *Id.* at 178.

28 Sala Auxiliar, *Septima Epoca*, Registry 245709, *Semanario Judicial de la Federación*, Volumen 121-126, *Septima Parte*, Paig. 81.

first appeared in 1581 in the famous English «Shelley's Case».<sup>29</sup> In that case, the act of God was the death of one of the parties. The concept quickly took hold in both English and American common law, although the early cases did not explain exactly *what* constitutes an «act of God». While perhaps once viewed as literal intervention by God in the affairs of man, the notion of an Act of God evolved to mean something beyond human agency and control, of which «storms, lightning, and tempests» were given as prime examples.<sup>30</sup> The notion that climatic events like storms, which are beyond the control of humans, could shield a defendant from liability for the plaintiff's damages, worked its way into tort, admiralty, contract, and even modern environmental law. Even today, climatic events like hurricanes, heavy rain, wind storms, blizzards and floods may, under the specific legal and factual tests articulated in each of the below-mentioned areas of law, relieve a defendant of liability. In addition to weather-related events, cases that have applied the doctrine addressed the theft of goods, robbery, accidental fires, failures of reservoirs because of heavy rainfall, and the failure of docks because of design mistakes.<sup>31</sup>

American cases adopted 200 years of English jurisprudence.<sup>32</sup> An 1868 California case laid out the principles that are equally applicable today: «The [act of God] expression excludes the idea of human agency, and if it appears that a given loss has happened in any way through the intervention of man,» it is not an act of God.<sup>33</sup>

Today, the *fuerza mayor* defense generally entails the following requirements: the unforeseeability by reasonable human intelligence, and the absence of a human agency causing the alleged damage.<sup>34</sup> Thus, if a similar event has occurred before, could be anticipated or prevented using modern techniques, or were otherwise reasonably foreseeable, even if not probable, claiming *fuerza mayor* will not successfully serve as a defense.<sup>35</sup> The defense is generally limited to truly unforeseeable events, rather than situations involving unusual, but not unprecedented, impacts.

As regards weather events, the Alabama Supreme Court has explained the standard as follows:

«In its legal sense, an 'act of God' applies only to events in nature so extraordinary that the history of climatic variations and other conditions in the particular locality affords no reasonable warning of them».<sup>36</sup> The interpretation given the act of God defense is so narrow today that the harm must happen «by the direct, immediate, and exclusive operations of the forces of nature, uncontrolled or uninfluenced by the power of men and without human intervention».<sup>37</sup> Normal weather conditions cannot constitute *fuerza mayor* even if the defendant has misjudged the situation.<sup>38</sup>

### 3. The «human/nature» separation

Traditionally, «nature» has been seen as separated from mankind, as two different ends of a spectrum of the world we inhabit. In spite of Darwin's models of evolution, we still distinguish between «man-made» and «natural» in many contexts. We think we «react» to – or adapt to – natural events rather than «create» them. Culturally, the division has been so strong that nature has been idealized as something «untainted» by humans.<sup>39</sup> This continues to this day, and has even become a selling point for many businesses.

For example, some foods are marketed as «natural» or «organic» indicating that a lack of human intervention and thus that they are healthier than what we as people create ourselves. In the context of recent American food and drug law developments, the separation of human and nature is relevant to product labeling: what is «organic» «natural» or «unprocessed»? All foods require *some* forms of human participation from picking and shipping, roasting and freezing, to dyeing, waxing, and even genetically altering the raw ingredients. Separation of the human and the «natural» is increasingly being recognized in this context as more of a continuum than a sharp division.

We also tend to think of ourselves as superior to nature and animals. This is a dichotomy that is becoming archaic. Our thoughts about what «nature» is generate consequences for us as humankind and for our environment. But even though critiques of the human/nature dichotomy have been accepted as logical, some deeper and

29 76 Eng. Rep. 199 (1579-81).

30 Kenneth Kristl, *Diminishing the Divine: Climate Change and the Act of God Defense*, 15 *Widener L. Rev.* 325, 329 (2010).

31 See generally Denis Binder, *Act of God? Or Act of Man? A Reappraisal of the Act of God Defense in Tort Law*, 15 *Rev. Litig.* 1 (1996).

32 Binder, *supra* at 13.

33 *Polack v. Pioghe*, 35 Cal. 416, 423 (1868).

34 Binder, *supra* at 13-14.

35 *Id.*

36 *Bradford v. Stanley*, 355 So. 2d 328, 330 (Ala. 1978).

37 *Butts v. City of S. Fulton*, 565 S.W.2d 879, 882 (Tenn. Ct. App. 1978).

38 Binder, *supra* at 17.

39 Jill Fraley, *Re-examining Acts of God*, 27 *Pace Env'tl. L. Rev.* 669, 676 (2010).

more difficult questions remain: if «humans» and «nature» are not separate, discrete categories, how can we accurately understand the concepts and their overlap, connection or integration?<sup>40</sup> We have to consider these aspects as we develop our surroundings and societies, including the law.

Law is itself a human construct, supporting and further developing the ideal of nature through legal texts, statutes and court decisions. In the United States, the law has reinforced the idea of wilderness as excluding humans.<sup>41</sup> For example, the Wilderness Act of 1964 defines wilderness regions as being «in contrast with those areas where man and his own works dominate the landscape». At the same time, the Wilderness Act defined the purpose of the wilderness not in terms of any inherent value but in terms of its value as a «resource» for human use, enjoyment and consumption.<sup>42</sup> The law outlawed development, permanent settlement, and road construction. As the Wilderness Act demonstrates, the law produces culture, but simultaneously, the law is also reproductive and referential and incorporates widely accepted cultural notions and scientific conclusions.<sup>43</sup>

When it comes to public land use in the United States, there is also a significant debate about what is «natural» and what is «human». Traditionally, the definition of «wilderness» in federal law has incorporated a sharp separation of human and natural activities; wilderness is a place «untrammelled by man».<sup>44</sup> The issue continues to be raised as some public lands are designated as «wilderness» while others are not. This is an important point because there is a long tradition in American history of using public lands for numerous - often environmentally destructive - uses such as mining. Such uses were not only tolerated, but actually encouraged by the federal government.<sup>45</sup> This may have to change in the United States and beyond.

The gist of the matter is that many, if not most, events of both a large and small magnitude that have effects of us have origins in human action. We are simply *not* separate from nature, we are a part of it. Just as nature has an effect on us, so do we have an effect on it. We are unique, but arguably not so unique as to continue seeing us as completely separate and almost untouchable

entities from our natural surroundings. Because we have an effect on nature and vice versa, we need to consider how we, with our modern understanding of our surroundings, continue to apply legally relevant doctrines such as *fuerza mayor*. A brief introduction of the historical and modern uses of the doctrine is in order here before reconsidering its possible future.

#### 4. The relevance of «Fuerza Mayor» today

Modernly, the concept of *fuerza mayor* is recognized as a general principle of law because the doctrine is recognized in the majority of legal systems of the world.<sup>46</sup> It is used in, for example, contracts law, torts, environmental law, maritime/admiralty law (where it is known as «perils of the sea»), and public international law, where it works as an excuse to state responsibility. But does it make sense to continue to apply the notion in climate change contexts? The following will critique modern usages of the doctrine in select major areas of the law. Finally, I will suggest how the doctrine should be reconsidered in general.

##### 4.1 American federal environmental law and notions of disaster law

At least three American federal acts mention «act of God», namely the Clean Water Act, the Oil Pollution Act and the Comprehensive Environmental Response, Compensation, and Liability Act («CERCLA», commonly known as the «Superfund»). These acts impose strict liability on parties responsible for oil spills, releases, or threatened releases of hazardous substances. However, an affirmative defense is that parties may avoid liability if they can «establish by a preponderance of the evidence that the release or threat of release of a hazardous substance and the damages resulting therefrom were caused solely by (1) an act of God».<sup>47</sup> The United States Congress defines an «act of God» as «[a]n unanticipated grave natural disaster or other natural phenomenon of an exceptional, inevitable, and irresistible character, the effects of which could not have been prevented or avoided by the exercise of due care or foresight».<sup>48</sup>

In addition to the already heavy burden imposed by strict liability in general, courts have further construed the «act of God» defense even more

40 Fraley, *supra* at 679.

41 Fraley, *supra* at 681.

42 *Id.*

43 *Id.*

44 Wilderness Act, 16 U.S.C. § 1131(c).

45 Fraley, *supra* at 682.

46 Federica Paddeu, *A Genealogy of Force Majeure in International Law*, THE BRITISH YEARBOOK OF INTERNATIONAL LAW, Vol. 82 No. 1, 381-494, at 476 (2012).

47 42 U.S.C. § 9607(b)(3).

48 33 U.S.C. § 2701(1), 42 U.S.C. § 9601(1).

narrowly in environmental statutory law cases.<sup>49</sup> Four elements apply: (1) whether the event was a grave natural phenomenon of an exceptional, inevitable and irresistible character, (2) whether the event was anticipated, (3) whether the event was the sole cause of the release, and (4) whether the effects of the event could have been prevented or avoided by the exercise of due care or foresight.<sup>50</sup>

First, the word «grave» means a heightened level of severity. The event must be more than just severe, destructive or even unprecedented. Courts have held that this did not apply to situations where the weather-related event existed 25% of the time, where rainfall was as heavy as in a hurricane, and also not to hurricanes as such. Such weather events were not the sole cause of the environmental damage, human actions were at play too.

Second, the event must be unanticipated. Thus, it cannot be foreseeable, predicted or usual.<sup>51</sup> Thus, «grave natural disasters which could not be anticipated in design, location or operation of the facility or vessel by reason of historic, geographic or climactic circumstances or phenomena would be outside the scope of the owner's or operator's responsibility».<sup>52</sup>

Courts have based their decisions to deny the defense in part on the fact that the phenomenon should have been anticipated. For example, when the regional or temporal knowledge was such that parties should have anticipated the event, courts have not excused parties from liability. Thus, when regions have been characterized by bad weather, when the phenomenon took place in regions and at times of year when the events were known to occur, and when the event was just a common weather-related event, the defense has not been upheld.

Third, the event must truly have been the sole cause. This was not the case when, for example, millions of gallons of toxic waste were dumped into a coalmine airshaft and then escaped years later.<sup>53</sup> It was also not the case when a tugboat captain on an underpowered boat lost control of the boat in severe weather. Similarly, when a pipe burst because of and unprecedented cold spell, the defense did not work because other factors played a role. A party's own conduct thus cannot in any way have contributed to the event for which

one seeks to escape liability. This is a very heavy burden to prove.

Fourth and finally, litigants must have exercised due care and foresight. If they have not, they cannot escape liability. For example, when harm could have been prevented through the design of proper drainage channels, the defense did not work. Similarly, when a tugboat company could simply have bought a more high-powered tugboat, there was no excuse. This element is closely linked to the «sole cause» element. No regulations stipulate what «due care or foresight» is. It is a factual inquiry. Thus, courts have discretion in this respect, but all have leaned towards strict liability. They have rejected «act of God» defenses under federal environmental laws in situations involving cold weather, freshet conditions on a river related to rain and runoff from melted snow, storms and heavy rainfall, and hurricanes on the grounds that the weather events did not satisfy the doctrine.<sup>54</sup>

So far, the «act of God» defense has not succeeded under American statutory environmental law. Litigants have simply not been able to prove by a preponderance of the evidence that the environmental damage – often toxic releases – was caused solely by an unforeseen act which could not have been prevented by people.

For now, the *fuerza mayor* concept is thus practically inapplicable in American environmental law, although it officially remains alive in statutes. But with events such as hurricanes Katrina and Sandy, severe mudslides in deforested areas, extreme rains in some regions and equally extreme – or worse – droughts and wildfires in others, it is clear that weather-related events are likely to increase in severity and number in the near future. Litigants may thus try to revive the concept in environmental contexts by claiming that certain weather events are the «sole cause» of the environmental problem. But courts will hopefully continue to find that because of our scientific knowledge of climate change, such events cannot be said to be «unanticipated». Finally, with appropriate «due care and foresight,» environmental problems *can*, in fact, be prevented. Granted, this may be expensive to do, but companies that conduct environmentally sensitive activities and plan to profit in one way or another from nature such as the in mining, mineral extraction, timber, construction and transportation industries should, for public policy reasons, also

49 Joel Eagle, *Divine Intervention: Re-Examining the «Act of God» Defense in a Post-Katrina World*, 82 Chicago-Kent L.R. 459, 476 (2007).

50 *Id.*

51 33 USC 1321(12), 33 USC 2701(1).

52 H.R. Rep. No. 91-940 (1970) (Conf. Rep.).

53 *United States v. Alcan Aluminium Corp.* 892 F. Supp. 648, 651 (M.D. Pa. 1995).

54 Fraley, *supra* at 343-344.

carry the risk that some of their operations will go wrong. In other words, they should be made to bear the costs of not taking appropriate steps to prevent environmental problems from arising in the first place.

Notions of disaster law will likely become much more prevalent in the future because we have, as a global society, not taken the scientifically required steps to prevent climate change. At the same time, we also have not learned from the disasters and, for example, rebuild in the very same areas which are prone to disastrous events. For example, after Hurricane Katrina, one of the first issues discussed was how the city of New Orleans could be «rebuilt». Certain areas of it should arguably never have been developed for residential areas in the first place because of its geographically risky location.

Instead of learning from what nature is trying to tell us, we tinker with it in an attempt to try to master it. This is bound to create more environmental problems in the future as we do not yet know of the full results of our so-called «geoengineering». For example, a privately owned, Swiss-based, technology company has announced their success in inducing rain, even in the desert of Abu Dhabi.<sup>55</sup> In July and August of 2010, in conjunction with Meteo Systems, «the Abu Dhabi government thus created more than 50 rainstorms in Al Ain . . . during the peak of the emirate's summer months».<sup>56</sup> The company used «large ionizers . . . to generate fields of negatively charged particles» producing «man-made rain from otherwise clear skies».<sup>57</sup> Through «the summer months, the emitters were switched on 74 times»<sup>58</sup> causing «rainfall on 52 occasions».<sup>59</sup> «The fake storms went so far as to produce hail, wind gales and even lightning, baffling residents».<sup>60</sup>

This type of «service» exemplifies the direct impact mankind can have on weather systems. Yet, in many regions «changing precipitation or melting snow and ice are altering hydrological systems, affecting water resources in terms of quantity and quality».<sup>61</sup> With such tinkering of nature, the weather is at the same time becoming more predictable (because of the fact that climate change exists) and less predictable as we cannot yet know what the long-term results of new geoengineering methods will be.

Thus, applying the concept of *fuerza mayor* to environmental law is, indeed, becoming irrelevant and inappropriate as the major cause of environmental problems is mankind causing problems for ourselves.

#### 4.2 Contracts Law

In Ibero-American law systems, one of the general principles of contracts law is that the circumstances under which parties perform their contractual duties do not affect the validity or enforceability of the contract.<sup>62</sup> This stems from the Roman law principle of *pacta sunt servanda*. Nonetheless, default rules of Ibero-American laws determine which party will bear the consequences of an alleged impossibility to perform. (Recall that this doctrine is very closely related to *fuerza mayor*.) However, the rules also acknowledge that the agreement between the parties on this issue is the ultimate law.<sup>63</sup> This is a matter of contractual risk allocation. For example, goods may be required to have certain characteristics or to be delivered to certain place at a certain time, but because of extreme weather, this is not possible. Payment may be required at a certain time, but an unanticipated incident makes this impossible. In an American guide to conducting mineral and mining business in Peru, it is said that «[t]he party affected by an act of God or *fuerza mayor* must resume compliance with its contractual obligations and conditions within a reasonable amount of time after the reason or reasons have disappeared».<sup>64</sup> Similarly, a guide on doing business in Peru states that *fuerza mayor* may excuse a holder of a mining concession from performing its minimum annual production if that noncompliance with a contract is the result of a «cause not attributable to the holder of the concession».<sup>65</sup> The events referred to must be beyond the control of the party relying on the doctrine and, in similarity to torts law that a party cannot rely on the doctrine if the party has been negligent.

Under Ibero-American laws, an impossibility automatically extinguishes the contracted obligations including the agreed-upon or legal liability for damages and lost profits.<sup>66</sup> Article 51 of the Convention on the International Sale of Goods

55 METEO SYSTEMS INTERNATIONAL AG, <http://www.meteo-systems.com>.

56 Karen Leigh, *Abu Dhabi-backed Scientists Create Fake Rainstorms in \$11 m Project*, Jan 3, 2011, available at <http://www.arabianbusiness.com/abu-dhabi-backed-scientists-create-fake-rainstorms-in-11m-project-371038.html>.

57 *Id.*

58 *Id.* («[W]hen atmospheric humidity reached the required level of 30 percent or more».).

59 *Id.* (The rain occurred on «days when the country's own weather service had predicted no clouds and no rain».).

60 *Id.*

61 *Id.*

62 Munoz, *supra* note 21, at 184.

63 *Id.* at 176.

64 USA INTERNATIONAL BUSINESS PUBLICATIONS, PERU MINERAL AND MINING SECTOR INVESTMENT AND BUSINESS GUIDE 239 (2009).

65 Doing Business in Peru, Baker & McKenzie, 2013, p. 61.

66 Munoz, *supra* note 21, at 182.



(«CISG») embodies the same rule. If only *part* of the obligation becomes impossible to perform, some countries allow for part performance of the contract. However, both the Peruvian and Portuguese Civil Codes require that the *entire* obligation is extinguished if partial performance is not useful to the receiving party or if that party would not justifiably have an interest in the part performance.<sup>67</sup>

Under Peru's Civil Code, courts are allowed to adjust a contract when an «extraordinary and unforeseeable» event makes one of the parties' obligations excessively onerous because of events which are not attributable to the party who is supposed to perform.<sup>68</sup> This doctrine, known as «hardship,» applies to both consumer-to-consumer and business-to-business contracts. It is often difficult to distinguish the idea of «hardship» from impossibility, and often, either doctrine will apply. The «hardship» complained of must be so seen from an objective, not subjective, point of view. Six out of the eight Ibero-American laws allow for the complete avoidance of the contract by the court acting *ex parte*, but as mentioned, in Peru, this is not the case: Peru's Civil Code require judges to revise and adjust the contract. Only if this is not possible due to the nature of the obligation may judges declare the termination of the contract.<sup>69</sup> Whether parties can agree in advance to renounce the default remedies of hardship is under discussion in some jurisdictions. However, the Peruvian Civil Code expressly declares that renunciation of the hardship rule is inadmissible.<sup>70</sup>

In the United States, the doctrine of «impracticability» may excuse parties from contractual performance in cases of an «unforeseen contingency which alters the essential nature of the performance».<sup>71</sup> Mere hardship or financial difficulties are not enough to excuse a party's performance; the event must be both highly unforeseen and have dire consequences for the party seeking to invoke the excuse.<sup>72</sup> Additionally, even though parties are under a duty to perform

their existing contract duties as agreed-upon *without* asking for modifications, this «pre-existing legal duty rule» may be avoided in some jurisdictions if a party asks for the modification because of «unforeseen difficulties».<sup>73</sup> Both these notions of law may be invoked more often in the future in cases where severe weather have made a party's performance either impossible (which, modernly, is probably not so likely) or (more likely) more expensive and cumbersome. In other words, a party may argue that the weather event was so extreme and unforeseen that they should at least be able to charge more money than originally predicted because of the event. However, most common law cases have held that failure to cover a *foreseeable* risk in the contract deprives a party of the defense of impracticability.<sup>74</sup>

The best way to protect one's clients from the potential whims of courts in this regard is thus, in the United States and probably also elsewhere, to stipulate in the contract what must happen in the case of allegedly unforeseen, extreme weather events. Such clauses are known as «act of God» or *fuerza mayor* clauses.<sup>75</sup> They work as a contractually stipulated excuse from one's performance; in other words, as an allocation of risk. Courts typically enforce *fuerza mayor* clauses as written, but if they are not defined by the parties, the clause is *not* binding.<sup>76</sup> In such cases, parties would have to rely on claims of impossibility, changed circumstances, and the like.

Issues may arise in relation to exactly *which* events are covered by the language of *fuerza mayor* clauses. The more examples are listed, the more likely it may be that courts will hold that others are excluded under the principle of *eiusdem generis*. On the other hand, if contractual parties leave the language very broad, courts may not apply the contractual excuse to the events that the parties intended. Ultimately, this is a matter of complex contract interpretation.

In short, the notion that a party may obtain an excuse from its contractual obligations based on

67 *Id.* at 185-86.

68 *Id.*

69 Peru Art. 1440 C.

70 Peru Art. 1444 C.

71 *Calamari and Perillo on Contracts* § 4.9, Sixth Edition, West 2009.

72 Pursuant to the UNIDROIT Principles of International Commercial Contracts, the doctrine of «hardship» allows parties to renegotiate contracts where an event «fundamentally alters the equilibrium of the contract» and the events «could not reasonably have been taken into account by the disadvantaged party,» are beyond its control, and where it did not assume the risk of the events. Article 6.2.2.

73 *Calamari and Perillo on Contracts* § 13.19, Sixth Edition, West 2009.

74 *Id.*

75 For example, such a clause may state that a party «shall not be liable for any excess costs if any failure to perform the contract arises out of causes beyond the control and without the fault of negligence of the [party]. Such causes include, but are not restricted to, acts of God or of the public enemy, acts of the Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, and defaults of subcontractors due to any of such causes». *Austin Co. v. United States*, 314 F.2d 518, 519 (Ct. Cl. 1963).

76 *Specialty Foods of Ind., v. City of S. Bend*, 997 N.E.2d 23, 27 (Ind. Ct. App. 2013).

weather events is viable in United States contracts law if the parties have explicitly stated so in their contracts. But the question is: should it be? With modern technology and rapidly emerging knowledge of extreme and shifting weather patterns, would it make more sense for courts to hold that weather events should no longer be considered to be *fuerza mayor*; in other words, to *not* allow parties to invoke *fuerza mayor* clauses in cases of extreme weather?

Because of the policy of free contracting, courts are unlikely to entirely invalidate contractual *fuerza mayor* clauses. Parties can assign risks as they please. This is unlikely to change in the foreseeable future. But contractual parties need to be keenly aware of the risks associated with the use of such clauses. Courts are becoming aware of the legal implications of climate change. Where courts have, in the past, held that certain extreme weather events were due to *fuerza mayor*, they are likely to examine this issue much more critically with the raised awareness throughout society, and thus also among the judiciary, of the realities of climate change and its impact on legal relations. The past is *not* necessarily the prologue to the future in this respect.

In (the perhaps rare) cases where contractual parties have not used *fuerza mayor* clauses, courts may in the future define *fuerza mayor* even more narrowly in cases of impracticability, changed circumstances, or hardship. For environmental policy reasons, this would be desirable: it would force an increased awareness of the economic risks involved in society's continual failure to prevent climate change. Similarly, legislatures could, at least in theory, adopt regulations outlawing *fuerza mayor* clauses in contracts to force an increased economic-sector awareness of the financial problems of climate change. However, they are probably also unlikely to do so, at least in the near future.

Whatever the courts and legislatures do, it seems that businesses are unlikely to merely internalize the costs of the risk of climate change without also raising their prices. This is going to be unpopular in general and is not good from a national point of view in emerging economies where issues of the affordability of even everyday items can be problematic. Increasing prices may impede the economic growth that experts call for, even though many questions also exist as to whether continual economic growth is even feasible and sustainable from a planetary point of view.

Insurance policies are intended to cover some of the costs of the risks associated with being in business. However, will insurance companies continue to cover the risks associated with climate

change, or will they simply say that parties should have known and taken steps to avoid weather-related problems? It is beyond the scope of this article to examine this in depth, but it is becoming more and more clear that it may be reasonable for insurance companies to reject coverage of weather-related damage. Contractual parties should be aware of this risk.

Arguably, parties should not be excused from their contractual performances because of allegedly «extreme» weather events in contracts law just as they are not under United States federal environmental law. The world is warming. Extreme weather events are becoming the norm. For public policy reasons, time may have come to rethink the legal desirability of sending out a signal that even though we know that more and more problems are due to arise because of anthropogenic climate change, status quo in contractual relations can somehow be restored. This is simply a false notion. Climate change will be extremely costly for private parties and nation states. Perhaps contractual parties will have to face a greater risk at the individual level in the future. Granted, it is still impossible to trace climate change in general to any *individual* person or party, but on the other hand, we are all to blame to some extent or another. We cannot simply continue to stick our heads in the sand and hope that the problem will go away. Unless steps are taken, we may unfortunately have to face both rising risks and costs.

One new way for courts to force a reallocation of the risks of climate change in contracts law would be to not merely use the binary solution of «liable/not liable» under the notion of *fuerza mayor*. Instead, they could distribute percentages of liability to each party according to notions of fairness under the circumstances instead of letting the parties be the ultimate deciders of the issue. For example, in American torts law, the principle of comparative negligence calls for courts to assign a percentage of fault to each party involved in an event that caused damage to one or both of the parties. Thus, if party A is 80% at fault and party B is 20% at fault, they will (in this simplified explanation) pay accordingly. In contracts law, instead of finding that party A can invoke the doctrine of *fuerza mayor* and thus escape liability or a contractual obligation completely, courts could develop a concept whereby party A will only be «excused» to a certain, *but limited* degree (for example, 50% if relevant), but will have to remain liable for another, appropriate percentage of the performance due (for example, the other 50%).

What would this do to the principle of freedom of contracting? Shake it up and upset some parties, undoubtedly! But again: time has very arguably come for all parts of society, including the legal

field, to realize that the time has almost run out on preventing climate change and that we are thus, unless a miracle happens, going to have to face changed financial and legal circumstances. Courts interfering in contractual relations as just described or in other ways would be controversial, but at least it would not only further raise the awareness of climate change, but also allow courts to play a more relevant and proactive role in the legal problems that are surfacing in contracts and other aspects of the law. In fact, some American judges have expressed concern that the general public may lose faith in the judicial system if courts continue to allow contractual parties to escape their contractual obligations because of fuerza mayor. If and when court take steps to stop seeing «mankind» and «nature» as strictly separate forces, they can maintain and probably increase the faith placed in them by the general population. Not even in business contexts should man be seen as legally separate from nature.

### 4.3 Torts law

In the United States, torts law plays a very large and influential role in determining who is responsible for the financial damages brought onto another. One relevant tort is that of «negligence». This concept consists of four elements: a potential duty to behave in certain, responsible ways, breach of that duty, causation (the notion that one's actions may or may not have caused the problem of which the opposing party complains), and financial damages. Where negligence does not apply, strict liability may. The rules specifying strict liability hold a party legally responsible for the damage and loss caused by his/her/its acts and omissions *regardless* of culpability.

What is the relevance of common law torts rules in civil law systems? Some common law lawyers mistakenly think that civil law courts act merely as «mouthpieces of the law» («porte-parole de la loi»); in other words, that the legislature enacts laws and the courts simply apply them. This is not necessarily true. Of course, there is a fundamental difference between the two legal systems, but there is no single concept of power balance in civil law torts systems.<sup>77</sup> Where codes give leeway for

case law to create innovations in torts law, courts will do so. Where legislatures are more active, courts may assume a more subservient role. In some countries, courts may be more willing than others to show initiative, but even in civil law systems, courts have an important role to play. It is thus not irrelevant to civil law countries how to consider how common law countries look at fuerza mayor.

Modernly, the «act of God» doctrine may work as an excuse from both negligence liability and strict liability. In contrast to statutory environmental law, the doctrine is still alive and well in American torts law.<sup>78</sup> However, the «act of God» defense in American jurisprudence will generally fail if the event reasonably should have been anticipated in light of past knowledge, or if negligence on the part of the defendant exacerbates the situation.<sup>79</sup> While the past is prologue with respect to actually occurring events, foreseeability is based not only upon the historical past, but also upon that which modern technology and science allows us to project into the future.<sup>80</sup> «Inadequate design, construction, inspection, and maintenance are acts of people, and should be adjudicated as such».<sup>81</sup> In short, «the act of God defense rests on the twin pillars of lack of predictability and lack of control. If either pillar is missing, the defense fails».<sup>82</sup>

A relevant example shows how the doctrine works in *Comeaux v. Stallion Oilfield Construction*, several property owners in Louisiana filed suit against Stallion Oilfield Construction («Stallion») after Hurricane Ike «moved» oilfield mats,<sup>83</sup> which struck the plaintiffs' property causing «significant damage».<sup>84</sup> Stallion moved to dismiss «assert[ing] the defense of 'force majeure' or 'Act of God' in that Hurricane Ike caused unexpected and unforeseen devastation with unprecedented wind velocity, tidal rise and up-river tidal surge».<sup>85</sup> At issue was whether Stallion was excused from not removing the oil mats or securing them prior to the storm when the storm's path was predicted four days prior to the impact of Hurricane Ike.<sup>86</sup> The court denied Stallion's motion for summary judgment based on force majeure.<sup>87</sup> The court reasoned that Stallion had «at least [four] days to either secure

77 Willem Van Boom, *Comparative Remarks on Civil Law Codifications of Tort Law*, Feb. 6, 2012, available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2035382](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2035382).

78 Kristl, *supra* at 360.

79 Binder, *supra* at 24.

80 *Id.*

81 *Id.* at 19.

82 *Id.* at 37.

83 See *Comeaux v. Stallion Oilfield Constr.*, 911 F. Supp. 2d 413, 415 (2012) («The mats are on average 12x8 feet and consist of three layers of wood or composite approximately 6 inches thick. Each mat weighs approximately 1200 to 1500 pounds».)

84 *Id.*

85 *Id.* at 417.

86 *Id.*

87 *Id.* at 425.

the mats or move them,» especially when «several other oil companies took measures to either secure or move various equipment and material in the area before Hurricane Ike made landfall».<sup>88</sup>

Hence, *Comeaux* demonstrates that American courts are willing to accept that weather patterns so intense as a hurricane may excuse non-performance. However, courts examine whether, by exercising due diligence, the non-performing party could have foreseen the damage and taken steps to mitigate it. If the non-performing party chose to ignore the storm and rely on force majeure as a defense, no excuse from liability will be granted.

The «act of God» defense also failed in the following weather—related cases: where higher average rainfalls occurred 38 years earlier, the court reasoned that it could be anticipated that it might happen again.<sup>89</sup> Ice on the Hudson River in New York Harbor during January was not an unforeseeable «act of God».<sup>90</sup> Neither was cold weather in Texas in December.<sup>91</sup> A failure to protect against a bolt of lightning that struck oil storage tanks which were not vapor proof, and which had open holes on top, was negligence and not defensible as an «act of God».<sup>92</sup> Also, it was not an «act of God» when the resulting harm could have been prevented through the design of proper drainage channels (in the case of foreseeable and relatively normal rain)<sup>93</sup> or where warnings of structural inadequacy of a dam were ignored in an area that had been subject to periodic floods before, even though more than 2,000 people were killed.<sup>94</sup>

In contrast, courts have upheld the «act of God» defense where rainfall exceeded twice the amount previously recorded,<sup>95</sup> where an unexpectedly forceful and furious hurricane caused ships and barges to break loose from their moorings and collide with a ship owned by a steamship corporation,<sup>96</sup> in cases of severe hurricanes and tropical storms, high velocity winds, flooding after heavy rains, upriver tidal surges, and tidal rises.<sup>97</sup> Experts have said that although the doctrine

of fuerza mayor is alive and well, it adds little, if anything, to the analysis of negligence.<sup>98</sup> It should therefore be eliminated in favor of a renewed analysis on the causation part of negligence.<sup>99</sup> «The time has come to recognize the act of God defense for what it is: an anachronistic, mirror image of existing negligence principles. The defense no longer serves an independent useful purpose and should be subsumed into the duty under the general negligence analysis».<sup>100</sup> It is reasonable to ask whether «acts of God» should continue to play a role in determining liability at all. Some have suggested that the reference to the divine should at the very least be replaced. «The deeper issue, though, is not one of labeling; rather, should the law continue to recognize the notion that an extreme climatic event such as a hurricane, storm, wind, or flood - whether called an 'Act of God' [or fuerza mayor] can ever be allowed to relieve defendants from liability?»<sup>101</sup>

Change in this area will, in common law nations, have to come from judges. They will have to realign their approaches and understanding of both torts law *and* climate change so that their holdings reflect the new factual and legal significance of climatic events. In the future, the question of liability for damages caused by extreme weather events will become even more relevant as defendants will likely seek to avoid torts liability claiming that the events were not «foreseeable,» «unusually extreme,» «supervening,» etc. In order to send a financial burden-shifting message to parties and to urge parties to better take the realistic consequences of climate change into account before damage at the private level occurs, courts should not easily hold that fuerza mayor exists. In fact, the applicability of the fuerza mayor defense has already shrunk in inverse proportion to rapidly expanding concepts of foreseeability in general.<sup>102</sup> As the number of various climate change-related problems will very likely increase in the near future, courts should more narrowly define and apply the concept of fuerza mayor to encourage parties to better prevent these problems in the first place or to internalize the costs thereof if they fail to do so.

88 *Id.* at 424

89 *Cover v. Platte Valley Pub. Power & Irrigation Dist.*, 75 N.W.2d 661, 664 (Neb. 1956).

90 *Sargent Barge Line v. The Wyomissing*, 127 F.2d 623, 624 (2d Cir. 1942).

91 *Tex-Jersey Oil Corp. v. Beck*, 292 S.W.2d 803, 807 (Tex. Civ. App. - Texarkana 1956), *aff'd in part rev'd in part*, 305 S.W.2d 162 (Tex. 1957).

92 *Id.*

93 *United States v. J.B. Stringfellow, Jr.*, 661 F. Supp. 1053, 1061 (C.D. Cal. 1987).

94 *See generally*, Donald J. Jackson, *When 20 Million Tons of Water Flooded Johnstown* 50 SMITHSONIAN, (1989); Clare Ansberry, *Johnstown Offers A Lot to Devotees of Floods This Year* A1, WALL ST. J., May 31, 1989.

95 *Curtis v. Dewey*, 475 P.2d 808, 810 (Idaho 1970).

96 *Petition of United States*, 425 F.2d 991, 996 (5th Cir. 1970).

97 Kristl, *supra* at 337.

98 Binder, *supra* at 3-4.

99 *Id.*

100 Binder, *supra* at 4.

101 Kristl, *supra* at 157.

102 Binder, *supra* at 77.

#### 4.4 Public international law

In public international law, *fuerza mayor* is now codified in, for example, Article 23 of the International Law Commission's Articles on the Responsibility of States for Internationally Wrong Acts ('ILC Articles') as follows:

The wrongfulness of an act of a State not in conformity with an international obligation of that State is precluded if the act is due to force majeure, that is the occurrence of an irresistible force or an unforeseen event, beyond the control of the State, making it materially impossible in the circumstances to perform the obligation.

This does *not* apply if:

- a. the situation of force majeure is due, either alone or in combination with other factors, to the conduct of the State invoking it;
- b. the State has assumed the risk of that situation occurring.

«Irresistible events» and «unforeseen events» are not the same type of phenomenon.<sup>103</sup> Furthermore, the events referred to may be either natural or man-made. However, as long as the underlying event is *either* irresistible *or* unforeseen, it does not matter whether it is anthropogenic or natural.<sup>104</sup> The excuse has, however, usually been applied to natural phenomena.<sup>105</sup> One of the most commonly quoted example of *fuerza mayor* in the «primary» rules of international law (i.e., rules concerning the conduct of states) relates to natural forces such as floods, inundations, fires, and earthquakes.<sup>106</sup> For example, the defense has been raised in relation to the issue of whether a ship dragged into a foreign port by bad weather would be subject to the civil jurisdiction of the state whose waters it had entered.<sup>107</sup> Other examples include situations including wars, occupations, slavery, revolutions, the potential right of free passage through other nations' waters, and the treatment of nationals and investments abroad.

As mentioned, the doctrine operates as a potential excuse for a state which cannot perform its international obligations. However, in the interest of stability of international legal relations, the rule is narrow and strict. Even before the abovementioned codification, international

tribunals were skeptical of claims of *fuerza mayor* and have thus also applied a high standard of proof to *please* of *fuerza mayor*.<sup>108</sup> Modernly, a plea in international law of *fuerza mayor* will be upheld only very rarely.<sup>109</sup>

The Peruvian jurist and former Minister of Foreign Affairs, Wiese, is one of the few Latin American lawyers who has supported the ultimate responsibility of states for injuries caused during internal troubles.<sup>110</sup> In other words, he would not allow nation states to use the doctrine of *fuerza mayor* as an excuse to state liability. Speaking broadly of state responsibility, Wiese seemed to reject, on principle, *any* applicability of the notion of force majeure to matters of state responsibility. Instead, he believed that «no es excusa para eludir la responsabilidad, el hecho de que el gobierno del Estado o sus funcionarios se encuentren en la imposibilidad de cumplir las obligaciones que les respectan, pues, argumentando en abstracto, la existencia de las obligaciones internacionales y de sus derechos correlativos envuelve la posibilidad de ejecutarlos, y porque el hecho de la omisión in en cumplir el deber, y no causa de esa omisión in, es el origen de la responsabilidad».<sup>111</sup>

Wiese considered the state *responsibility* to be the crux of the matter. He considered the *cause* of the problem to be much less relevant. This is a refreshing and mature view on how nations and potentially even private parties could appropriately be required to face the economic and human consequences of problems caused by climate change instead of more immaturely seeking to escape liability and responsibility. Again, it is of course true that each individual nation and private party actor is not and should thus not be held responsible for disproportionately large shares of the problem whether this consists of private party damages or, at the national and supranational levels, even climate change itself. But on the other hand, continuing to letting parties and nation states more or less shake off the problem by proclaiming «it is not my fault» is also no longer factually or legally appropriate. Traceability is a factual problem yet to be solved. Until perhaps it is, maybe some sort of proportionate responsibility would awaken both nation states and private parties from the slumber in which we all seem to still find ourselves when it comes to taking action against and responsibility for climate change and

103 Paddeu, *supra* at 394.

104 *Id.*

105 *Id.* at 493.

106 *Id.* 405, 424.

107 *Id.* at 405-06.

108 *Id.* at 494.

109 *Id.*

110 Munoz, *supra* note 21, at 418.

111 Wiese, *Reglas*, 78-79 (S73).

its numerous negative effects throughout the world straight from the private level all the way up the scale to the international treaty negotiation level.

## 5. Rethinking the doctrine

We often resist bringing our legal concepts into line with modern scientific understandings and thus implicitly perpetuate the myth that our actions are without climatic consequences. When courts uphold excuses of *fuerza mayor* or «acts of God» under the belief that mankind is separate from nature, their analyses are factually flawed and no longer analytically supportable.<sup>112</sup> Such holdings help perpetuate that myth. If courts continue to see human and nature as strictly separate in climatic event causation, the public's faith in the courts will indeed diminish. Lines between «man» and «nature» can no longer be drawn, and courts should thus also not do so anymore. For example, courts still draw solid lines between earthquakes, fires, storm, hurricanes, and tornadoes as «acts of nature» versus inadequate design, construction, inspection and maintenance of structures, which are acts of people. The Mexico Supreme Court talks about «[i]ncidents of nature or human conduct,»<sup>113</sup> which modernly is often the very same issue. It also holds that if an event is «unknown» by the party seeking excuse, the event is neither directly nor indirectly attributable to the party. Extreme weather events may not be directly attributable to any party or nation, but indirectly, they sure are. It does not help to ignore the future costly consequences of climate change; time has come to legally address this problem head-on. We must align our laws with our scientific understandings of the world in which we live. Otherwise, we will only be deceiving ourselves, as maybe too many of us have been in the recent past. For example, as early as 1966, a report to the U.S. Senate Committee on Commerce detailed the possibilities of legal liability for «weather and climate modification».<sup>114</sup> Five decades later, this issue is still being debated; in fact, it seems to only now have gained some urgency in legal discussions. Global climate change will present courts with the kinds of difficult factual situations that make it impossible to pretend that the old man/nature divide should remain untouched.<sup>115</sup>

Similarly, private parties in most industries also need to consider how they take the correct

response in relation to climate change problems. However, the problem is still to foresee exactly *which* response to take before the particular problem arises. That is why it is becoming even more legally important for contractual parties to consider who should be legally responsible for which potential problems caused by extreme weather events, so long as courts continue to uphold *fuerza mayor* clauses.

Climate change will require defendants to undertake many more precautions which may be considered to having to act in an economically *inefficient* way. But in reality, «climate friendly» norms and rules can help companies *save* money. For example, Apple has introduced packaging requiring fewer materials, thus both saving money and helping the environment. In the United States, many cities now outlaw supermarkets giving away disposable plastic bags. Even at the national level, «[i]t's completely possible to both get economic growth and to tackle climate change . . . [t]he traditional trade-off that a lot of people talk about between growth and responsibility to the environment is a false dilemma».<sup>116</sup>

Furthermore, just as the notion of a «reasonable person» is a legal fiction as no one individual can truly be said to be a benchmark of what is «reasonable» or not, so is the notion of *fuerza mayor* as it applies to climate change becoming a mere legal fiction. Even earthquakes may be attributable to our eternal quest for more oil and gas. For example, Oklahoma recorded more earthquakes (207) than even California (140) from January to early June 2014.<sup>117</sup> The oil and gas industry's injection of wastewater deep into the Earth is linked to the shift in seismic activity. Even when considering what a «reasonable person» would do, courts take the circumstances of various cases before them into account. In fact, American case law is often highly circumstantial, which is positive. But that same consideration should be applied to notions of *fuerza mayor* as the doctrine relates to climatically caused problems. The two notions should certainly become or remain intertwined in the future: if a party seeks to avoid liability or a contractual performance because of alleged *fuerza mayor*, courts should even more closely than before consider what a reasonable party would or even should have done in the circumstances. News reports have created much awareness of extreme weather, so *fuerza mayor* is

112 Fraley, *supra* at 687.

113 245709. Sala Auxiliar. *Septima Época*. *Semanario Judicial de la Federación*. Volumen 121-126, *Septima Parte*, Paig. 81.

114 Fraley, *supra* at 685.

115 Fraley, *supra* at 687.

116 Alex Morales, *Fighting Climate Change is Profitable, Mexico's Former President Felipe Calderon Says*, International Environmental Reporter, June 25, 2014, (quoting Calderon, former chairman of state oil company Petroleos Mexicanos) <http://www.bloomberg.com/news/2014-06-25/fighting-climate-change-is-profitable-mexico-s-calderon.html>.

117 Marlena Baldacci et. al, *Oklahoma Quakes This Year Top Tremors in California*, CNN, June 19, 2014, <http://www.cnn.com/2014/06/19/us/oklahoma-earthquakes-wastewater-wells/>.

not truly and strictly seen an appropriate excuse in relation to climate-caused problems anymore as parties *can* now foresee most problems that will occur and *should* be required by courts of law and/or legislatures to do something to prevent negative consequences for others. What is «reasonable» in the future may well be different than now because of climate change. As it has so correctly been said, «[t]here is a genuine question of whether courts should, as a matter of public policy, continue to pretend that humans are not actors in climatic events, thereby perpetuating the moral ignorance of the environmental consequences of our modern lives».<sup>118</sup>

## 6. Conclusion

Problems caused by climate change are very likely «acts of people», not «acts of God».<sup>119</sup> The doctrine should thus be redefined given our modern scientific understandings of our natural surroundings. In torts, the notion of negligence already sufficiently covers the doctrine, which thus serves no separate function.

In American statutory environmental law contexts, parties have so far not been allowed to escape liability by invoking *fuerza mayor*. Future environmental law in the United States and beyond should specifically *not* allow for this defense to be invoked in relation to extreme weather events for public policy reasons.

In contracts law, parties should arguably still be allowed to allocate the risks of their respective performances as they wish, perhaps even more so in the future as climate-related problems are

likely to increase in severity and number. But they should be keenly aware of the new ways in which courts may look at problems that may be argued to be beyond the parties' control. More indirect effects may and arguably should play a greater role in cost and risk allocations in the future. Part of the adaptation efforts that are becoming of more and more relevance as climate mitigation seems to be lacking may well be to expect parties in carbon-intensive industries internalize the risks of adverse effects on their operations although sadly, this will probably likely only lead to increased prices.

At the international level, nations cannot excuse themselves from state responsibility «if the situation of force majeure is due, either alone or in combination with other factors, to the conduct of the state invoking it». Maybe it would be in order to find that the «conduct» under this rule includes the *non*-conduct of states that continue to refuse to adopt national- or international-level regulations against climate change such as an effective international climate change treaty. Nations are arguably the ultimate true causes of the problem as they have for too many years refused to take relevant international and national legal action to mitigate climate change and, amazingly, often *continue* to avoid taking appropriate steps to do something about this extremely serious planetary problem.

As Voltaire said, «Men argue, Nature acts». Time has come for humankind to stop arguing so much about climate change and, instead, acting more. This includes the legal community who needs to not only reconsider, but also act on, the new legal realities caused by climate change. ☒

118 Fraley, *supra* at 690.

119 Binder, *supra* at 76.