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Citation for final published version:

Capstick, Stuart , Thierry, Aaron, Cox, Emily , Berglund, Oscar, Westlake, Steve and Steinberger, Julia K. 2022. Civil disobedience by scientists helps press for urgent climate action. *Nature Climate Change* 12 , pp. 773-774. 10.1038/s41558-022-01461-y

Publishers page: <https://doi.org/10.1038/s41558-022-01461-y>

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# Civil disobedience by scientists helps press for urgent climate action

Time is short to secure a liveable and sustainable future; yet, inaction from governments, industry and civil society is setting the course for 3.2 °C of warming, with all the cascading and catastrophic consequences that this implies. In this context, when does civil disobedience by scientists become justified?

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The scientific community is well aware of the grim trajectory on which the Earth is headed <sup>1,2</sup>; many of those working on climate change experience anxiety, grief or other types of distress as a result <sup>1</sup>. Increasingly stark warnings and the gathering pace of climate impacts stand in contrast to the persistent growth in global emissions<sup>2,3</sup>. Some scientists conclude that the discordance between the evidence and lack of response constitutes a broken contract between science and society<sup>4</sup>. Others point to powerful vested interests and systemic inertia obstructing significant emissions reduction<sup>3,5,6</sup>.

Although scientists are not to blame for the lack of an adequate societal response, it is reasonable to ask what more can be done to accelerate desperately needed change, beyond the further accumulation and communication of evidence.

Many already accept a role for scientists in advocacy<sup>1,6,7</sup>; around two-fifths of IPCC authors have signed petitions or letters calling for action, and a quarter report having taken part in protests<sup>1</sup>. To press for more meaningful efforts, and to push back against the negligence and bad faith tactics that frustrate this<sup>3,5,6</sup>, a legitimate next step for scientists is to participate in peaceful civil disobedience.

We argue that this is justified on the basis that it is effective as a strategy for change, it strongly communicates the urgency of the climate crisis, is a reasonable and ethical activity for scientists to undertake, and is revealing of the barriers to climate action.

## Civil disobedience works

Civil disobedience involves public acts of conscience that seek to disrupt and resist business as usual and/or to effect changes in laws and practices; examples in relation to climate action include the bodily obstruction of investment banks enabling new fossil fuel exploration and the pasting without permission of scientific papers to government buildings. In concert with international movements such as youth strikes, a growing number of scientists are becoming involved with this type of protest<sup>8</sup> [Insert Fig. 1 here].

Practitioners of civil disobedience often refer to important historical precedents such as the suffragettes or the civil rights movement; its use within contemporary climate activism is based on the linked claim that it is more effective than conventional protest. In some cases, civil disobedience has prompted a direct response from decision-makers; for example, following the 2019 Extinction Rebellion protests in London, the UK parliament supported a motion to declare a climate emergency that called on the government to increase its ambition<sup>9</sup>. More often, disruptive protests are part of broader politics, such as campaigns against coal extraction in South Africa and by indigenous-led coalitions resisting new fossil fuel infrastructure in the United States<sup>10</sup>.

The IPCC concludes with ‘high confidence’ that collective action connected to social movements has played a substantial role in pressuring governments to create new laws and policy, noting that the more confrontational tactics of civil disobedience and direct action have become increasingly common in recent years<sup>2</sup>. Meta-analysis of social movements worldwide contesting fossil fuel projects finds that civil disobedience makes a demonstrable difference to their chances of success, over and above the use of other tactics<sup>10</sup>.

### **Civil disobedience needs scientists**

The trusted position of scientists in society affords a respected standpoint from which to demand change; for this reason alone, their participation is valuable as part of social movements. At the same time, the credibility of scientists is influenced by whether they are seen to be acting in line with shared values and promoting the well-being of others<sup>11</sup> and, in the context of climate change, according to whether their actions clearly align with their message<sup>12</sup>. More generally, studies on social influence and leadership show that particular meaning and purpose tends to be ascribed to conduct that incurs personal costs (for example, risk or discomfort) when carried out with the intention of advancing collective goals<sup>13</sup>.

Civil disobedience by scientists has the potential to cut through the myriad complexities and confusion surrounding the climate crisis in a way that less visible and dispassionate evidence provision does not, sending a clear signal that scientists believe strongly in the evidence and its implications. When those with expertise and knowledge are willing to convey their concerns in a more uncompromising manner than through papers and presentations, this affords them particular effectiveness as a communicative act<sup>14</sup>. This is the insight of Greta Thunberg when she calls on us to “act as you would in a crisis”.

### **Civil disobedience is justifiable**

As an ‘ethical crisis’<sup>15</sup>, the climate emergency warrants civil disobedience under certain specific conditions. These include that fundamental rights to life and well-being are being undermined in an unjust manner; that the action has the potential to be effective and avoids harm; and that such action is undertaken as a last resort, other avenues having been pursued<sup>9,15</sup>. More long-standing scholarship has argued that civil disobedience is justified in the context of a broader ‘fidelity to law’ that contests specific policies or practices but not the legitimacy of the state in general terms; central to this is the separation of the legal from the legitimate, siding where necessary with the latter<sup>16</sup>.

We argue that the circumstances of the climate crisis more than fulfil the ‘last resort’ criterion: for decades, scientists have tried to sound the alarm through other means, but years of delay and obfuscation by decision-makers mean that severe consequences are already unfolding around the world, with little time remaining to avoid even more far-reaching and long-lasting harm. The climate crisis is epitomized by destructive impacts on large numbers of people; it is pervaded by injustice, and exacerbated through obstruction by powerful institutions, including the conditions set by legislators. Carefully targeted and peaceful civil disobedience is able to align with overall fidelity to law, where scientists accept the risk of arrest for conscientious but potentially unlawful acts.

### **The trouble with scientific neutrality**

A familiar counter argument to scientist involvement in civil disobedience is that this risks undermining the integrity of science. The legitimacy of scientists is said to rest on their status as impartial, objective or ‘neutral’ observers, and the idea that science and politics should remain separate. However, these ways of linking science and society are not founded on absolute principles; rather, they exist as partially applied assumptions based on historical precedent<sup>17</sup>. We need to ask how well these inherited norms are serving us in a time of existential environmental crisis.

Moreover, no dialogue between science and society can ever be value neutral, and it should not aim to be<sup>6,18</sup>. The widespread notion that sober presentation of evidence by an ‘honest broker’ to those with power will

accomplish the best interests of populations is itself not a neutral perspective on the world; it is instead conveniently unthreatening to the status quo and often rather naïve<sup>5,6,14</sup>.

Misgivings about how civil disobedience by scientists may be perceived by the wider public may also be misplaced. In general terms, studies have found the credibility of scientists is not undermined by advocacy<sup>7,19</sup>; on the contrary, many members of the public expect scientists to use their knowledge to advocate for the public good<sup>7</sup>.

### Think, then act

While historical evidence can offer pointers, there is no one-size-fits-all approach to civil disobedience. With respect to climate action, it entails an ongoing experiment; scientists might best consider themselves participatory action researchers, fully cognisant and transparent about the value-based concerns that enable their involvement<sup>6,14–16,18</sup>. At the same time, participation can lead to deeper understanding of the social and political structures that surround the climate crisis and the processes by which change can occur<sup>20</sup>.

It is important to be clear that the personal risks associated with civil disobedience vary dramatically with people's circumstances. We recognize that there are many frontline activists who have lost their lives protesting and resisting in defence of people and planet. To be able to engage in disruptive protest in relative safety is a privilege held by citizens living in comparatively liberal societies. For those in such a fortunate position, the opportunity exists to press for action, while helping to shape the nature of protest activity and reducing the barriers to participation by others<sup>14</sup>.

By engaging with the subject matter of this article, the authors — and, we hope, our readers — are pushed into difficult territory concerning a fundamental question: are our traditional modes of research and communication failing in the face of the climate crisis and, if so, what can we do about it? An unflinching engagement with this question requires us to move beyond our comfort zone, in ways which might challenge but also energize the position of scientists in society.

In addition to documenting the climate crisis in ever greater detail, we are obliged to consider how we might act in new ways to help bring about a necessary and urgent transformation.

In the meantime, we have long since arrived at the point at which civil disobedience by scientists has become justified.

<https://doi.org/10.1038/s41558-022-01461-y>

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#### **Competing interests**

All authors have participated in, and offered support to, groups carrying out civil disobedience to press for climate action.