Seventy years since the Doomsday Clock was created, how have the threats to humanity changed?

In 1947, a group of atomic scientists who had worked to develop the USA’s nuclear weapons during the Second World War started a ‘Doomsday Clock’ to measure how close they believed humans were to a man-made global catastrophe. In 2017, humans are as close to disaster as they have ever been.

Origins

The clock, or at least an illustration of a clock, appeared in the first issue of the Bulletin of the Atomic Scientists — a newsletter later to become a magazine. At ‘7 minutes to midnight’ it warned that nuclear warhead technology had developed to the point that it was capable, by 1947, of destroying humankind. Periodically reset, by 1953 it had reached 2 minutes to midnight (see diagram).

In 1947 there were only a handful of nuclear weapons. By 1953 there were stockpiles of several thousand and the USA and USSR were racing to build more as part of the Cold War arms race.

Changing threats

In the early 1990s the threat of global nuclear conflict waned with the collapse of the USSR and the end of the Cold War. However, nuclear annihilation is no longer the only threat to humankind’s continued existence. The 2017 update that moved the hand to 2½ minutes to midnight mentions global warming, cyber-warfare and developments in artificial intelligence and biology as possible existential threats. The Doomsday Clock ticks to a different tune in 2017 compared to 1947, but the expected outcome is the same.
A new arms race?

A key reason why the minute hand has ticked relentlessly toward midnight since 1995 is a resurgence of the nuclear threat:

- Iran’s nuclear weapons programme ended in 2015–16 as part of the Joint Comprehensive Plan of Action (‘Iran Deal’) international agreement to persuade Iran to stop nuclear weapons research in return for the ending of EU and US economic sanctions. This deal is in place, but its future is not certain.
- Both India and Pakistan, whose international relations waver between shaky and downright hostile, are nuclear armed. Pakistan is benefiting from huge Chinese investment via CPEC (China-Pakistan Economic Corridor) which has the potential to strengthen its weak economic position in relation to its BRIC neighbour, India.
- A nuclear armed North Korea represents an increasingly immediate threat to Japan and South Korea in east Asia. Both countries are long-standing and important allies of the USA.
- After several decades of decline, Russia appears to be renewing its nuclear arsenal and developing new nuclear weapons technologies including submarine-launched torpedoes.

Overlapping spheres

Is the minute hand likely to move to a safer position in the near future? Probably not. Geographically, the spheres of influence of powerful, nuclear-armed countries overlap in an arc from Syria and Turkey in the west all the way to the Koreas in the east. Decades of diplomacy have not calmed Middle Eastern, Indo-Pakistani or Korean Peninsula tensions.

Questions

1. How similar or different are geopolitical tensions today, compared to those during the Cold War?
2. Is the Doomsday Clock idea realistic, or useful, as a measure of how close the world is to destruction?
3. Should threats such as climate change, or major economic disruption due to widespread automation, be considered more or less serious than nuclear conflict?

Further research

The magazine *Foreign Policy* [http://foreignpolicy.com](http://foreignpolicy.com) is a good starting point for exploring geopolitical issues and conflict in more depth.

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