



Zombie Virus

Why in News?

European researchers have raised concerns of yet another pandemic after resurrecting a **48,500-year-old 'Zombie Virus' from a frozen lake in Russia.**

- The researchers warned that Climate change-induced thawing of the [permanently frozen land \(permafrost\)](#) in the [Arctic](#) could pose a new public health threat.

What is a Zombie Virus?

- **About:**
 - 13 new pathogens have been characterized, what are termed '**Zombie Viruses**', which remained **infectious despite spending many millennia trapped in the frozen ground.**
 - The virus emerged due to the **thawing of permafrost as the global temperature is rising.**
 - The new strain is **one of 13 viruses**, each of which possesses its own genome.
 - The oldest, **dubbed Pandoravirus yedoma** after the mythological character *Pandora*, was 48,500 years old, a record age for a frozen virus returning to a state where it has the potential to infect other organisms.
 - This has broken the previous record held by a 30,000-year-old virus discovered by the same team in Siberia in 2013.
- **Causes:**
 - One-quarter of the **Northern hemisphere is underlain by permanently frozen ground**, referred to as permafrost.
 - Due to climate warming, **irreversibly thawing permafrost is releasing organic matter frozen for up to a million years**, most of which decomposes into carbon dioxide and methane, further enhancing the greenhouse effect.
 - Part of this organic matter also consists of **revived cellular microbes (prokaryotes, unicellular eukaryotes)** as well as viruses that remained dormant since prehistoric times.
- **Potential Impact:**
 - All of the "zombie viruses" have the potential to be infectious and hence pose a "**health danger**" after researching the live cultures.
 - It is believed that pandemics like [Covid-19](#) **will become more common in the future** as melting permafrost releases long-dormant viruses like a microbial Captain America.

[Source: ET](#)