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1

Pyrocumulonimbus Clouds (Fire Clouds) (Source: The Indian Express)

They are thunderstorm clouds (cumulonimbus) that develop due to intense heat generated by large wildfires, volcanic eruptions, or massive explosions

Formation

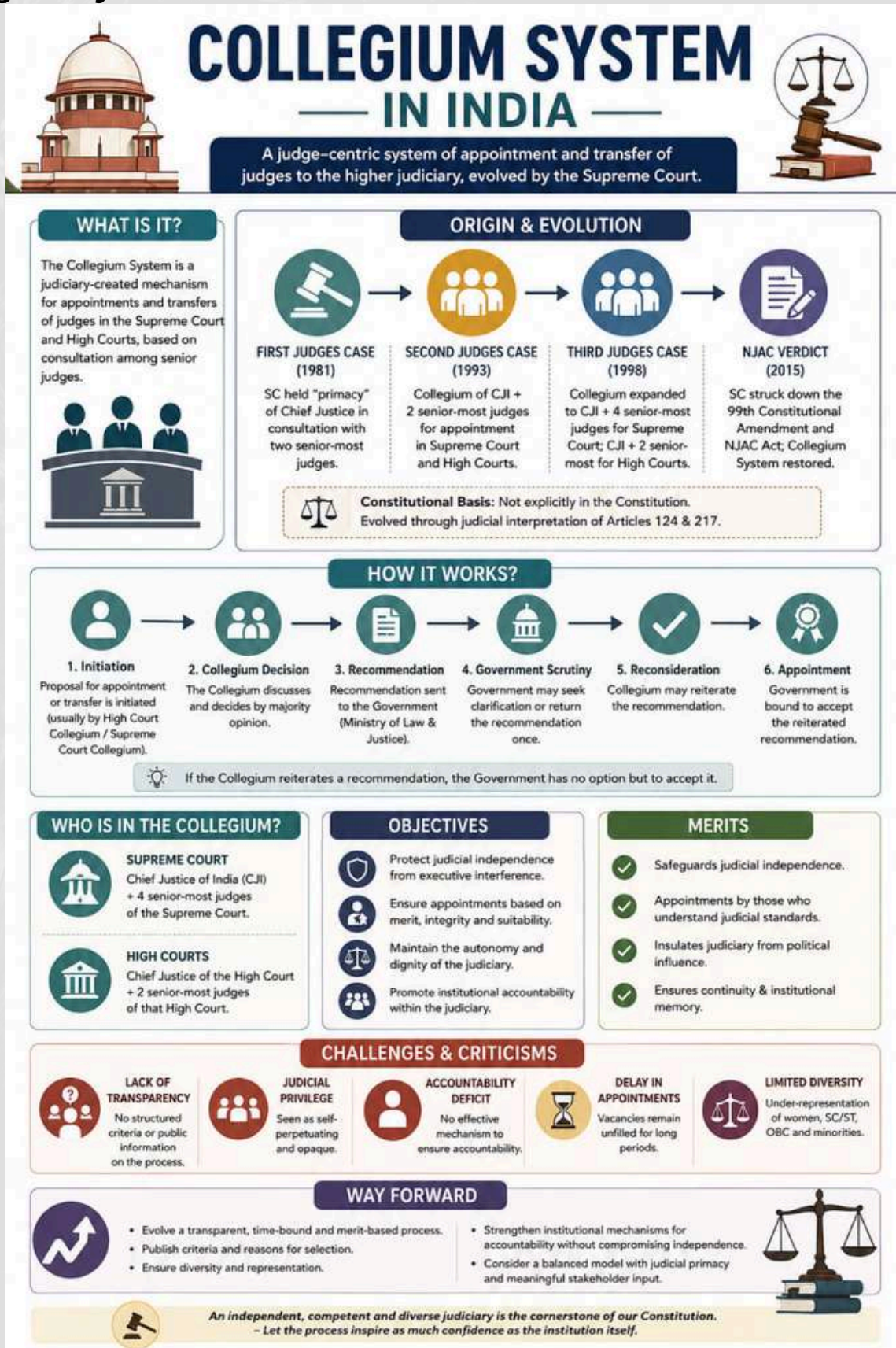
- A large wildfire or volcanic eruption generates intense heat.
- Hot air rises rapidly, carrying smoke, ash, and water vapour.
- Rising air cools and condenses into a pyrocumulus cloud.
- Continued uplift forms a cumulonimbus cloud.
- The cloud produces lightning, strong winds, rain (sometimes), and even hail.

Impact

- Injects smoke and black carbon into the stratosphere.
- Influences global climate by altering radiation balance.
- Reduces air quality over vast regions.
- Makes wildfire behaviour highly unpredictable.
- Lightning from the cloud may trigger secondary fires.

2 Collegium System (Source: The Hindu)

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3 Pax Silica Initiative (Source: The Hindu)

Pax Silica is a US-led strategic initiative to build a secure, prosperous, and innovation-driven silicon supply chain from critical minerals.

- **Objective:** To reduce coercive dependencies, protect the materials and capabilities foundational to artificial intelligence, and ensure aligned nations can develop and deploy transformative technologies at scale.
- **Countries:** US, Japan, South Korea, Singapore, Netherlands, United Kingdom, Israel, UAE, Australia, Qatar.