

Emerging methods for early detection project fire

Problem statement:

- In the past, watching towers and satellite photos were used to detect fires. Satellites gather photographs and relay them to the monitoring authority, who determines whether or not a fire is presently based on the images.
- But given the possibility that the fire had spread to such huge areas and caused such damage, this approach was extraordinarily slow.
- Significant damage before the rescue crew arrived.
- The watching tower method required a man to always be present, who would watch the area and report if there was a fire. This approach was also delayed because the fire might already have moved into the interior areas of the forest by the time the man learned about it.
- Given that some regions, particularly forest areas, are vast, it is nearly impossible to place a man in every area of the forest from where they can monitor the forest area.
- As a result, both these methods—watching towers and satellite images—failed to identify fire as soon as feasible to lessen the damage it caused. Issues in detecting fires
- As mentioned, the main issues with fire detection were two:
- The edge is set, and if the worth is greater than the edge, the object is deemed to be a fire; otherwise, it is not.
- As a result, numerous researchers eliminated this issue by utilizing machine learning approaches.
- Nodes are connected using cables in traditional systems.
- Cables were primarily copper. However, copper wire is expensive or the cable may be defective in the middle.
- This problem has been solved by wireless sensor networks.
- So as technology advances, researchers find efficient ways to detect wildfires using a wireless sensor network. Fires can be identified by transporting sensor nodes to forest areas.
- Conveying sensor hubs in the timberland regions means placing sensors in every part of the forest and mostly in the prone areas where the risk of catching fire is more. With the use of wireless sensor networks, now it is easy to detect fire in large areas as soon as possible.