

## Non-methane hydrocarbons (NMHCs)

**Prelims:** *Current events of national and international importance* | Environment

### Why in News?

Researchers from Aryabhata Research Institute of Observational Sciences (ARIES), spent a year (2022-2023) measuring non-methane hydrocarbons (NMHCs) in Munsyari, a high-altitude Himalayan tourist destination.

- **NMHC** - They are a highly reactive group of volatile organic compounds (VOCs) that contain only carbon and hydrogen, with methane explicitly excluded.
- **Primary sources** - They are primarily emitted by fossil fuel combustion, vehicular exhaust, industrial processes, and biomass burning.
- **Gases included** - Common atmospheric gases like *ethane, ethene, propane, and benzene*.
- **Concentration variability** - Parts per billion in remote areas to much higher levels in dense, industrialized, or urban locations.

***Volatile Organic Compounds (VOCs)** are carbon-based chemicals that easily vaporize into the air at room temperature.*

### Impacts

- **Ozone Precursors** - In the presence of sunlight and nitrogen oxides, NMHCs undergo complex photochemical reactions that form ground-level (tropospheric) ozone and harmful secondary pollutants like photochemical smog.
- **Health Risks** - While many light alkanes act largely as irritants or ozone precursors, heavier aromatic hydrocarbons such as benzene are highly toxic and well-documented carcinogens.
- **Climate Influence** - By reacting with atmospheric radicals (like hydroxyl radicals), NMHCs directly influence the lifetime of other greenhouse gases.

### Reference

[PIB | NMHC](#)



**SHANKAR**  
**IAS PARLIAMENT**  
*Information is Empowering*