Monsoon and Lightning

What is the issue?

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- In recent period, certain states of India witnessed a worrying number of lightning related deaths.
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- It is essential in this backdrop to understand the association between lightning and monsoon, if any.
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How has rainfall distribution been?

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- It is roughly a fortnight since the start of the South-West monsoon.
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- India has recorded nearly 55 mm of rain.
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- This is 16% more than what is usual for this time of the year.
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- The bulk of it has been over south and central India.
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- The north-eastern States has so far registered a 24% deficit.
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What is IMD's prediction?

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- After an early onset and quick advance, the monsoon has stalled and will remain so for at least a week.
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- However, several parts of north-eastern India are expected to receive substantial rain.
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- Because the southern branch of the monsoon has stalled.
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- It is causing heavy rain in Goa, coastal Karnataka and Kerala.
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- These have seen 44 cm, nearly 49% more than what it gets in the first fortnight of June.
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- This has led to widespread havoc.
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How has lightning activity been?

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- This year saw nearly 300 deaths due to lightning in UP, Bihar, Jharkhand and WB.
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- This was however in May which is not a monsoon month.
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- Because of unusual convective activity, Andhra Pradesh in April recorded nearly 36,000 lightning strikes in a single day.
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- Typically that is what the State suffers in an entire pre-monsoon month.
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- Despite all that lightning, no more than 10 deaths were reported.
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- Therefore, even pre-monsoon rain can contribute to massive cloud buildups and trigger widespread lightning strikes.
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- Thus, there is no one-to-one link between the strength of the monsoon in one year and lightning deaths.
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- 2,000-2,500 deaths occurring due to lightning annually is ‘normal,’ as per the NCRB figures.
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- It is thus early to understand if this year has seen an unusual spike.
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Why is lightning a serious concern?

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- Lightning is the leading cause of accidental deaths in India attributable to the forces of nature.
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- Nearly 25% of accidental deaths attributable to natural causes were due to lightning.
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- That lightning strikes disproportionately affect the poor is also a fact.
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- So poorly built houses, staying out in the open, being in places that aren't properly electrically insulated, etc are some driving factors.
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- The mere fact of working in open fields substantially increases the risk of death from lightning.
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What is the challenge in early warning?

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- Lightning and thunderstorms are an extremely 'local' phenomenon.
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- The impact spreads no more than a few kilometres.
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- Also they tend to occur rather suddenly and are therefore beyond the range of the weather radars.
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- However, it is possible for the meteorological department to warn of the likelihood of thunderstorms and lightning.
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- This can be given for a district or a city, about a day in advance.
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- But street-level or area-wise accuracy is a tough challenge.
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What could be done?

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- Build-up of clouds is known to be a factor which can help predicting.
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- However, much more improved weather modelling is required to give accurate warnings.

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- State- and district-level disaster management agencies routinely issue advisories.
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- It includes asking people to refrain from using mobile phones or handling electrical equipment plugged to sockets.
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Source: The Hindu

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