

WATCH  
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## Light pollution dampens amateur astronomers' enthusiasm



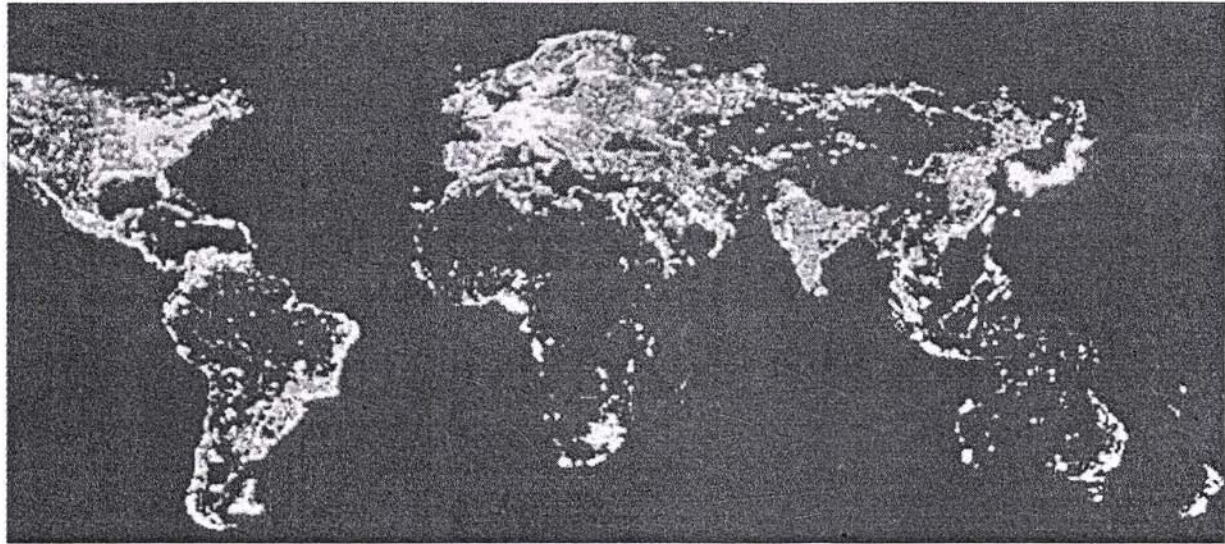
Just look up at the night sky and you will see 3,000 stars - except you can't count them. Can you? You don't need a telescope or binoculars, just your naked eyes but you still can't see 3,000 stars, can you? Unfortunately that is because one of the lesser known recent pollutants on the planet Earth: Light Pollution.

Light pollution is most amateur astronomers' worst enemy. There are two aspects to the problem: glare and skyglow.

Glare refers to light shining directly in your face — typical examples such as streetlights or your neighbor's "security" lights. Severe glare can make stargazing impossible but most people can escape it by finding a shadowed corner, erecting screens to block the light or travelling to a park nearby.

Skyglow, the diffuse glow that fills the sky itself is harder to escape. A major city's glow is a serious problem anywhere within 50 to 80 km of the center and it's visible for at least 100 km.

It is extremely helpful to



**BANE OF AMATEUR ASTRONOMERS:** File photo of light pollution across the globe.

know how strong the skyglow is in your area to calibrate your expectations. For instance, the huge but very diffuse galaxy Messier 33 is quite easy to see through hand-held binoculars in a pristine sky, but it is extremely hard to make out even with a large telescope from a typical suburb, where the skyglow is many times more intense than the galaxy's light.

Traditionally, the qual-

ity of people's skies has been measured and communicated in terms of naked-eye limiting magnitude (NELM). That is the magnitude of the faintest star that is just barely perceptible with averted vision directly overhead. On nights with good transparency, experienced observers typically measure NELMs of 6.5-7.5 in pristine conditions and perhaps as low as 3.0-4.0 near the center of major cit-

ies. Unfortunately, NELM estimates of identical conditions vary greatly from one individual to another. That limits their value for measuring skyglow.

Amateur astronomers from Pune go about 60 km away from Pune to get better NELM. Mulshi - Tamhani area and Panshet area are good spots in terms of better NELM in the west side of Pune. Normally, observers go to west side of

city. We see stars rising from east and move to west so even if any object rises in skyglow, one can observe that object when the object gains some height. Nasrapur - Welhe area is to south of Pune. In this area also NELM is better. Mostly, amateurs go to west or south to get better NELM.

— ANIRUDDHA DESHPANDE & DEEPAK JOSHI

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