New Open Access Geospatial Datasets to Enhance Global Population Mapping

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Transcript

Speaker 1: OK, let's unpack this. Ever feel like you're just drowning in data when it comes to global population shifts, urbanisation, how fast everything's changing. It's easy to get overwhelmed.

Speaker 2: It really is.

Speaker 1: So today we want to cut through some of that noise. We're going to dive into some fascinating new data that offers, well, a really new level of clarity.

Speaker 2: Yeah, definitely.

Speaker 1: But first, just a quick note for you listening, we, your hosts today aren't real people. We're AI derived from source material that WorldPop uploaded.

Speaker 2: That's right. And it's important to know that this audio, everything you're hearing has been meticulously edited, checked, and validated by the human experts at WorldPop.

Speaker 1: Absolutely. So, let's get into the source for this Deep Dive.

Speaker 2: OK. So, our focus today is a really critical preprint journal article. It's led by Dorothea Woods. She's a WorldPop enterprise fellow and GIS analyst. And the title is *Global Gridded Multi-Temporal Datasets to Support Human Population Distribution Modelling*.

Speaker 1: Got it.

Speaker 2: It's currently going through peer review. It was first published back on June 24th, 2025.

Speaker 1: Right. So, it's quite recent. And here's where it gets really interesting, I think. This article it introduces a well, groundbreaking collection. It's open access, 73 global geospatial datasets. Think of it as a kind of toolkit, right. Meticulously put together, really powerful, and designed to fundamentally change how we map and understand where people actually live down to incredibly fine scales.

Speaker 2: That's the key part, the scale.

Speaker 1: It feels like more than just more data. It's like a missing piece allowing us to predict and respond much better.

Speaker 2: Exactly. And what's fascinating is how these data sets tackle the inherent variability in population density. And this works from that global scale, right down to approximately 100 metre grid cells. It enables something called top down disaggregation of population counts. So imagine you have a total population for a city or maybe a larger region. Instead of just that single

number for the whole area, this method allows us to sort of, intelligently spread that number across these tiny 100 metre squares on the map.

Speaker 1: Ah, so you're distributing the known total more accurately within the area.

Speaker 2: Precisely. It takes us way beyond traditional census data, which is often aggregated - lumps people together in large zones and loses that crucial spatial detail.

Speaker 1: And it's not just about the raw population numbers themselves, is it?

Speaker 2: No, not at all.

Speaker 1: It's combining those numbers with this rich tapestry of what they call covariates.

Speaker 2: Things like topography, the shape of the land, climate patterns.

Speaker 1: Even nighttime lights, I thought that was included.

Speaker 2: Yes, nighttime lights are a powerful indicator of human presence and activity. Plus, land cover, inland water, roads and other infrastructure, protected areas - the built environment itself.

Speaker 1: So, a whole range of factors.

Speaker 2: A Whole range. And critically, these aren't just static snapshots. That's really important. Many are annual time series. We have data going back consistently to 2015 and some data sets are as recent as 2023.

Speaker 1: So, you can track changes over nearly a decade for some of these.

Speaker 2: Exactly. It lets us see the dynamic. Not just where things are, but how they're evolving. How land cover changes, how settlements expand or contract.

Speaker 1: That temporal dimension must add so much depth. You combine, say, in nighttime lights changing overtime with land cover shifts.

Speaker 2: And you start to paint a really vivid picture. How humans distribute themselves on the landscape. A census taken every few years, just can't capture in the same way.

Speaker 1: So, connecting this to the bigger picture - these data sets being so highly resolved and harmonised, they're not just for researchers modelling populations, right?

Speaker 2: Absolutely not. That's the whole point.

Speaker 1: This incredible detail means we can track things like, say, rapid urbanisation much more accurately.

Speaker 2: Think about the impact for urban planning. Where do we need services? Or even tracking disease spread?

Speaker 1: Yeah. The applications seem huge. Which I guess brings us to a question for you, the listener. How does this new level of detail, this ability to see population dynamics so finely change what's possible for you? In whatever field you're in.

Speaker 2: It's a good question because this kind of data can genuinely transform, policy making, resource allocation. Whether it's in environment, economics, health - really across the board globally.

Speaker 1: And it's important to stress again, these aren't just theoretical tools for someday.

Speaker 2: No, they're ready now.

Speaker 1: Ready for immediate application. Providing a much clearer, sharper lens to view our constantly shifting world. And if you are curious if you want to dive even deeper into the specifics, you can read the full article. Just follow the link below this audio.

Speaker 2: So maybe leave you with this thought. Consider the power of having this kind of fine grained data right at your fingertips. What new insights - what new solutions could you uncover with this level of detailed understanding?

Speaker 1: Yeah, what becomes possible now.