

**Item 7.1 Climate Resilience
Planning & Development Action Plan**

Sustainable Development Outcomes



“Sustainability is meeting the needs of the present without compromising the ability of future generations to meet their own needs.”

United Nations Brundtland Commission, 1987

“We cannot solve our problems with the same thinking we used when we created them.”

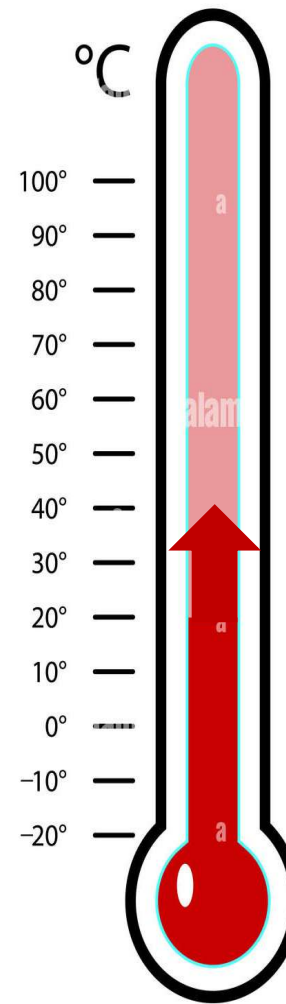
Albert Einstein

2023 Edmonton Climate Change Research

2023 UofA Study, Agrawal et al ([LINK](#)),
“Exploring spatiotemporal changes of the
Urban Heat Island effect in high-latitude
cities at the neighbourhood level: A Case
Study of Edmonton, Canada,” between
1999 and 2021.

Found:

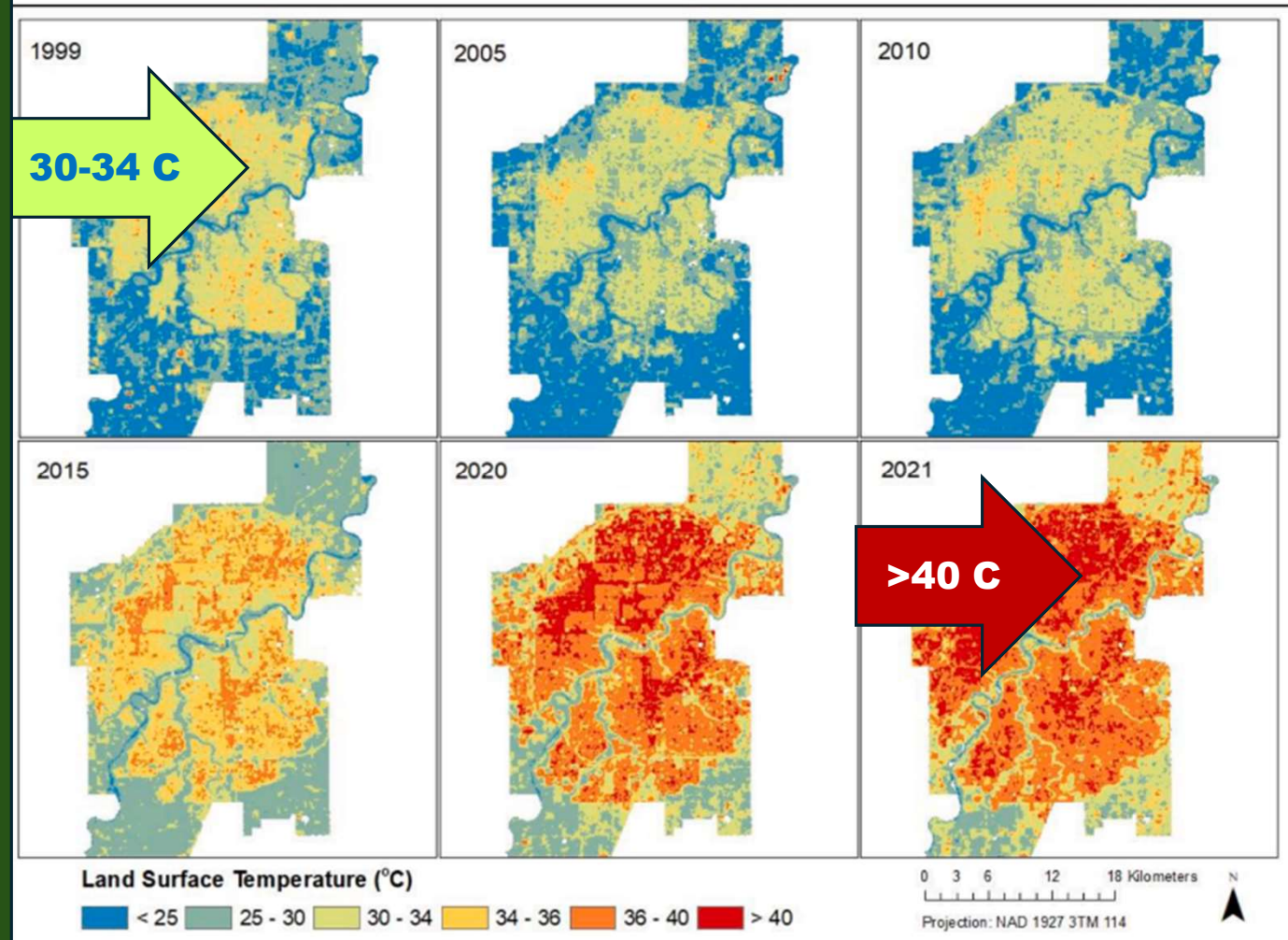
A 15% reduction vegetation cover
between 1999 to 2020 resulting
from increased development
imperviousness.



Land Surface Temp. 1999 -2021

Land Surface Temp. increased from the range of 30 to 34 C in July 1999 to over 40 C during the 2021 extreme heat event.

The increase was most pronounced between 2015 and 2021 when city growth also began to increase.



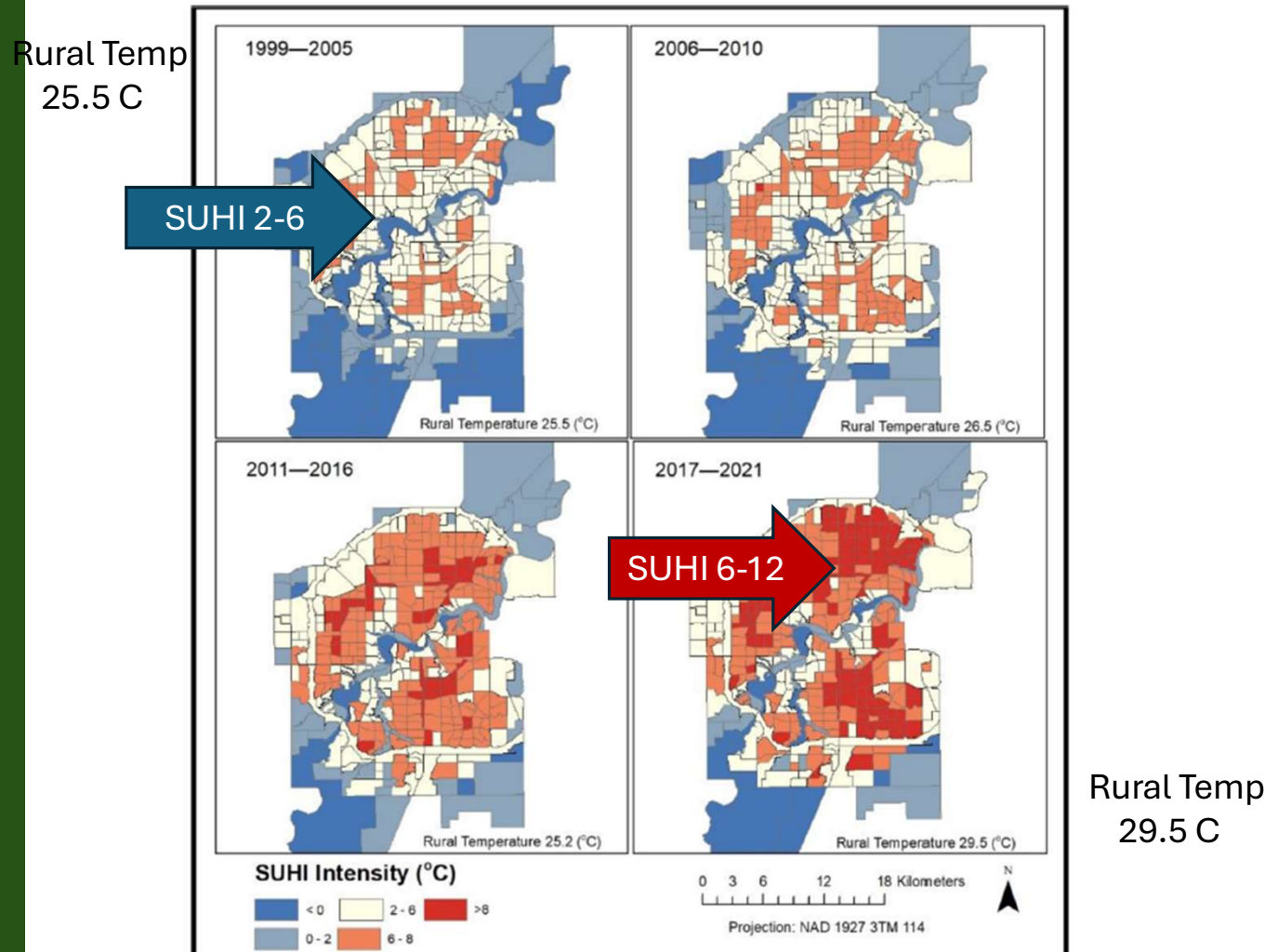
Surface Urban Heat Island intensity (SUHI) – difference between urban temperature and surrounding rural areas.

SUHI increased from 2 to 6 C SUHI in 1999 to between 6 & 12 C in 2021.

Research showed “*area covered by vegetation – encompassing trees, bushes, and/or grasses - is the main determinant of reducing summer SUHI intensity.*”

“*Increasing tree canopy to 20% in neighbourhoods could reduce SUHI by one third.*”

Increasing Urban Heat Island Effect



Recommendation: Amend description of Action 4

“Pursue nature-based solutions and green infrastructure on private and public property.”

Rationale: Climate change does not recognize property boundaries. Nature based solutions provide benefits to private and public sites, buildings, neighbourhoods and the city.

Recommendation 2: Ensure UPE0226 - CRPD Action Plan addresses: June 15, 2022, Corrective Actions, UPE01627 Attachment 8 Environment & Climate Review & Zoning Bylaw Subsequent Motion 5

The CRPD Action plan provides 15 Actions that the report indicates will be completed in a very short time frame, 2025 – 2026.

The ZB Subsequent Motion 5 directed Administration to develop a CRPD Framework which would provide better long-term direction toward achieving climate resilience planning & development.

Recommendation 3: Support the additional actions identified on p. 7 of UPE02206:

1. Complete a study to estimate the value of ecosystem services provided by the City's natural infrastructure . . .
2. Ensure attention and resourcing is in place to enforce current and future landscaping requirements in support of Action 4 – Resilient Landscaping and 20% tree canopy (2022 Urban Forest Asset Management Plan) goals
3. Establish a plan and a timeframe for the next budget cycle to continue work beyond the CRPD Action Plan into the future.