17 October 2023

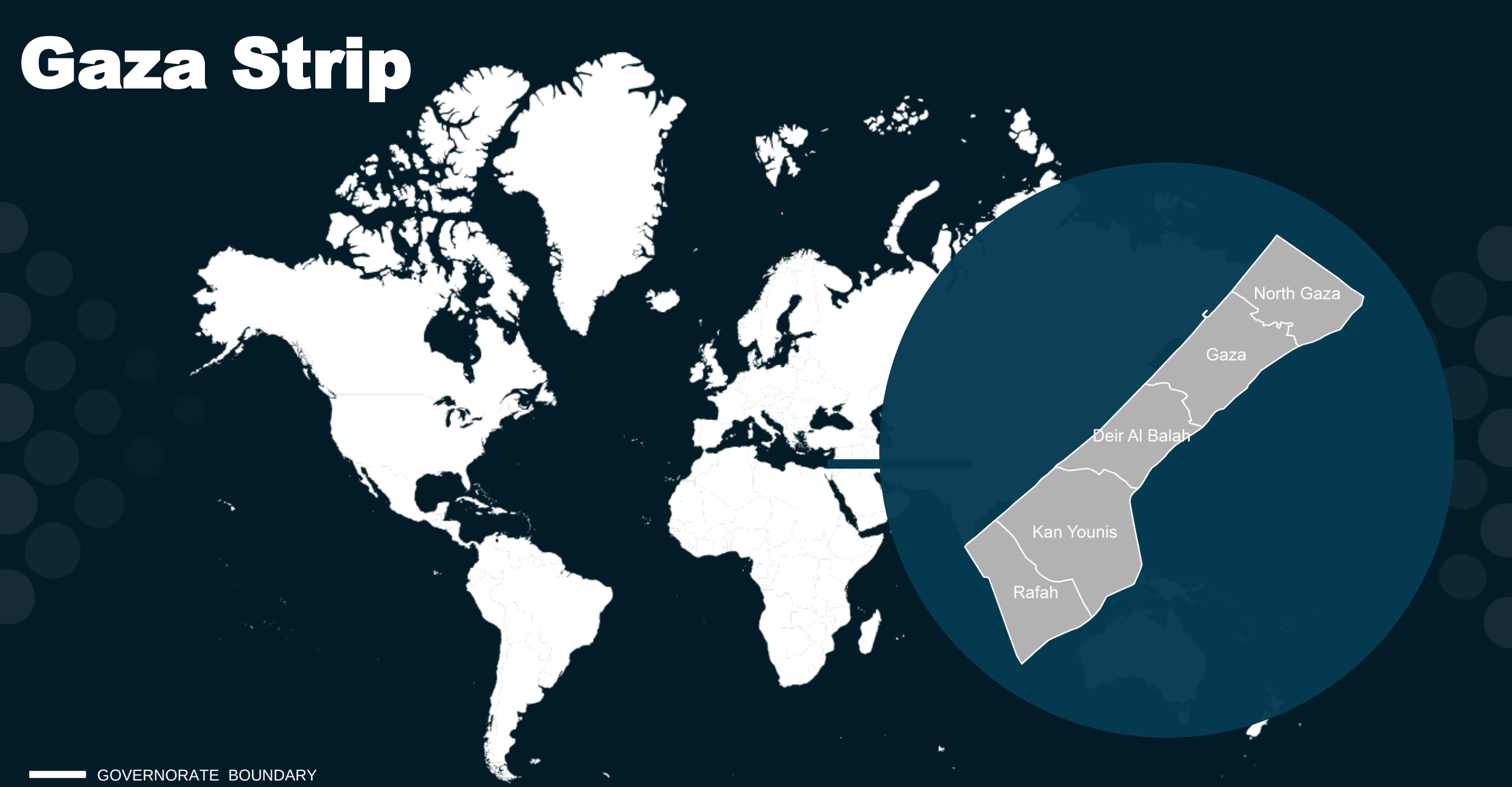
Power Supply Assessment in Gaza Strip, Occupied Palestinian Territory, using High-resolution Nighttime Light Imagery

Gaza Strip, Occupied Palestinian Territory

Status: Power outage analysis

Further action(s): continue monitoring

Gaza Strip



SDGSAT-1 & Yangwang-1 High-resolution Night-time Light Images of Gaza Strip

By 11 & 12 October 2023, most residential areas in Gaza strip were experiencing a power outage.

Image center:
31°24’37"N
34°23’27“E

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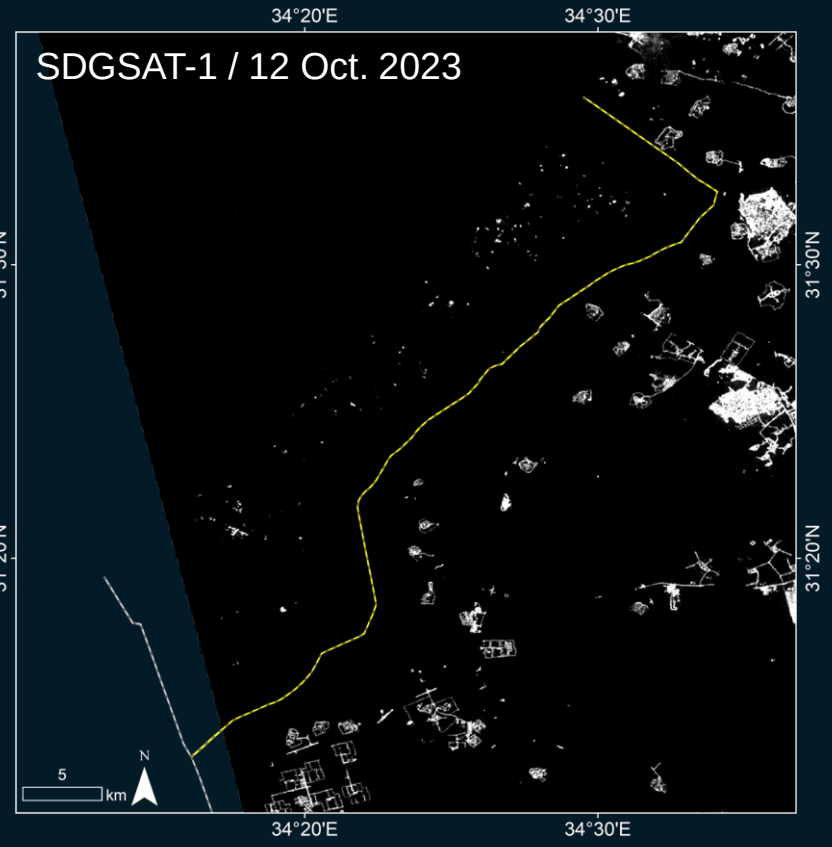

Armistice Demarcation Line

International Boundary

Brightness (DN)

800

0

Nighttime Light Loss Quantification on Gaza Strip
(Yangwang-1 / 11 Oct. 2023 Vs SDGSAT-1 / 14 Sept. 2023)

Image center:
31°24’37"N
34°23’27“E

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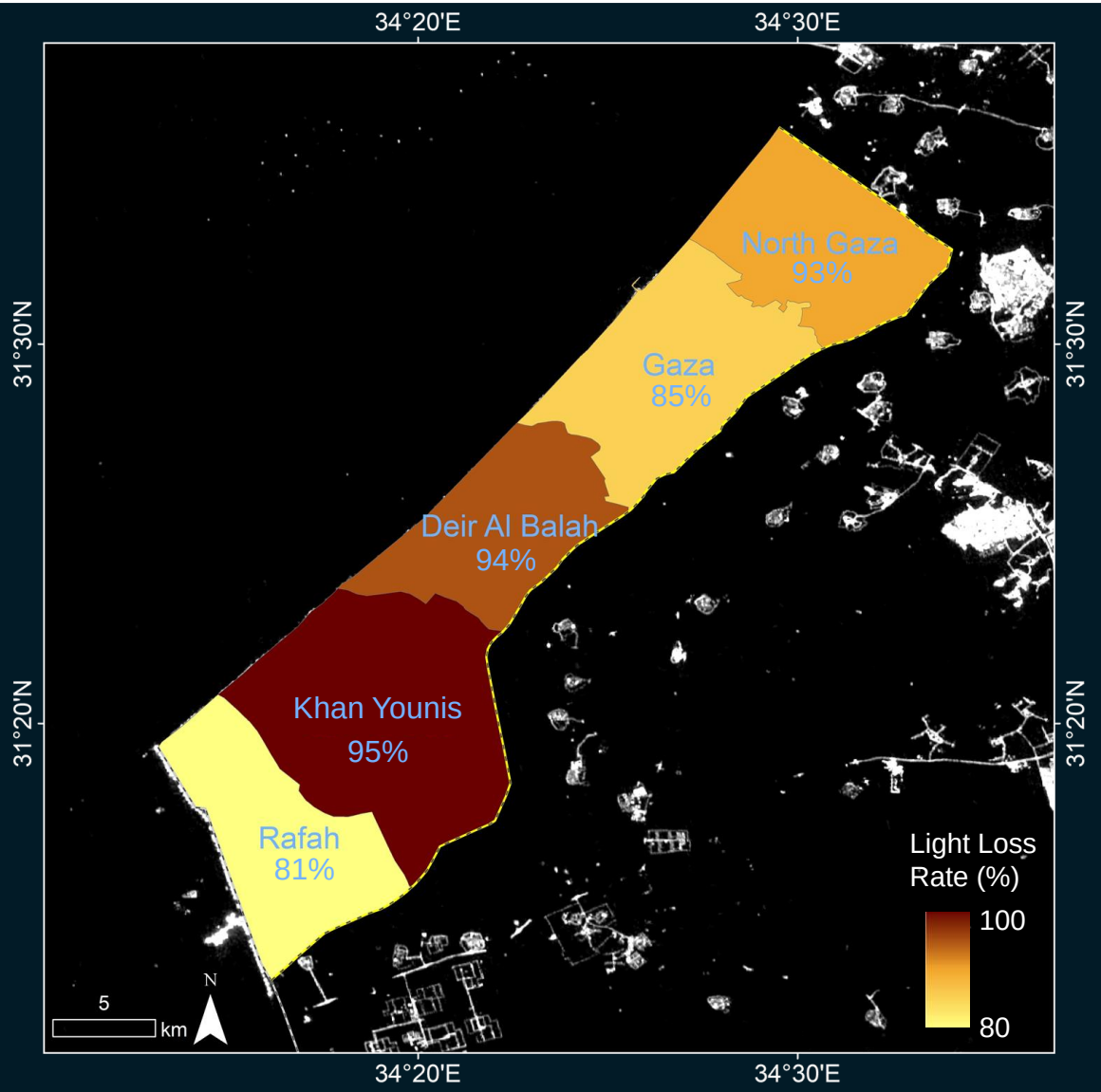
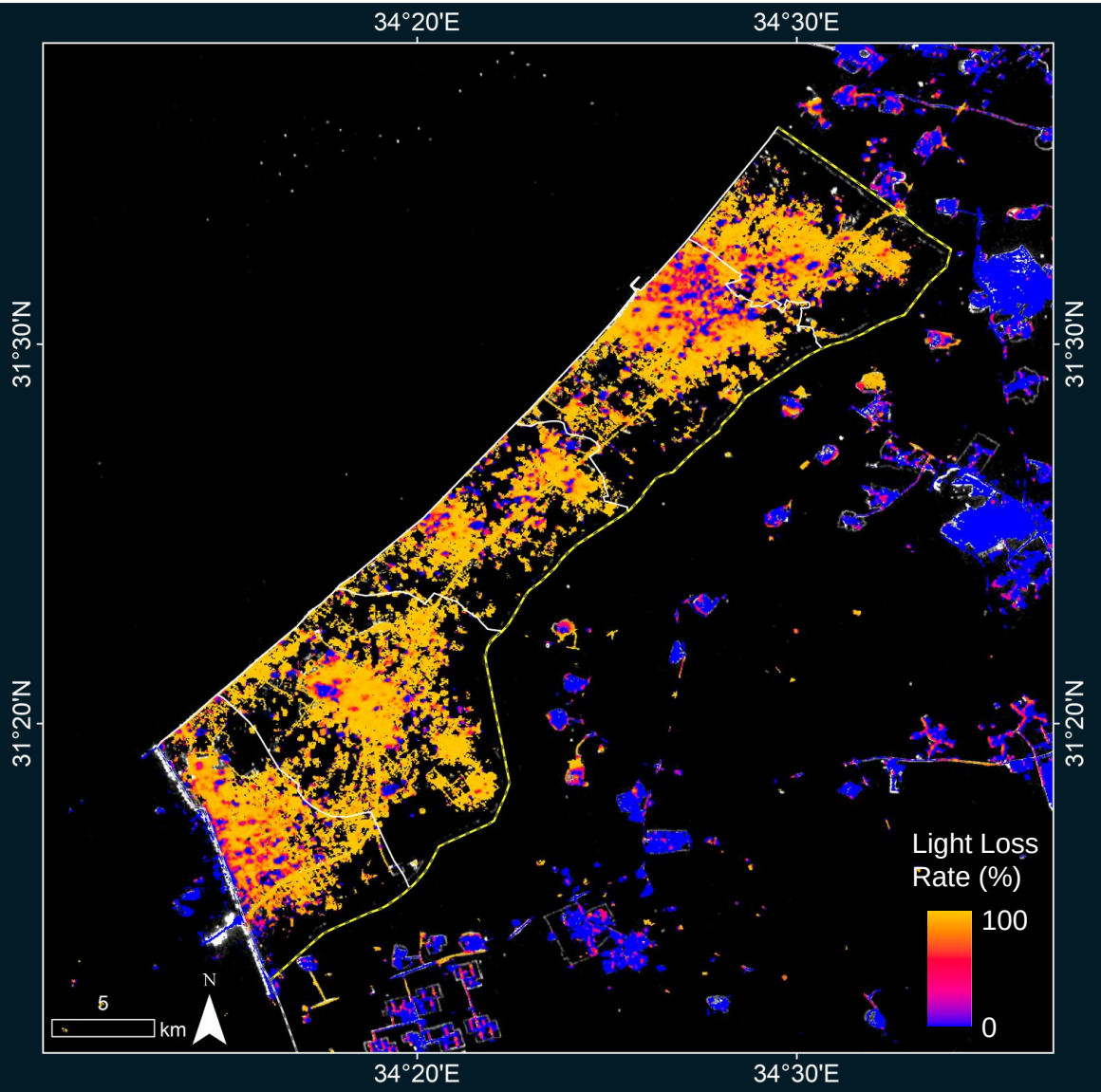
Night-time light loss in some sectors of Gaza strip is above 90% as of 11 Oct. 2023 compared with 14 Sep. 2023.





SUMMARY OF FINDINGS

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- By 11 & 12 October 2023, most residential areas in Gaza strip were experiencing a power outage.
- Nighttime light loss in some sectors of Gaza strip is above 90% as of 11 October 2023 compared with data acquired on 14 Sep 2023.
- The Khan Younis Governorate suffered the most severe power outage, with a loss rate around 95%.

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Data sources:

(1) Satellite Images

Satellite Data : Yangwang-1 Space Telescope nighttime data
Imagery Date : 11 October 2023
Resolution: 40 m
Copyright : Origin Space Co., Ltd., China
Source : Origin Space Co., Ltd., China

Satellite Data : SDGSAT-1
Imagery Date : 14 September 2023 & 12 October 2023
Resolution : 40 m
Copyright : International Research Center of Big Data for Sustainable Development Goals (CBAS)
Source : International Research Center of Big Data for Sustainable Development Goals (CBAS)

(2) Ancillary data

Administrative boundaries: United Nations geospatial
Day-time Satellite Image (Pre-event): ESRI Basemap

Analysis: United Nations Satellite Centre (UNOSAT) & Wuhan University
Production: United Nations Satellite Centre (UNOSAT)

(3) Scientific references

Jia, M., Li, X., Gong, Y., Belabbes, S., Dell'Oro, L., 2023. Estimating natural disaster loss using improved daily night-time light data. International Journal of Applied Earth Observation and Geoinformation. 120, 103359

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WUHAN UNIVERSITY 1893

@UNOSAT

@UNITAR.unosat

/UNOSAT

UNOSAT, United Nations Institute for Training and Research (UNITAR)
7 bis, Avenue de la Paix, CH-1202 Geneva 2, Switzerland

T +41 22 917 4720
E unosat@unitar.org
www.unosat.org