

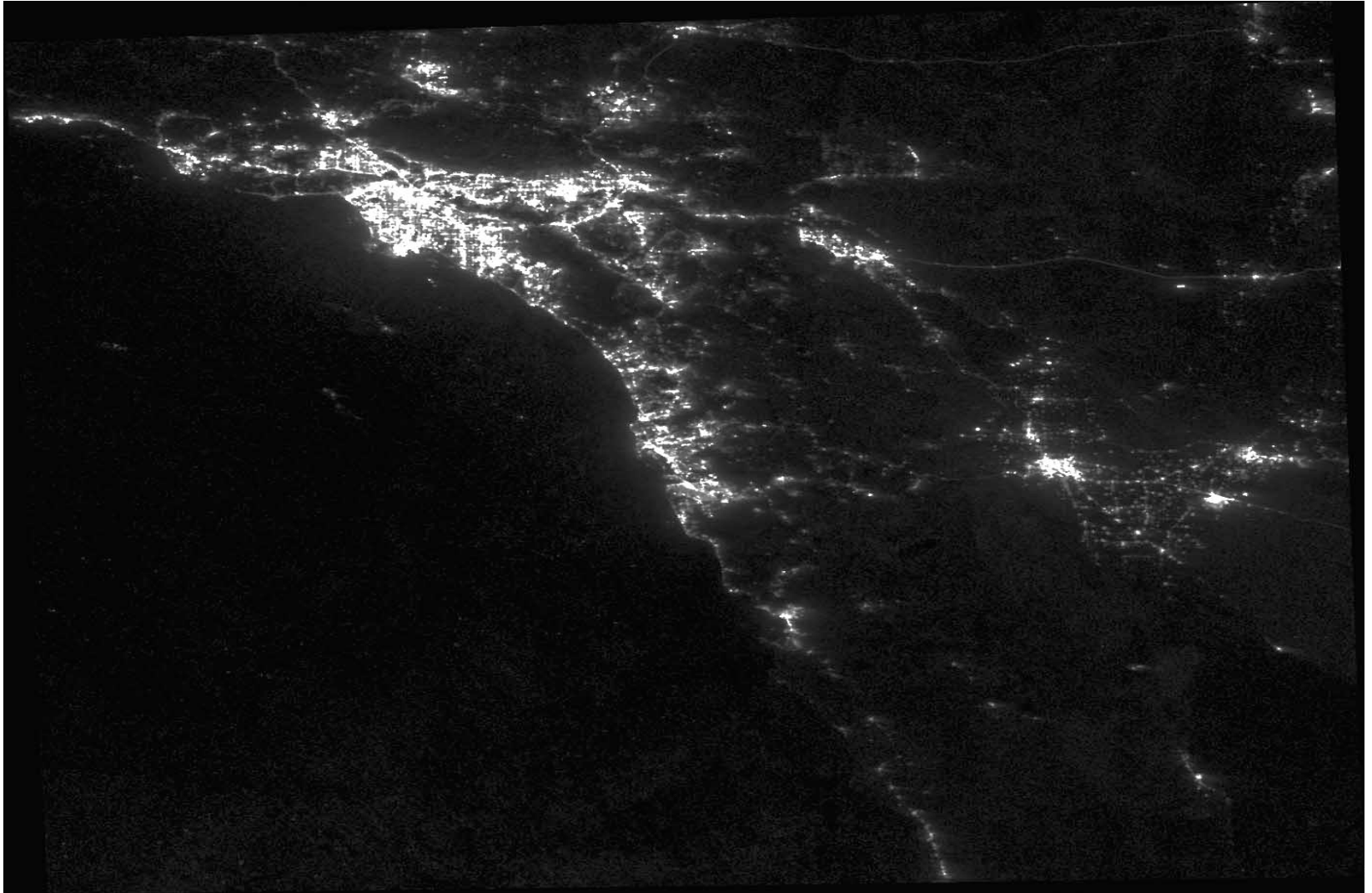
# Palomar Observatory Night Sky Brightness Program

## Part 1 Challenges

Dan McKenna Palomar Observatory



# SOCAL Night Life



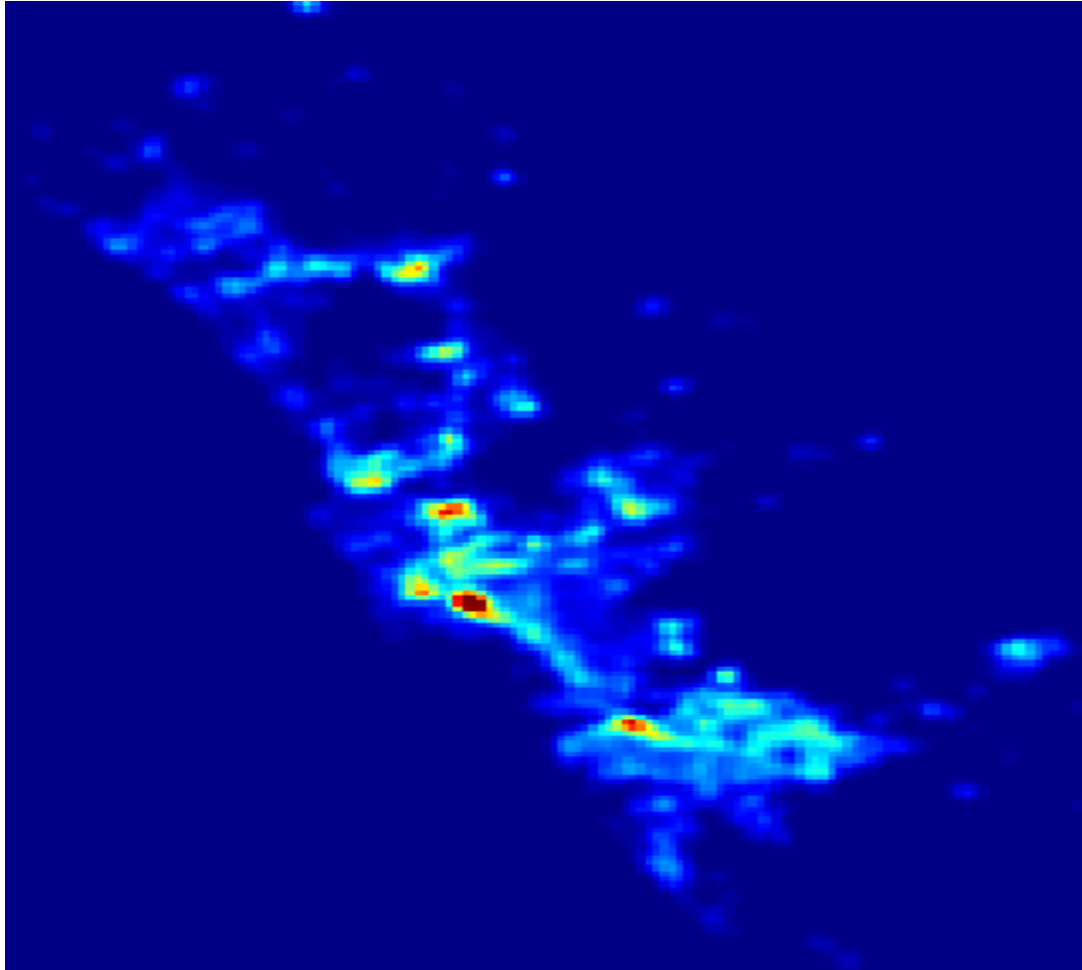
# Still Kicking

- LED replacement programs on going
- Cities do not always consult Palomar
- Myth that Palomar is a Museum
- Newer Generations are not educated on the history of Palomar or aware of what a true dark sky is
- Loss of awareness of the value of ground based observatories

# The change to LED lighting

- Riverside California is working to change 63,000 streetlights
- Effort lead by Western Riverside Council of Governments (WRCOG) that includes 16 lighting Jurisdictions
- Oceanside California just replaced 8,000 streetlight that are networked and dimmable

# San Diego to Oceanside Visual Channel VIIRS satellite



- In big cities, low and high pressure sodium will soon be unsustainable due to market pressures
- LEDs are here and will be growing in number rapidly
- LEDs are instant on discharge lamps have a restart delay
- LEDs can have a better defined illumination pattern

# An estimate

