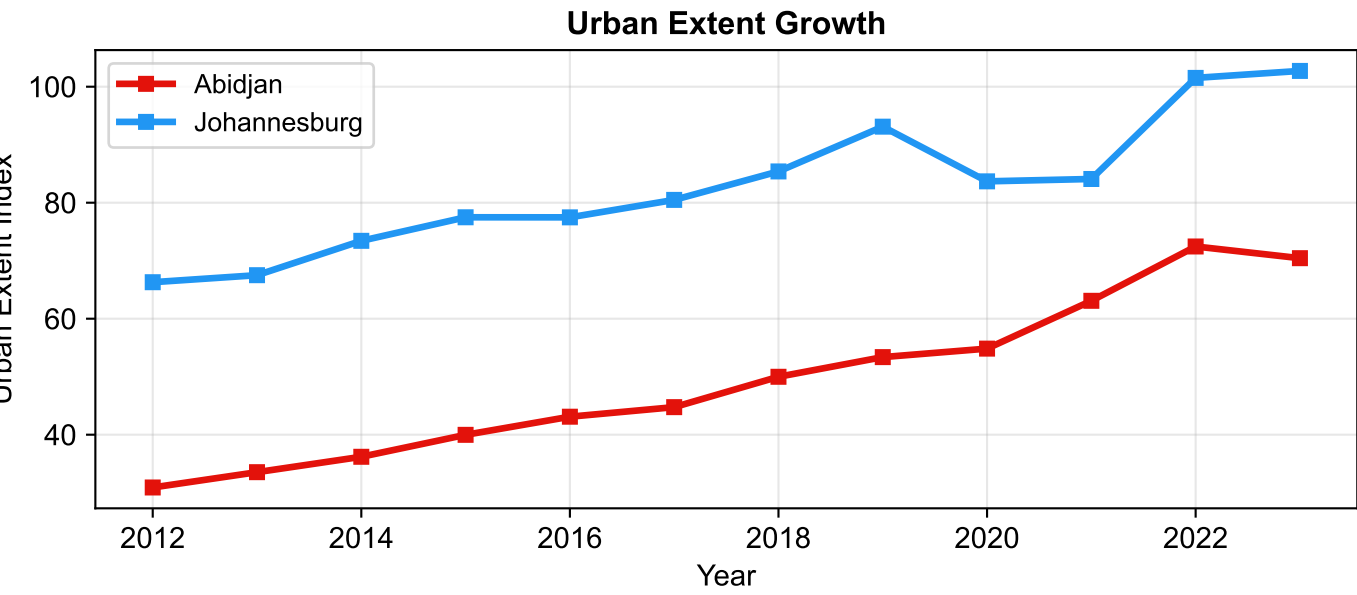
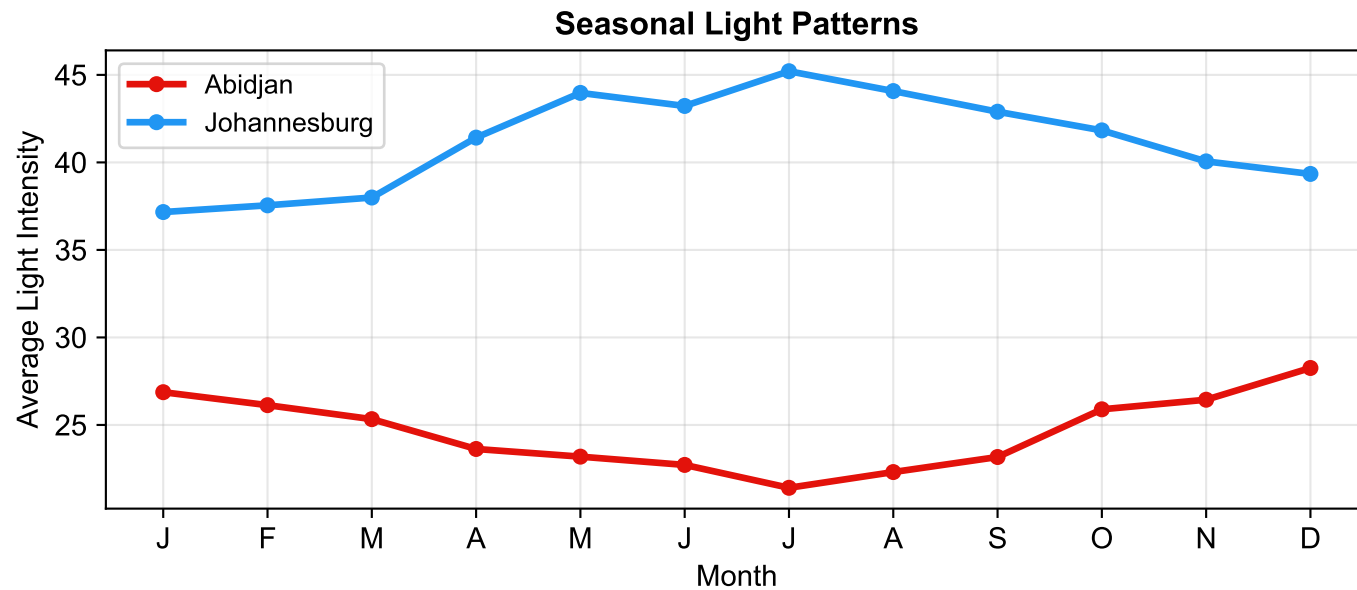
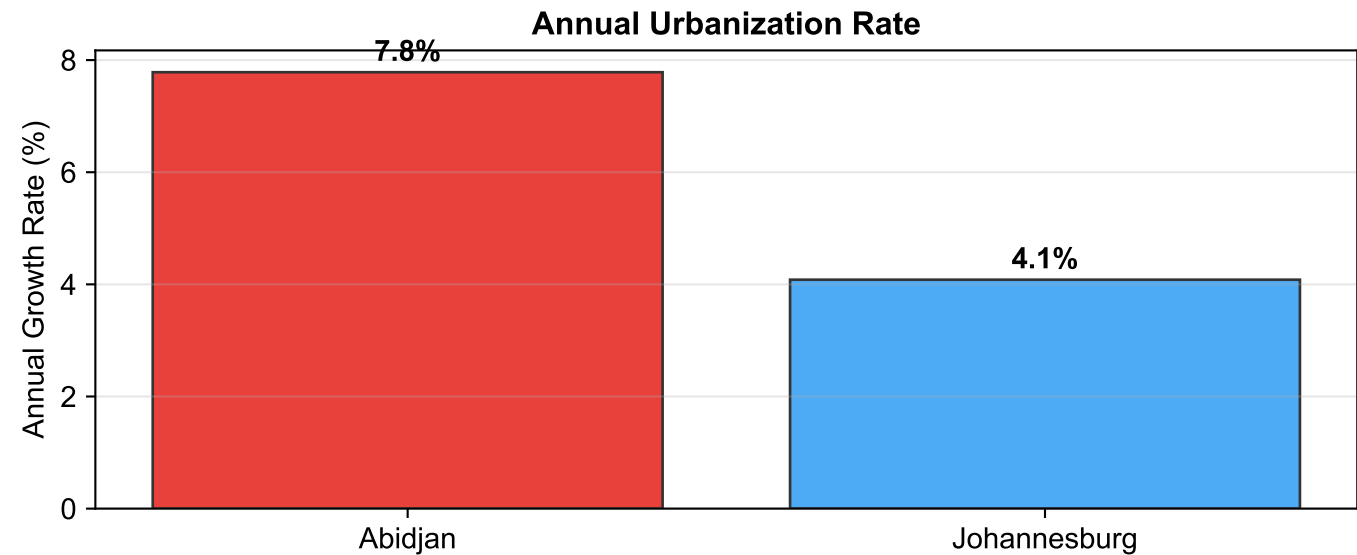
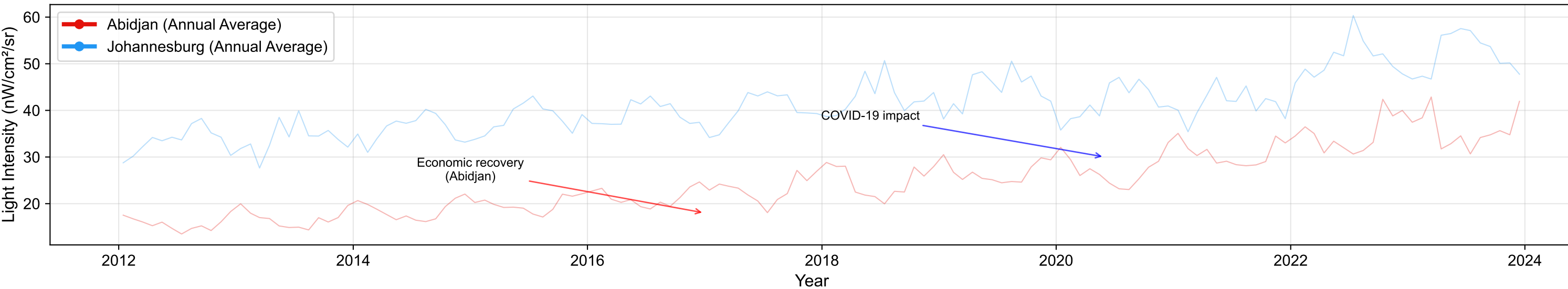


Nighttime Light Intensity: Evidence of Urbanization (2012-2023)



**URBANIZATION EVIDENCE FROM NIGHTTIME LIGHTS**

Study Locations & Context:

**ABIDJAN (Côte d'Ivoire)**

- 9,162 study participants
- Tropical monsoon climate (Am)
- Rapid urban growth: ~7.8%/year
- Population: ~5.2 million (2023)
- Post-conflict recovery driving expansion

**JOHANNESBURG (South Africa)**

- 11,800 study participants
- Humid subtropical climate (Cwa)
- Steady urban growth: ~4.2%/year
- Population: ~4.4 million (2023)
- Mature urban center with infrastructure challenges

**KEY URBANIZATION INDICATORS:**

- ✓ Consistent nighttime light intensity increase
- ✓ Expanding urban footprint
- ✓ Infrastructure development
- ✓ Population density changes
- ✓ Economic activity growth

**HEALTH STUDY IMPLICATIONS:**

- Changing environmental exposures
- Urban heat island effects
- Air quality changes
- Access to healthcare services
- Lifestyle and dietary transitions