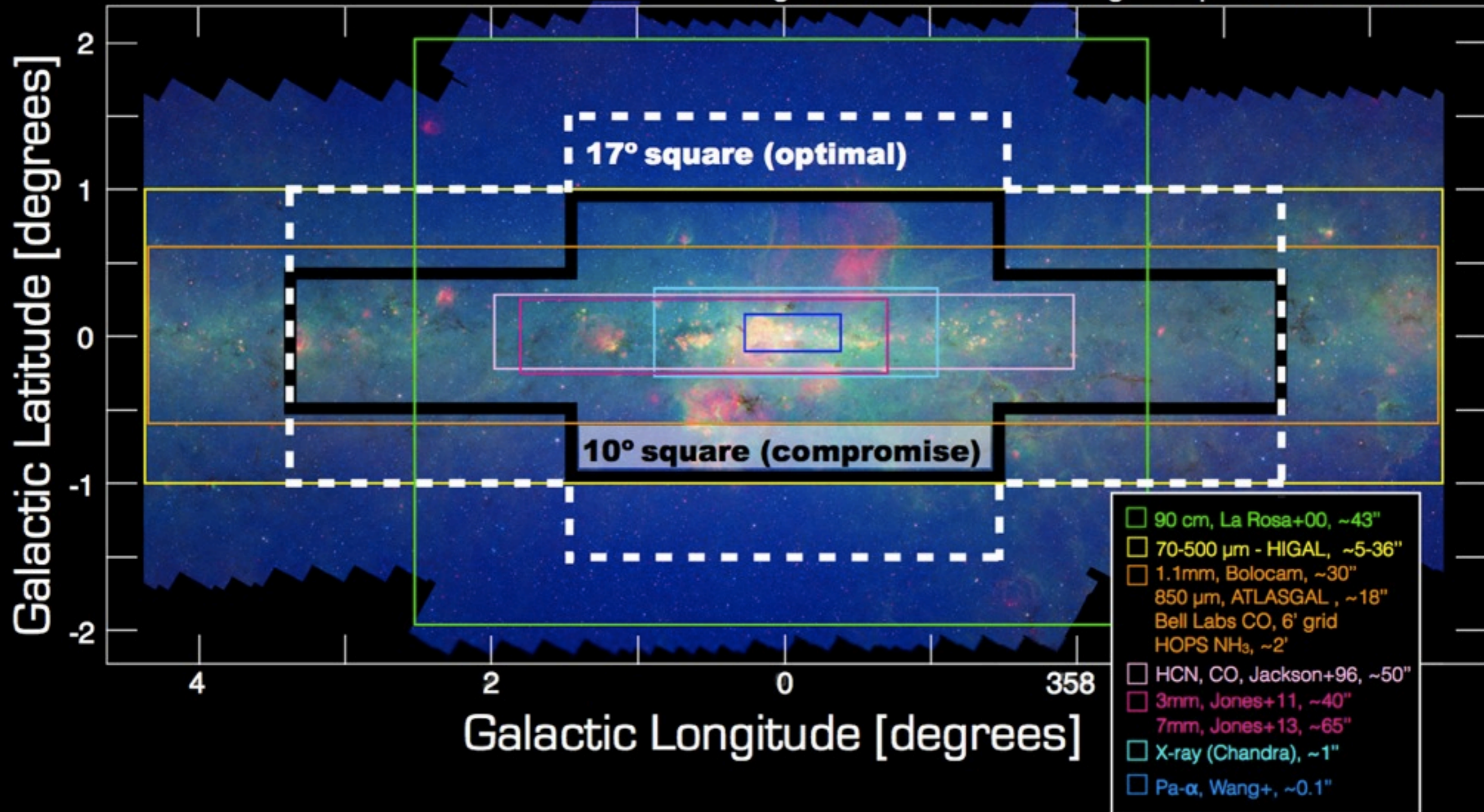


# Surveying the Central Kiloparsec with VLASS

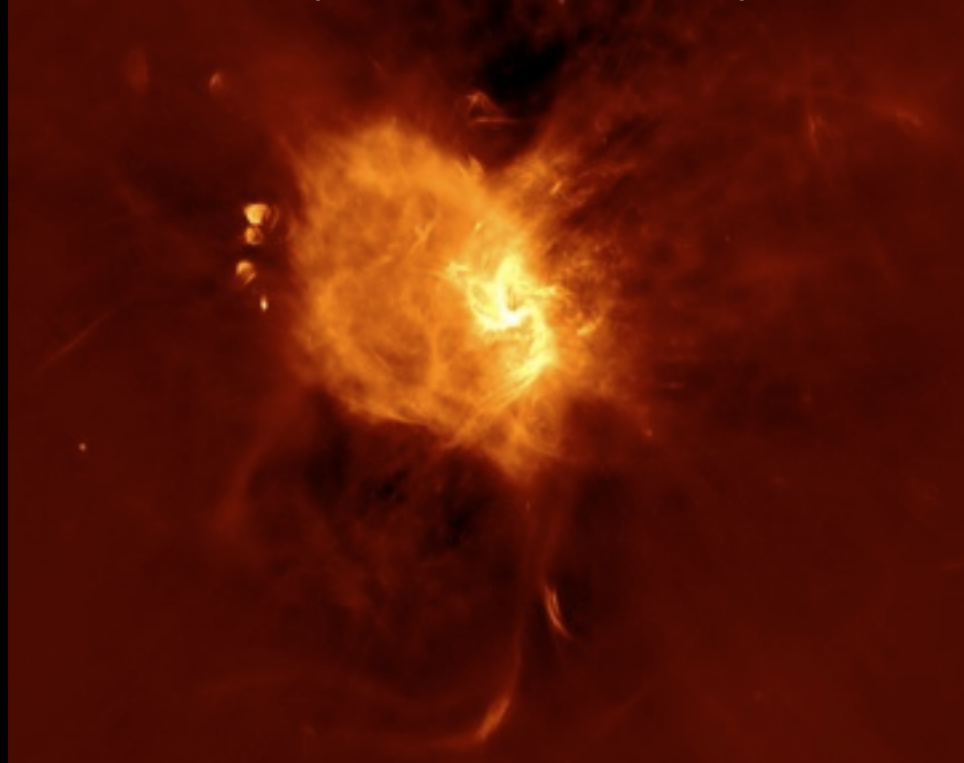
Background: GLIMPSE coverage in Spitzer-IRAC bands



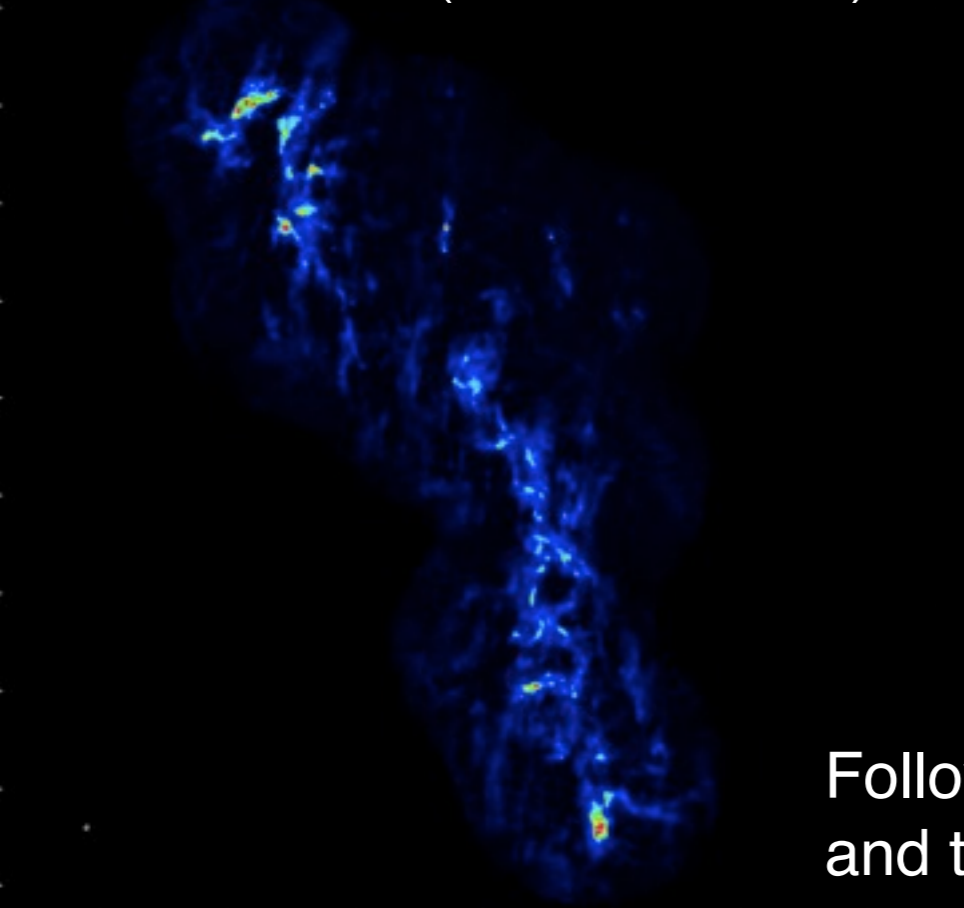
A 17°-square 4-8 GHz DnC and CnB survey  
( $\theta_{\text{FWHM}} = 5''$ ,  $\sigma = 10 \mu\text{Jy}$ ) covering **20 recombination lines**, **H<sub>2</sub>CO 1<sub>10</sub>-1<sub>11</sub>**  
and the **6.7 GHz CH<sub>3</sub>OH maser** would take **750 hours**

# What would this survey yield?

1'' C-band (Zhao et al. 2013)



3'' K-band NH<sub>3</sub> (Mills et al. 2013)



1. **A complete census of recent (< 5 Myr) star formation** addressing whether its apparent lack is a due to resolution and sensitivity limitations of previous surveys.

2. **Detailed kinematic structure of the dense gas** which can be used to refine 3D and kinematic models of gas in the region and understand why it does not appear to be forming stars.

3. **Ability to connect small and large outflow features** from the Sgr A\* jet to the 'Fermi Lobes', constraining models for powering outflows from the Galaxy's nucleus.

4. **A picture of the magnetic field geometry** clarifying the role the magnetic field plays in regulating star formation and controlling the flow of energy from the CK region.

5. **Sensitive images of continuum, recombination and molecular lines** which will serve as the basis for numerous additional experiments, including:

- time domain studies
- constraints on the gas density
- a census of stellar remnants

Follow the mass flow and energy cycles that feed star formation and the supermassive black hole at the center of the Galaxy