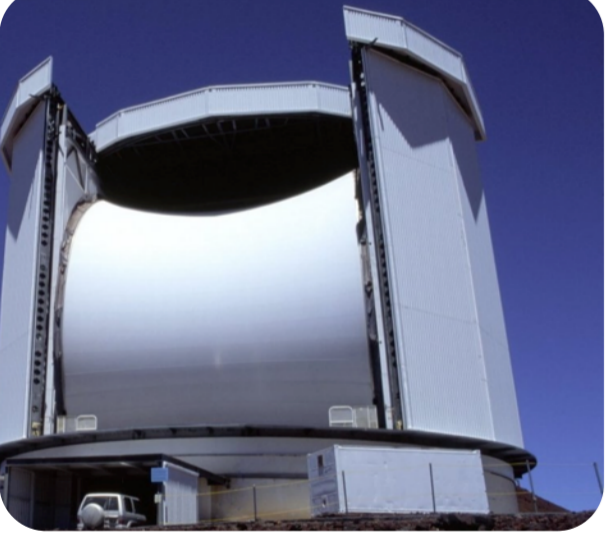
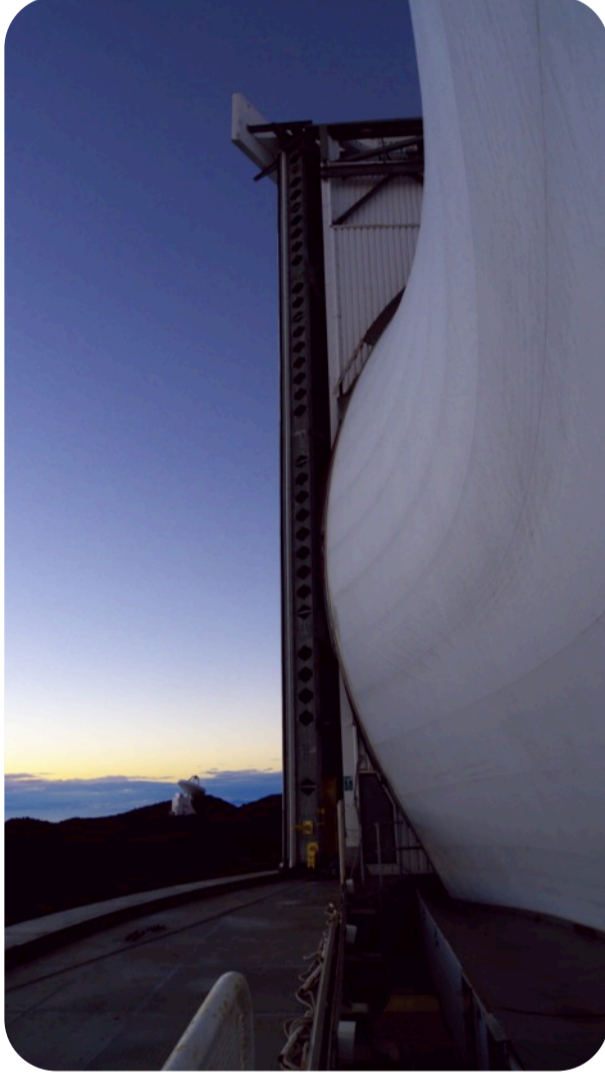
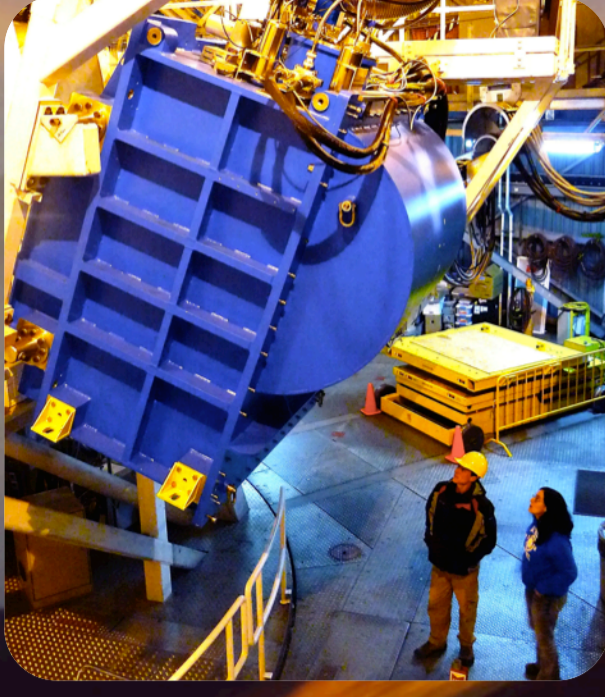


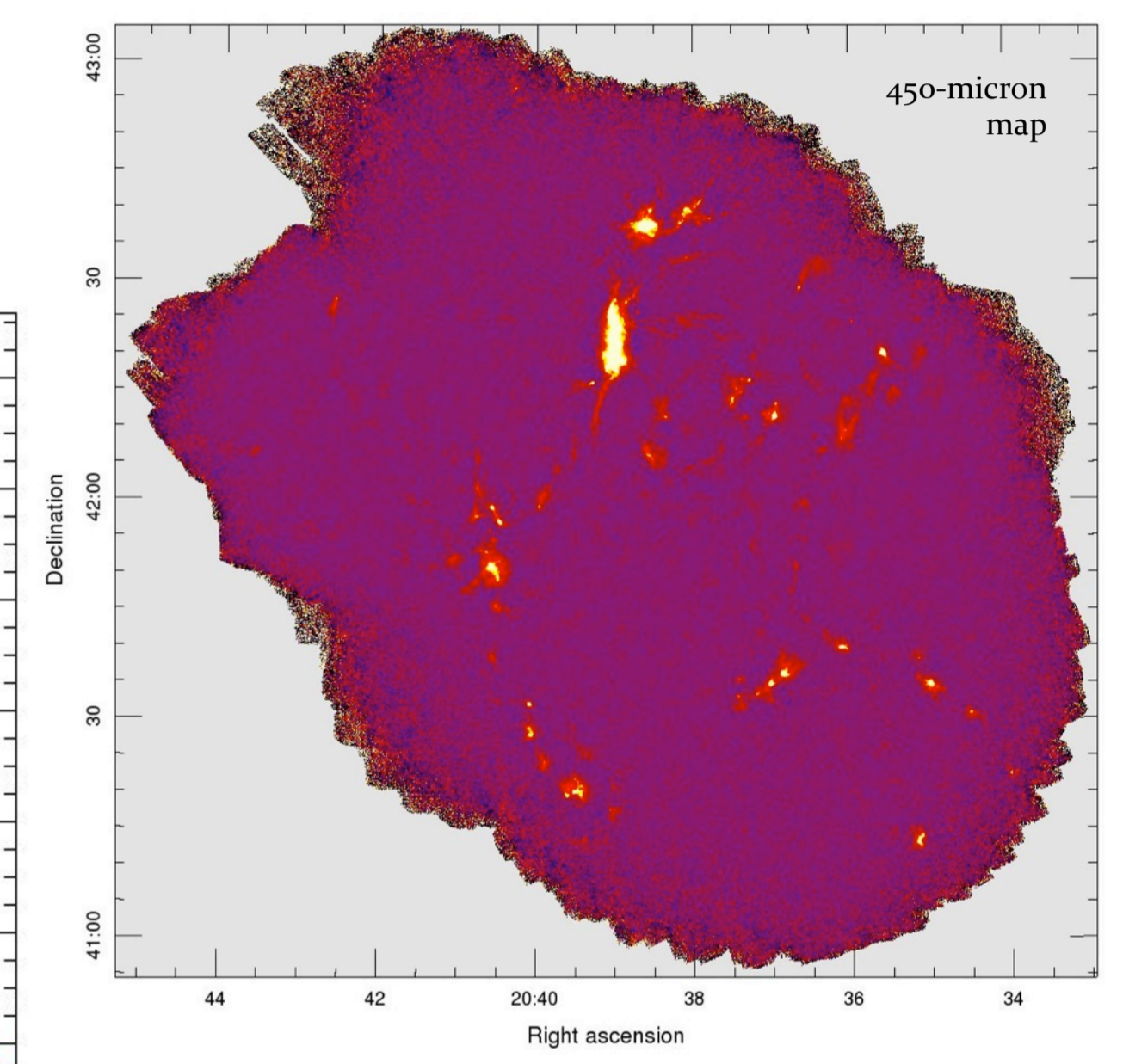
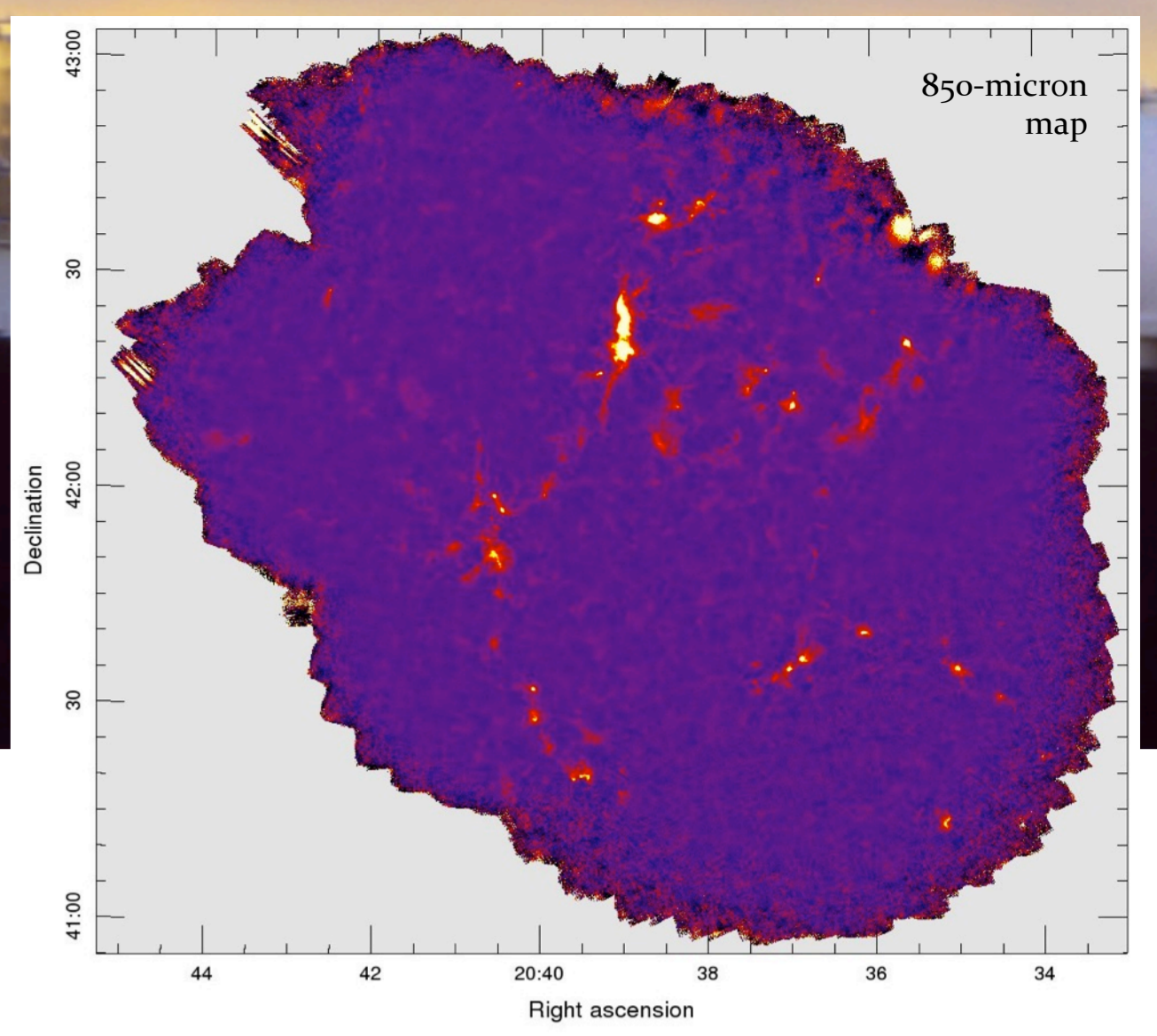
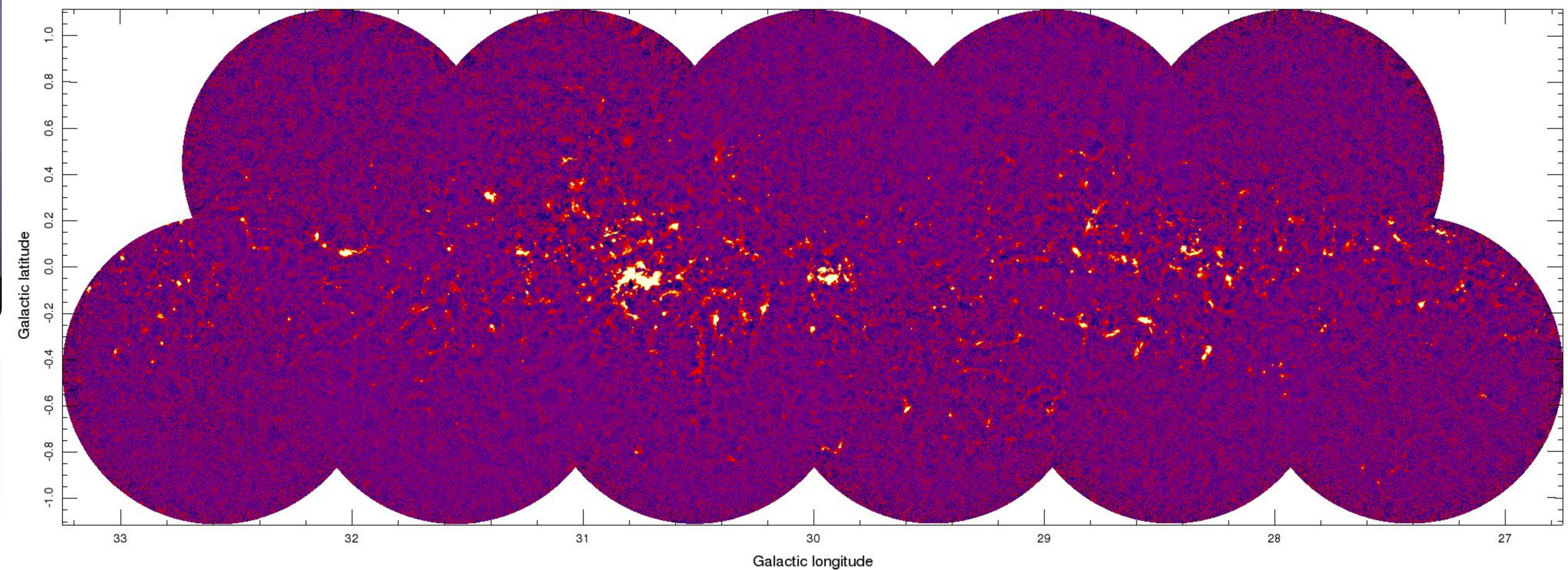
The JCMT Plane Survey



The JPS (JCMT Plane Survey) is a survey of six fields in the inner galactic plane taken at 450 and 850 microns using SCUBA-2, a 10,000 bolometer camera mounted on the nasmyth platform on the JCMT in Hawaii. Each individual field covers approximately 4.5 degrees in longitude and 2 degrees in latitude. The six fields are located between $l=10$ and 60 degrees. The target rms for the JPS survey is 10 mJy/beam which will yield a mass detection limit of around $100 M_{\odot}$ at the far side of the Galaxy.

The science aims for the JPS can be broken down into four main research interests:

- Establishing an evolutionary sequence and associated time scale for high-mass star formation
- Investigate the effects of triggering mechanisms on various scales and the star-forming content of molecular clouds
- Determining Galactic structure and the effect of spiral arms on star formation
- Form a census of the properties of Cold Dark Clouds to enhance understanding of the formation of dense filaments and molecular clouds



Above: Science Verification data of the DR21 region. Observations were performed to investigate observing modes and examine noise levels in resulting maps. Although little bearing on the Survey regions the data combined from the DR 21 region proved to be a great test bed for the data reduction processing. The data was reduced using both the Dynamic Iterative Map Maker (Chapin et al. 2013) and with the skyloop algorithm, with the latter proving to be the preferred method.

Each field is observed by a number of 1-degree “pong” scan maps, each individually reaching an rms of 25-30 mJy/beam taken in weather with $0.08 < \tau_{225\text{GHz}} < 0.12$. Currently over 120 hours of time on sky has been spent on the JPS with the $l=30$ field, containing the W43 star forming complex being the most advanced in terms of coverage. Below: zoomed in images from the JPS.

