DEEPWAVE ground-based MLT measurements

Birdling's Flat - **meteor radar** (J. Baggaley) - horizontal winds ~80-100 km

Lauder - **AMTM** (M. Taylor) - GW OH structure, T(x,y,t) at ~87 km

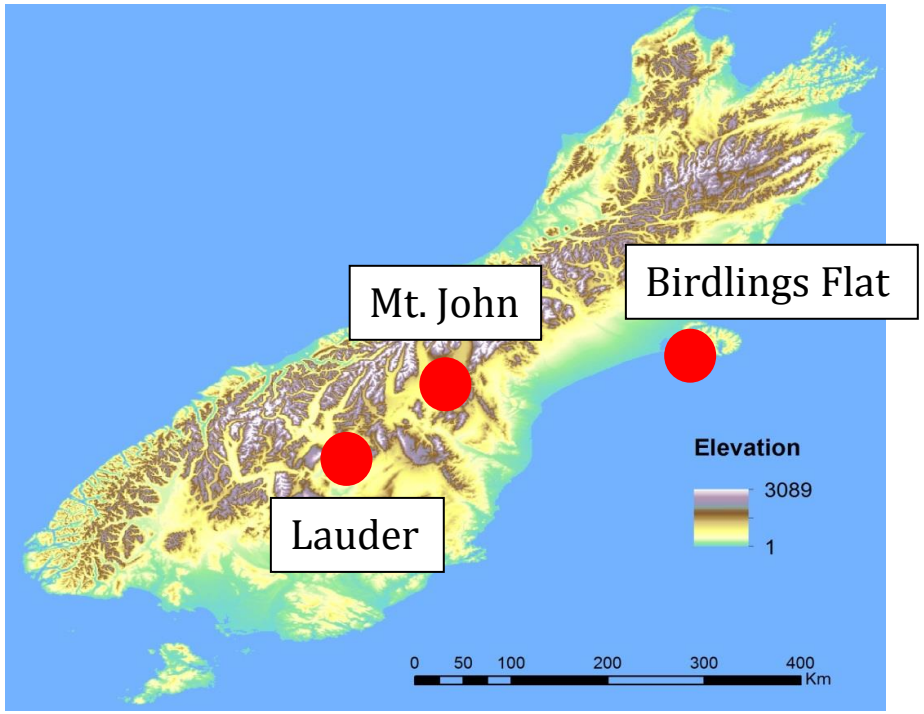
- **Na lidar**, (B. Kaifler) - T(z,t) to ~30-105 km, U_h(z,t) ~80-105 km, one comp.
- **Airglow imager** (S. Smith) - GW airglow structures, ~87-95 km, ~300 km

Mt. John - **Airglow imager** (S. Smith) - GW airglow structures, ~87-95 km, ~300 km

- **FPI** (G. Hernandez) – (U,V) and T at ~87, 97, 300 km

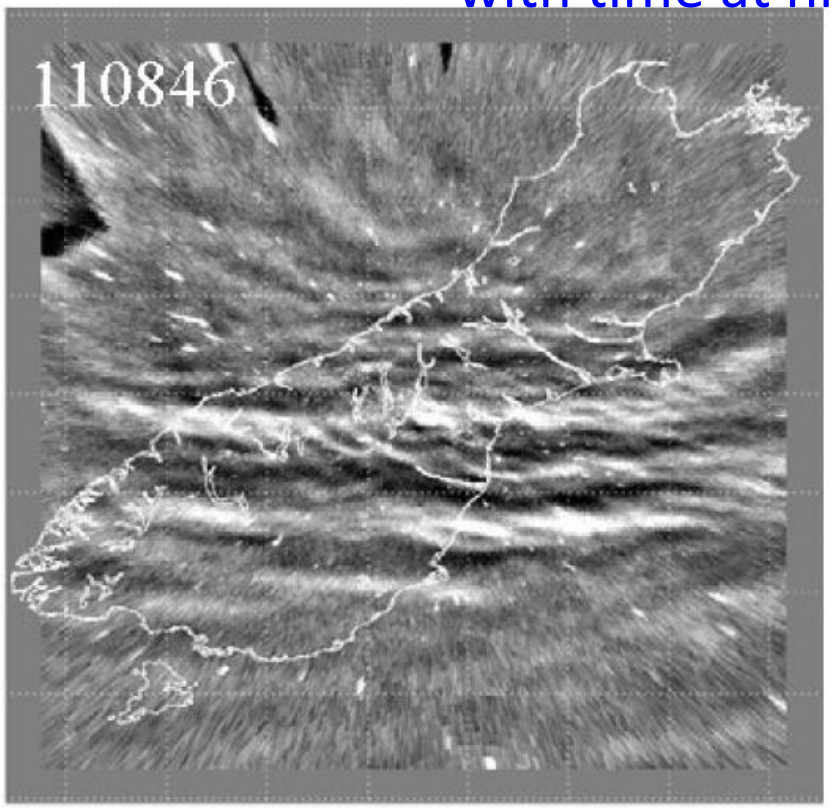
Kingston, TAS - **Rayleigh lidar** (A. Klekociuk) – T(z) to ~60 km??

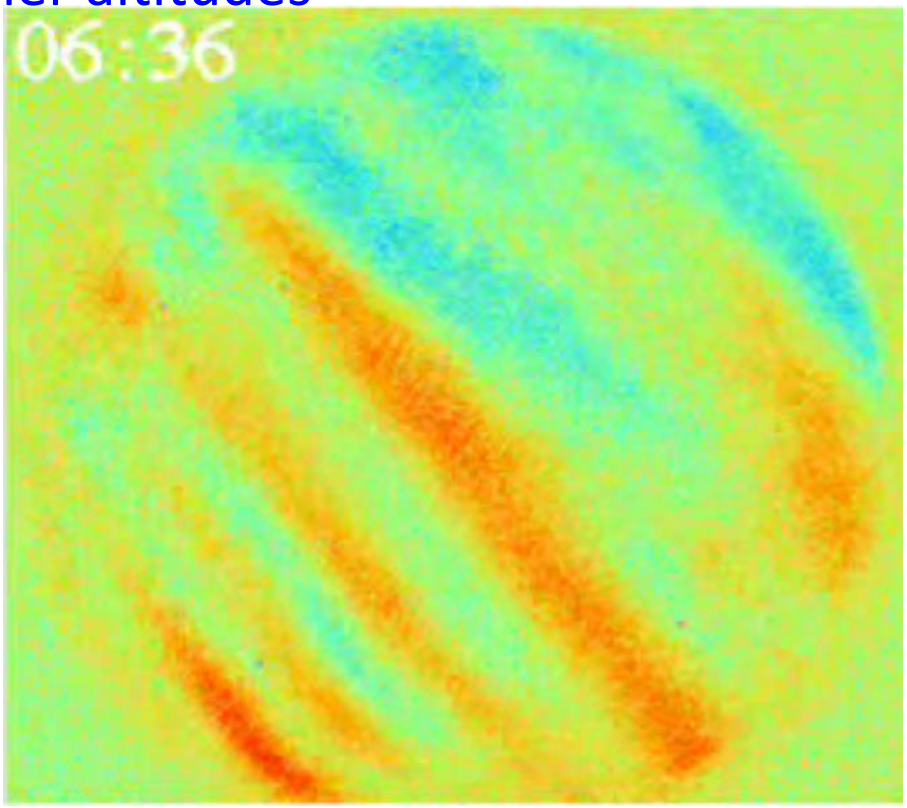
- **meteor radar** (ATRAD, under consideration) – horizontal winds ~80-100 km



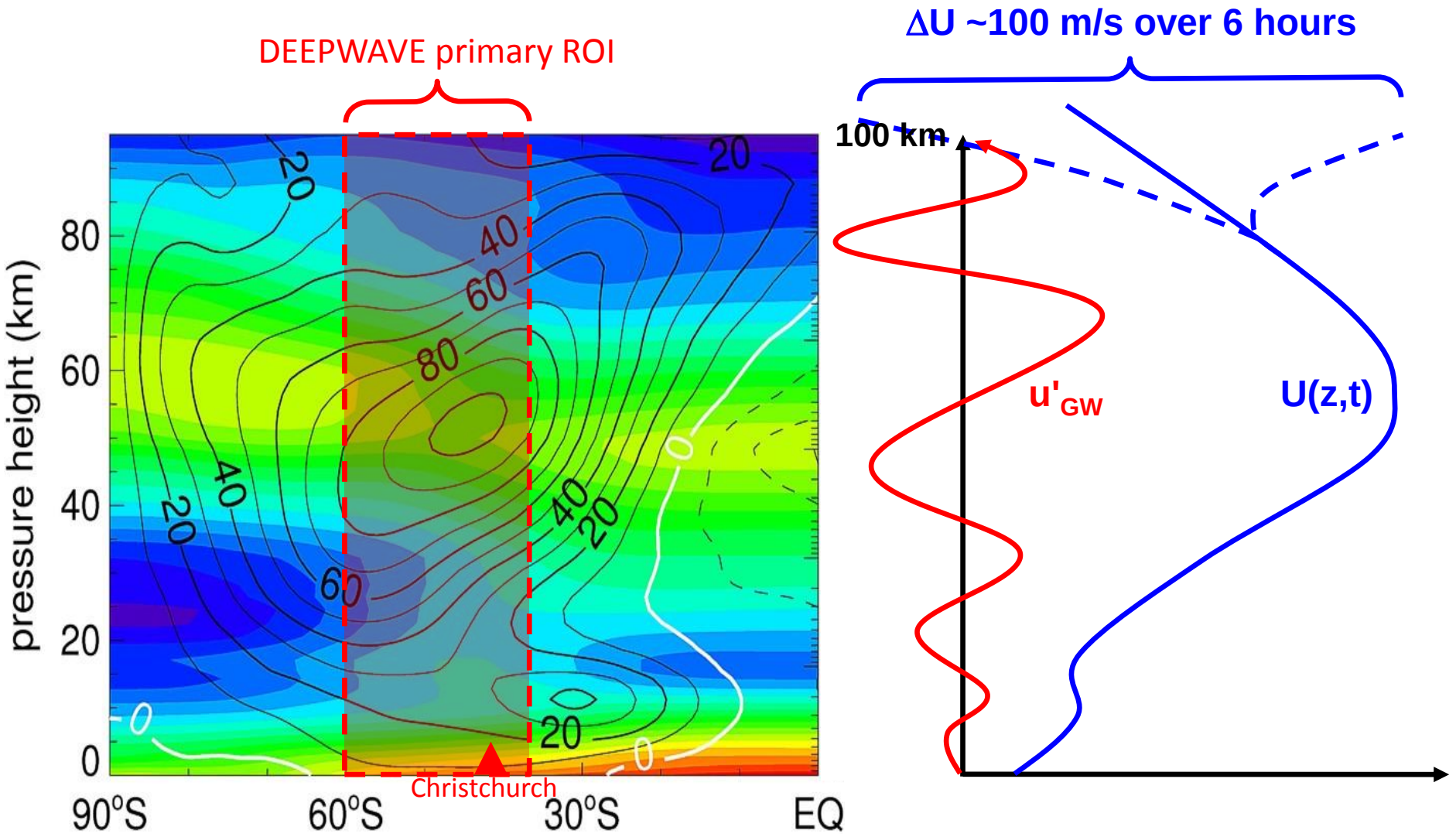
Airglow and MTM sensitivity to GWs & instabilities

- altitudes ~87-97 km, 300 km
- GWs ~15-200+ km
- instability dynamics ~1-10 km
  - will see changes in character/propagation/instabilities with time at higher altitudes



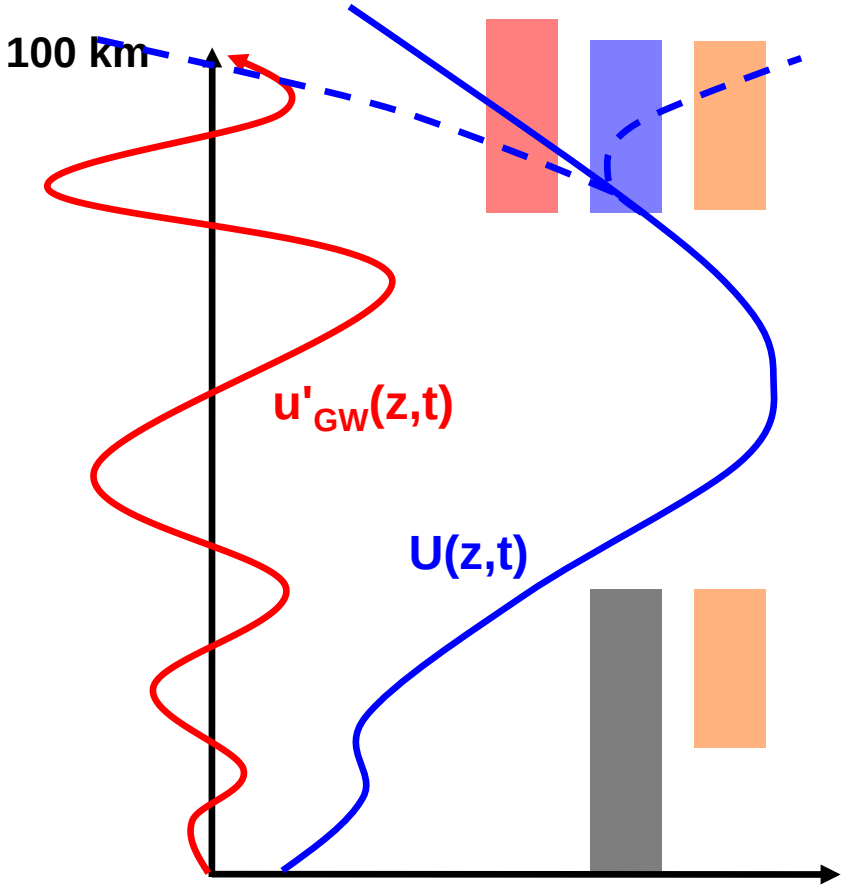


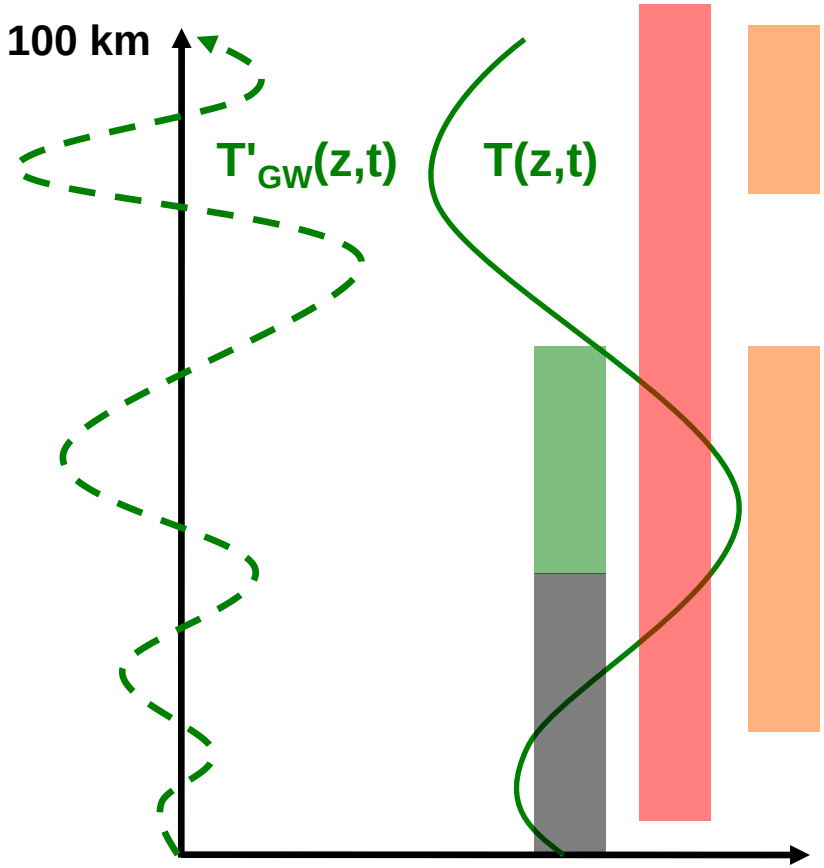
DEEPWAVE primary ROI has strong mean winds, large semi-diurnal tide (decreasing during campaign)



Vertical profiles of mean fields and GWs

- meteor radars, Birdling's Flat, possibly Kingston, TAS
- DLR lidar, Lauder
- ADD lidar, Kingston
- NGV lidars
- balloons





NGV lidar horizontal winds ~15-30 km and 80-100 km

- will use a 360^{o} velocity azimuth scan periodically

- scan requires an NGV 360^{o} circle, d ~30 km, Δt ~8 min