Flight notes: System Scientist (3rd seat)

Crew:
  Pilot: Kevin Fagerstrom
  Flt Scientist: Jim Doyle
  System Scientist: Jeff French
  4th Seat: Honza Rejmanek

Pre-flight:
  Radar down. Repairs on the modulator being done at ProSensing.
  No other instrument issues

  Limited to ~3 hour mission, fly with Aux tanks empty due to bad ‘flapper’ valve

  SatCom not working during flight, message on phone continued to read ‘Rotate antenna for Global Star’ throughout entire flight.

Weather Conditions at Bishop: Clear, wind: 310 @ 3 kts, T=1C, DewPt=-6C

Flight:
  1431: takeoff
  1447: climb to FL220 towards east end point for sounding, several inversions within the valley, highest is an isothermal layer between 650 and 600 mb. Winds above 650 to top of sounding, winds are 270 deg with wind speeds of ~ 20 m s\(^{-1}\) at 550 mb.
  1448: begin leg 1 at FL220, tracking west, weak waves ~ +/-1.5 m s\(^{-1}\), largest amplitude just over ridge (or slightly west of ridge)
  1508: 90/270 turn, begin leg 2, at FL190, tracking east, wave a bit stronger, +/- 2 ms\(^{-1}\), stacked vertically, aligned with wave in previous leg
  1520: turn and descend to FL170, begin leg 3, tracking west, +/- 2 m s\(^{-1}\), once again stacked with waves at higher altitudes. Wavelength roughly 13 km (actually longer, after flight realize that conversion is slightly off, perhaps wavelength of 16 km???)
  1541: turn and descend to FL150, begin leg 4, tracking east, +/- 3 ms\(^{-1}\), waves strongest at this altitude, some cumuliform clouds over ridge, experience +/- 7 m s\(^{-1}\), but this not associated with wave (non-coherent)
  1554: turn and descend to FL130, will start box on this run, bit of a chop across valley, perhaps some coherent structure, +/- 1 m s\(^{-1}\), Note turbulence also about the same magnitude.
  1607: east end of box, descend to FL110, some light chop coming across valley, less than FL130, no wave structure evident
  1622: east end of box, descend to FL090, smooth going across valley, no wave structure evident, a bit of chop on east end over the Inyo’s
  1636: east end of box, descend to FL070, smooth over entire box
  1646: end boxes, climb to FL220 to repeat highest two legs
1657: FL220 e end of valley, begin leg, tracking west, wave magnitude +0.8 m s$^{-1}$, -1.7 m s$^{-1}$
1714: turn, descend to FL190 begin leg tracking east, wave –2.5 m s$^{-1}$, +1.5 m s$^{-1}$
1725: end leg, RTB
1740: touchdown

Post-flight/impressions
Weak waves at ridge top and above, strongest sampled waves at FL150, decaying somewhat at higher altitudes. Waves did not appear to penetrate into valley.