Scheduling

- Upload started on 4/28/14
- Took 4 weeks to upload, payload of moderate complexity
- One test flight; had to obtain LNO from the FAA for the lidar flight pattern; SOP at this point
- Complications for flight ops due to runway repair
- Operated and departed from Centennial, CO
- Research flight operations from 6 June to 20 July, 2014

7/10/14

Deployment schedule for DEEPWAVE, Jun-Jul 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
5/25	5/26 Weigh GV Safety brief FRR	5/27 TF01	5/28	5/29	5/30 Down	5/31 FF01
6/1 FF02	6/2 FF03	6/3 Arrive NZ Day Lost	6/4 Transition to nights	6/5	6/6 RF01	6/7 Down
6/8	6/9	6/10	6/11 RF02	6/12 Down	6/13 RF03	6/14 RF04
6/15	6/16 RF05	6/17 Down	6/18 RF06	6/19 RF07	6/20 RF08	6/21 Double Crew
6/22 Double Crew	6/23 Down Double Crew	6/24 RF09 Double Crew	6/25 RF10 Double Crew	6/26 Down Double Crew	6/27 Double Crew	6/28 RF11 Double Crew
6/29 RF12 Double Crew	6/30 RF13 Double Crew	7/1 RF14 Double Crew	7/2 Down Double Crew	7/3 RF15 Double Crew	7/4 RF16 Double Crew	7/5 RF17 Double Crew
7/6	7/7 RF18	7/8 RF19	7/9 Down	7/10 RF20	7/11 RF21	7/12
7/13 RF22	7/14 RF23	7/15 RF24	7/16 Down	7/17	7/18 RF25	7/19
7/20 RF26 Pack	7/21 Transition to days	7/22	7/23 FF04 Down, day gained	7/24 FF05 FF06 KBJC	7/25	7/26

Resource usage

- Flight hours: 180 research; 226 total; 226.6 flown
- 26 research flights
- Dropsondes: 280 allocated; 279 deployed
- RAF science support provided on site QC, particularly gust pod, radome quantification
- Standard ops crew level with double crew IOP
- Double crew period utilized very efficiently

Operations

- All night flights, take off after dark, landing past midnight
- Flight tracks of low to medium complexity, repeatable; flight templates very useful
- Vertical profiling – limited, easy to implement
- Intercomparison flight with Falcon: medium complexity because of airspace constraints
- Back to back flights: caused increasing fatigue, had to be controlled for duration on many occasions

Instrument performance

- No major issues after the viewport gasket repair
- Instrument performance nominal
- Radome icing made people nervous on occasion
- Gust pod demonstrated excellent performance during these times, better than radome
- RAF experimental instruments provided only limited data (LAMS, CR2, Applanix)
- Some field repairs carried out (UHSAS)

Lessons learned

- All night flight duration limits and consecutive flight limits were correctly assessed in the feasibility
- Staffing levels were correctly established
- Advance ATC coordination proved highly valuable, enabled smooth operations
- Flight templates highly useful, made flight planning and ATC coord. easy
- Viewport deployment: RAF will develop a strategy for better support
- A lot of flight observer rotations, many safety briefings were given – would be nice to optimize these
- Ground power unit had problems, being overhauled
- ADS-B upgrade for the GV met contractual problems, limited access to Australian airspace