

ECMWF IFS Data Interpolated on the Tracks of the 26 NSF/NCAR GV Research Flights during DEEPWAVE-NZ

Andreas Dörnbrack, DLR Oberpfaffenhofen

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- NSF/NCAR GV time, position, and altitude from the 26 research flights are taken from files provided by Pavel on 31 October 2014; use the variables Time, GGLAT,GGLON, GGALT as coordinates for the interpolation of the meteorological data

- the meteorological data are both ECMWF T1279/L137 operational analyses and high-resolution forecasts of the Integrated Forecast System (IFS) ; the IFS analyses are available each day at 00, 06, 12, and 18 UTC and the forecasts are taken at the following lead times for the 00 UTC and 12 UTC runs, respectively: +1 h, +2 h, +3 h, +4 h, +5 h, +7 h, +8 h, +9 h, + 10 h, and +11 h; all fields are interpolated on a regular $0.25^\circ \times 0.25^\circ$ latitude-longitude grid

- the meteorological data are interpolated in space and time onto the GV flight tracks and the fields of T, Θ , u, v, w and PV are provided as altitude-time sections for each flight

Note: - due to the terrain-following hybrid vertical coordinate system each time has its own altitude vector which changes from position to position even over flat surfaces

- the perturbations of the absolute temperature T are determined as the difference of the actual temperature at time t_0 minus a 30 min averages centred around t_0

Research Flight RF01 6 June 2014

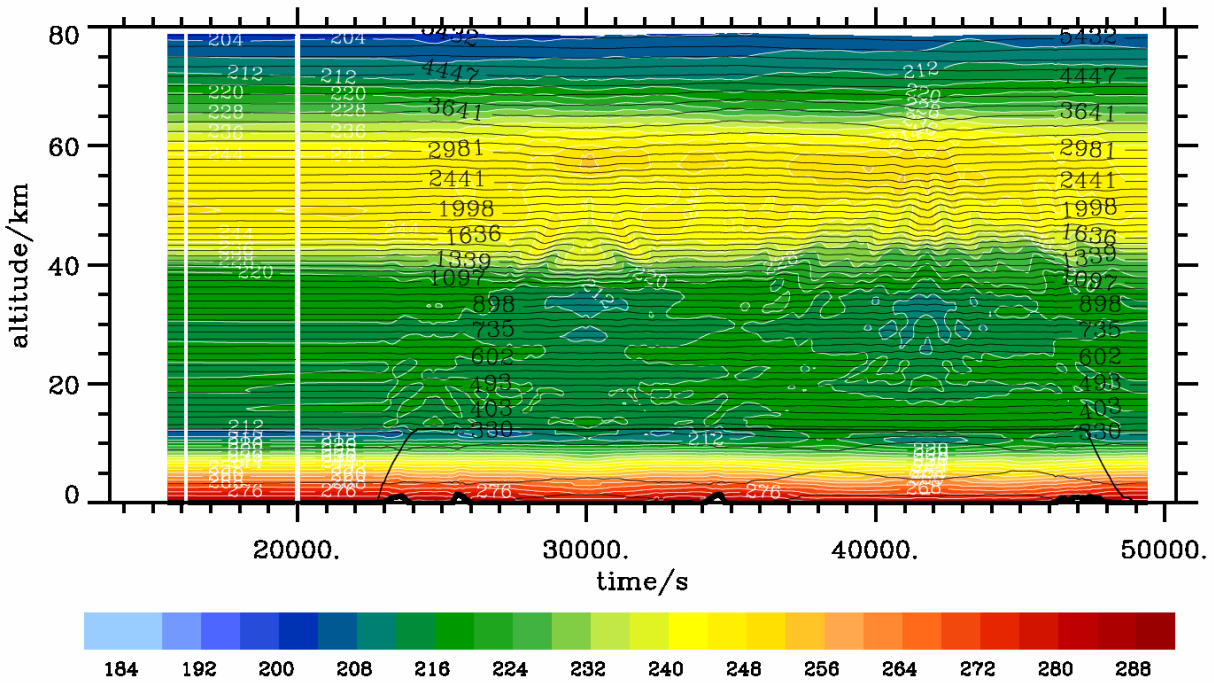


Figure RF01 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF01 on 6 June 2014.

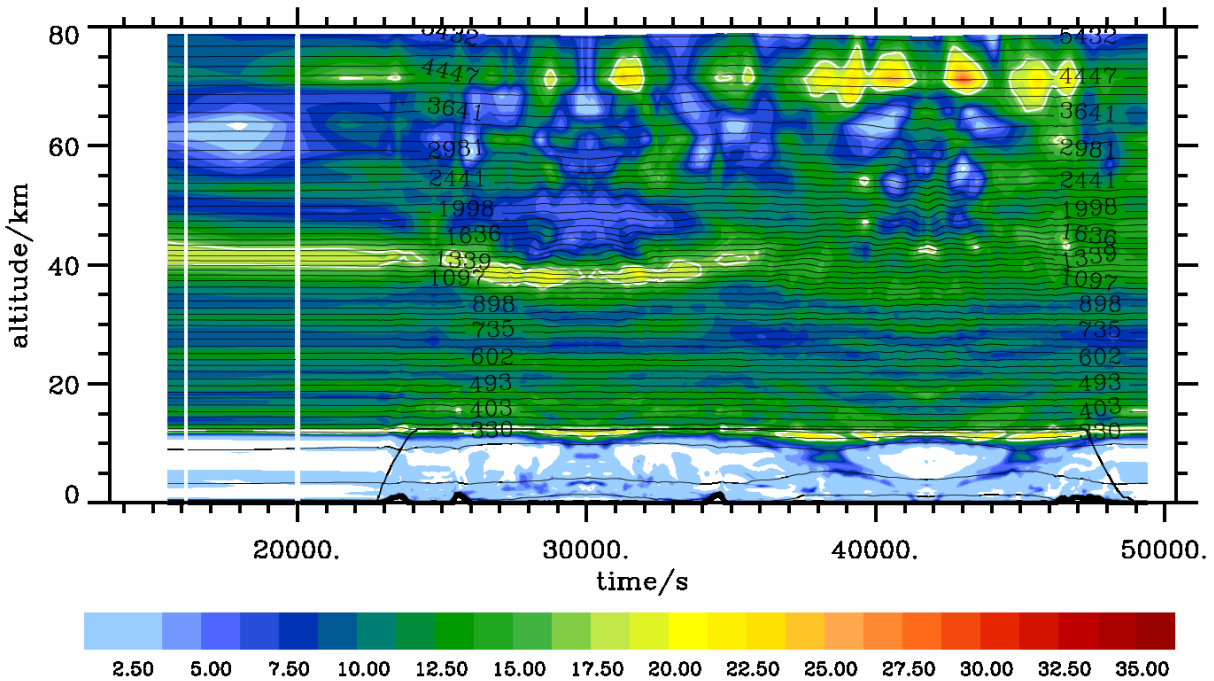


Figure RF01 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF01 on 6 June 2014.

Research Flight RF01 6 June 2014

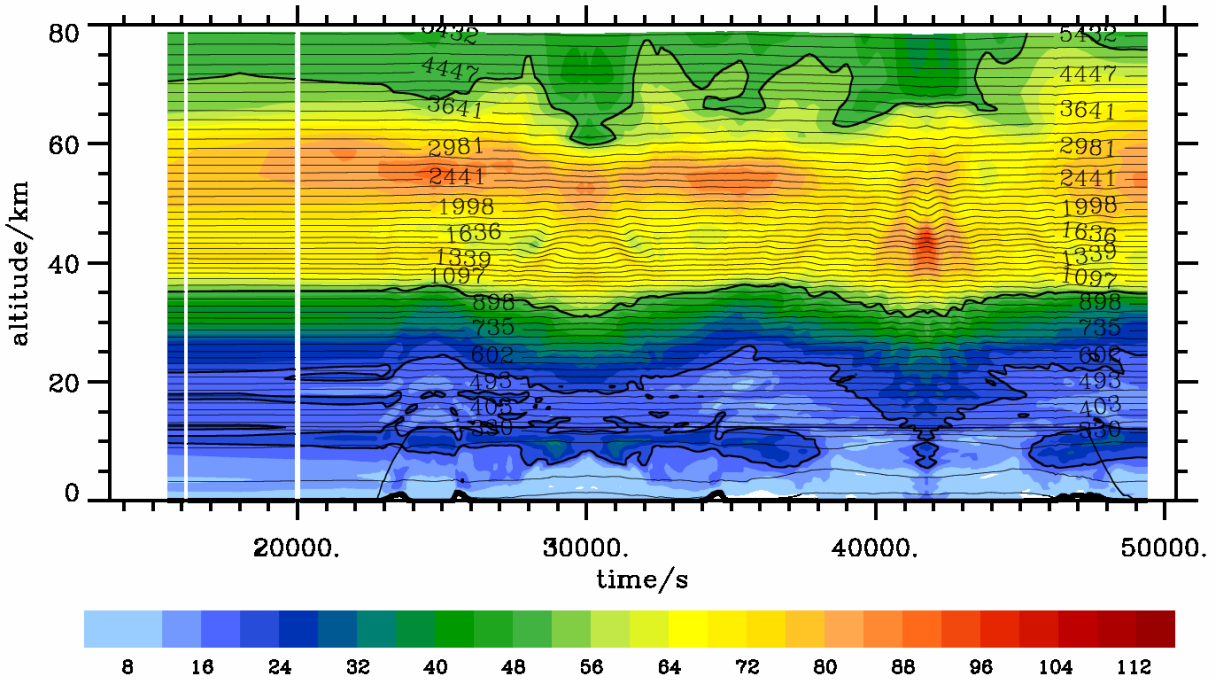


Figure RF01 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF01 on 6 June 2014.

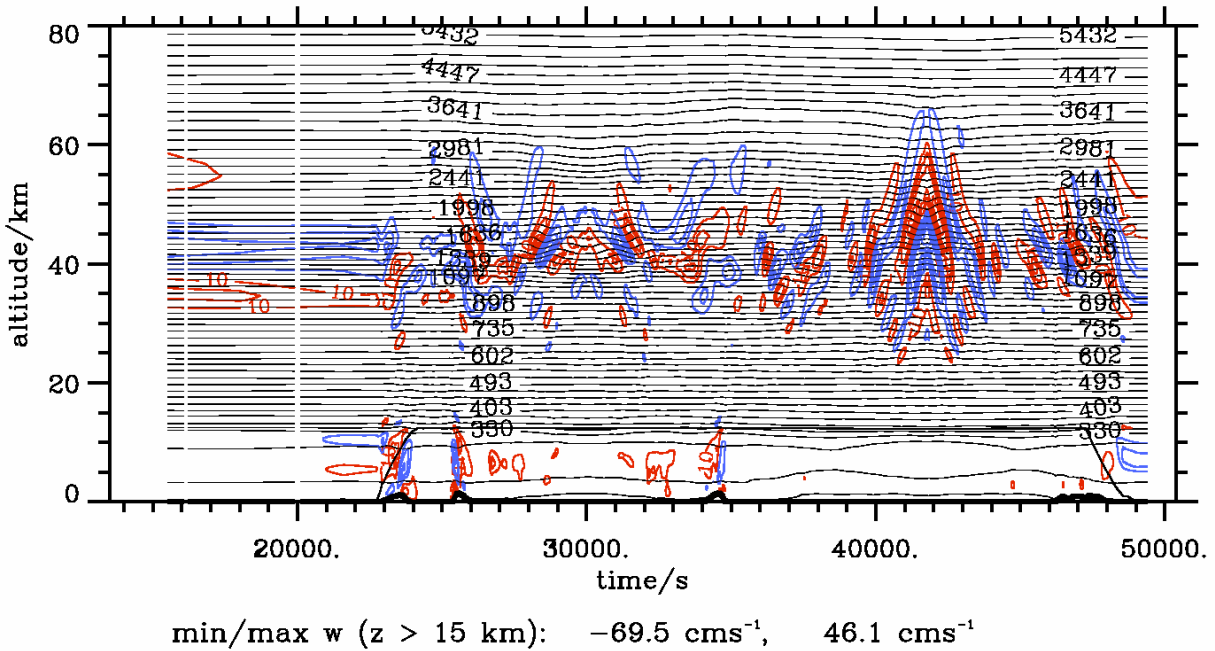


Figure RF01 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF01 on 6 June 2014.

Research Flight RF01 6 June 2014

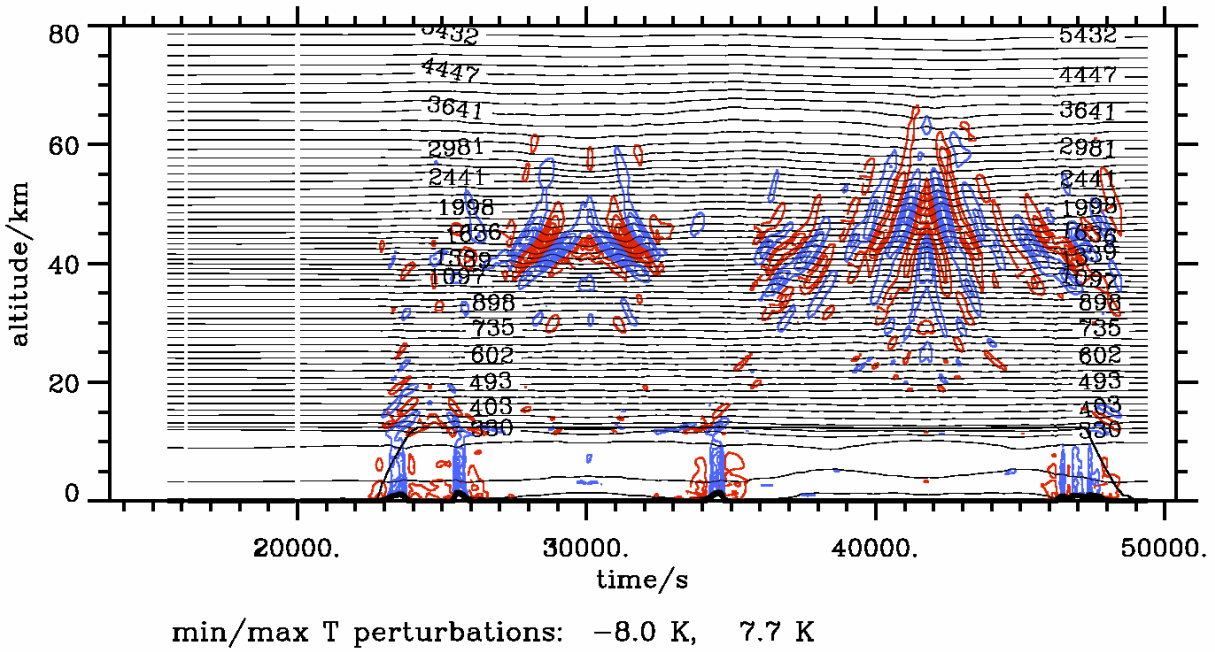


Figure RF01 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF01 on 6 June 2014.

Research Flight RF02 11 June 2014

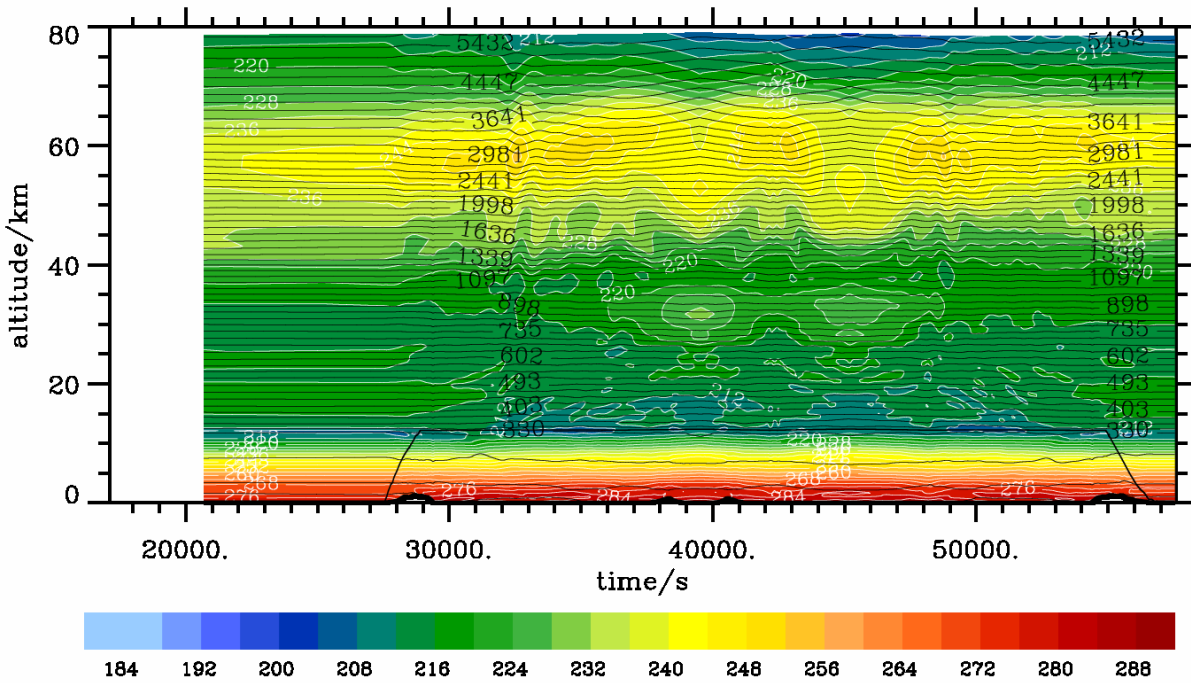


Figure RF02 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF02 on 11 June 2014.

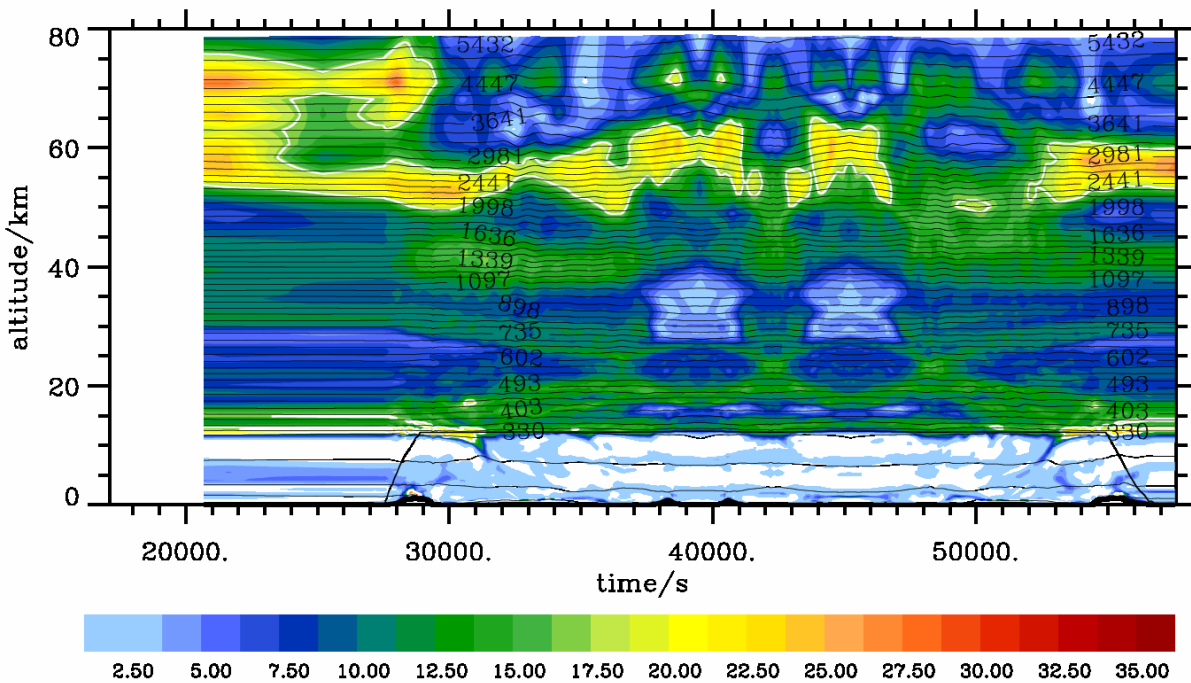


Figure RF02 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF02 on 11 June 2014.

Research Flight RF02 11 June 2014

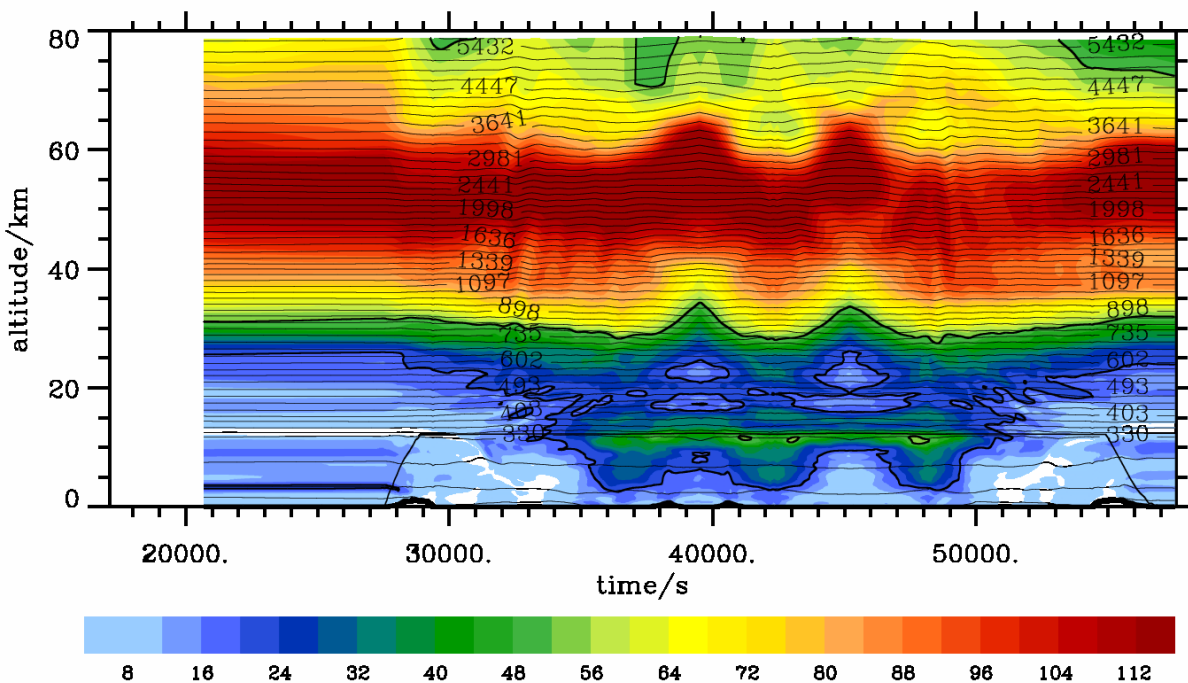


Figure RF02 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF02 on 11 June 2014.

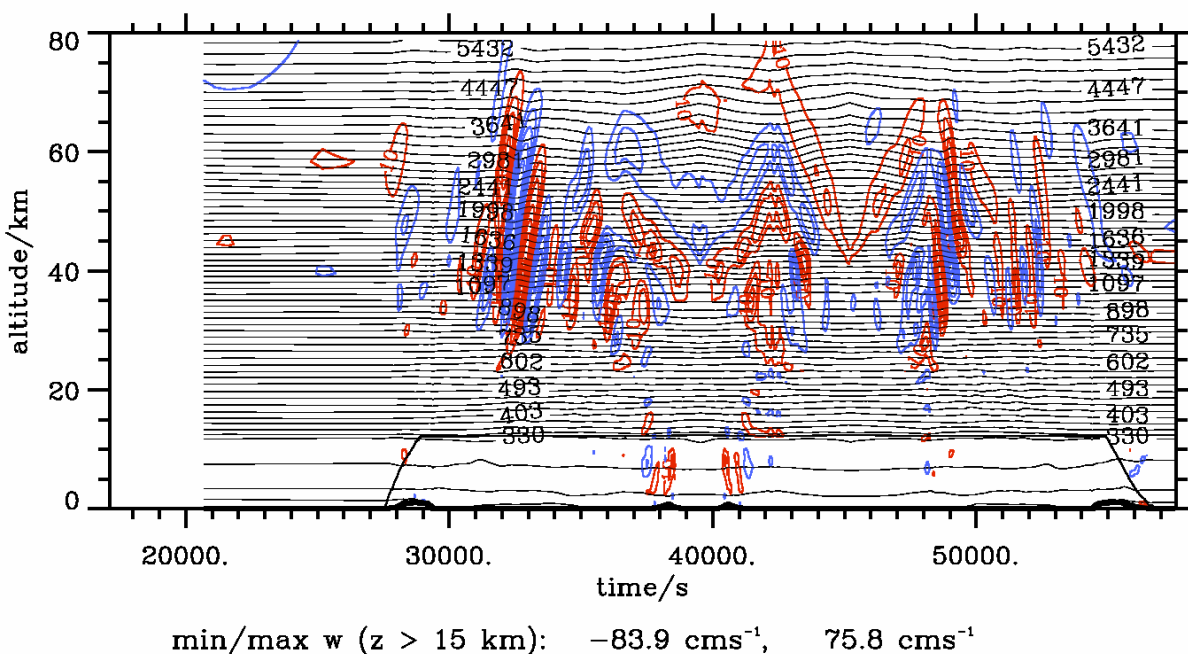


Figure RF02 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF02 on 11 June 2014.

Research Flight RF02 11 June 2014

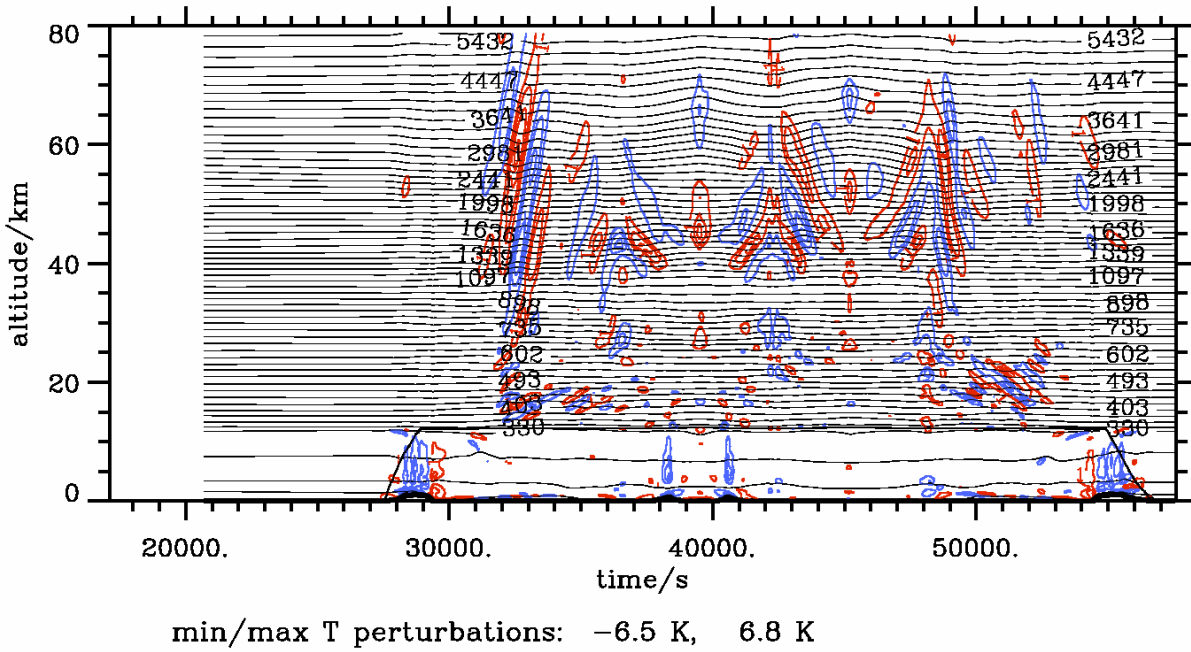


Figure RF02 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF02 on 11 June 2014.

Research Flight RF03 13 June 2014

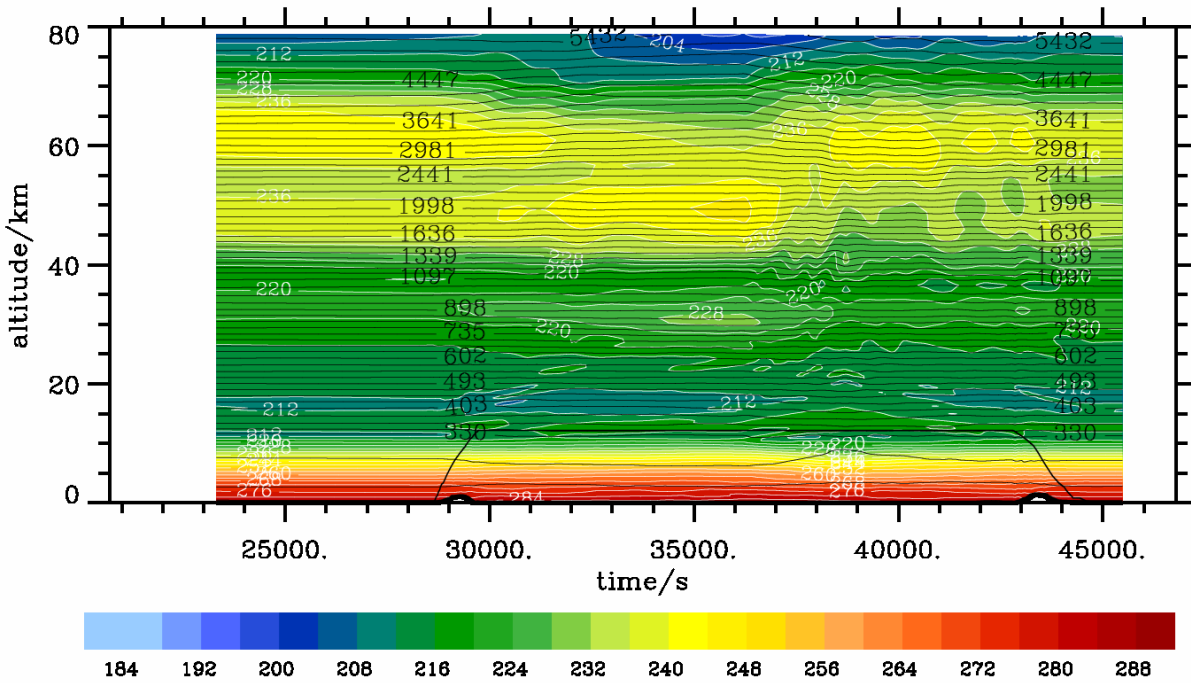


Figure RF03 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF03 on 13 June 2014.

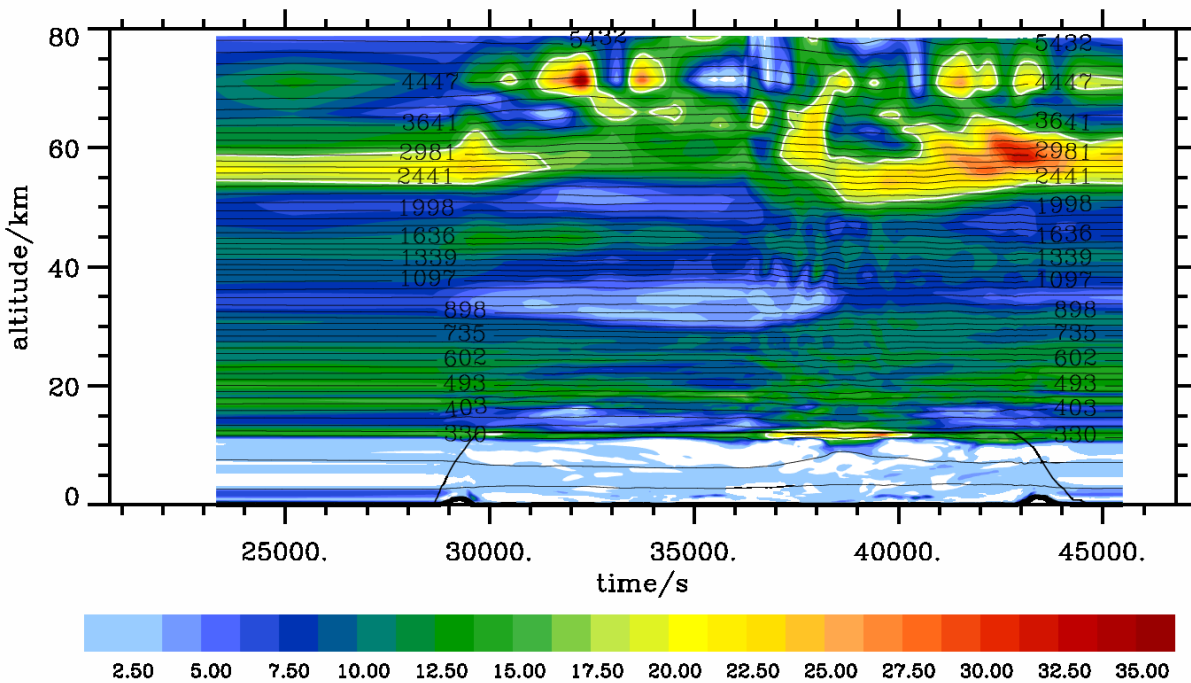


Figure RF03 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF03 on 13 June 2014.

Research Flight RF03 13 June 2014

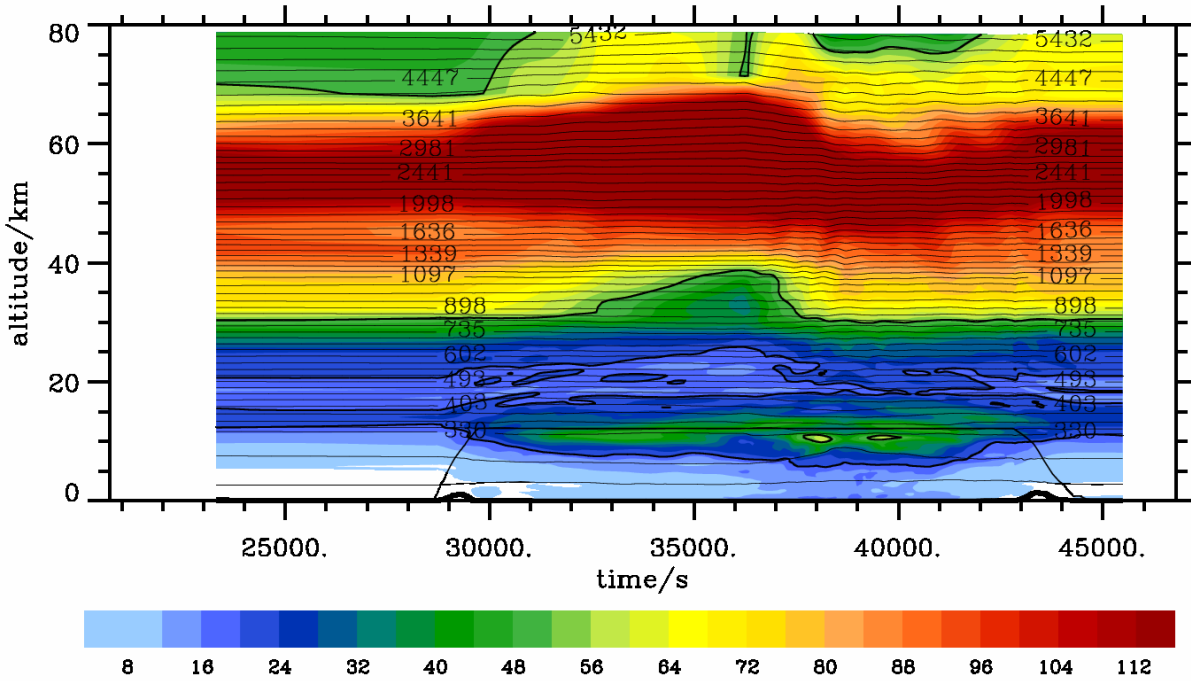


Figure RF03 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF03 on 13 June 2014.

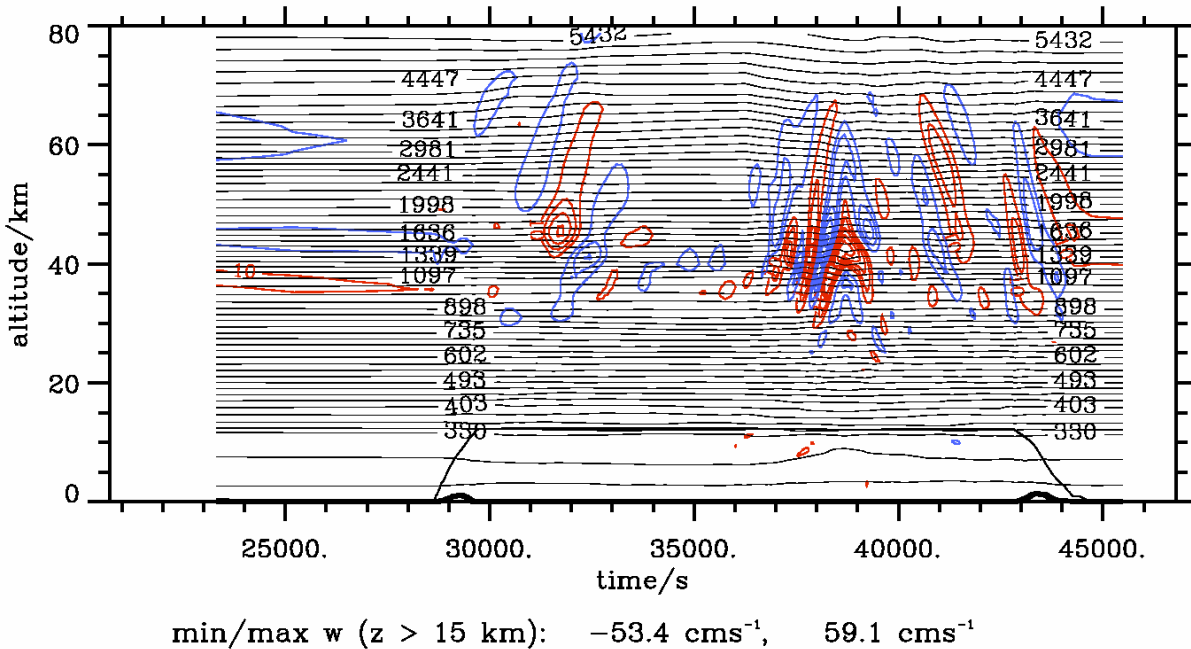


Figure RF03 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF03 on 13 June 2014.

Research Flight RF03 13 June 2014

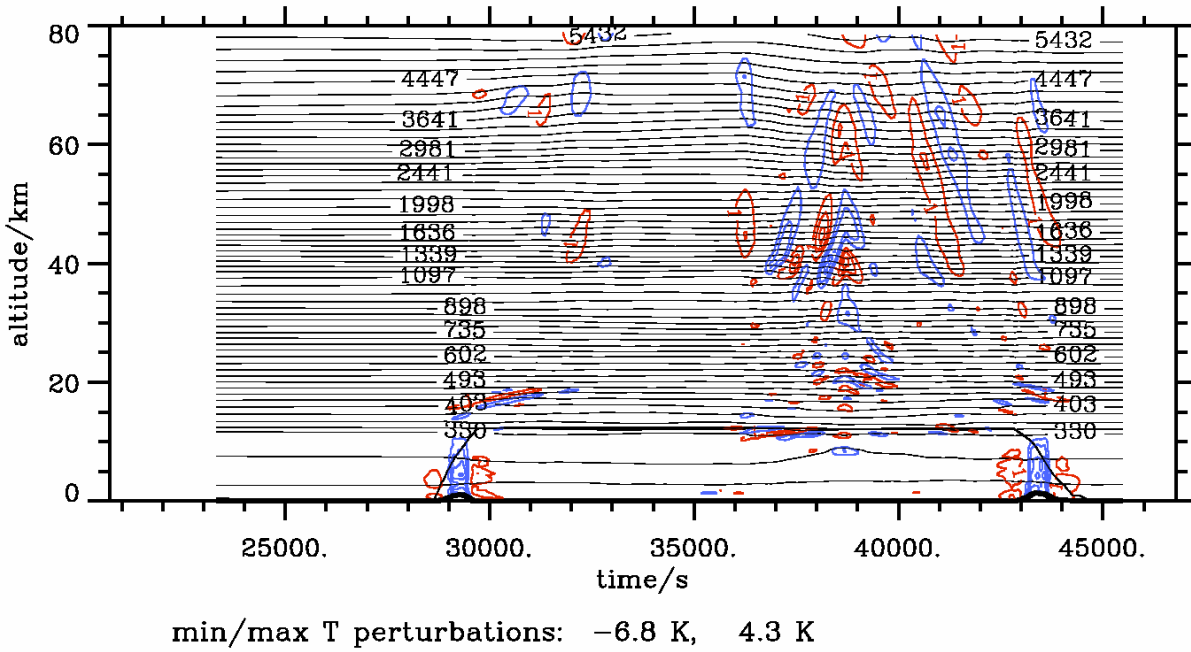


Figure RF03 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF03 on 13 June 2014.

Research Flight RF04 14 June 2014

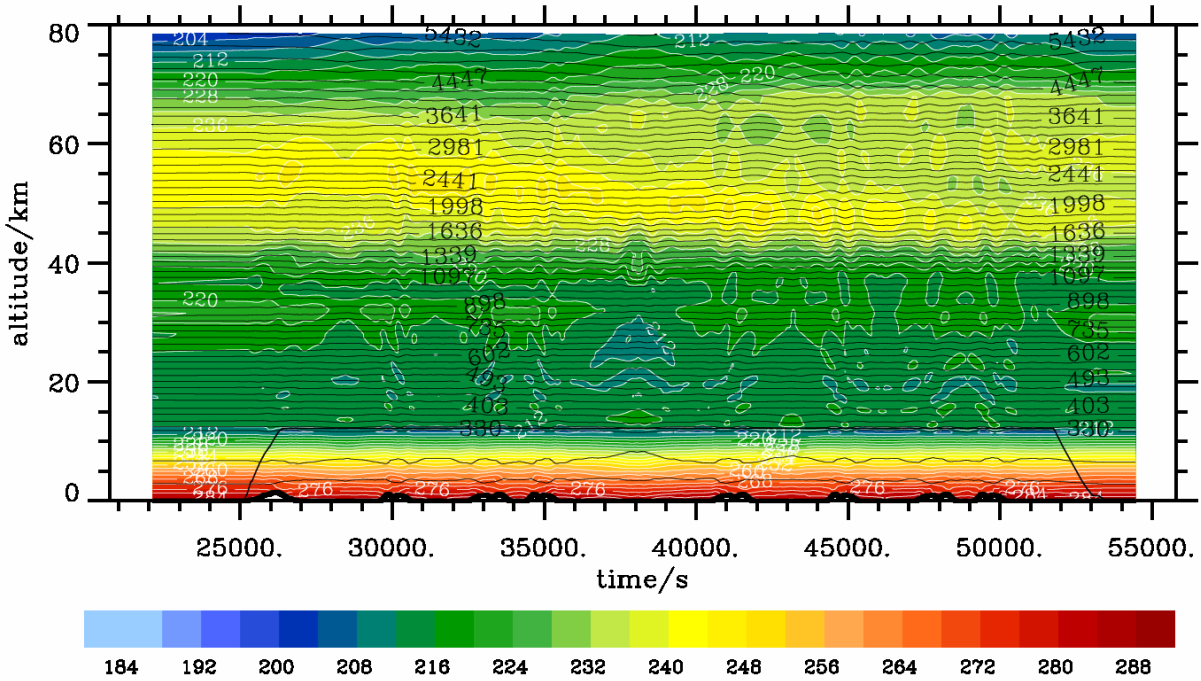


Figure RF04 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF04 on 14 June 2014.

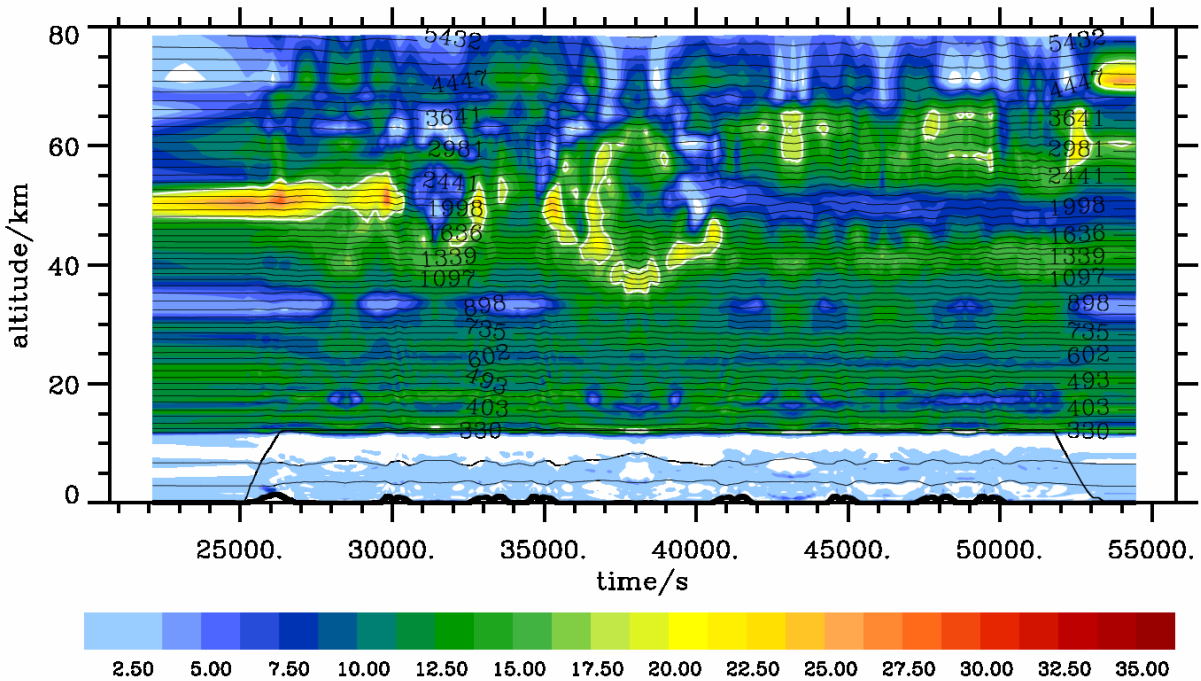


Figure RF04 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF04 on 14 June 2014.

Research Flight RF04 14 June 2014

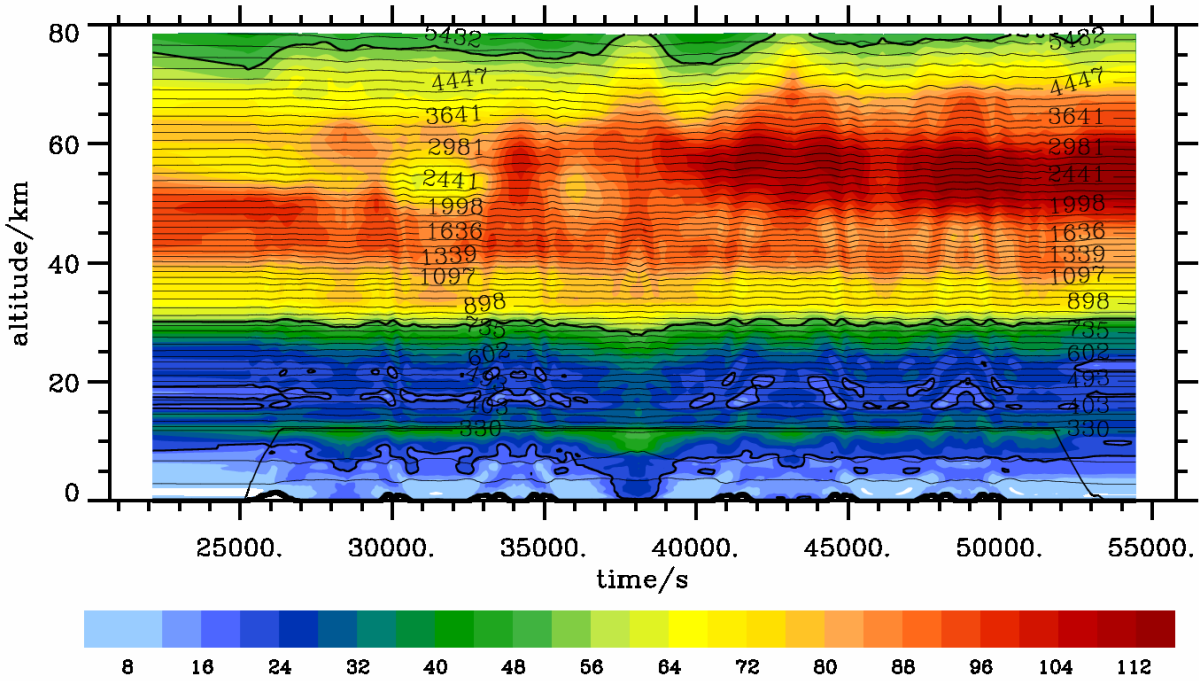


Figure RF04 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF04 on 14 June 2014.

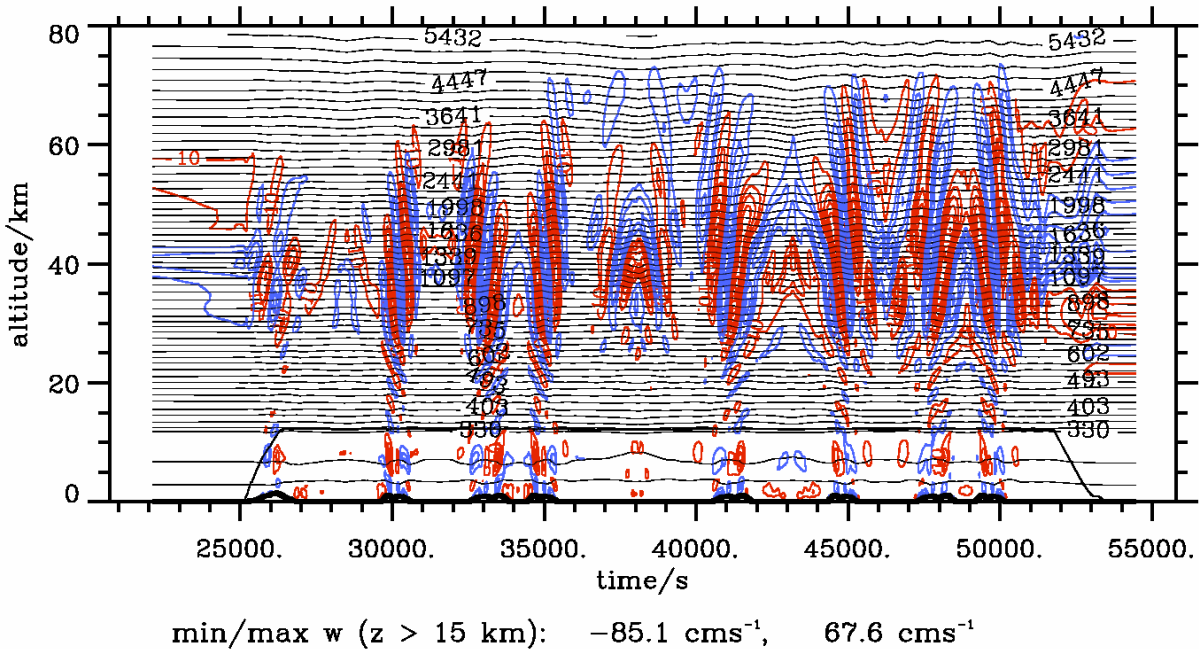


Figure RF04 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF04 on 14 June 2014.

Research Flight RF04 14 June 2014

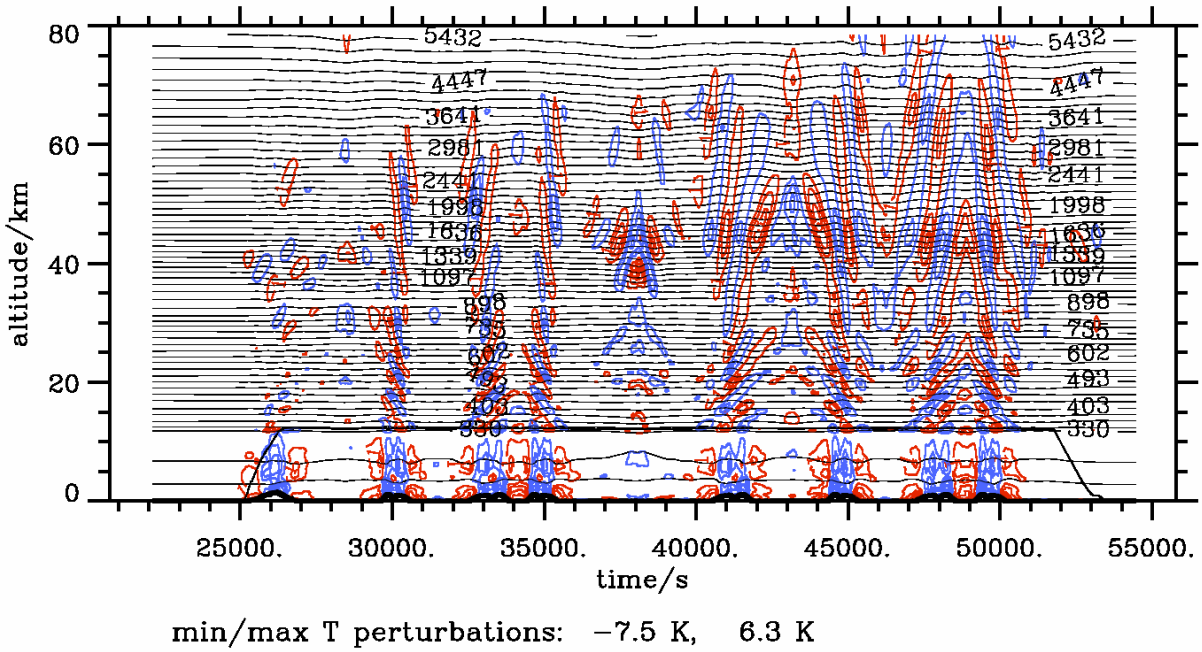


Figure RF04 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF04 on 14 June 2014.

Research Flight RF05 16 June 2014

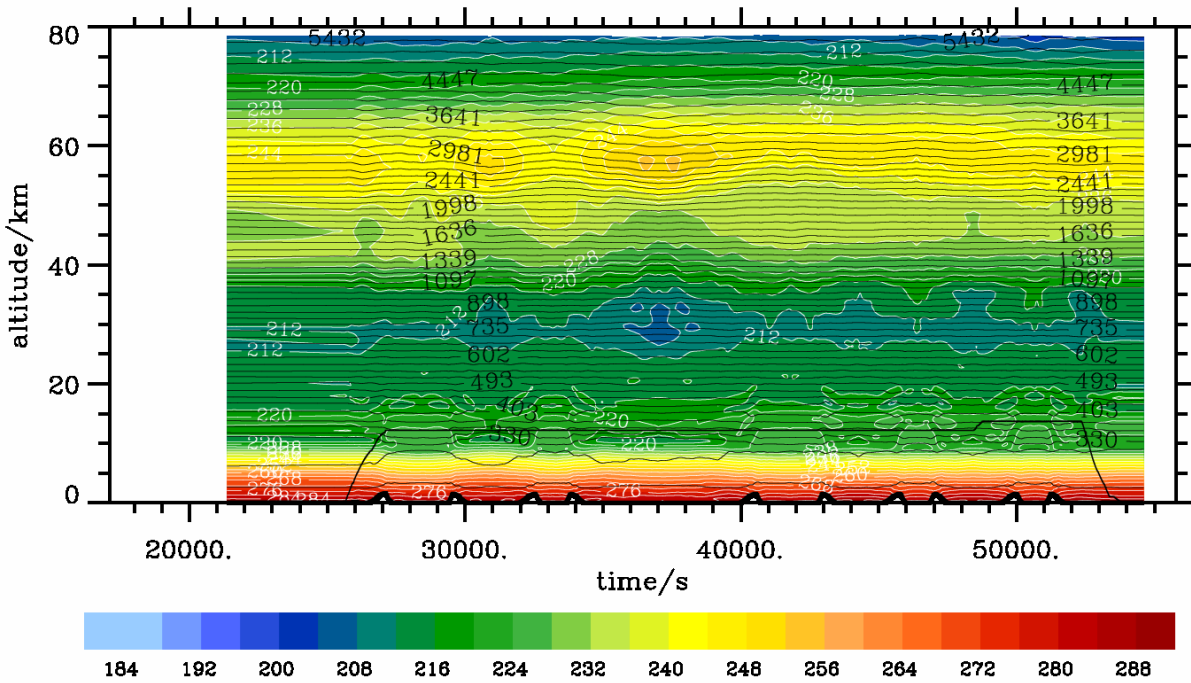


Figure RF05 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF05 on 16 June 2014.

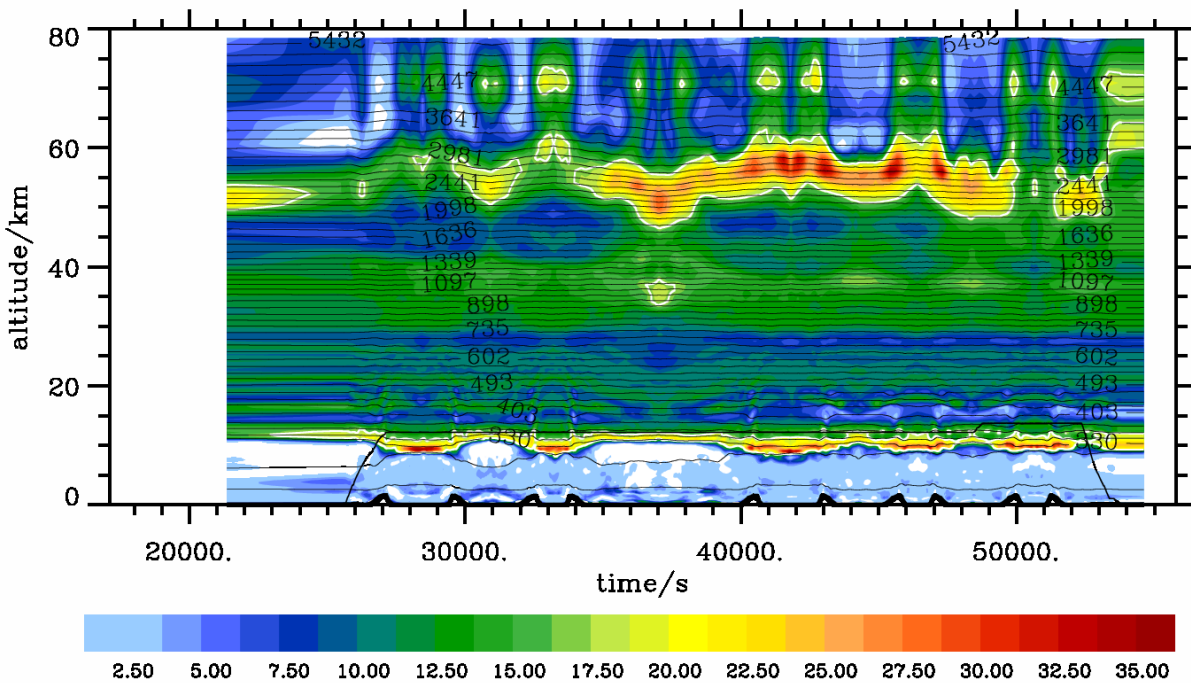


Figure RF05 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF05 on 16 June 2014.

Research Flight RF05 16 June 2014

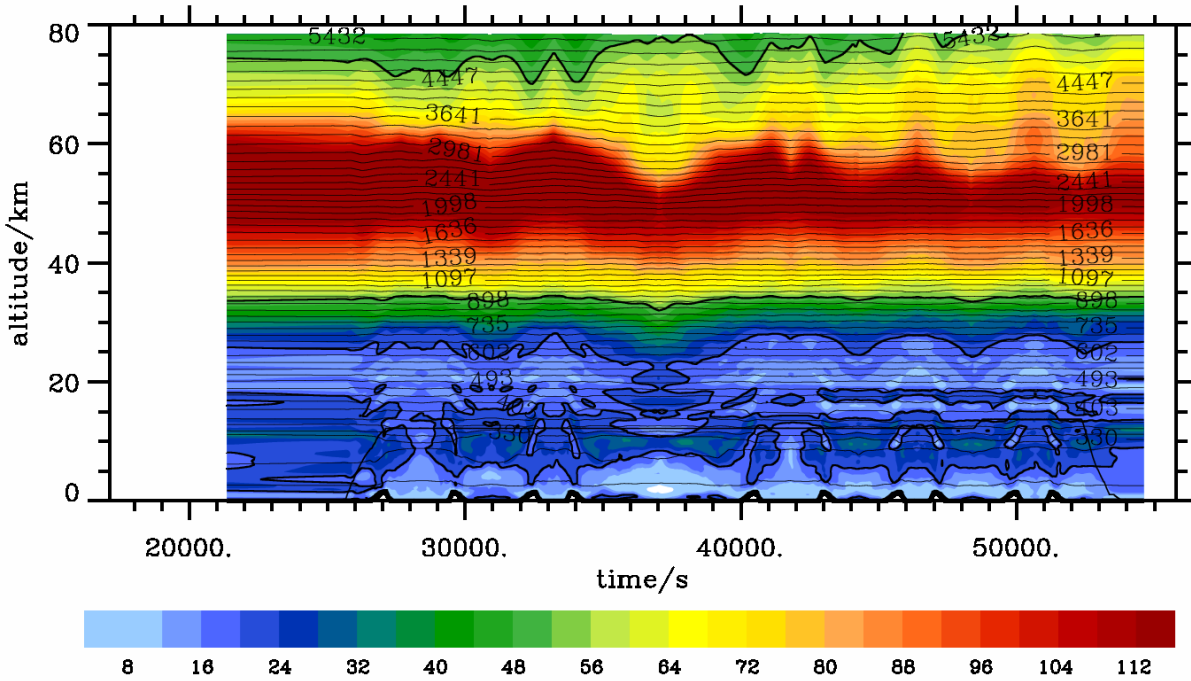


Figure RF05 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF05 on 16 June 2014.

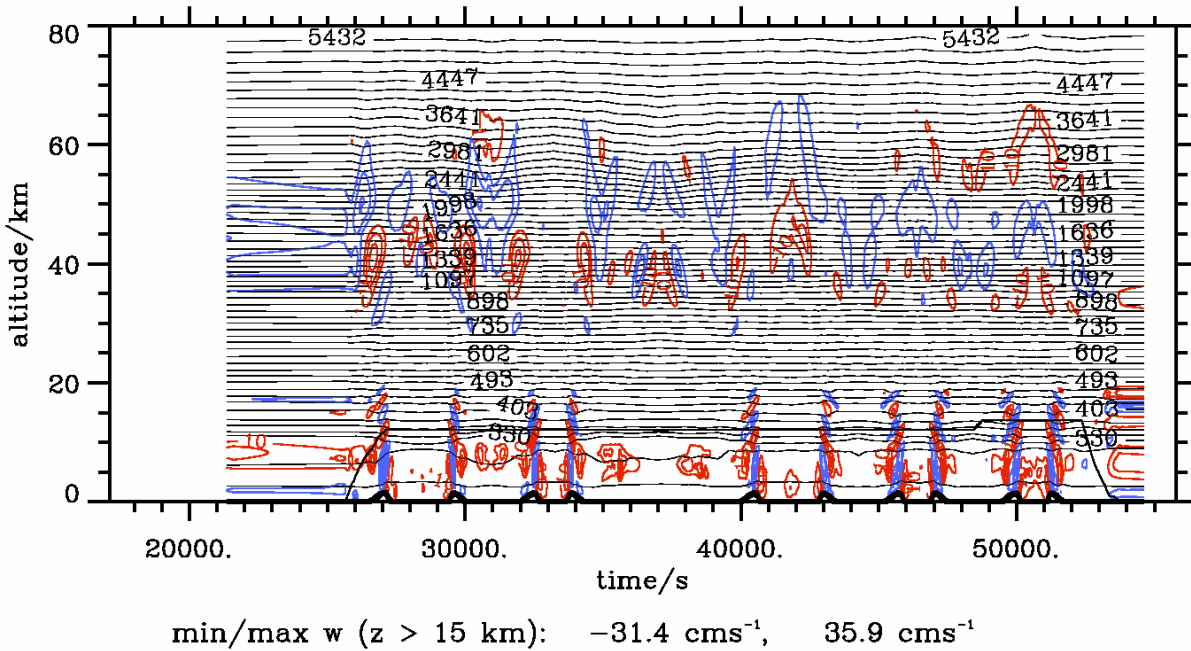


Figure RF05 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF05 on 16 June 2014.

Research Flight RF05 16 June 2014

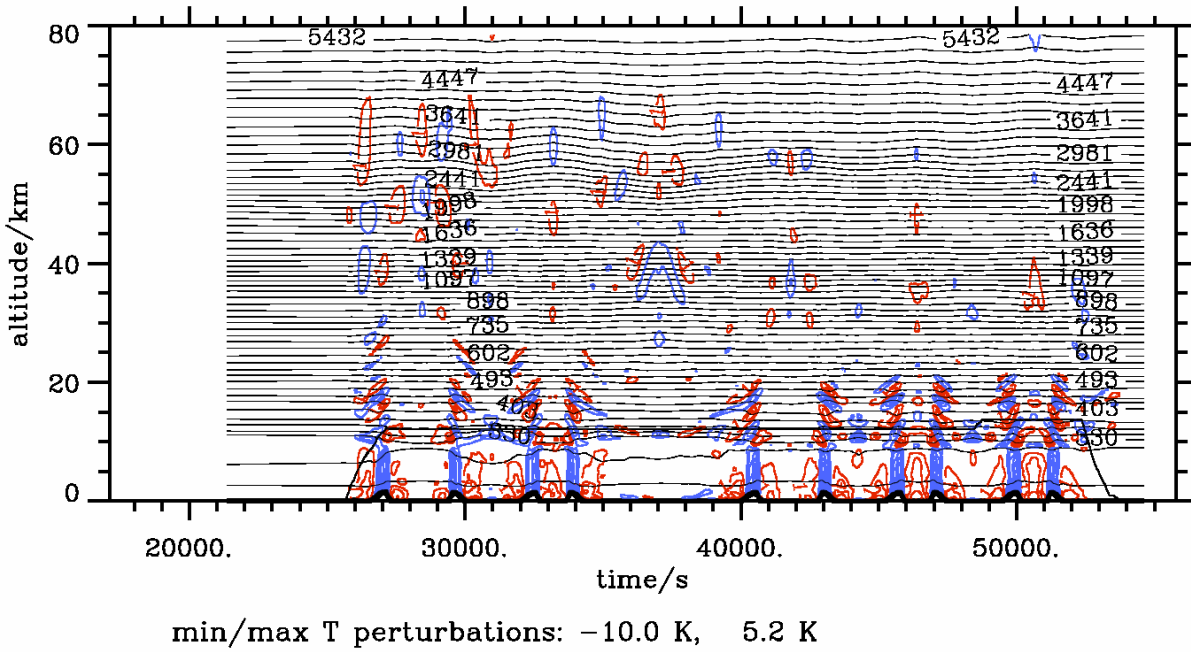


Figure RF05 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF05 on 16 June 2014.

Research Flight RF06 18 June 2014

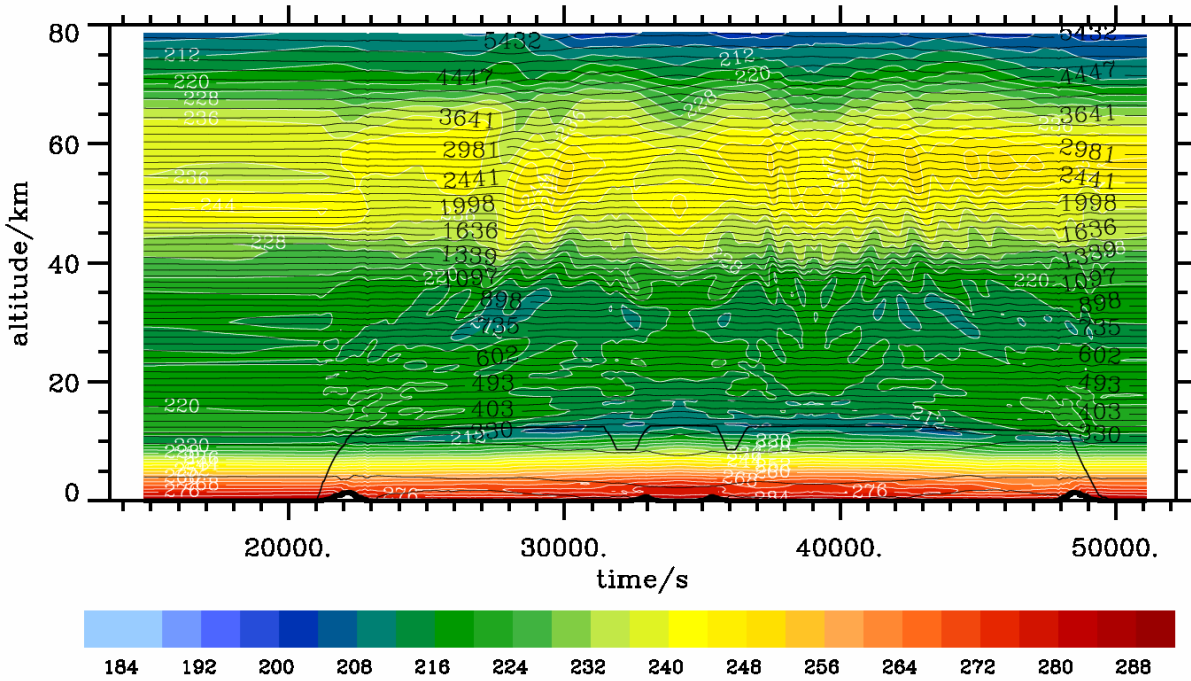


Figure RF06 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF06 on 18 June 2014.

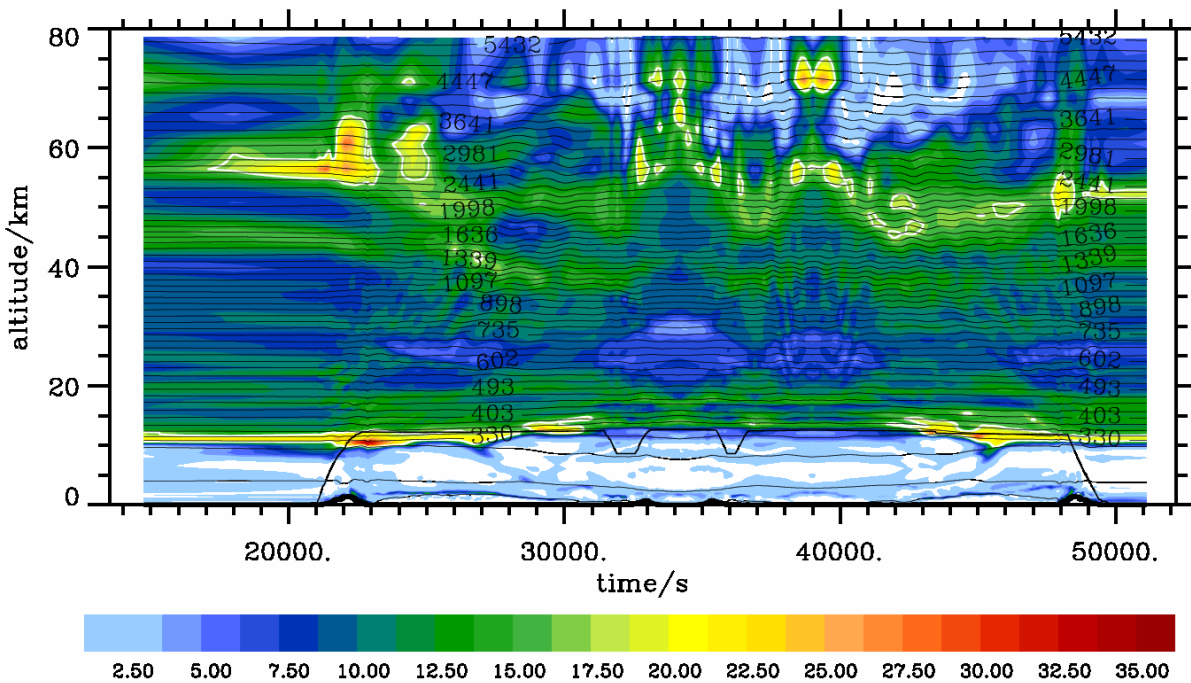


Figure RF06 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF06 on 18 June 2014.

Research Flight RF06 18 June 2014

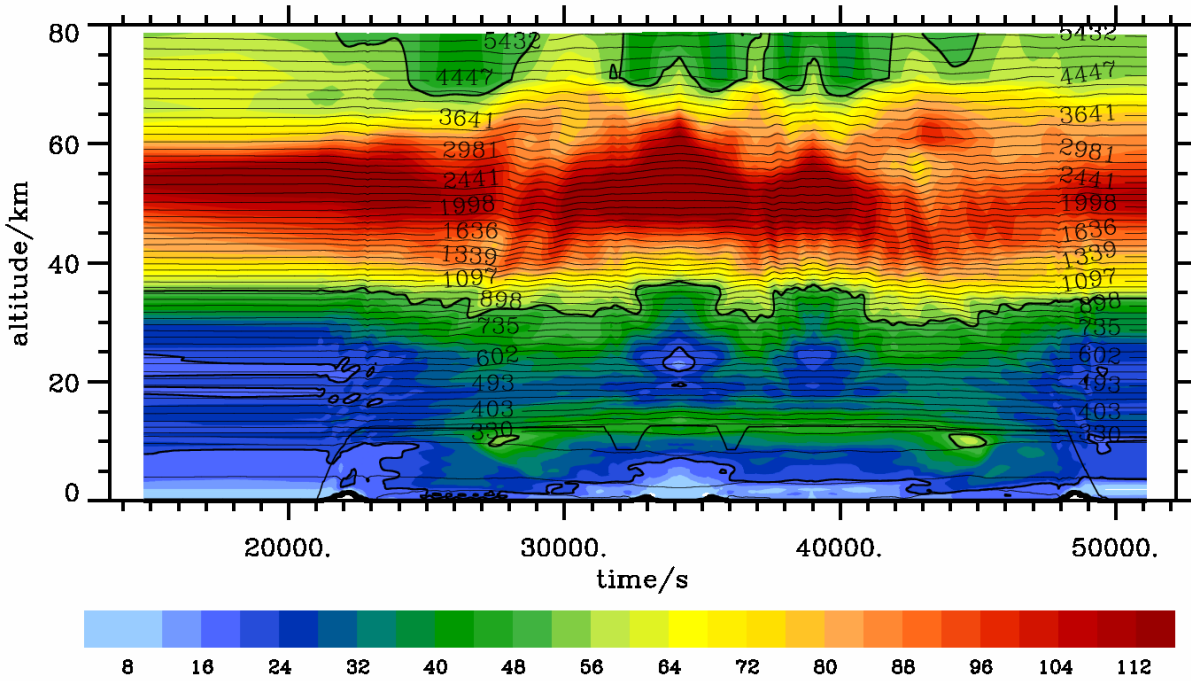


Figure RF06 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF06 on 18 June 2014.

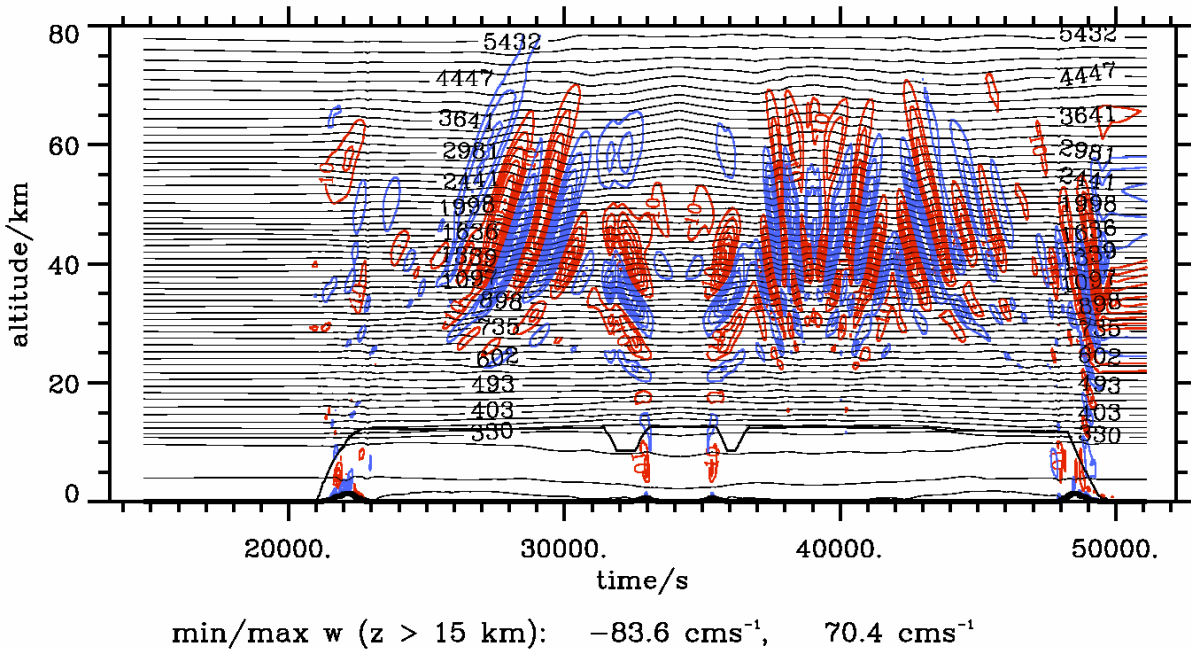


Figure RF06 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF06 on 18 June 2014.

Research Flight RF06 18 June 2014

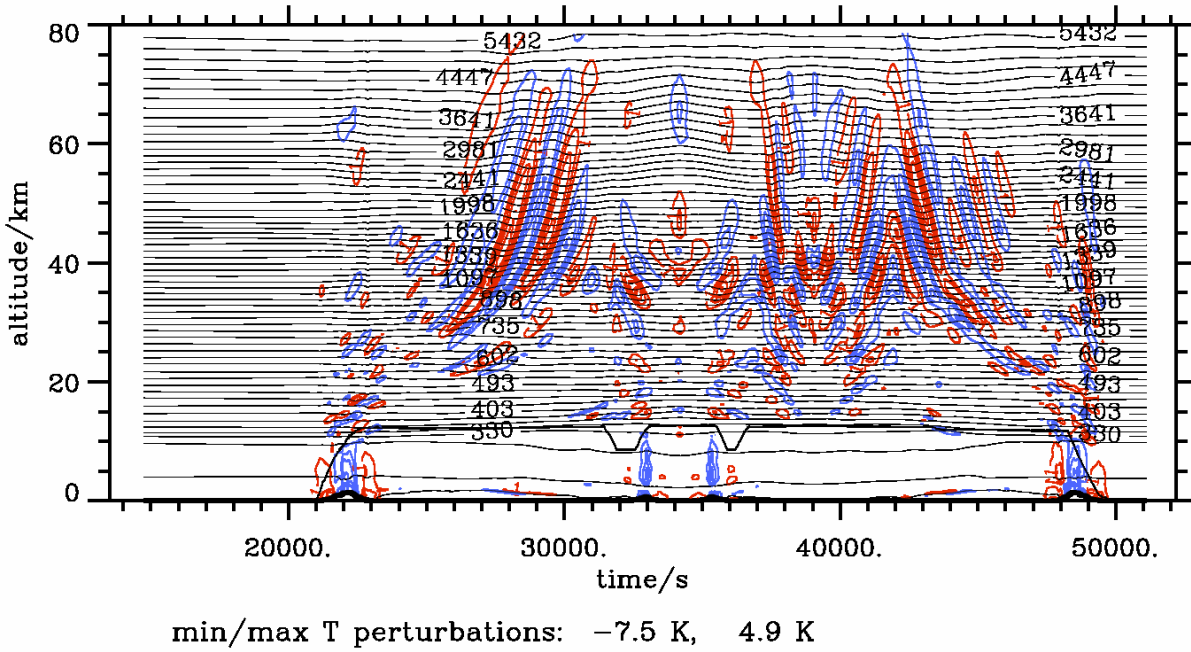


Figure RF06 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF06 on 18 June 2014.

Research Flight RF07 19 June 2014

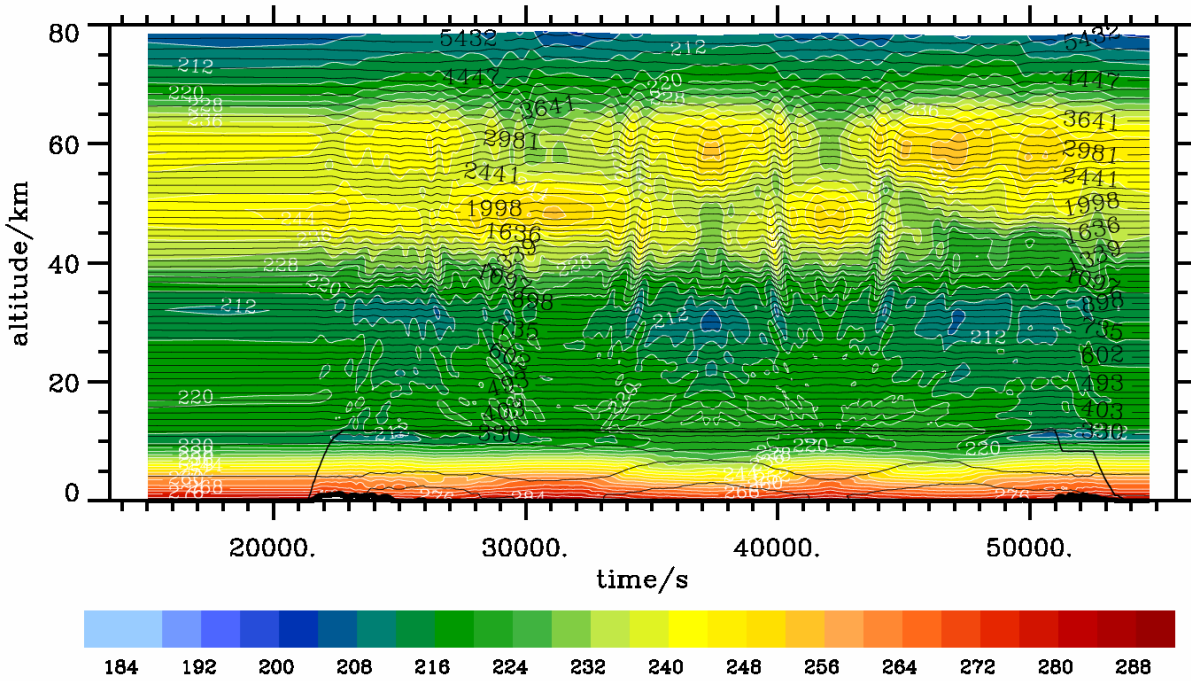


Figure RF07 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF07 on 19 June 2014.

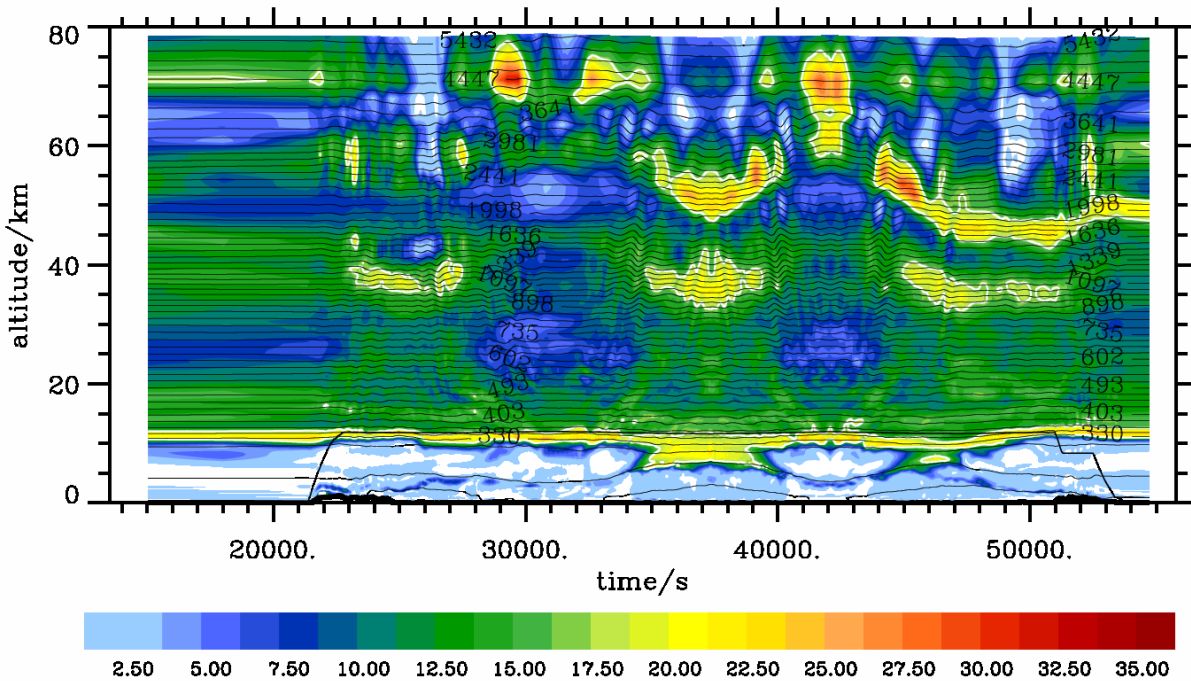


Figure RF07 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF07 on 19 June 2014.

Research Flight RF07 19 June 2014

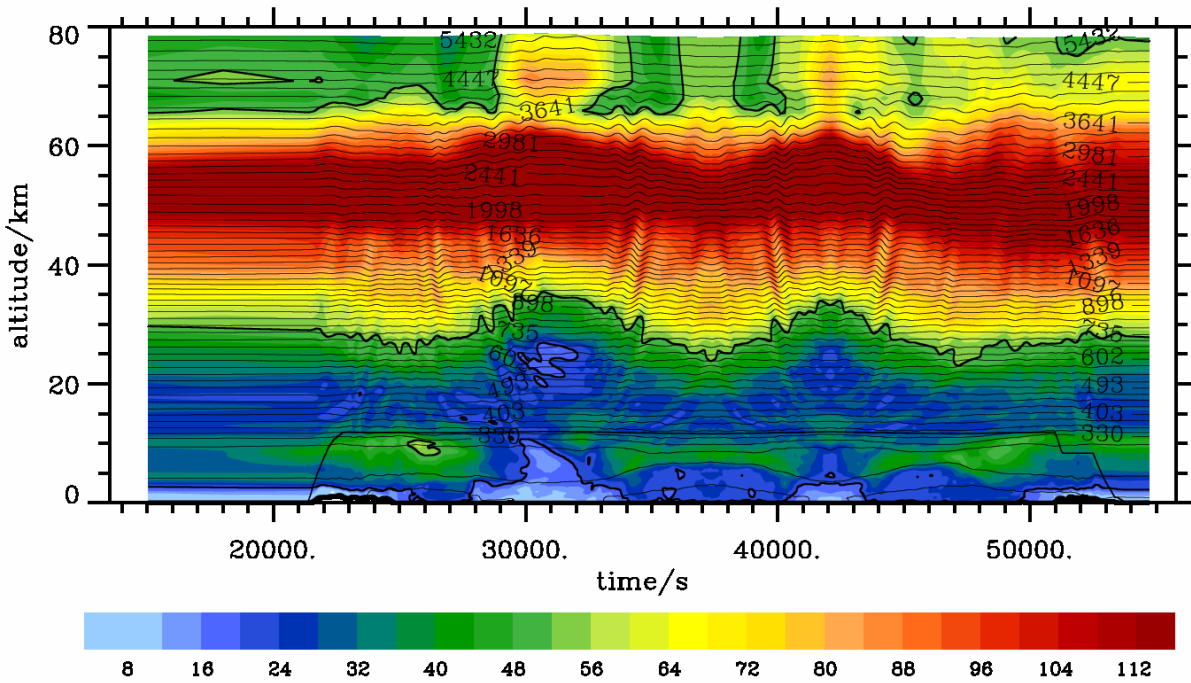


Figure RF07 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF07 on 19 June 2014.

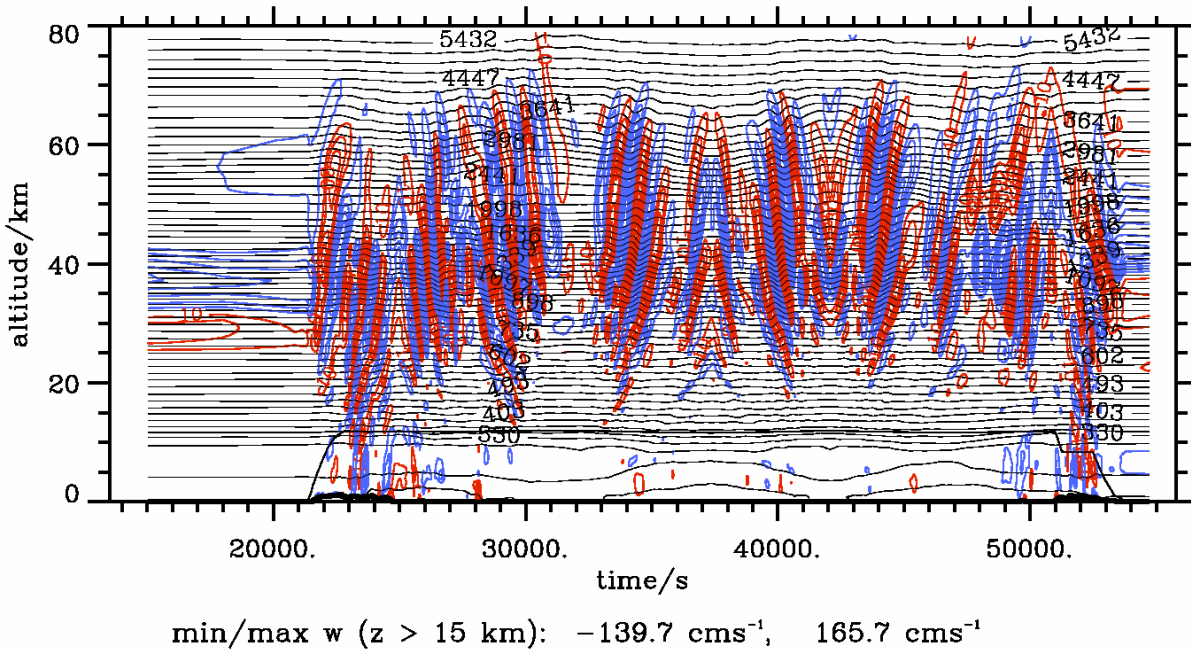


Figure RF07 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF07 on 19 June 2014.

Research Flight RF07 19 June 2014

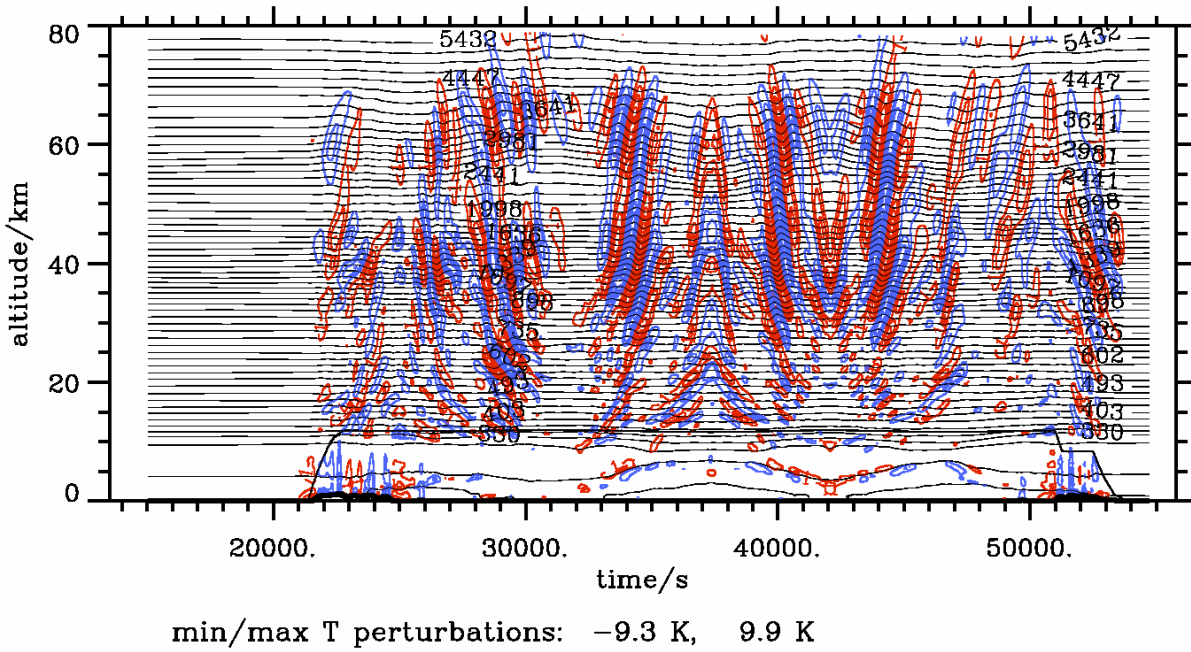


Figure RF07 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF07 on 19 June 2014.

Research Flight RF08 20 June 2014

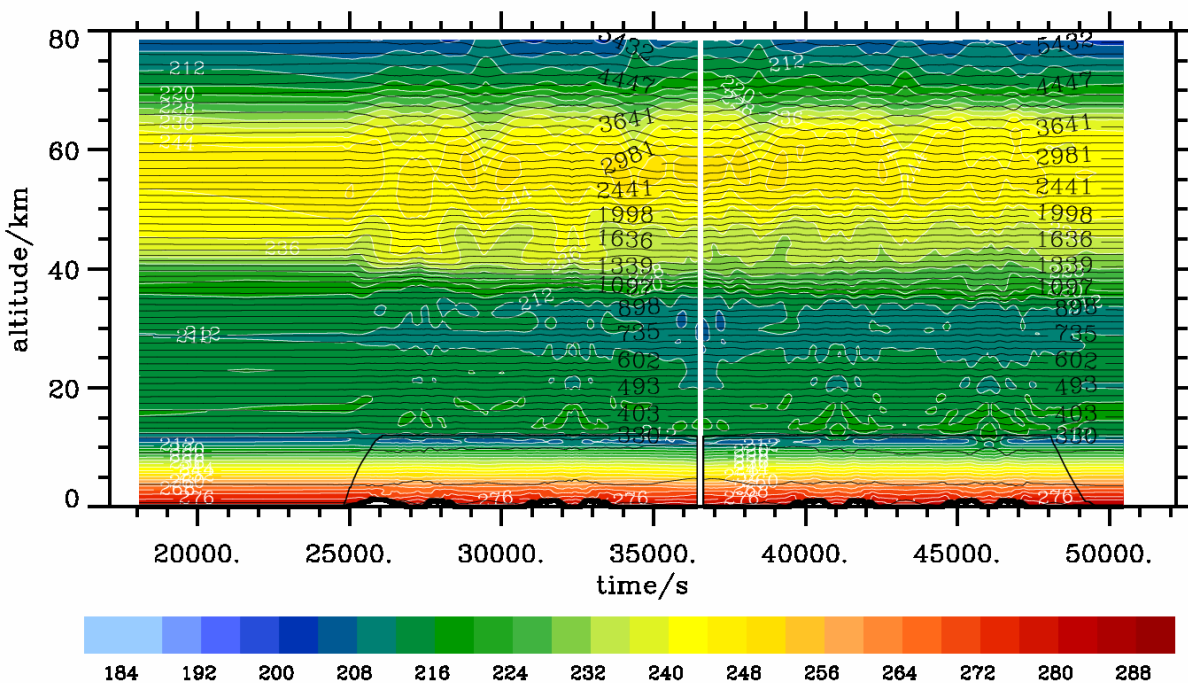


Figure RF08 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF08 on 20 June 2014.

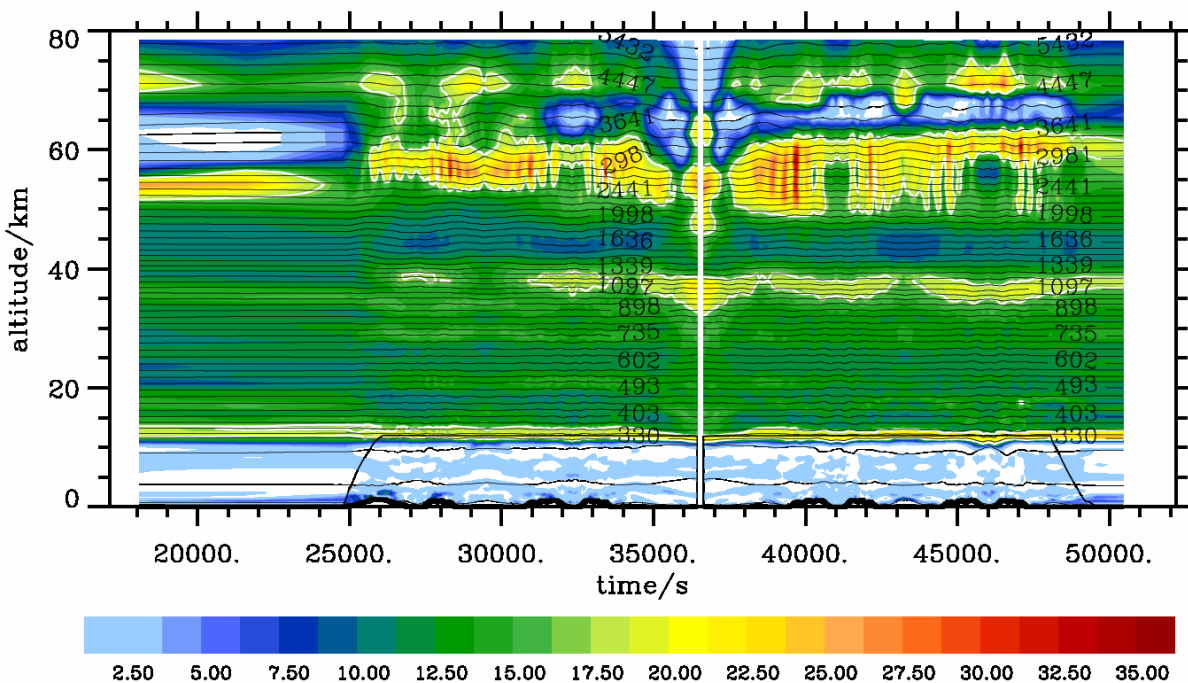


Figure RF08 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF08 on 20 June 2014.

Research Flight RF08 20 June 2014

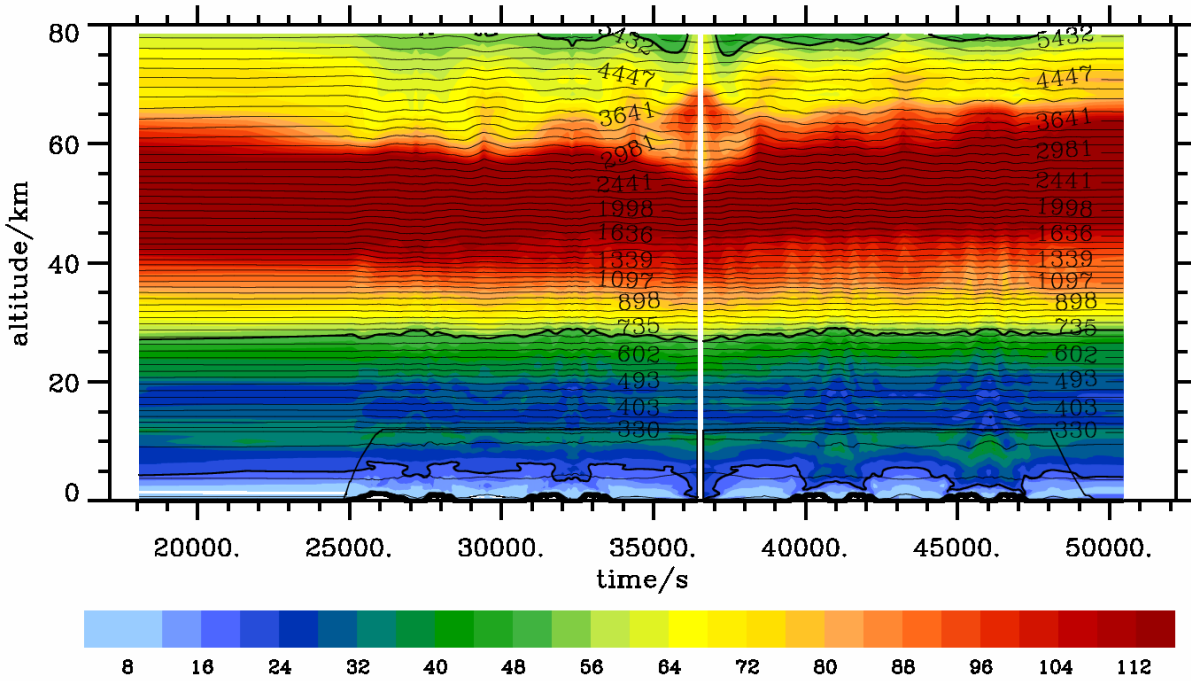


Figure RF08 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF08 on 20 June 2014.

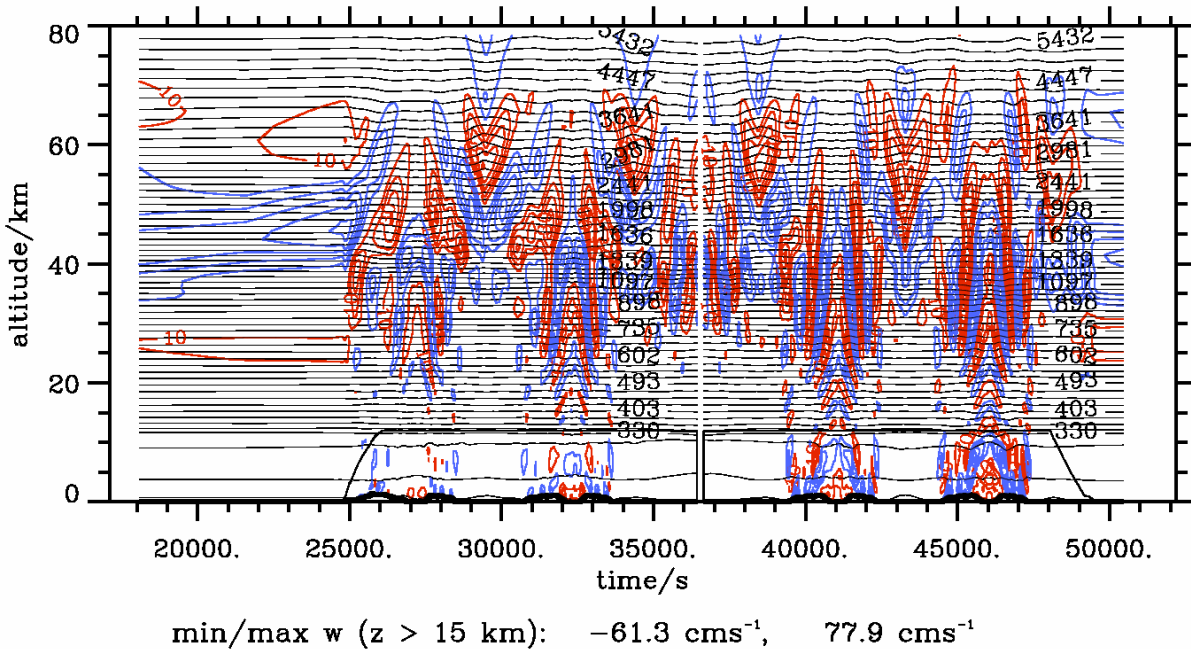


Figure RF08 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF08 on 20 June 2014.

Research Flight RF08 20 June 2014

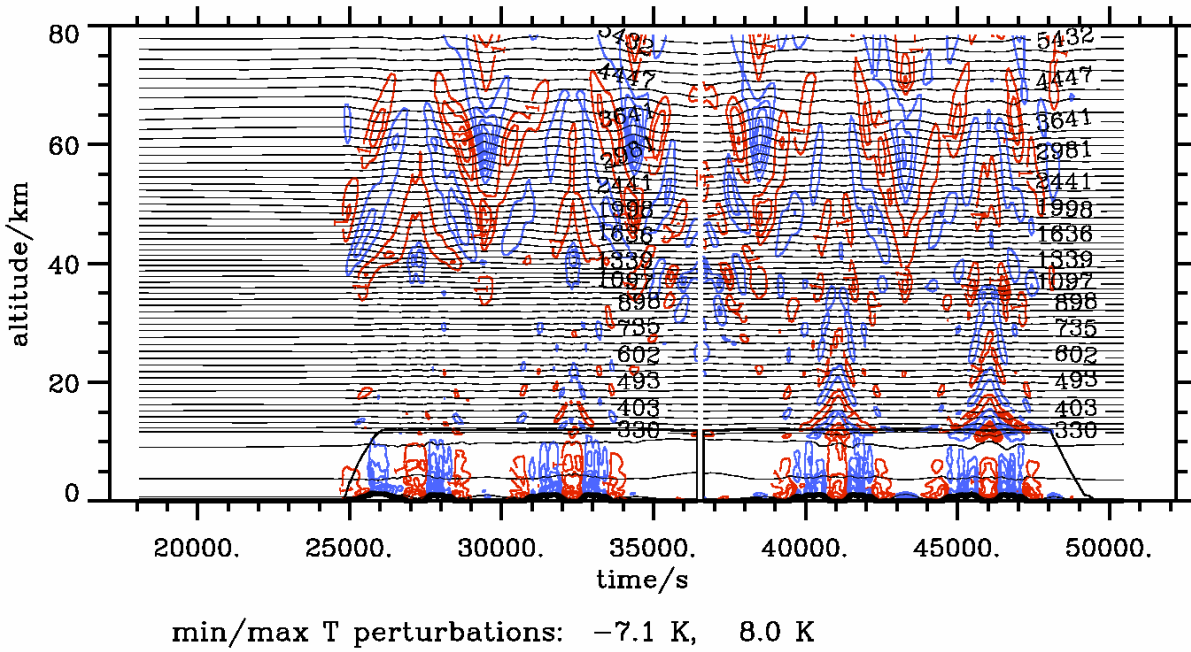


Figure RF08 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF08 on 20 June 2014.

Research Flight RF09 24 June 2014

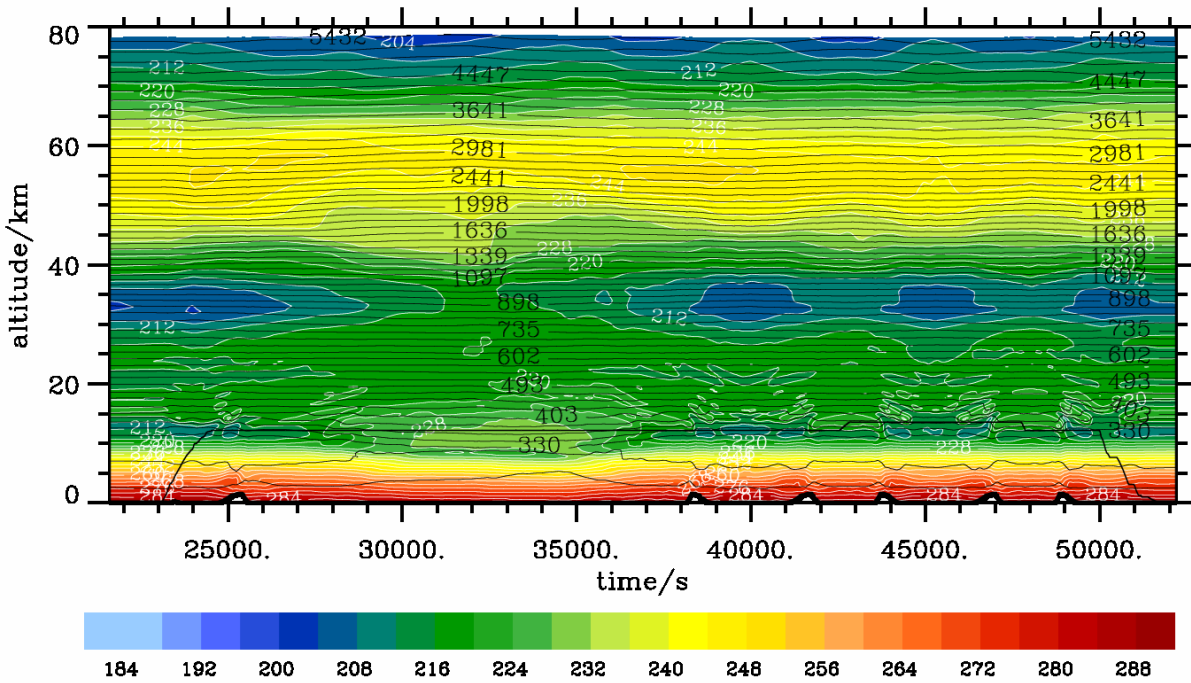


Figure RF09 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF09 on 24 June 2014.

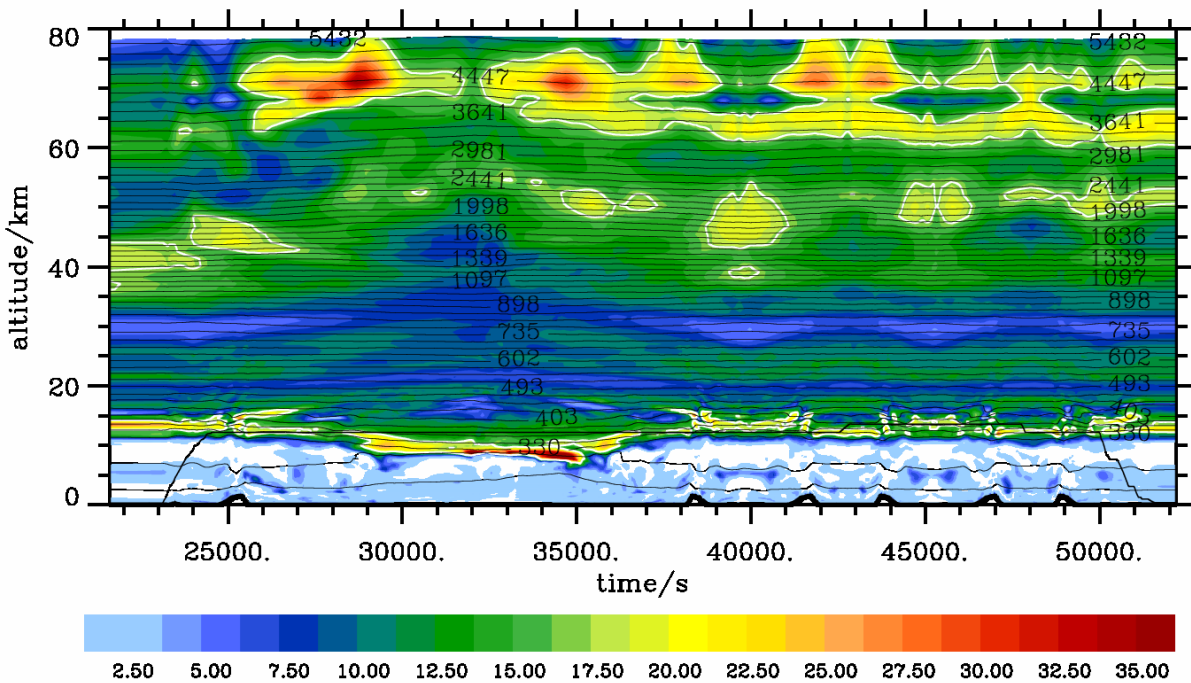


Figure RF09 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF09 on 24 June 2014.

Research Flight RF09 24 June 2014

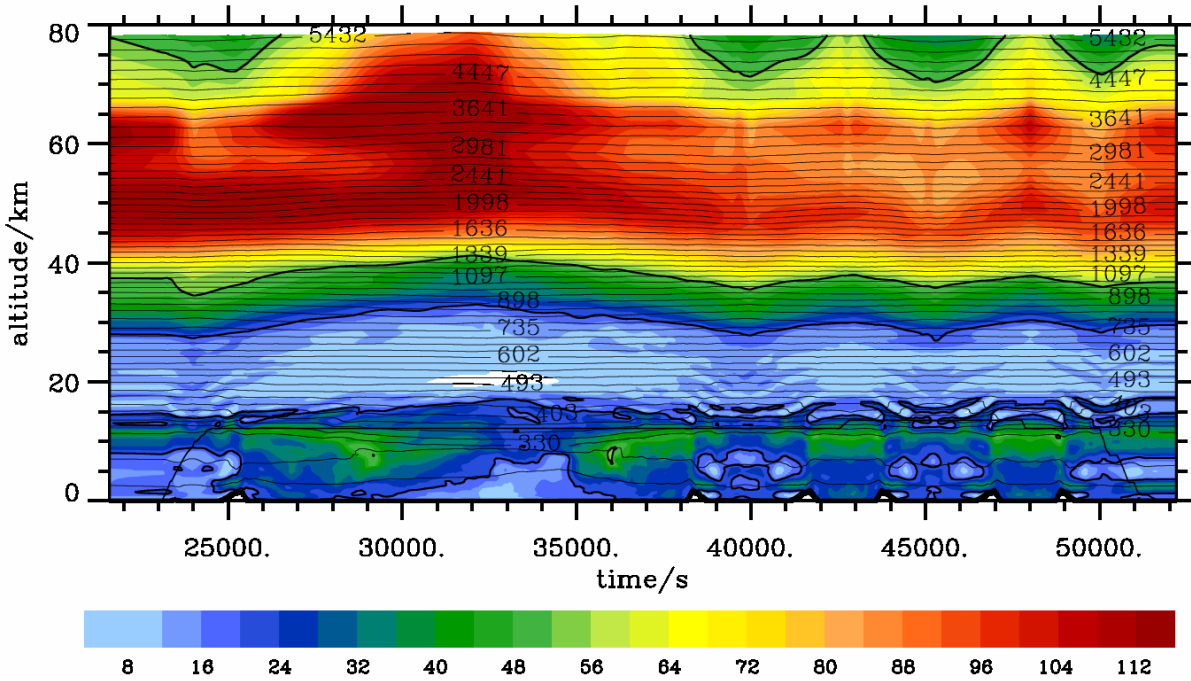


Figure RF09 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF09 on 24 June 2014.

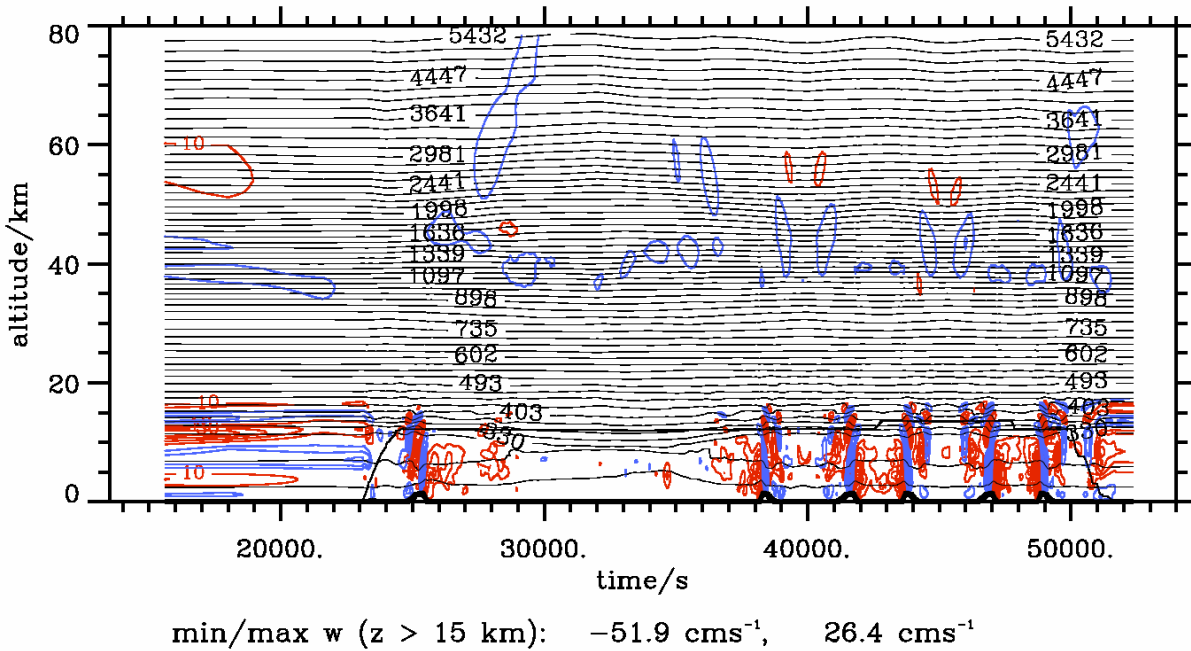


Figure RF09 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF09 on 24 June 2014.

Research Flight RF09 24 June 2014

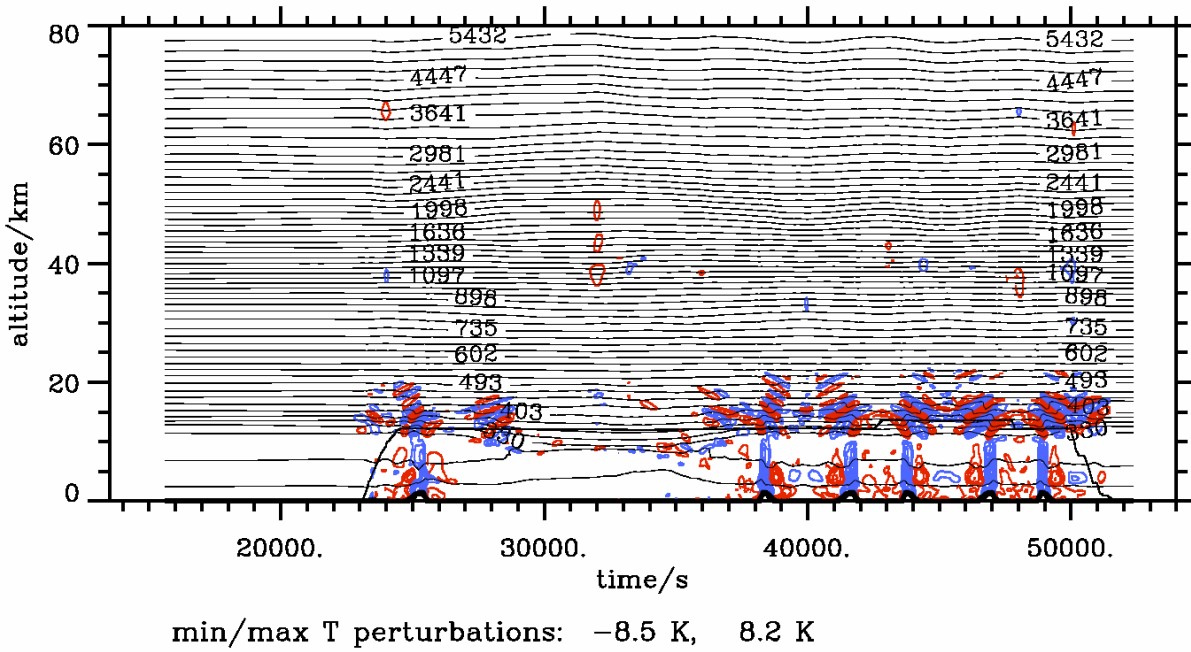


Figure RF09 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF09 on 24 June 2014.

Research Flight RF10 25 June 2014

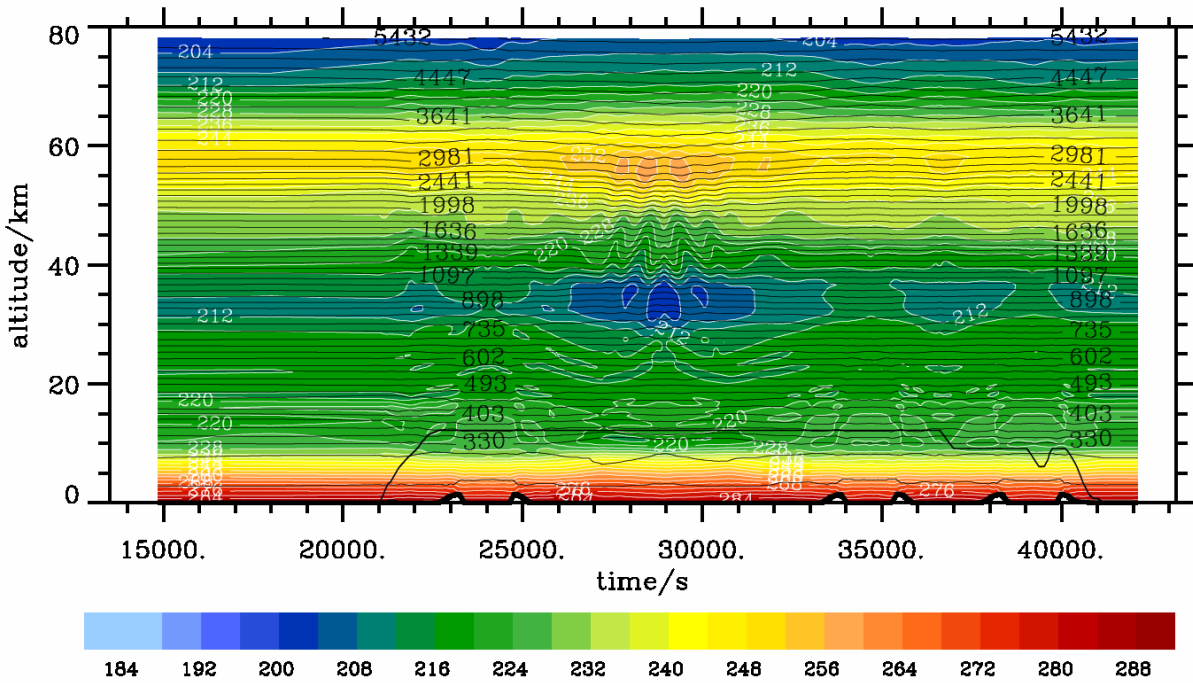


Figure RF10 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF10 on 25 June 2014.

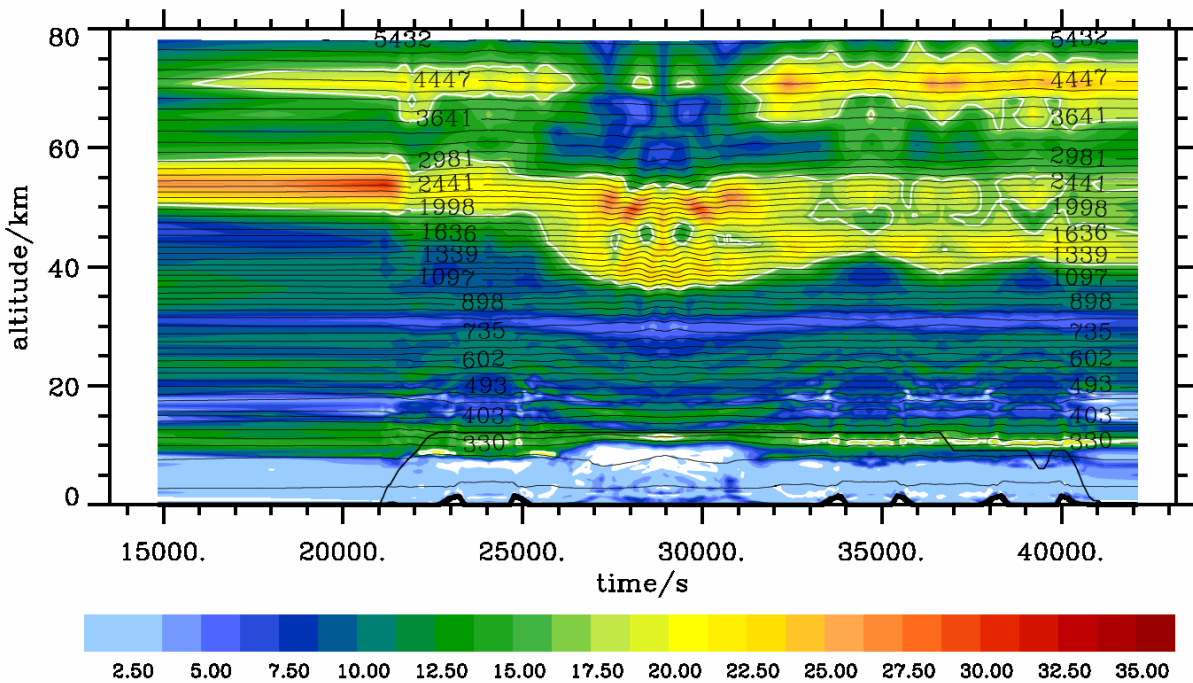


Figure RF10 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF10 on 25 June 2014.

Research Flight RF10 25 June 2014

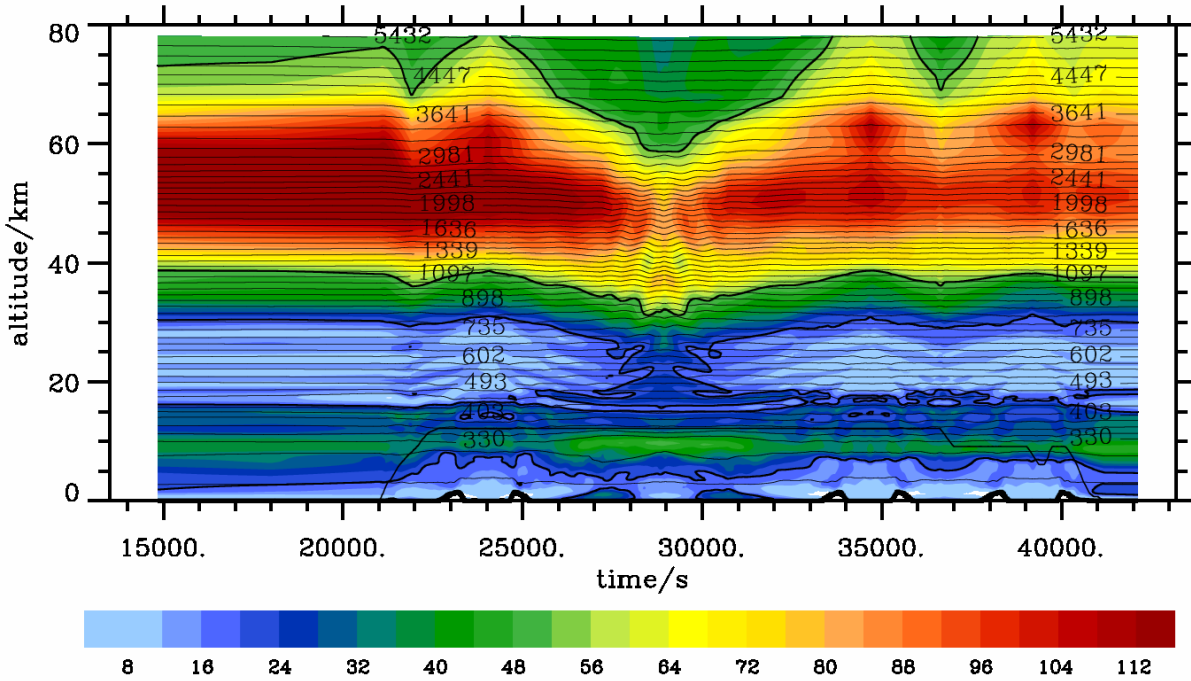


Figure RF10 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF10 on 25 June 2014.

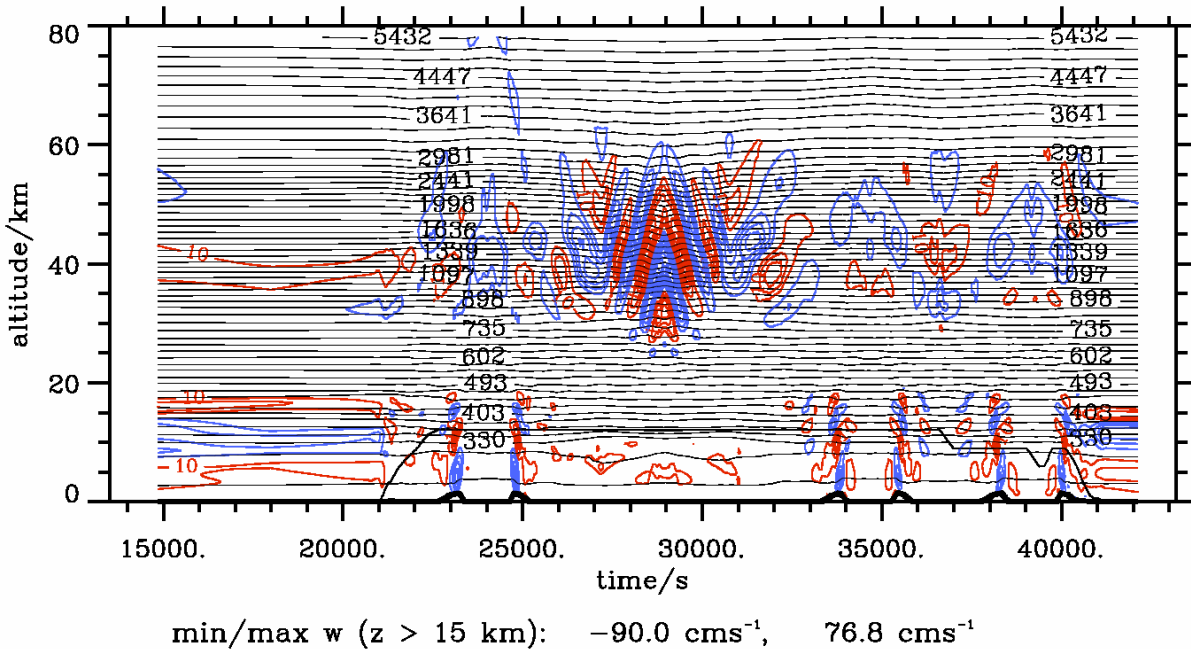


Figure RF10 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF10 on 25 June 2014.

Research Flight RF10 25 June 2014

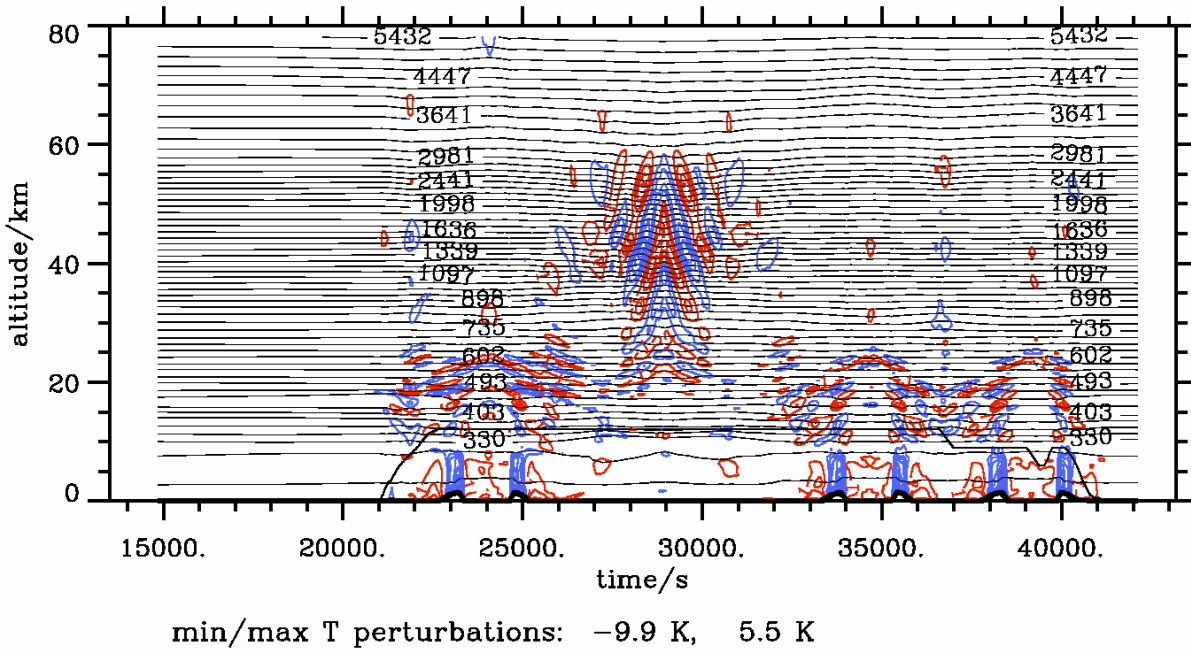


Figure RF10 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF10 on 25 June 2014.

Research Flight RF11 28 June 2014

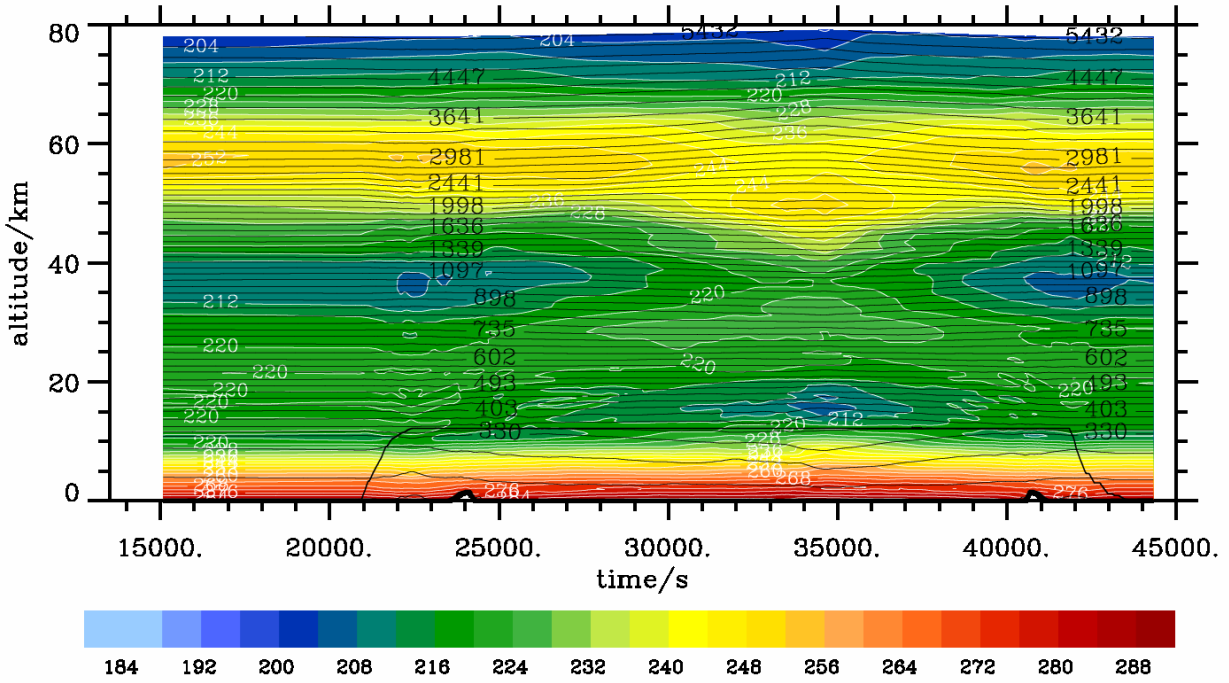


Figure RF11 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF11 on 28 June 2014.

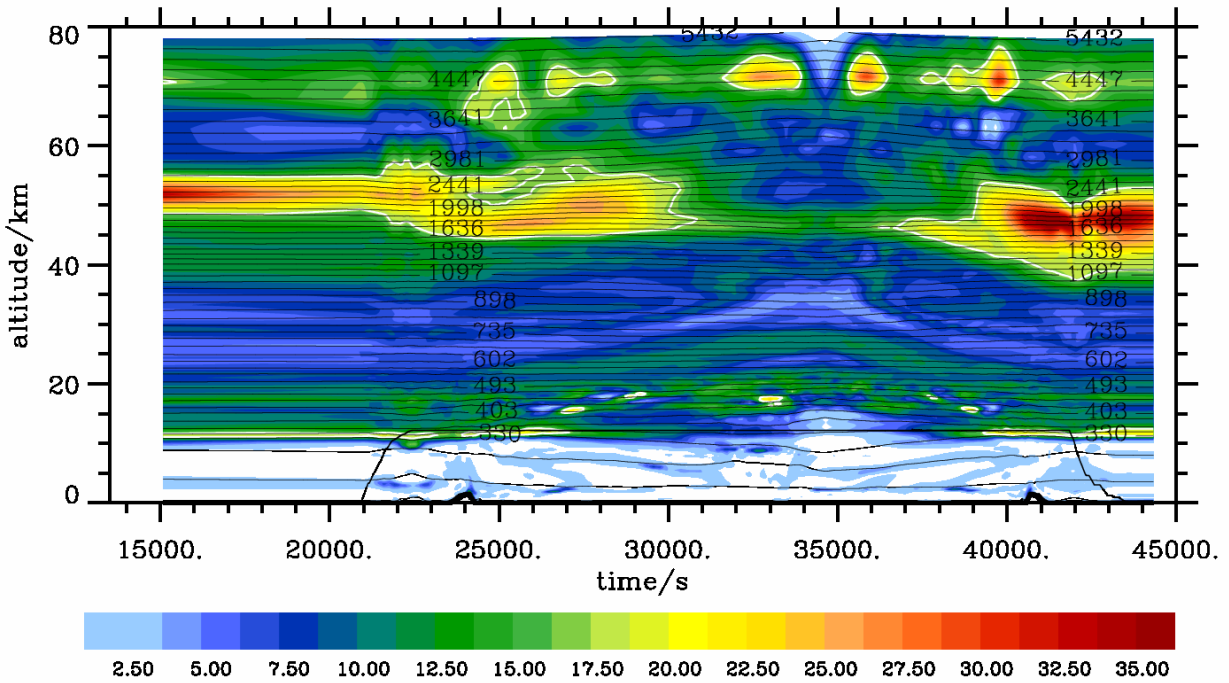


Figure RF11 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF11 on 28 June 2014.

Research Flight RF11 28 June 2014

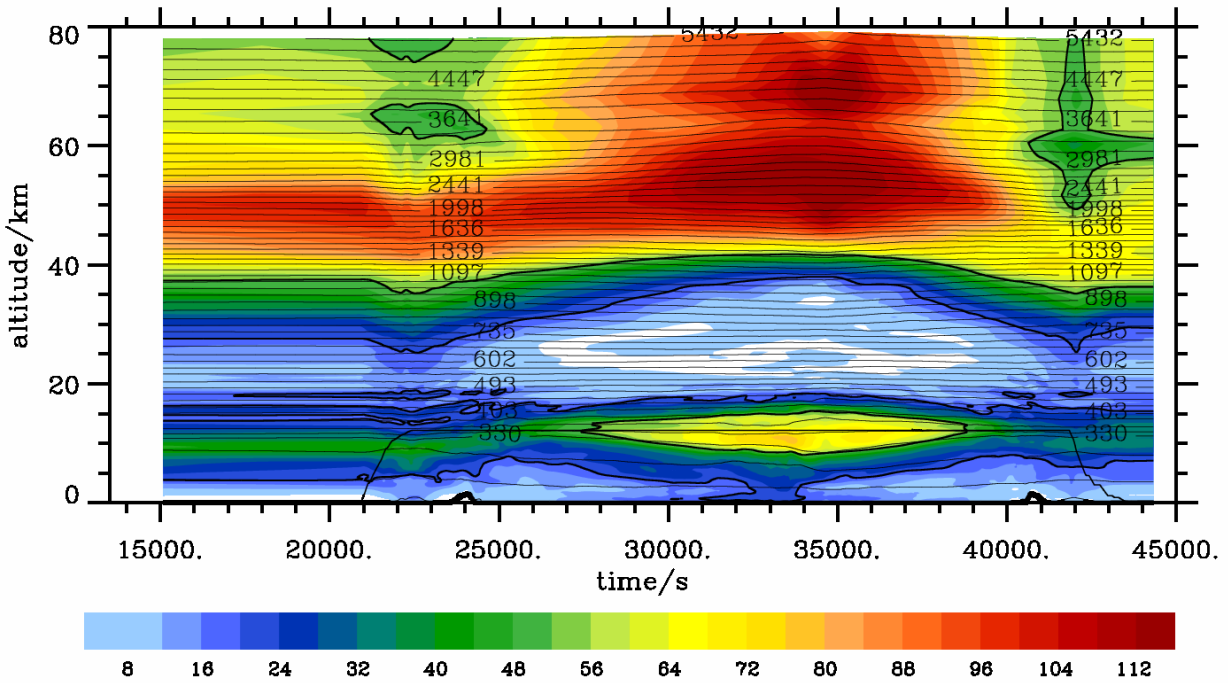


Figure RF11 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF11 on 28 June 2014.

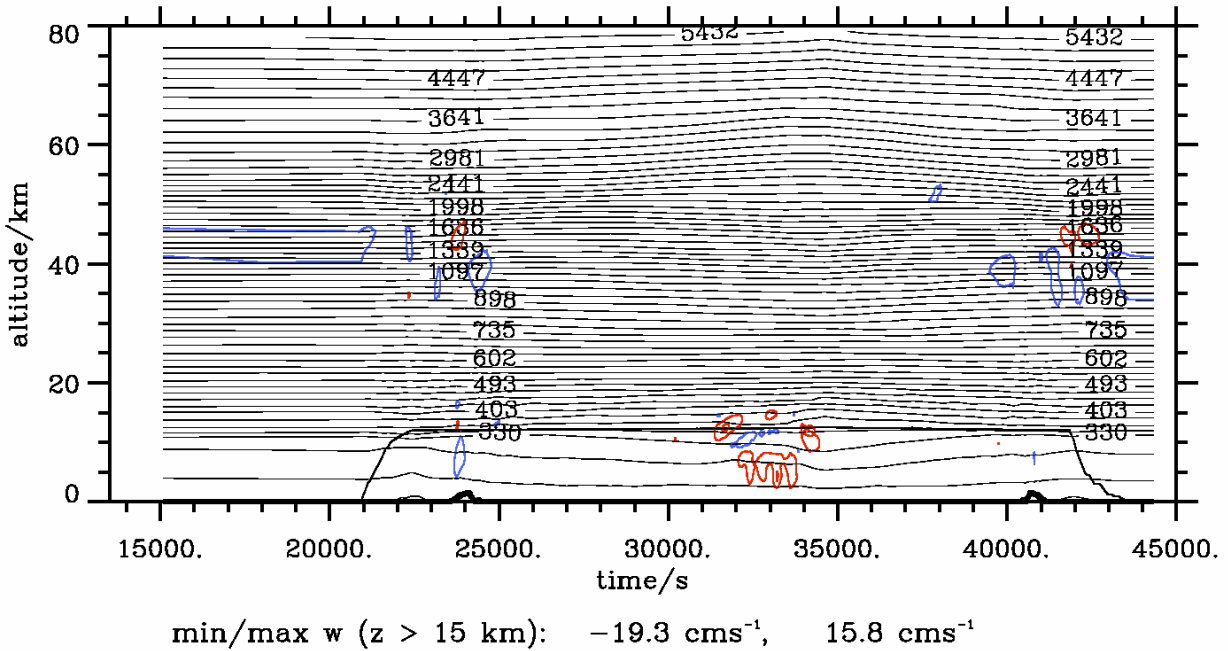


Figure RF11 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF11 on 28 June 2014.

Research Flight RF11 28 June 2014

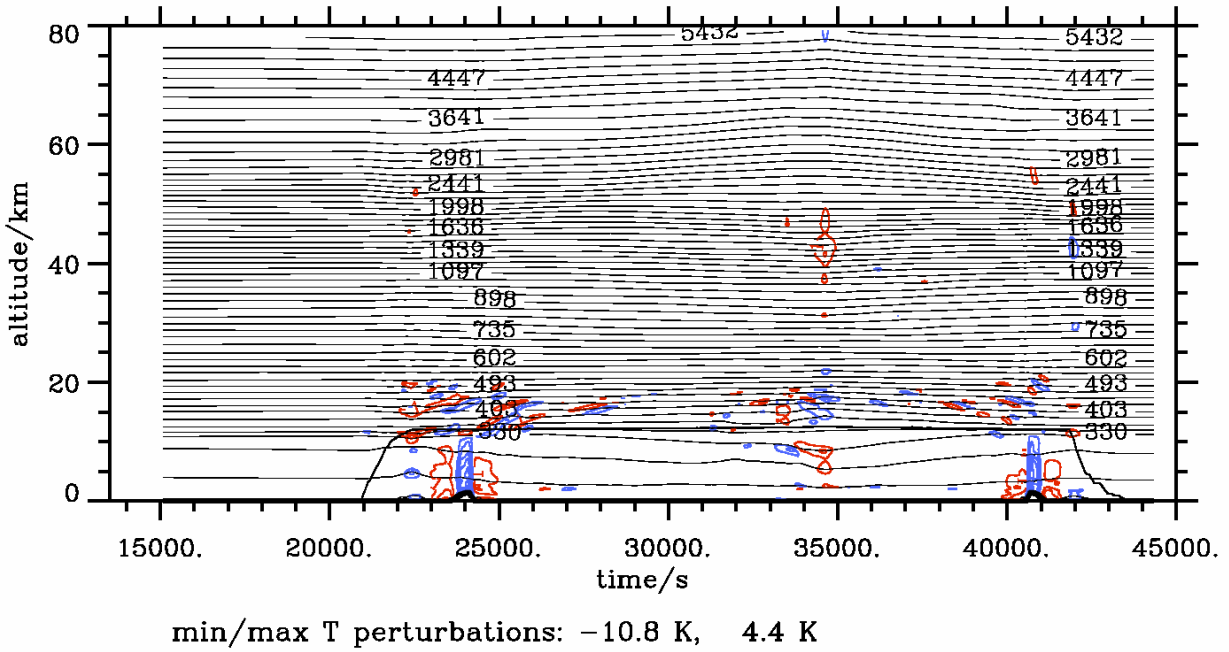


Figure RF11 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF11 on 28 June 2014.

Research Flight RF12 29 June 2014

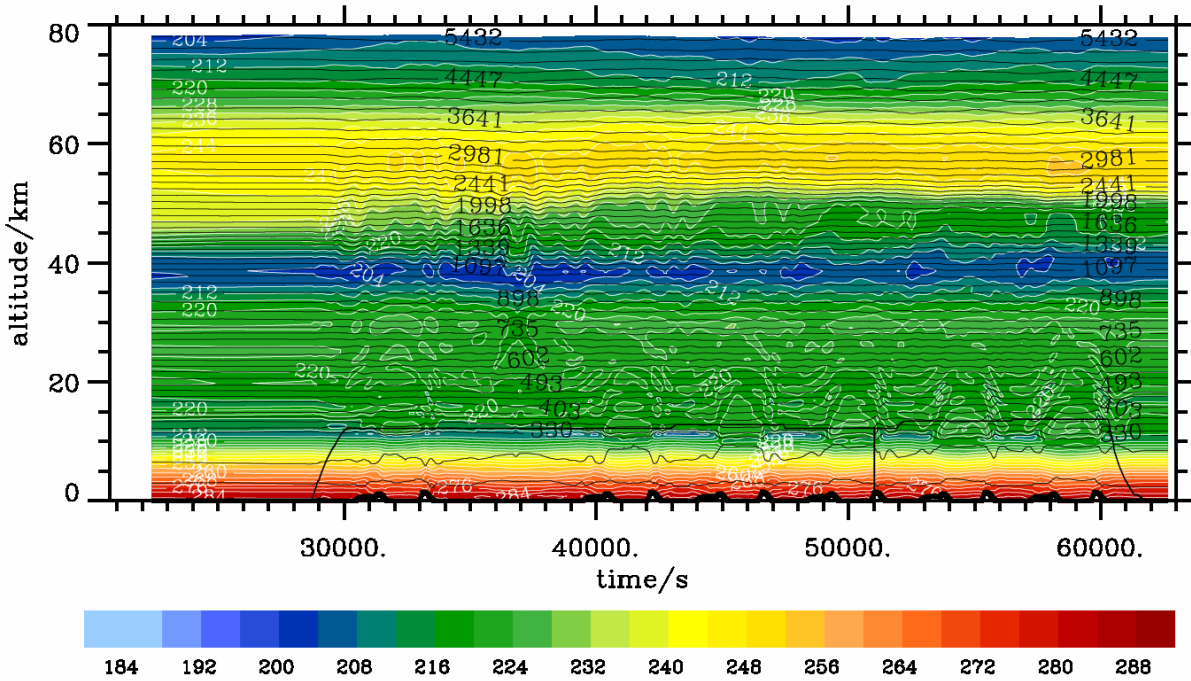


Figure RF12 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF12 on 29 June 2014.

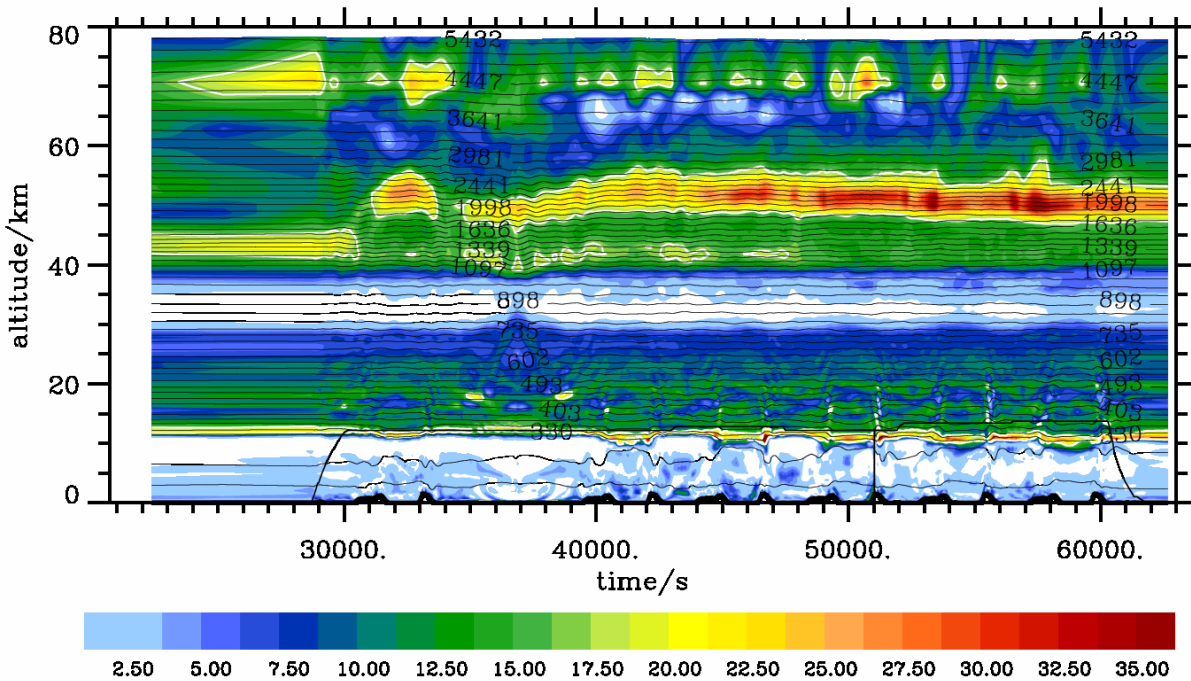


Figure RF12 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF12 on 29 June 2014.

Research Flight RF12 29 June 2014

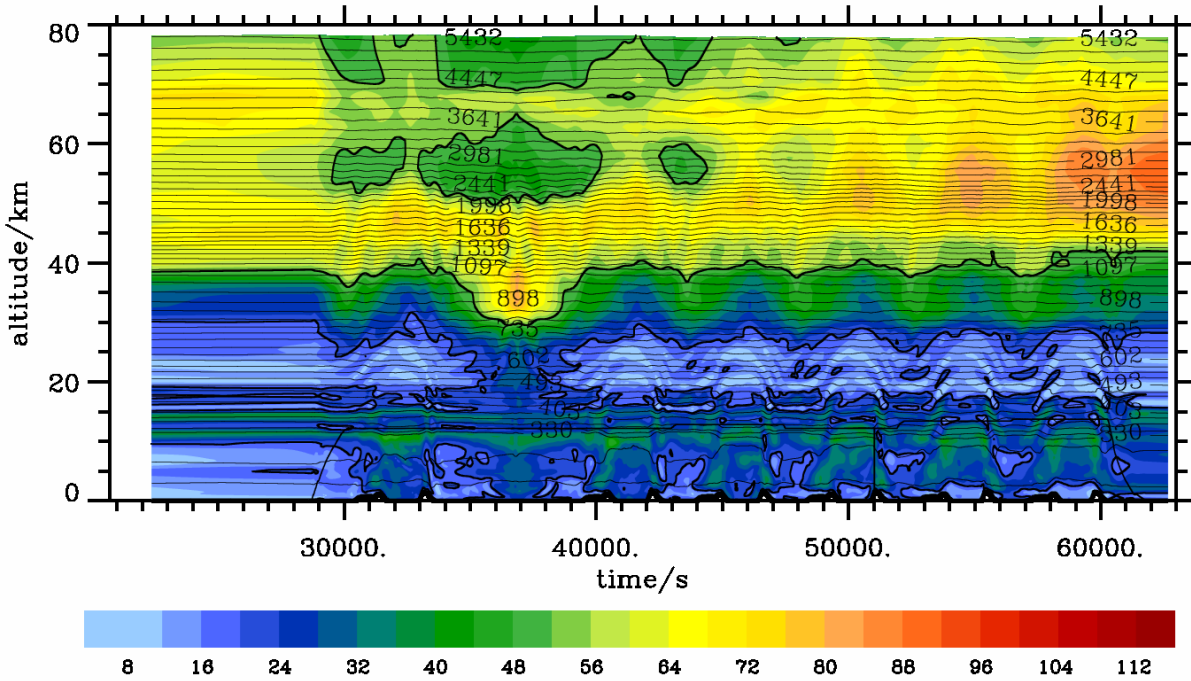


Figure RF12 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF12 on 29 June 2014.

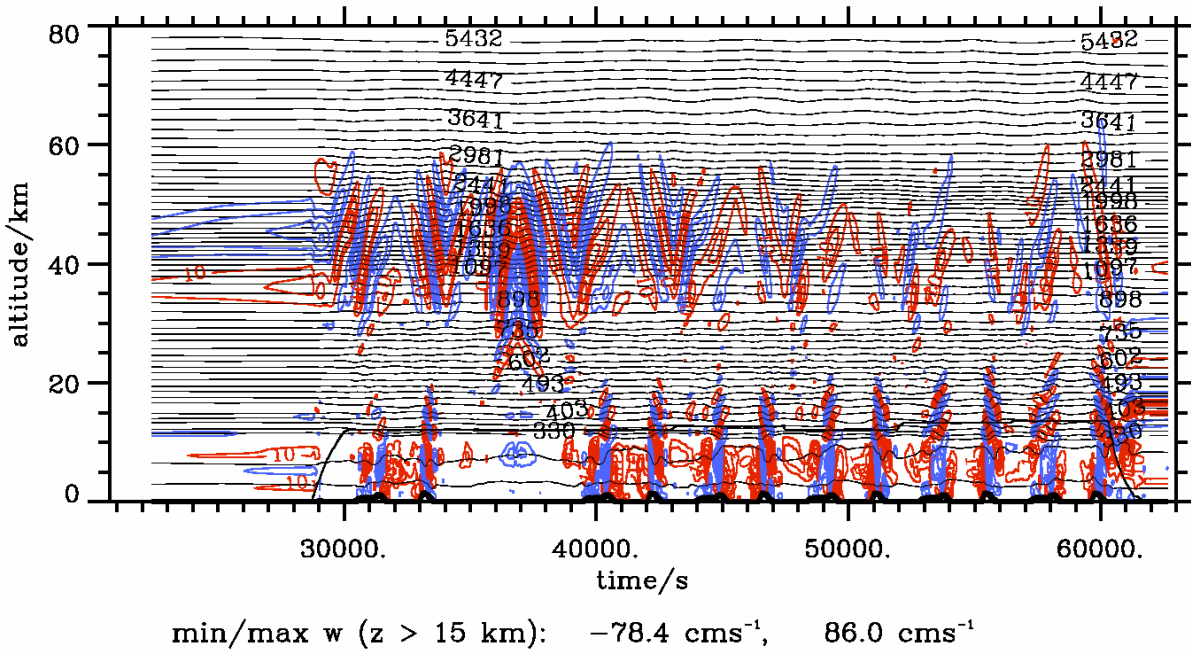


Figure RF12 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF12 on 29 June 2014.

Research Flight RF12 29 June 2014

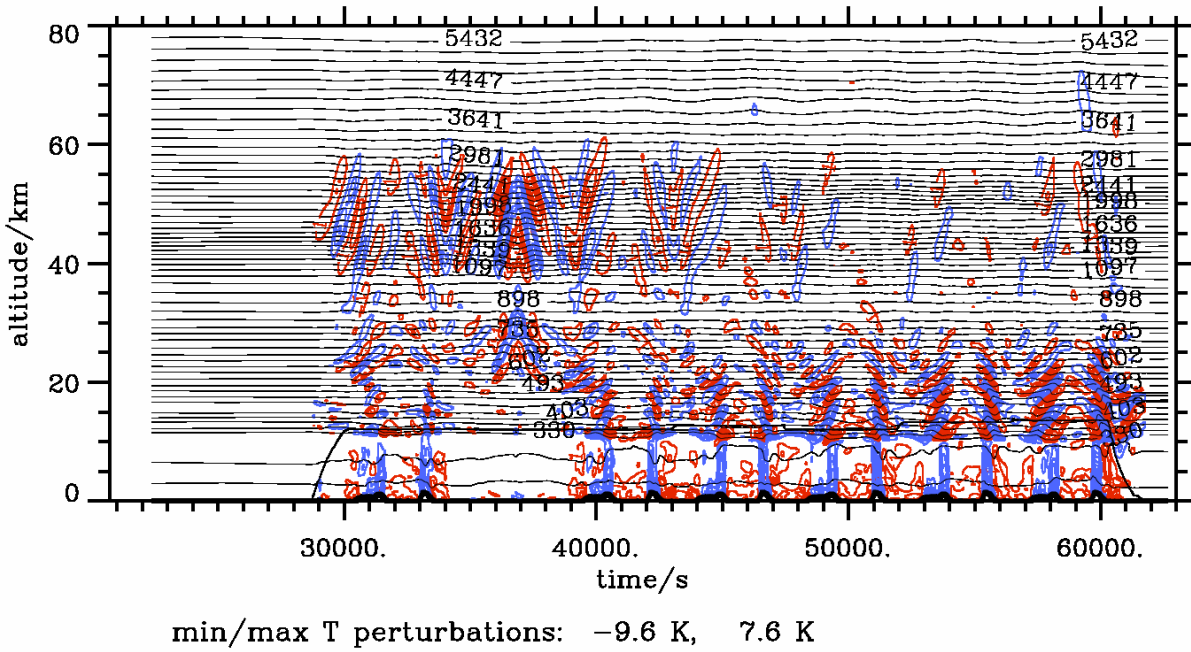


Figure RF12 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF12 on 29 June 2014.

Research Flight RF13 30 June 2014

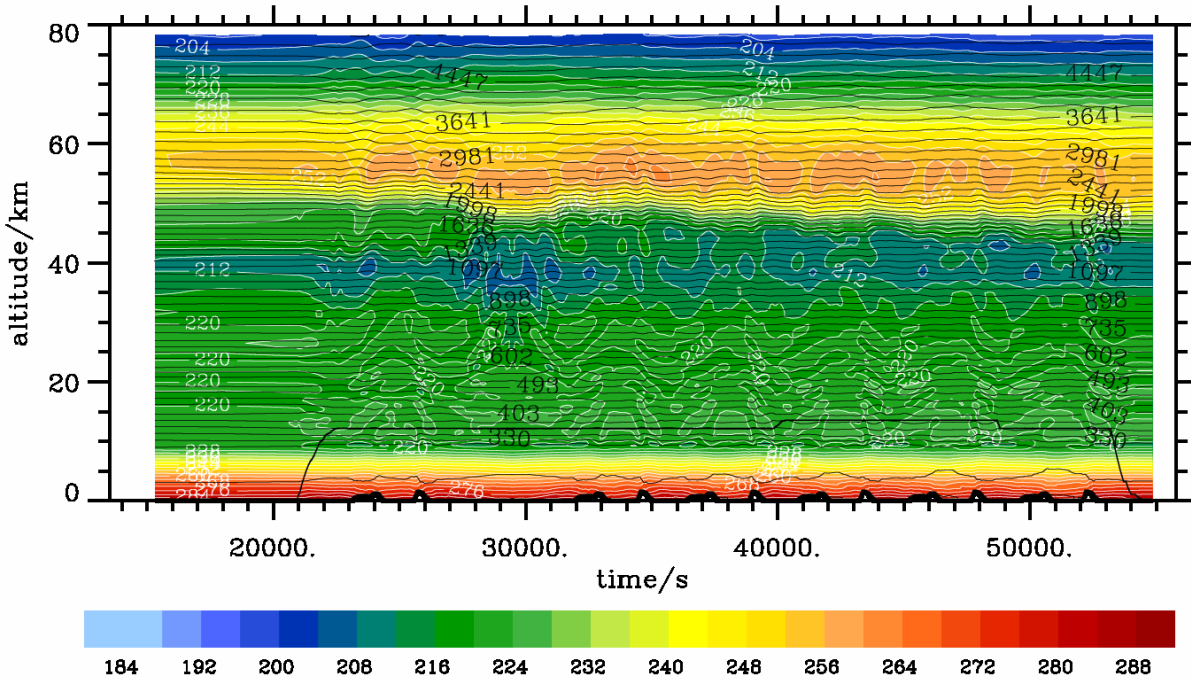


Figure RF13 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF13 on 30 June 2014.

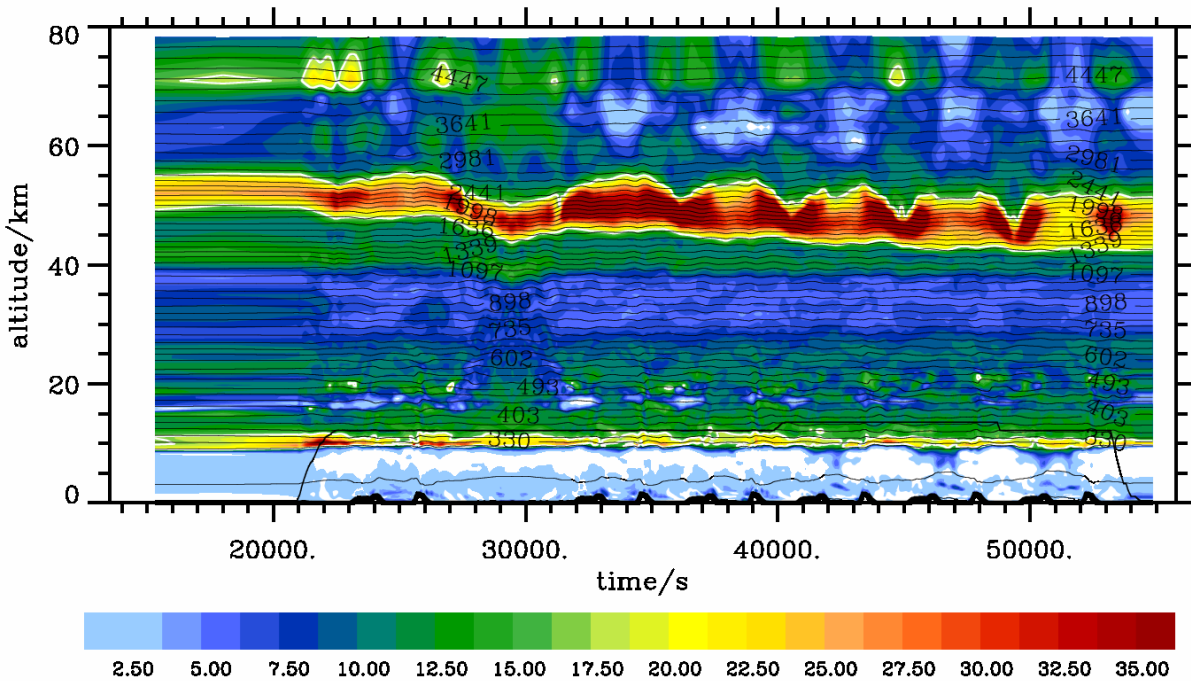


Figure RF13 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF13 on 30 June 2014.

Research Flight RF13 30 June 2014

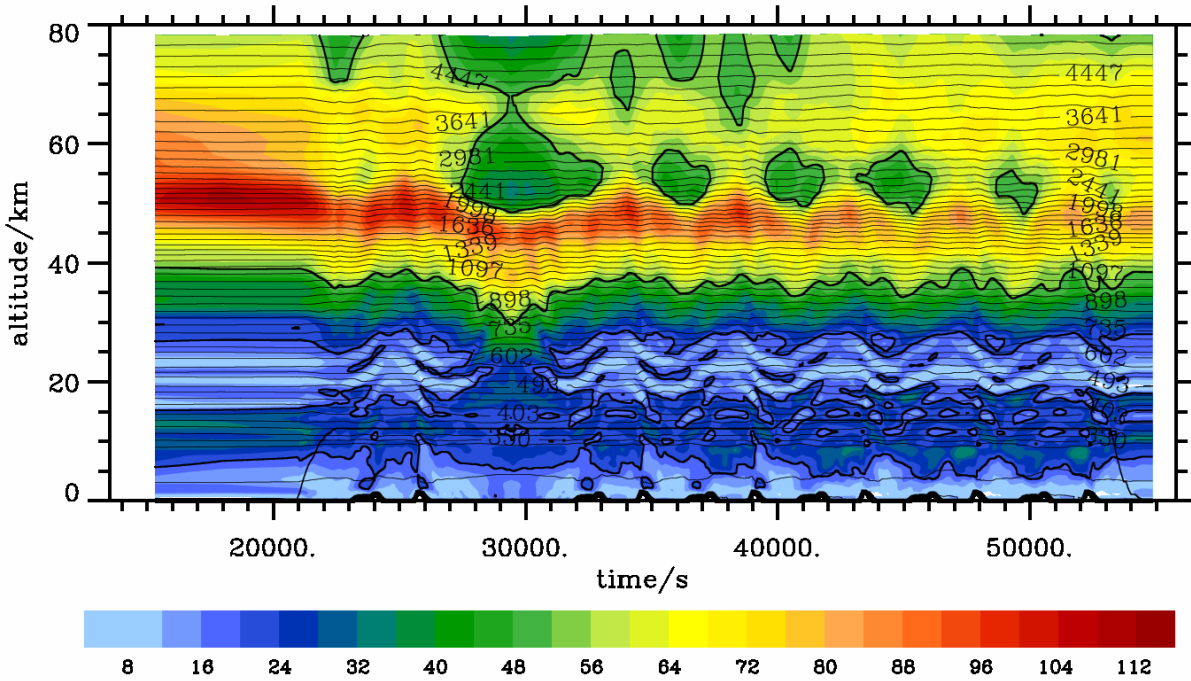


Figure RF13 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF13 on 30 June 2014.

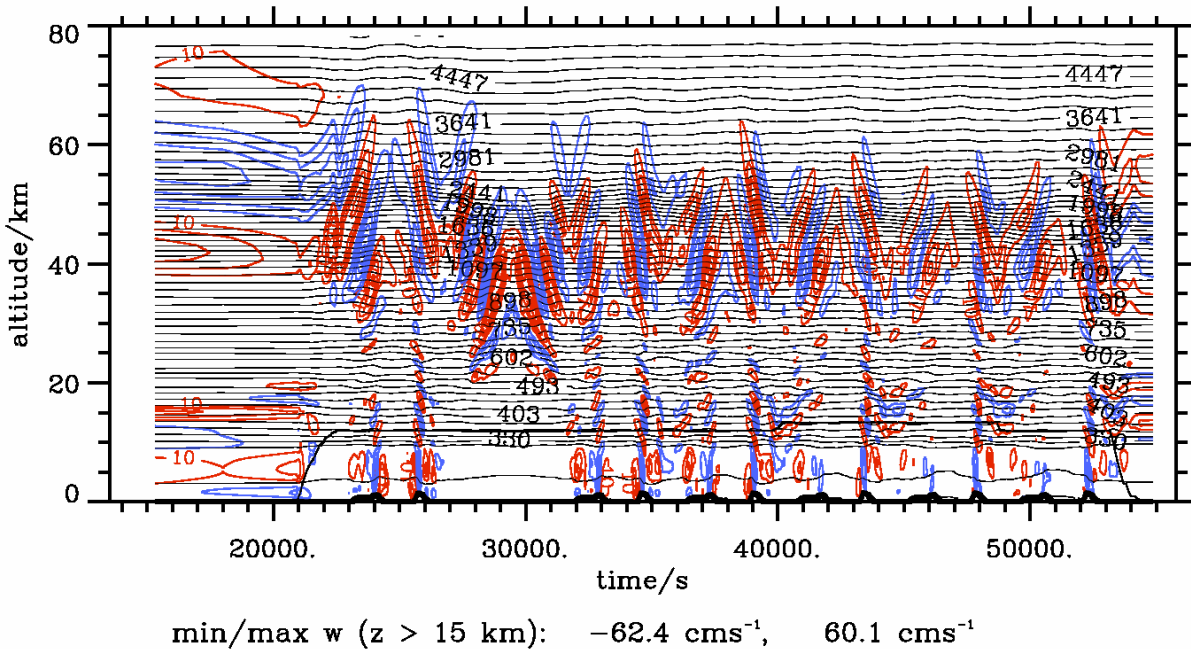


Figure RF13 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF13 on 30 June 2014.

Research Flight RF13 30 June 2014

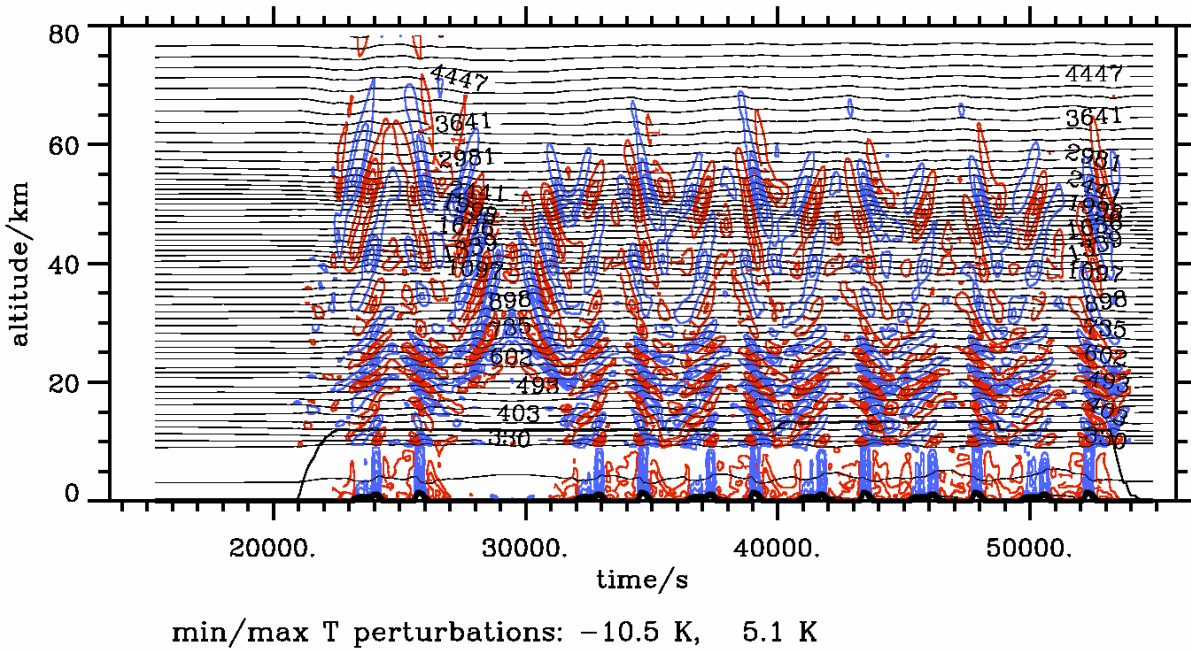


Figure RF13 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF13 on 30 June 2014.

Research Flight RF14 1 July 2014

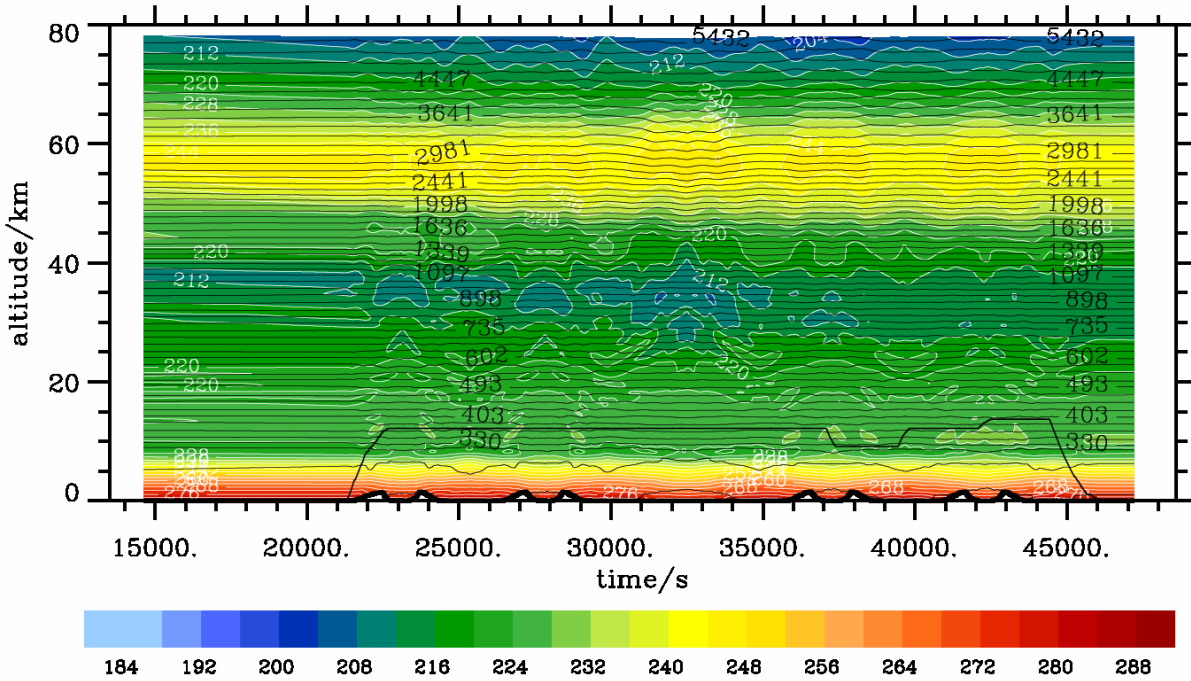


Figure RF14 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF14 on 1 July 2014.

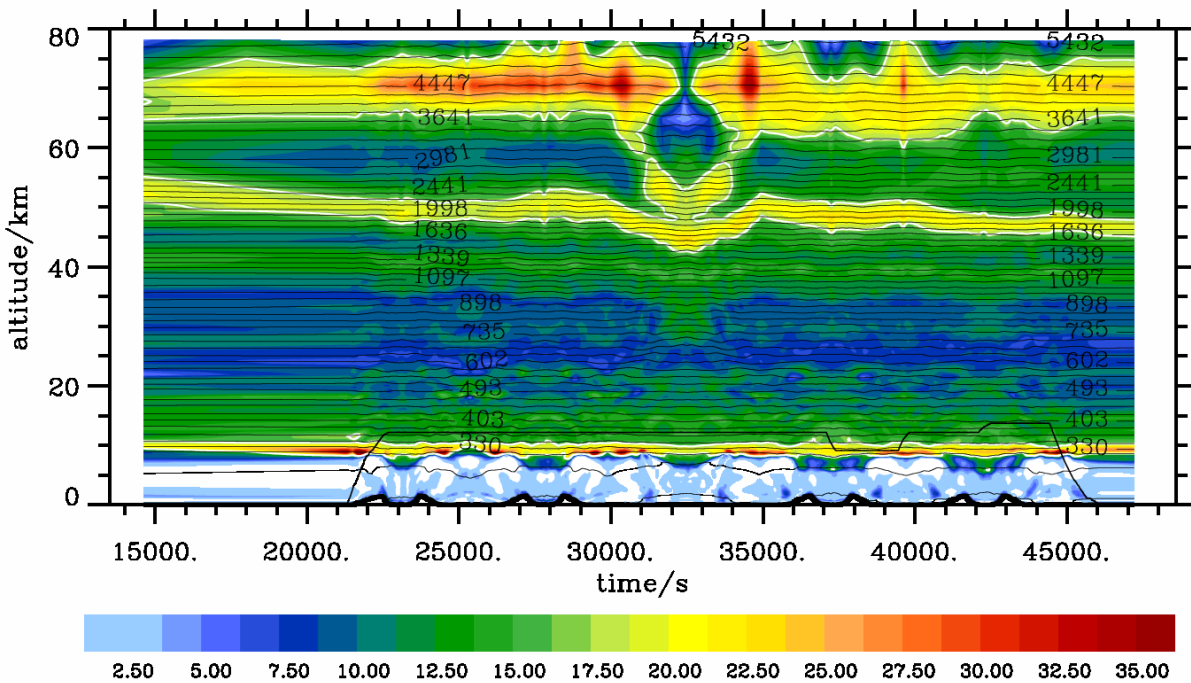


Figure RF14 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF14 on 1 July 2014.

Research Flight RF14 1 July 2014

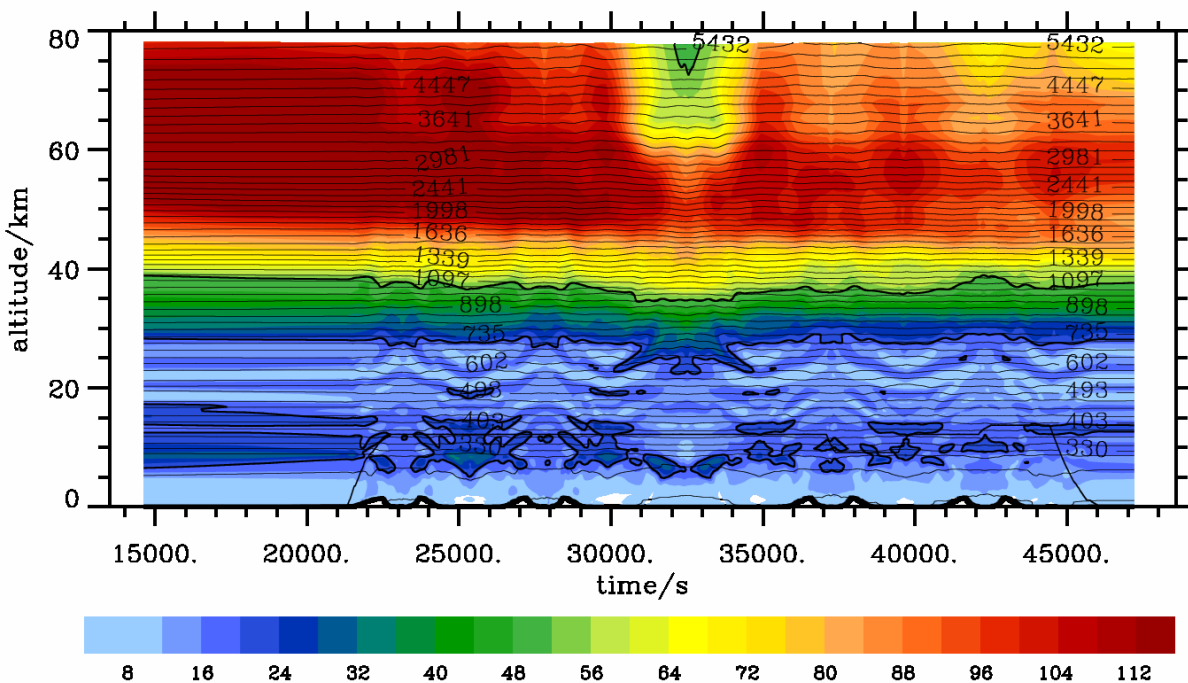


Figure RF14 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF14 on 1 July 2014.

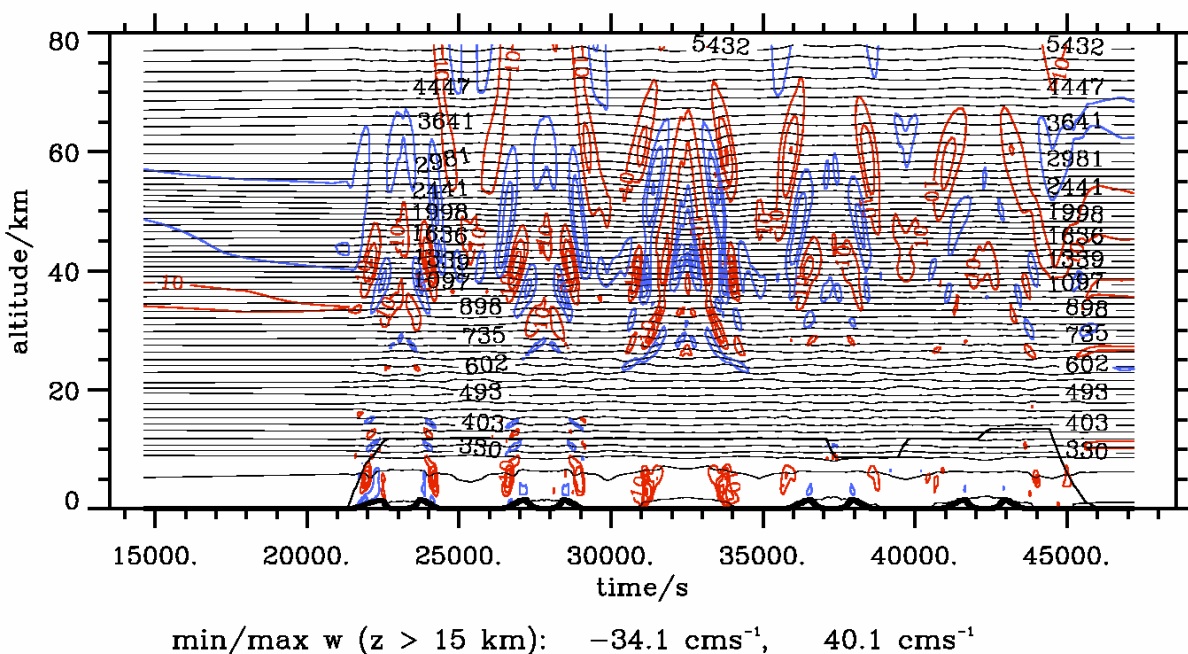


Figure RF14 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF14 on 1 July 2014.

Research Flight RF14 1 July 2014

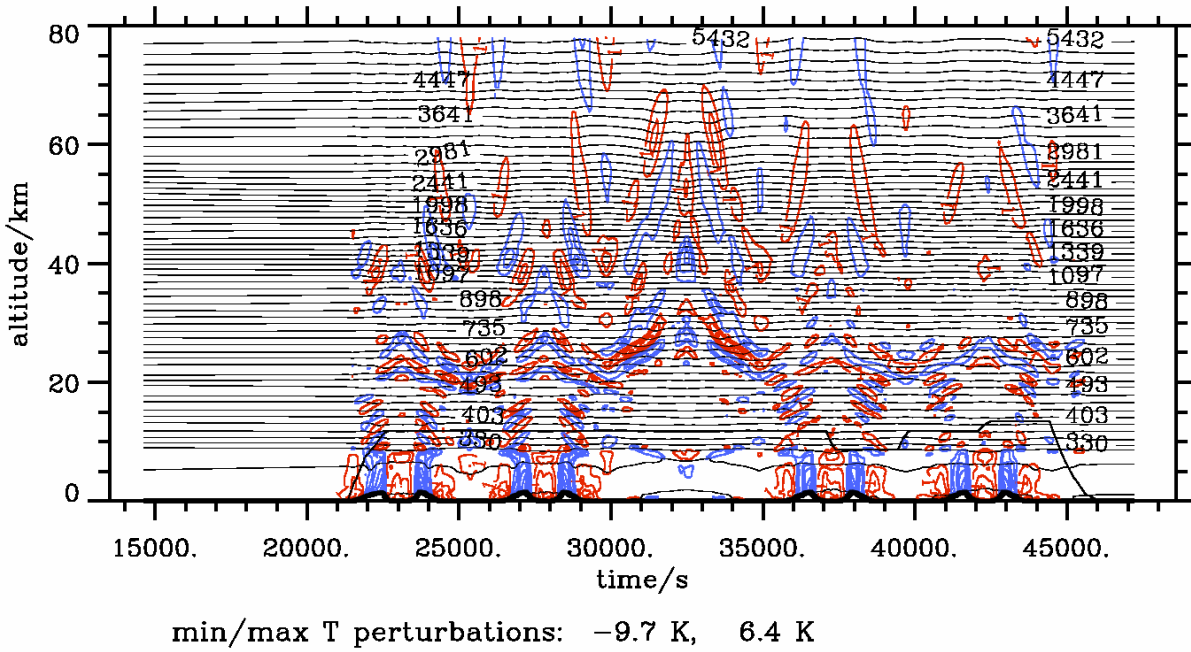


Figure RF14 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF14 on 1 July 2014.

Research Flight RF15 2 July 2014

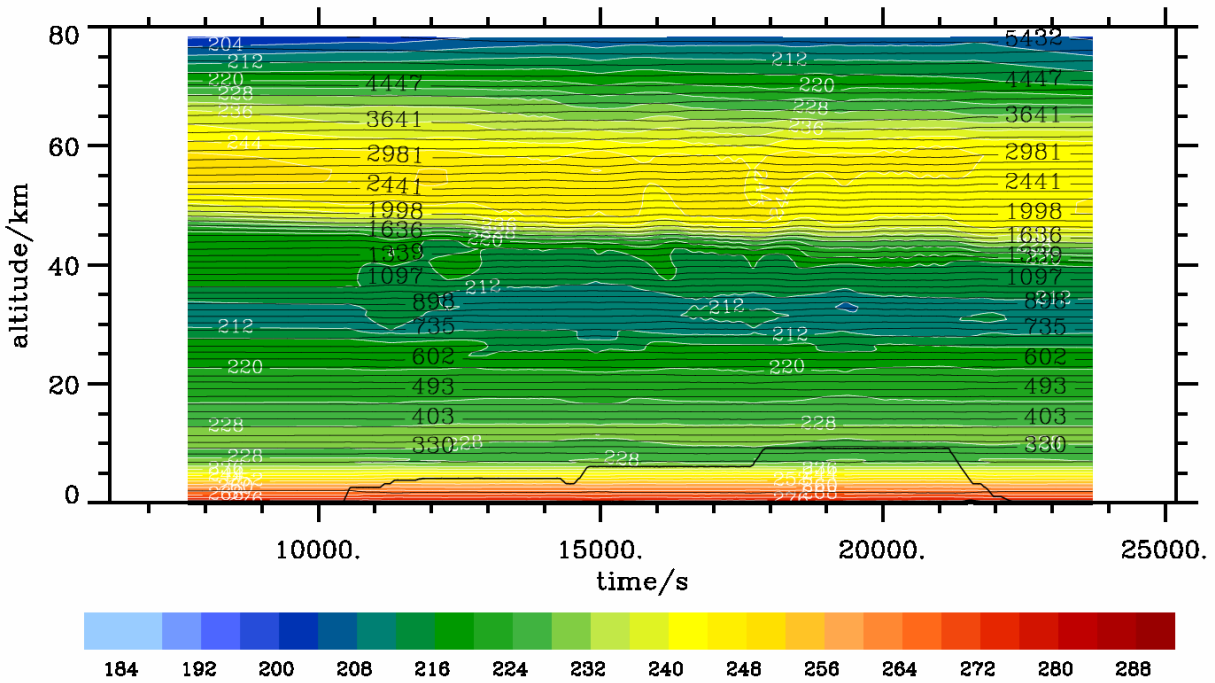


Figure RF15 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF15 on 2 July 2014.

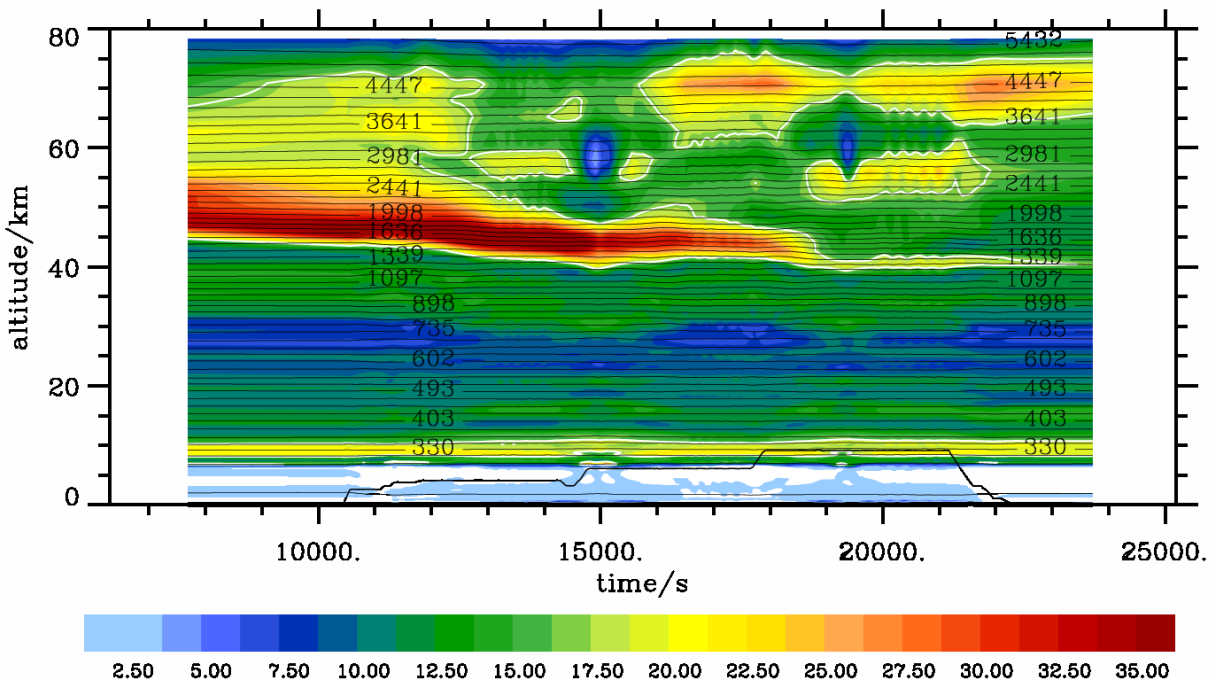


Figure RF15 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF15 on 2 July 2014.

Research Flight RF15 2 July 2014

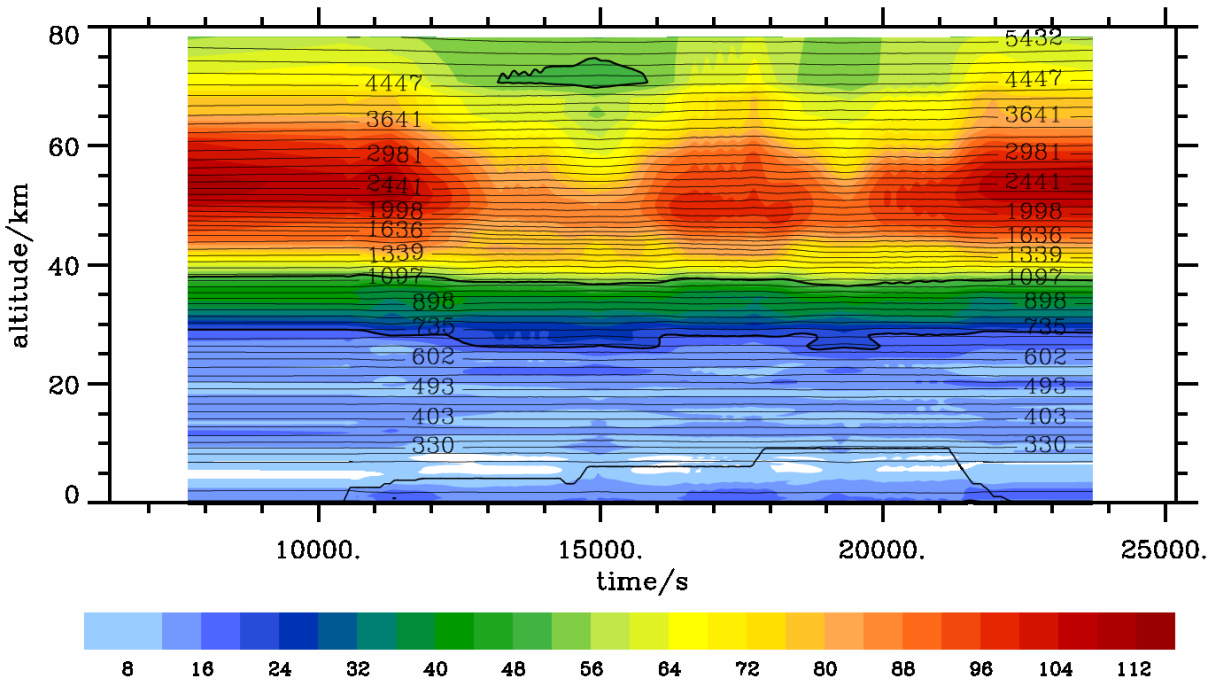


Figure RF15 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF15 on 2 July 2014.

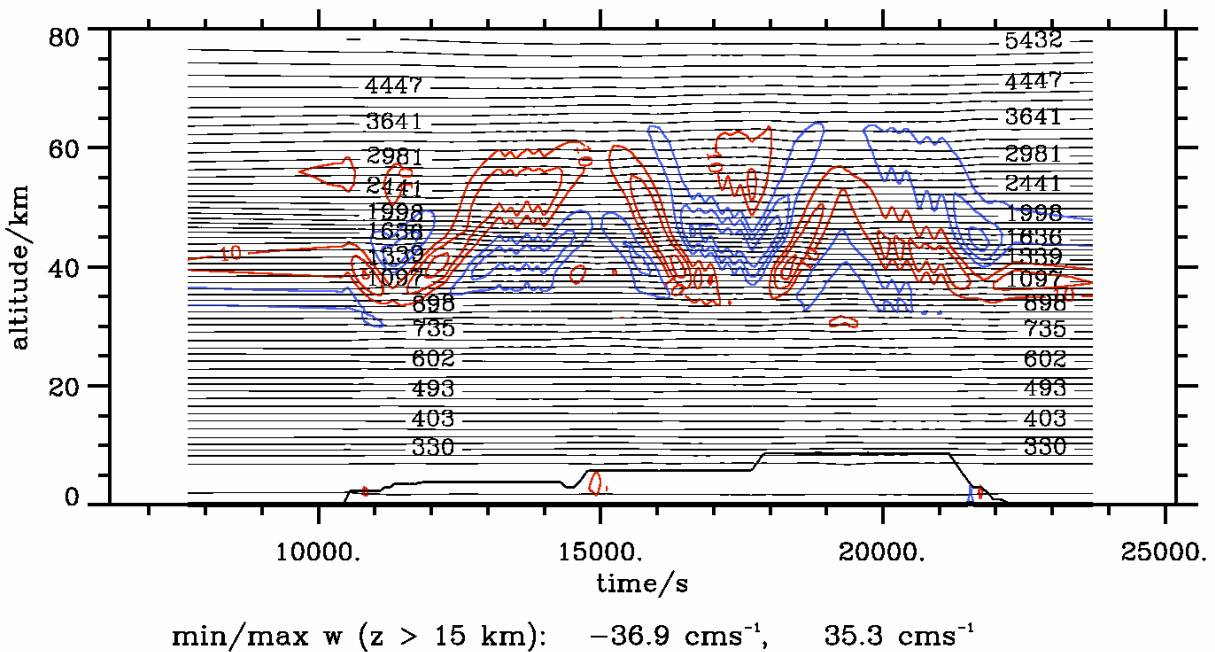


Figure RF15 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF15 on 2 July 2014.

Research Flight RF15 2 July 2014

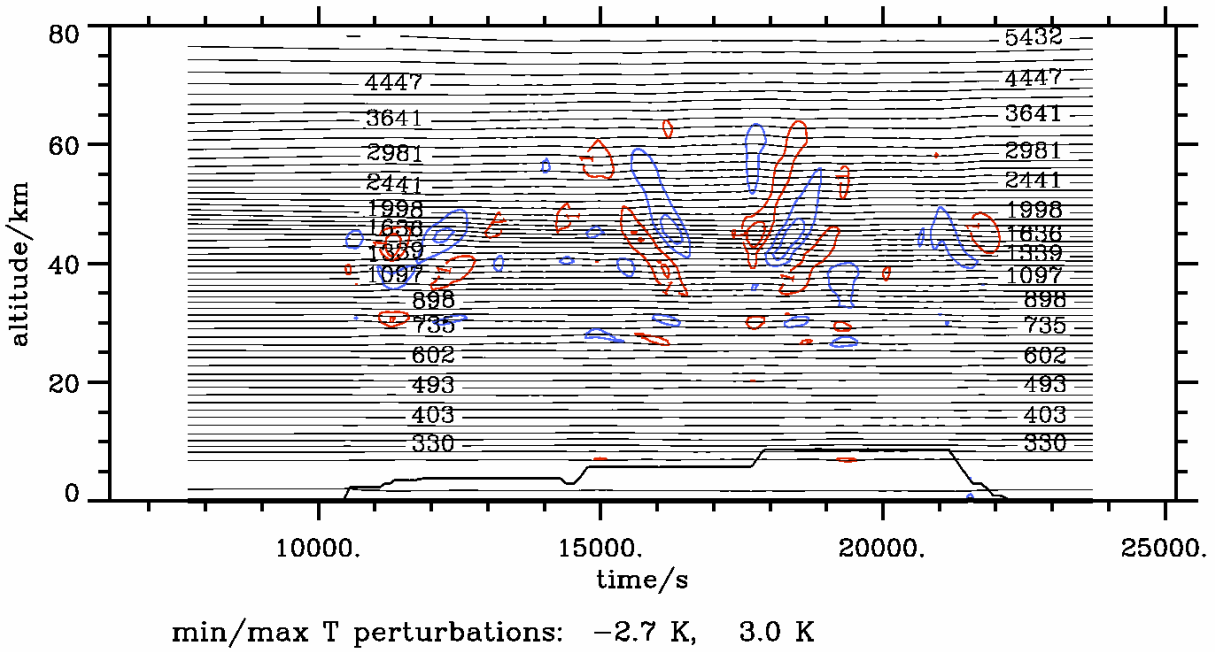


Figure RF15 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF15 on 2 July 2014.

Research Flight RF16 4 July 2014

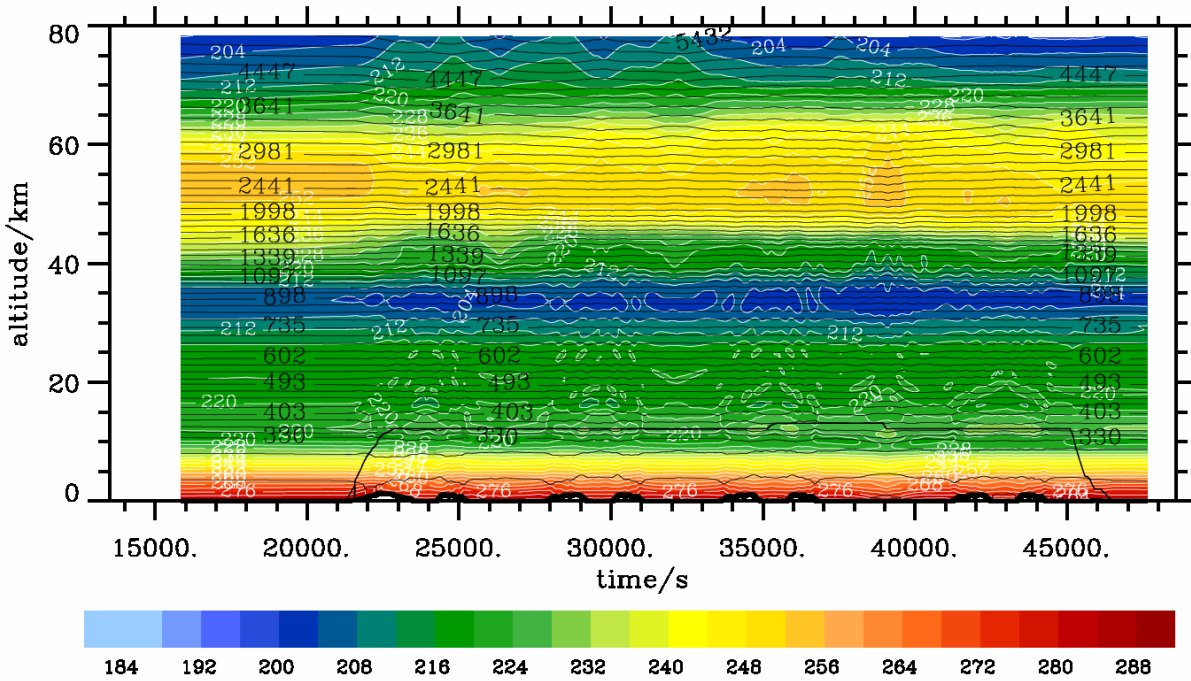


Figure RF16 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF16 on 4 July 2014.

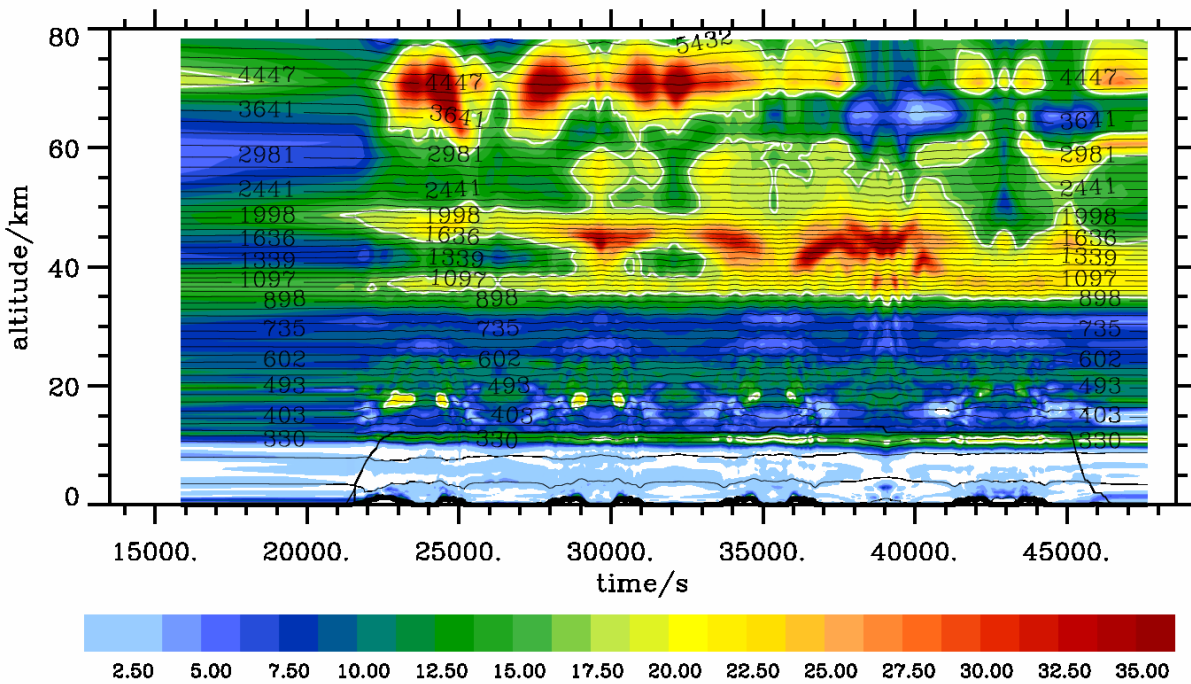


Figure RF16 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF16 on 4 July 2014.

Research Flight RF16 4 July 2014

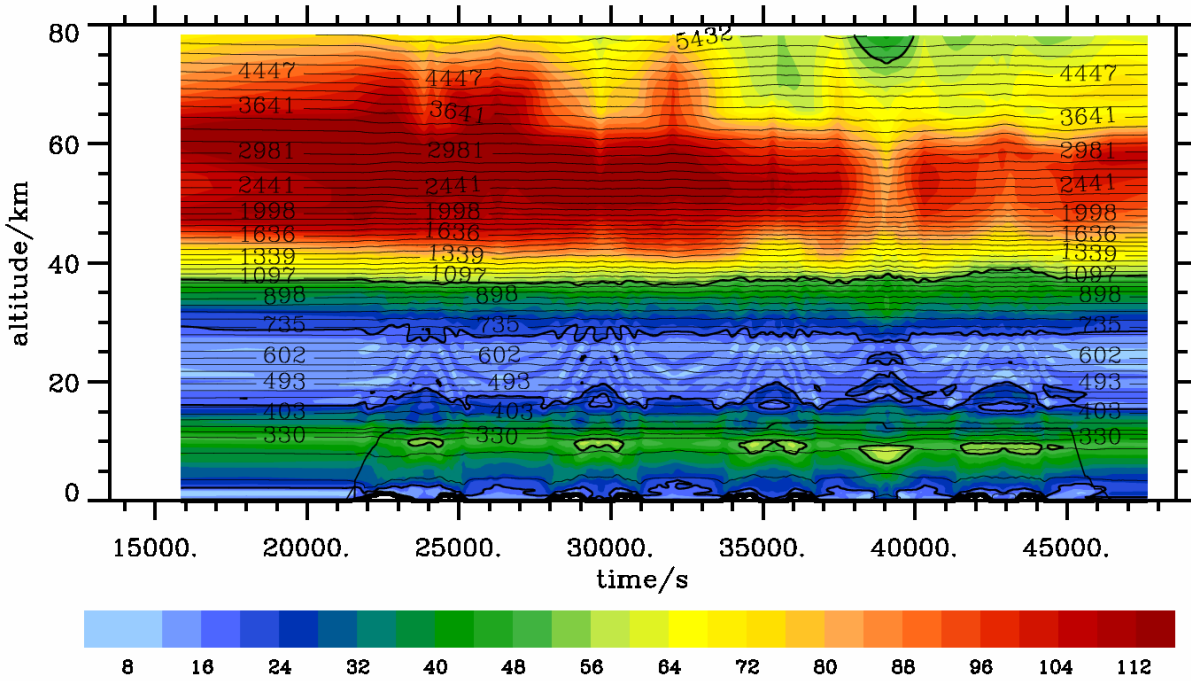


Figure RF16 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF16 on 4 July 2014.

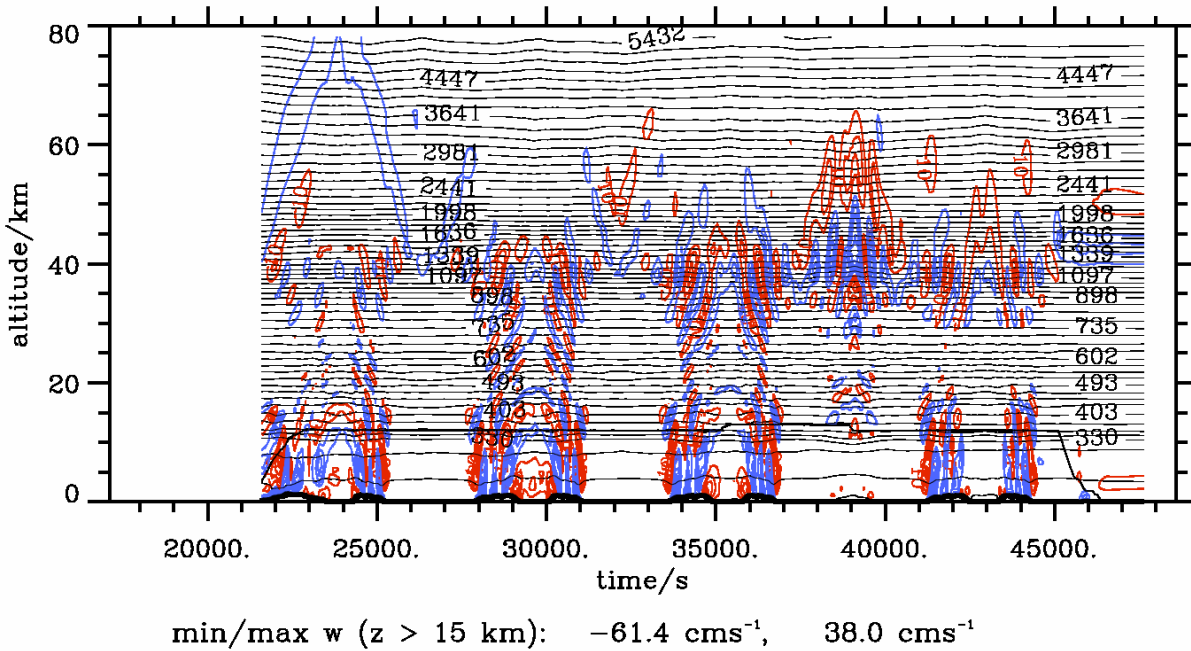


Figure RF16 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF16 on 4 July 2014.

Research Flight RF16 4 July 2014

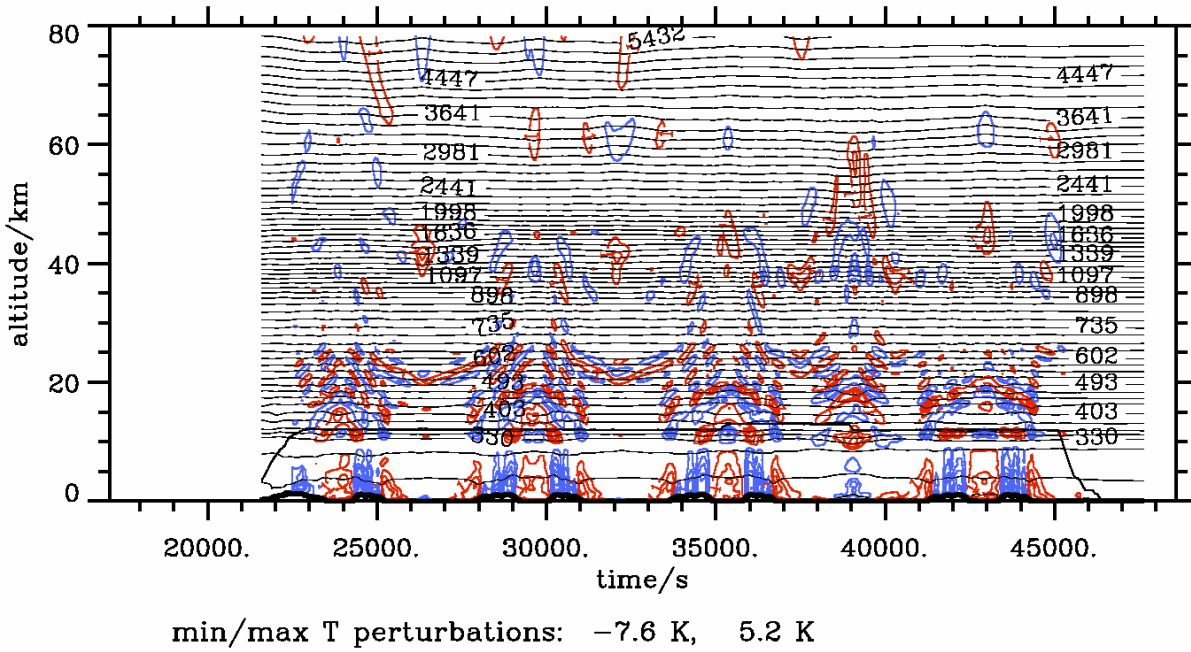


Figure RF16 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF16 on 4 July 2014.

Research Flight RF17 5 July 2014

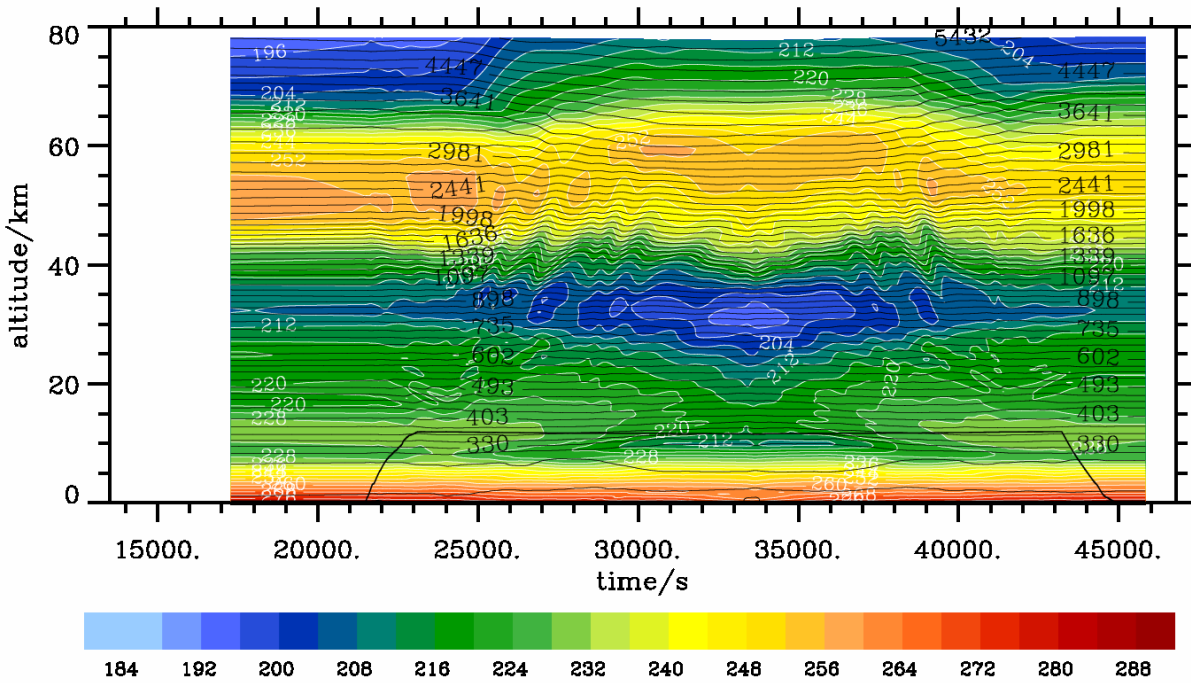


Figure RF17 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF17 on 5 July 2014.

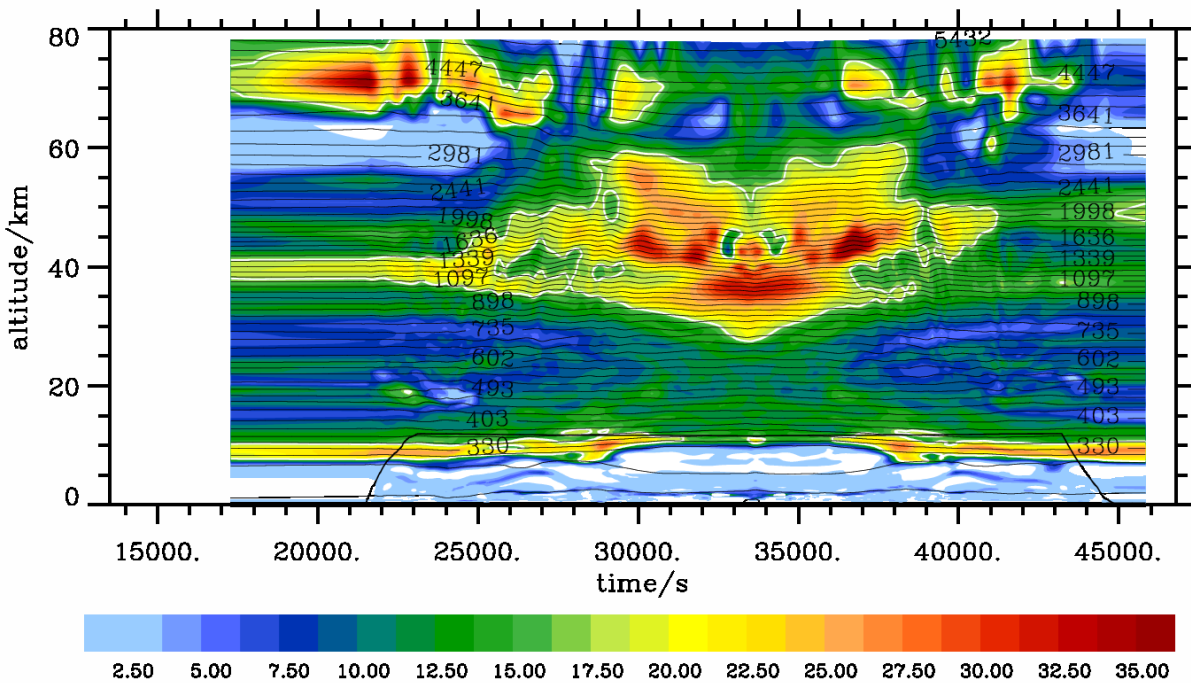


Figure RF17 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF17 on 5 July 2014.

Research Flight RF17 5 July 2014

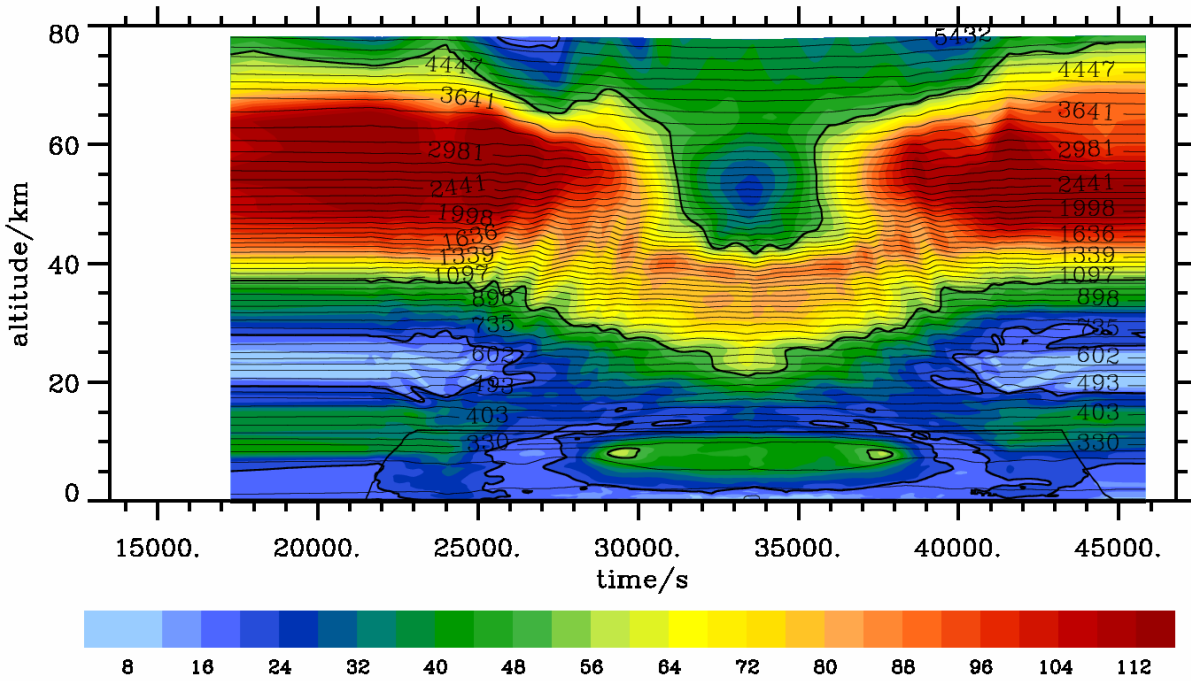


Figure RF17 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF17 on 5 July 2014.

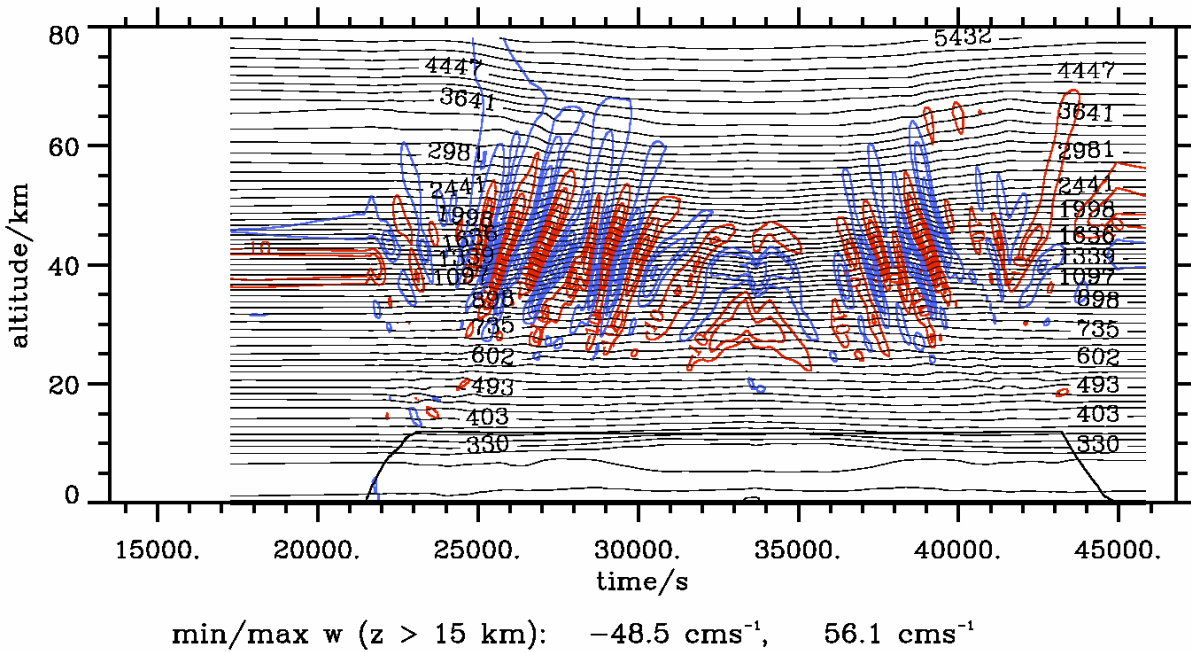


Figure RF17 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF17 on 5 July 2014.

Research Flight RF17 5 July 2014

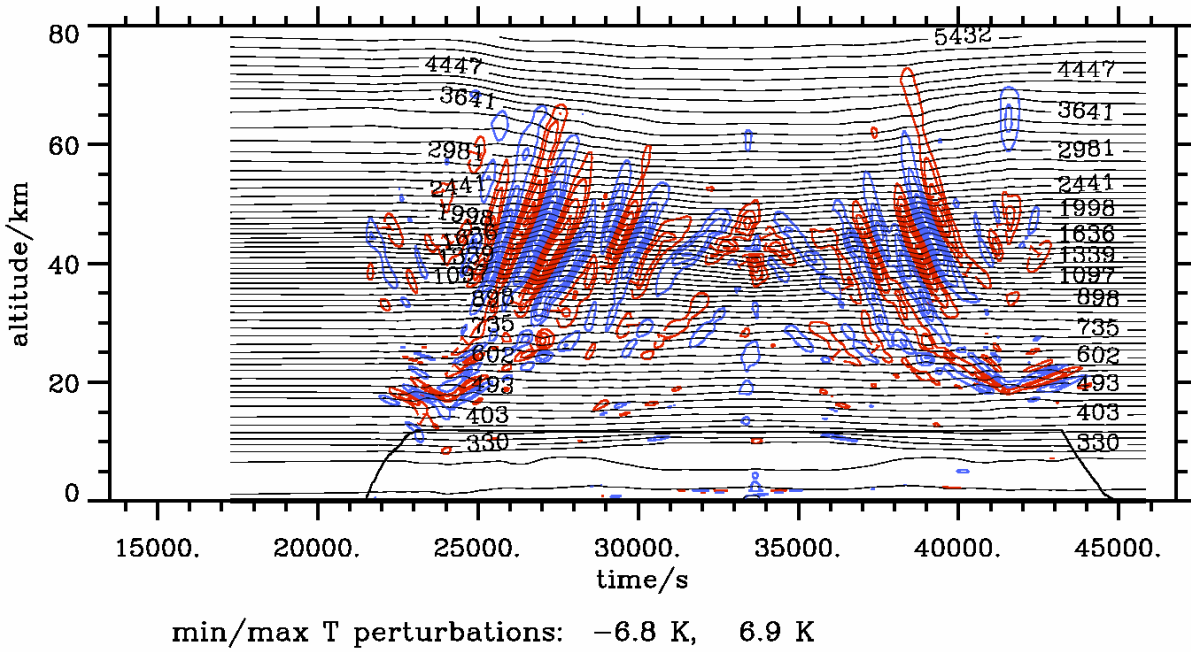


Figure RF17 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF17 on 5 July 2014.

Research Flight RF18 7 July 2014

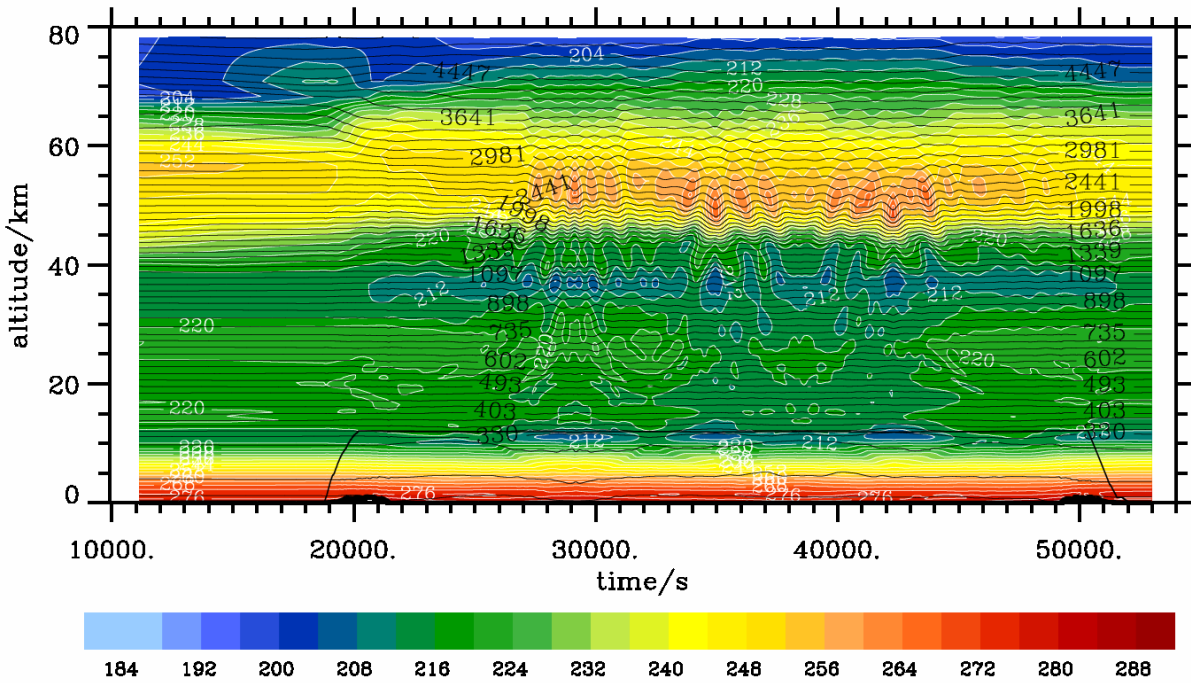


Figure RF18 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF18 on 7 July 2014.

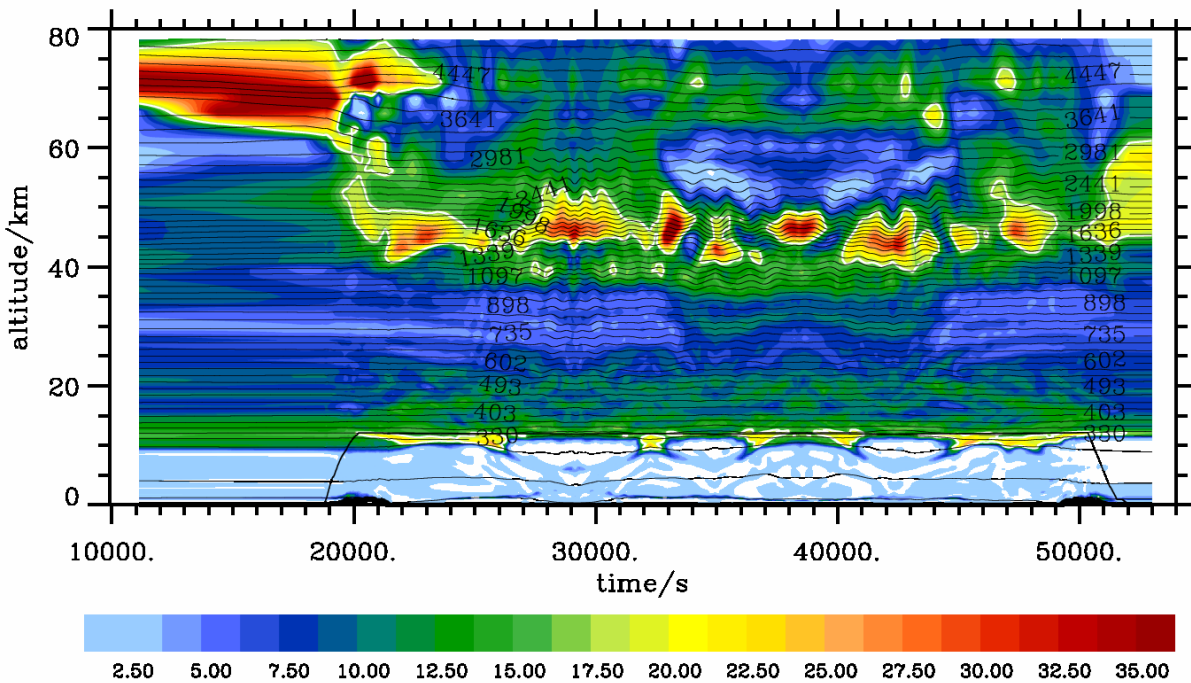


Figure RF18 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF18 on 7 July 2014.

Research Flight RF18 7 July 2014

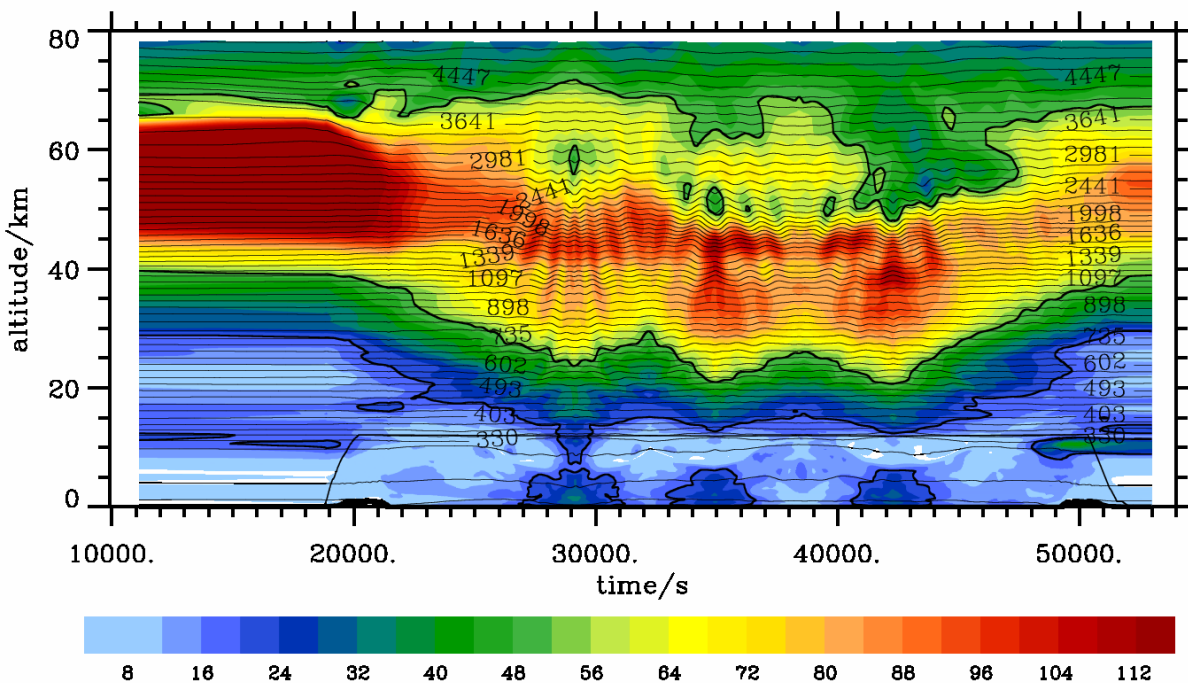


Figure RF18 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF18 on 7 July 2014.

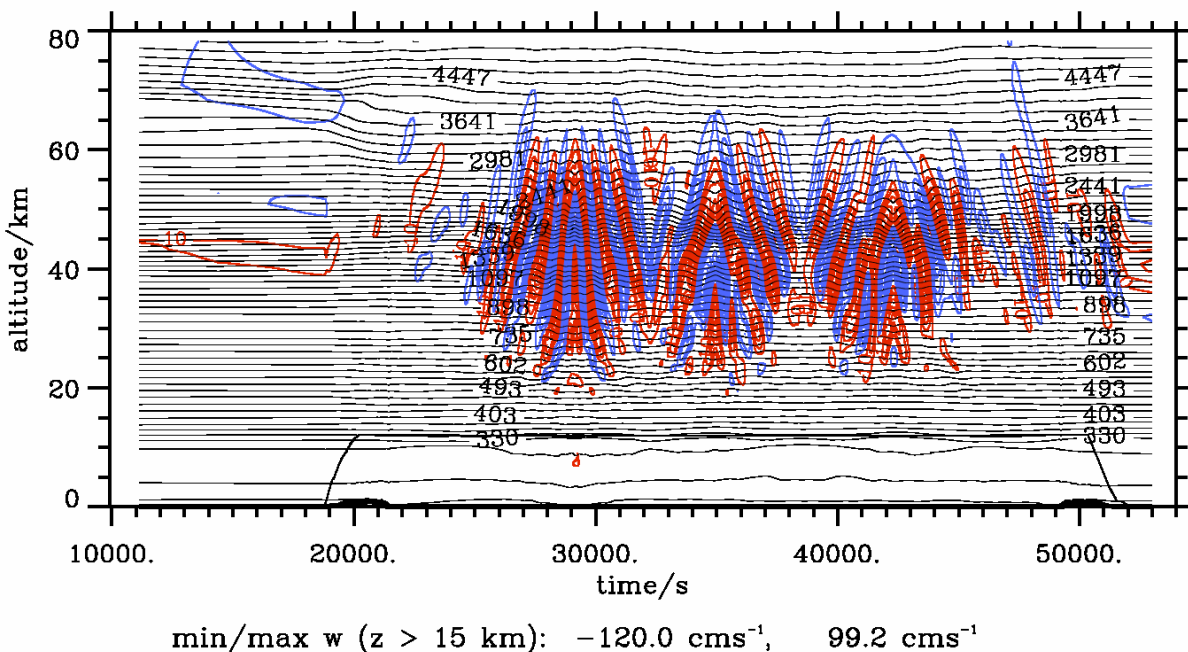


Figure RF18 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF18 on 7 July 2014.

Research Flight RF18 7 July 2014

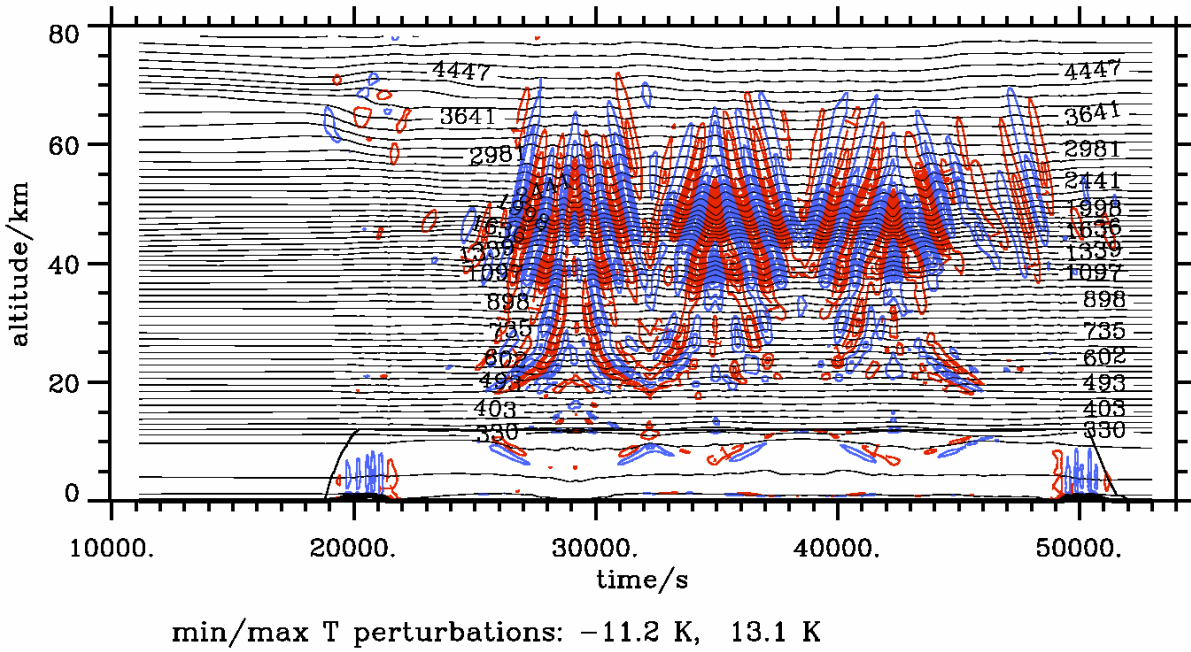


Figure RF18 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF18 on 7 July 2014.

Research Flight RF19 8 July 2014

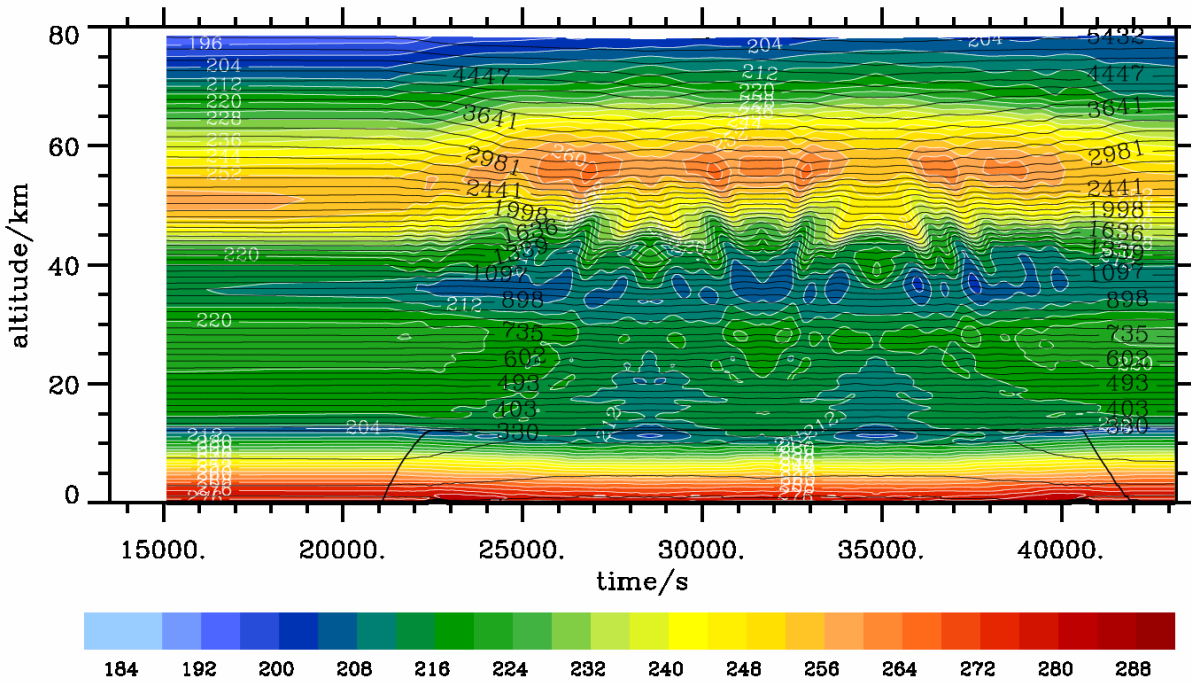


Figure RF19 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF19 on 8 July 2014.

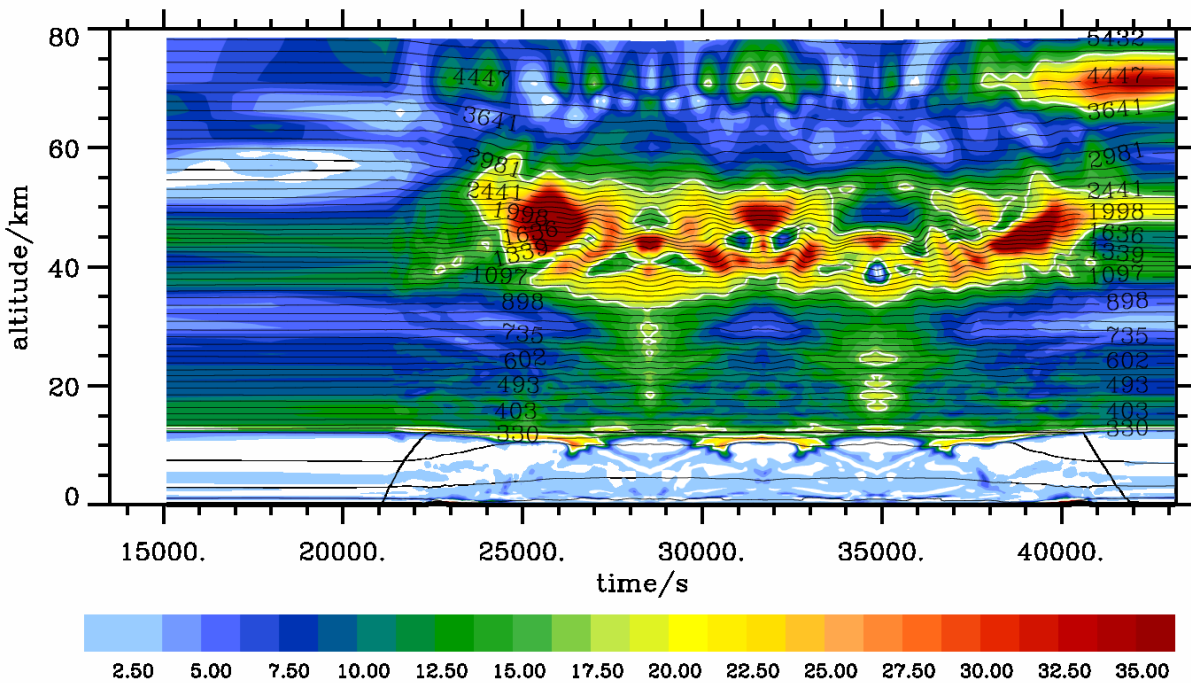


Figure RF19 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF19 on 8 July 2014.

Research Flight RF19 8 July 2014

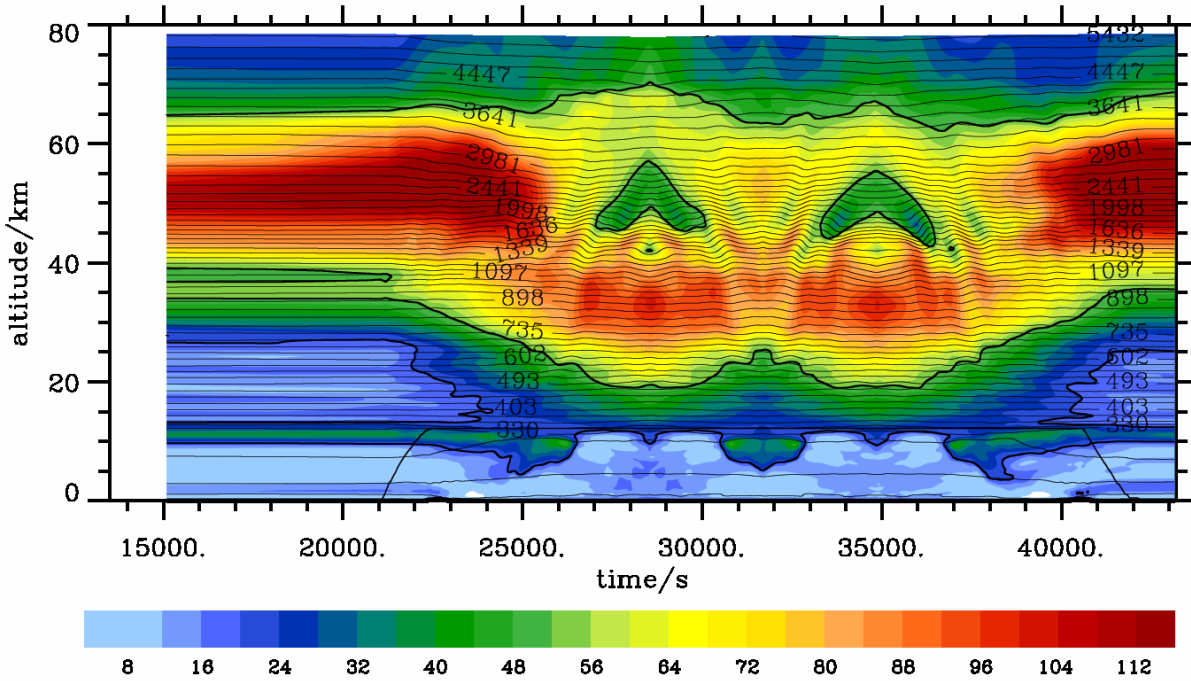


Figure RF19 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF19 on 8 July 2014.

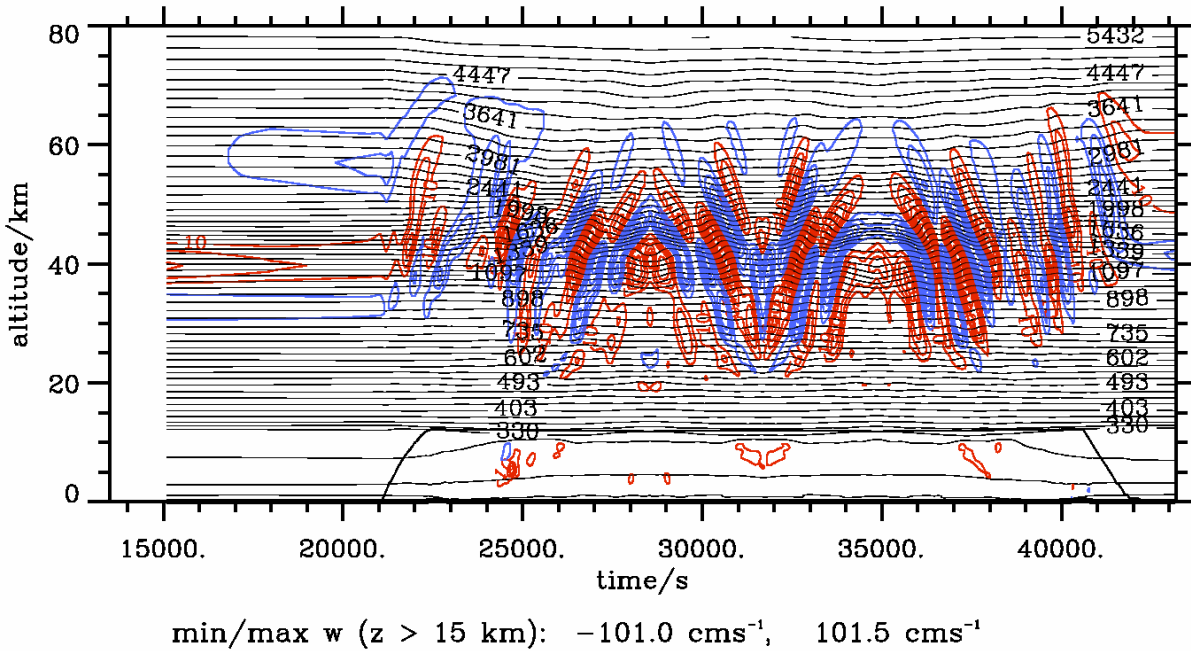


Figure RF19 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF19 on 8 July 2014.

Research Flight RF19 8 July 2014

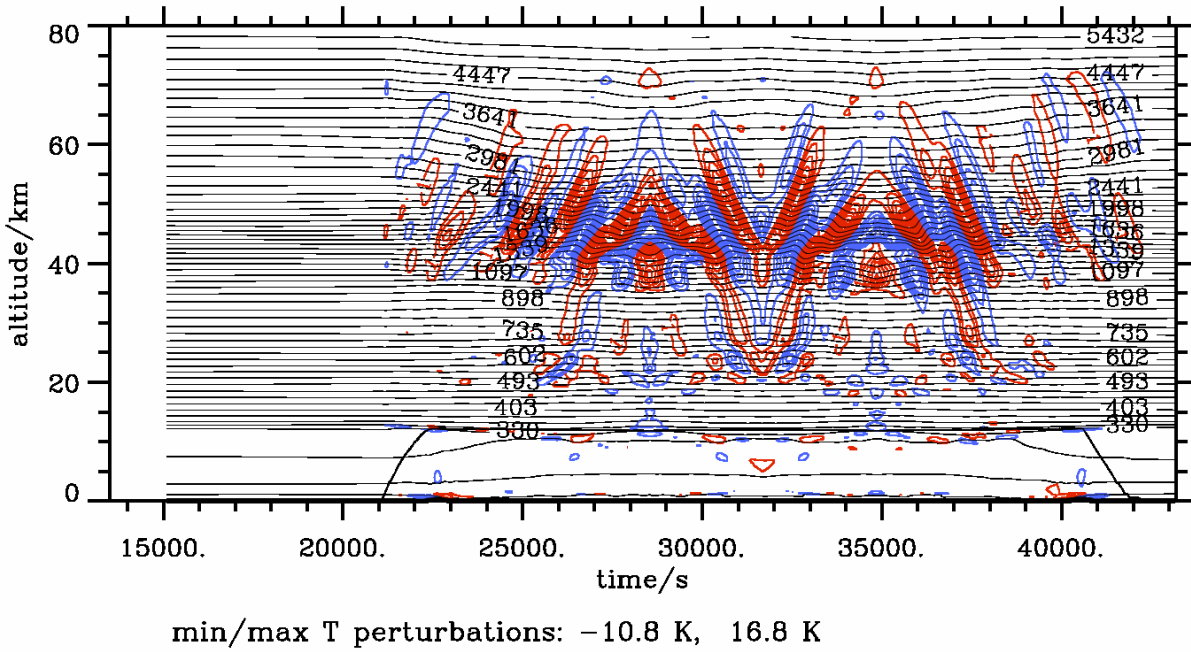


Figure RF19 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF19 on 8 July 2014.

Research Flight RF20 10 July 2014

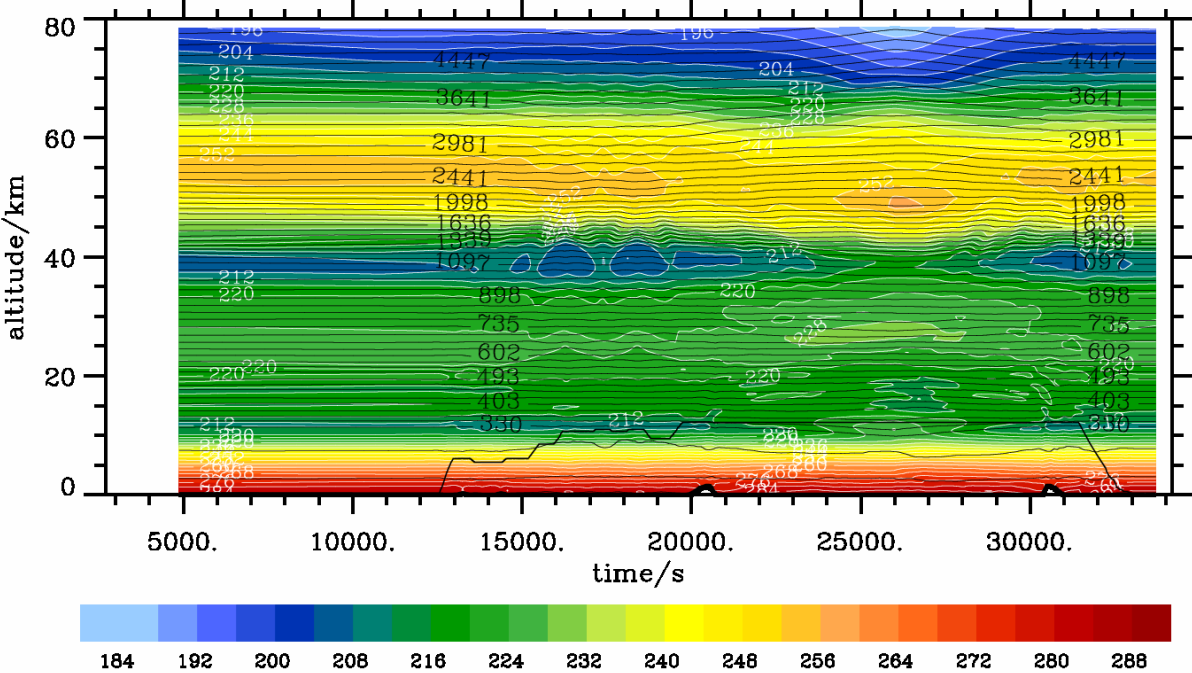


Figure RF20 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF20 on 10 July 2014.

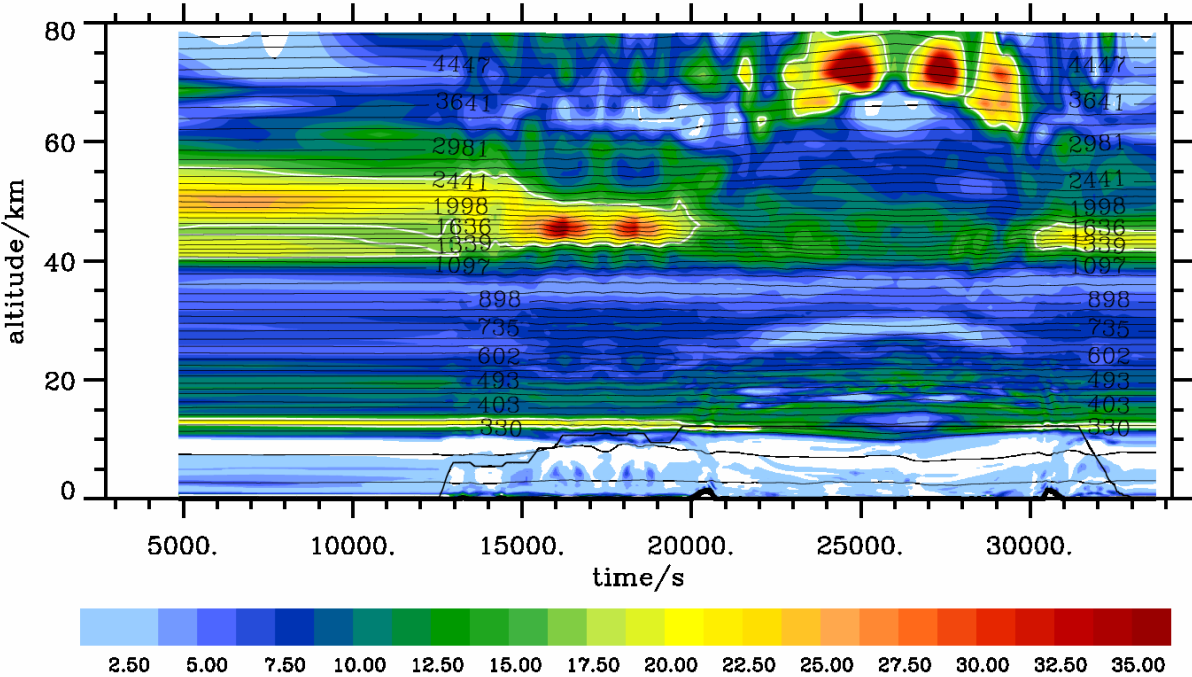


Figure RF20 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF20 on 10 July 2014.

Research Flight RF20 10 July 2014

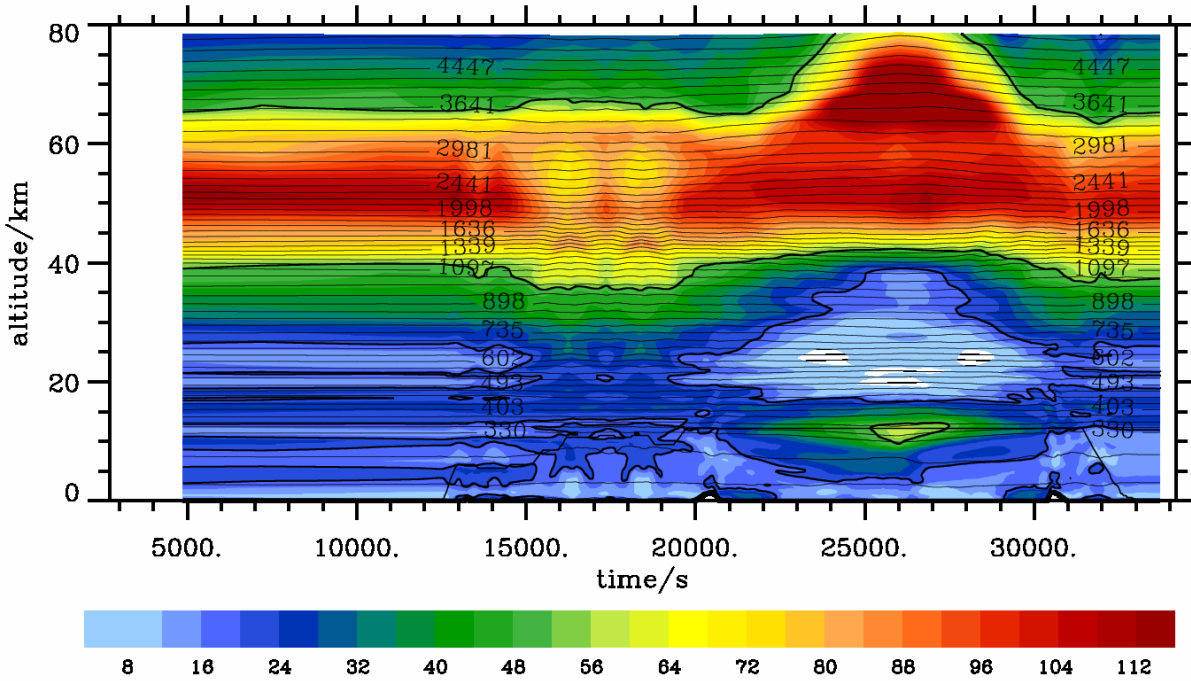


Figure RF20 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF20 on 10 July 2014.

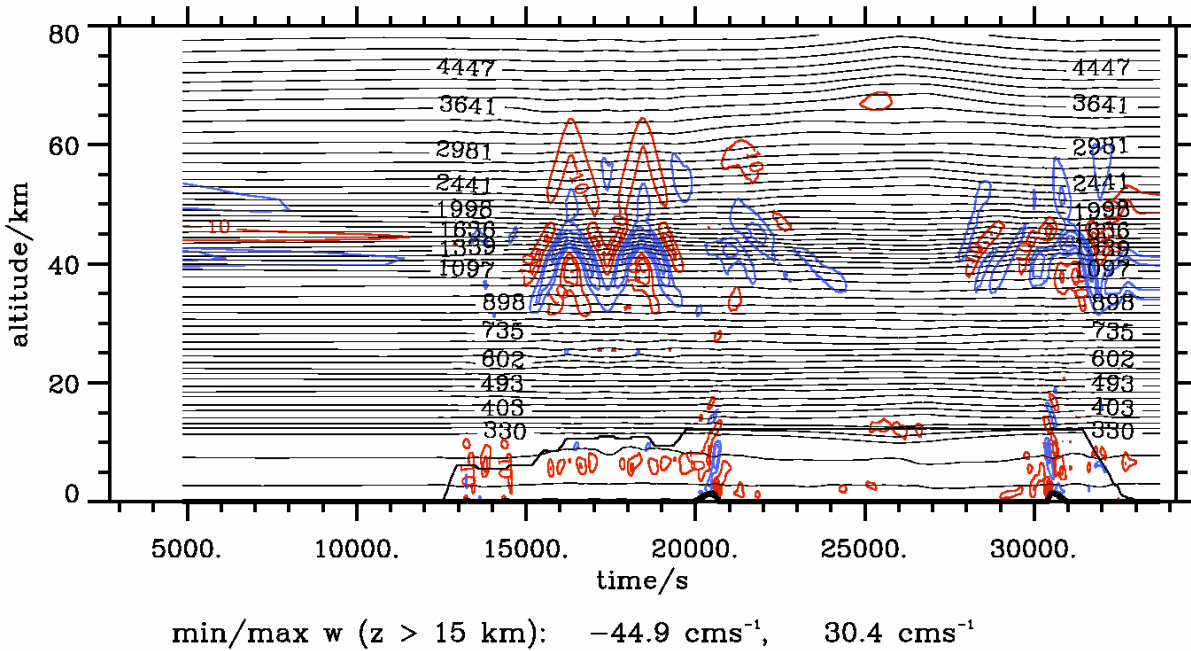


Figure RF20 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF20 on 10 July 2014.

Research Flight RF20 10 July 2014

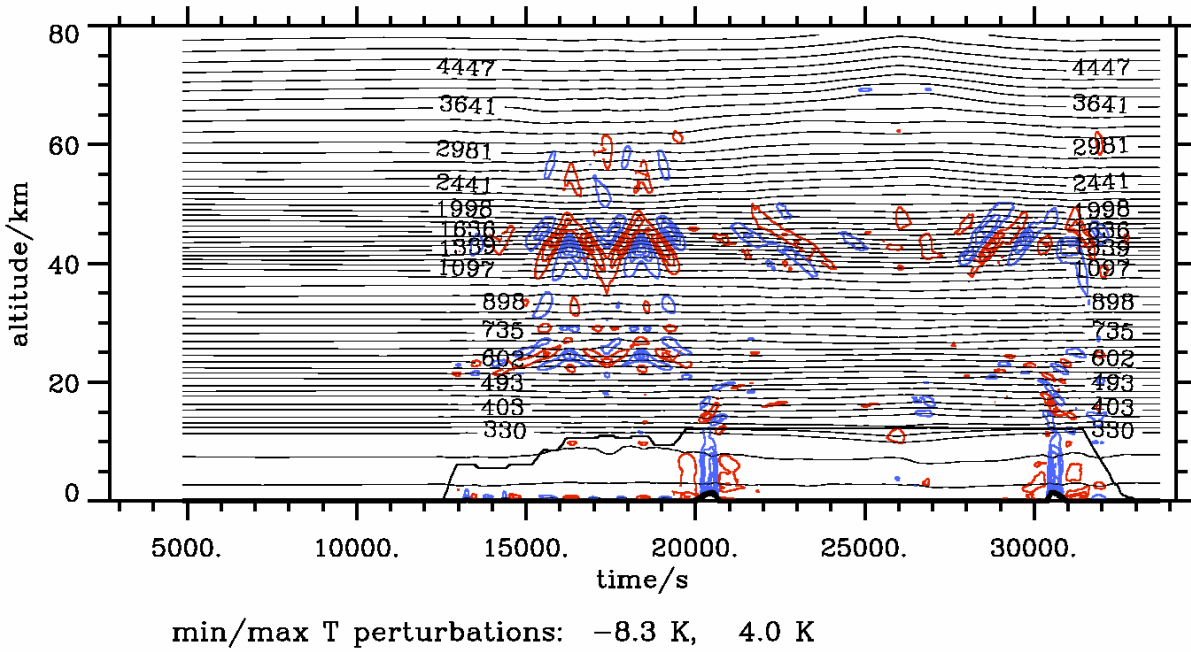


Figure RF20 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF20 on 10 July 2014.

Research Flight RF21 11 July 2014

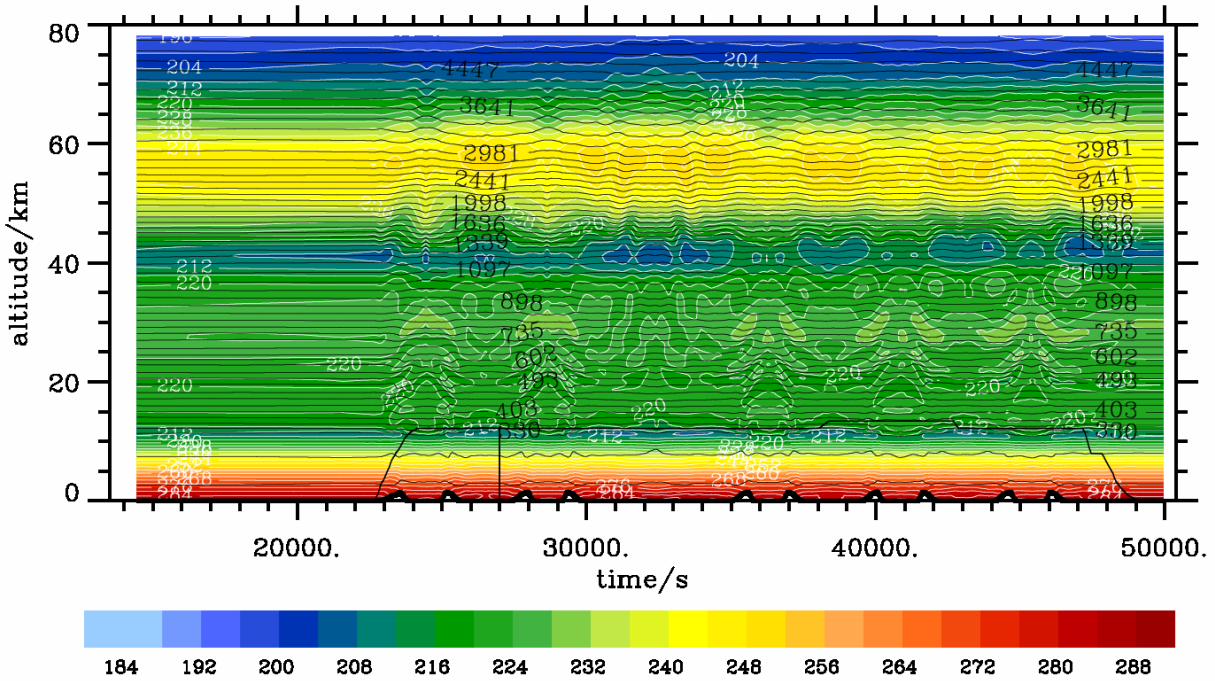


Figure RF21 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF21 on 11 July 2014.

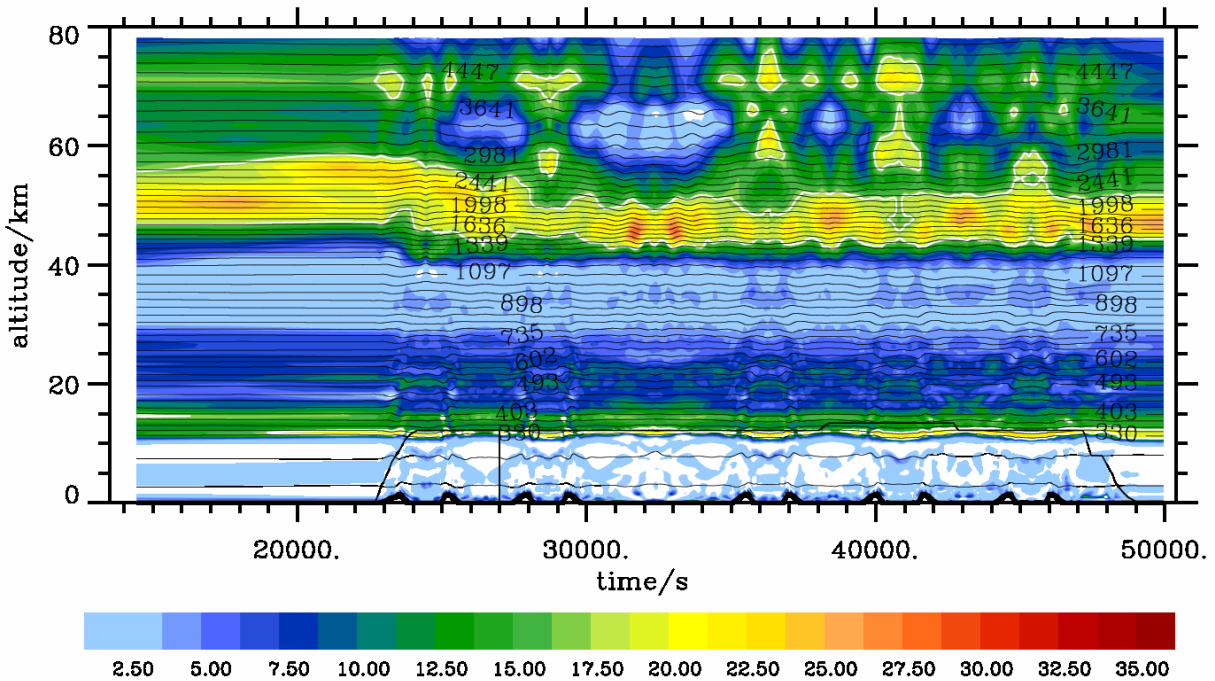


Figure RF21 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF21 on 11 July 2014.

Research Flight RF21 11 July 2014

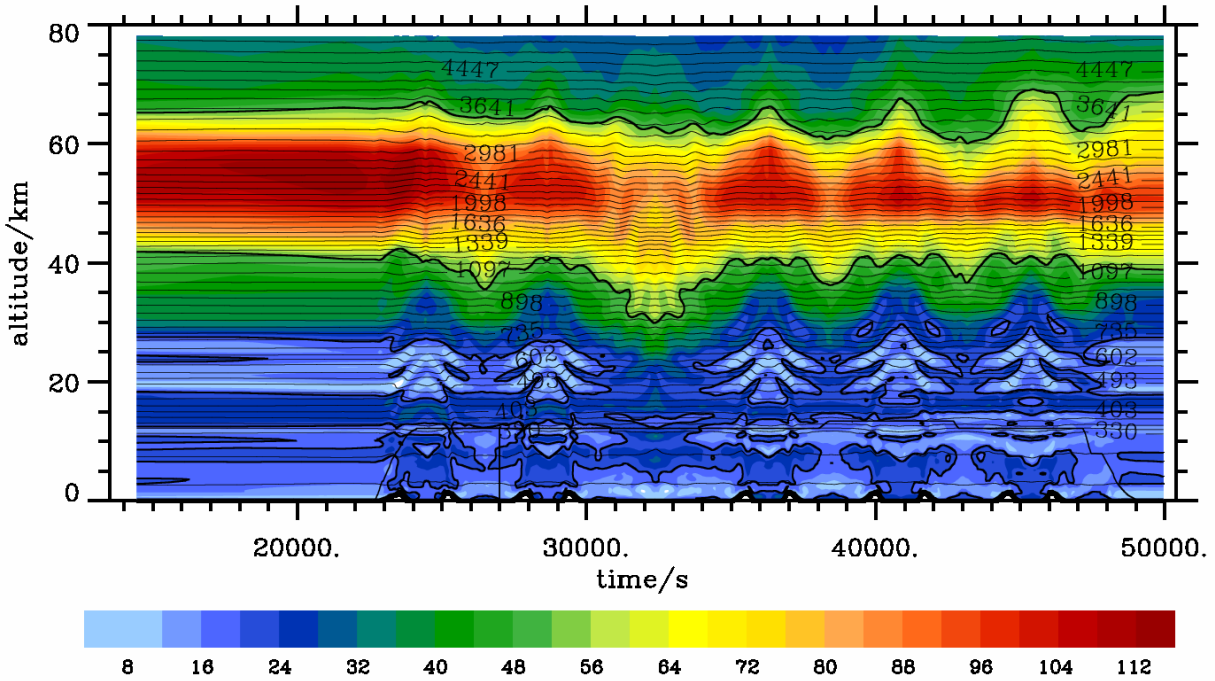


Figure RF21 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF21 on 11 July 2014.

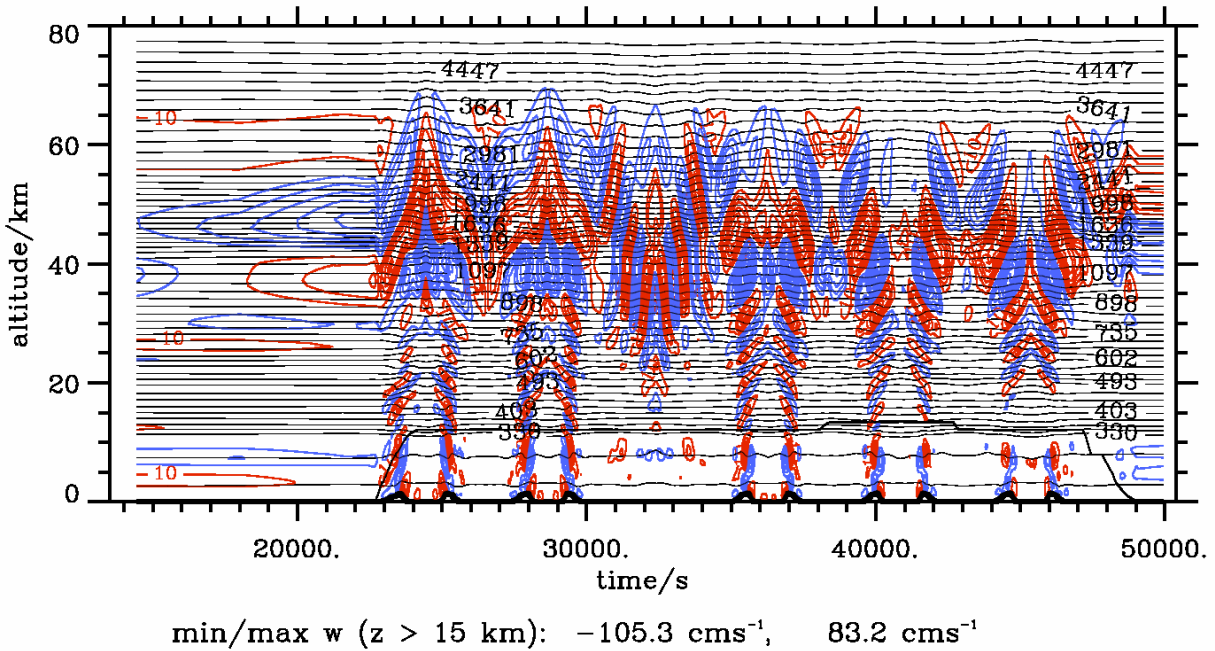


Figure RF21 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF21 on 11 July 2014.

Research Flight RF21 11 July 2014

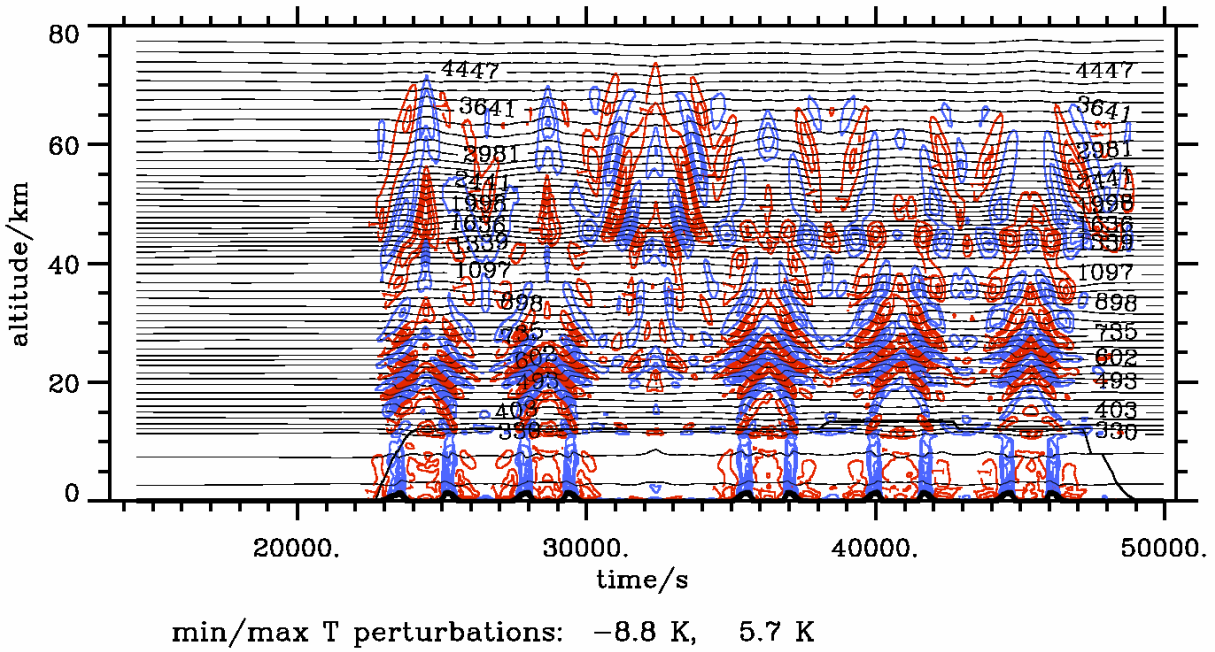


Figure RF21 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF21 on 11 July 2014.

Research Flight RF22 13 July 2014

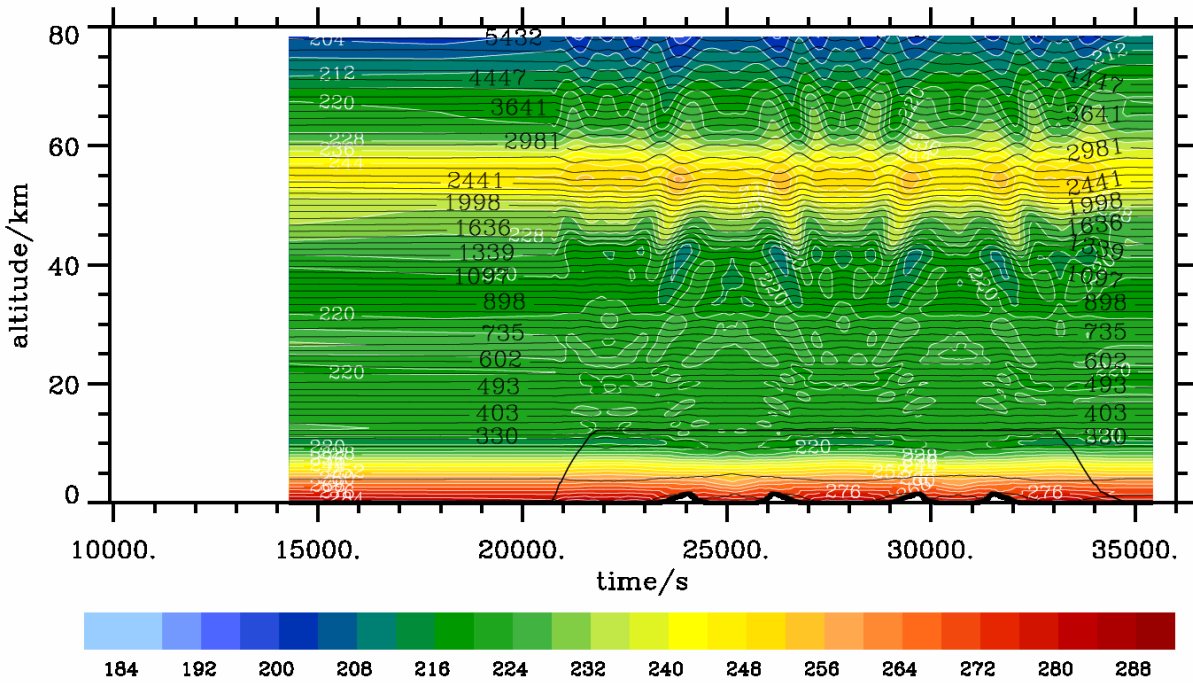


Figure RF22 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF22 on 13 July 2014.

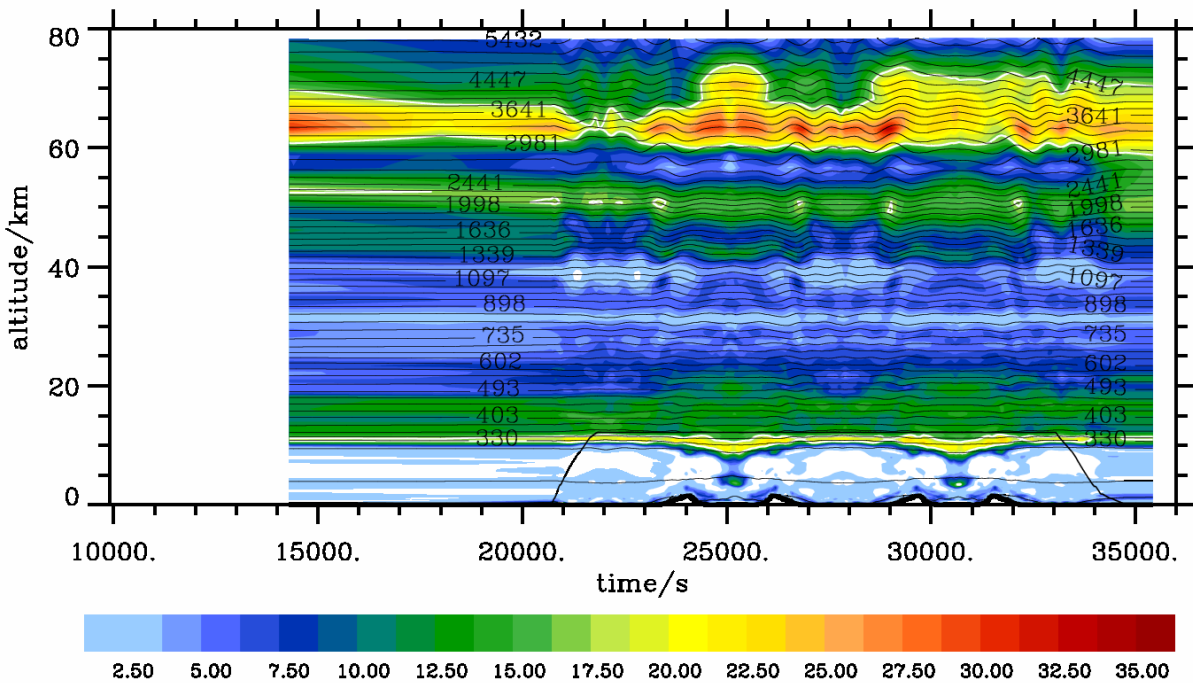


Figure RF22 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF22 on 13 July 2014.

Research Flight RF22 13 July 2014

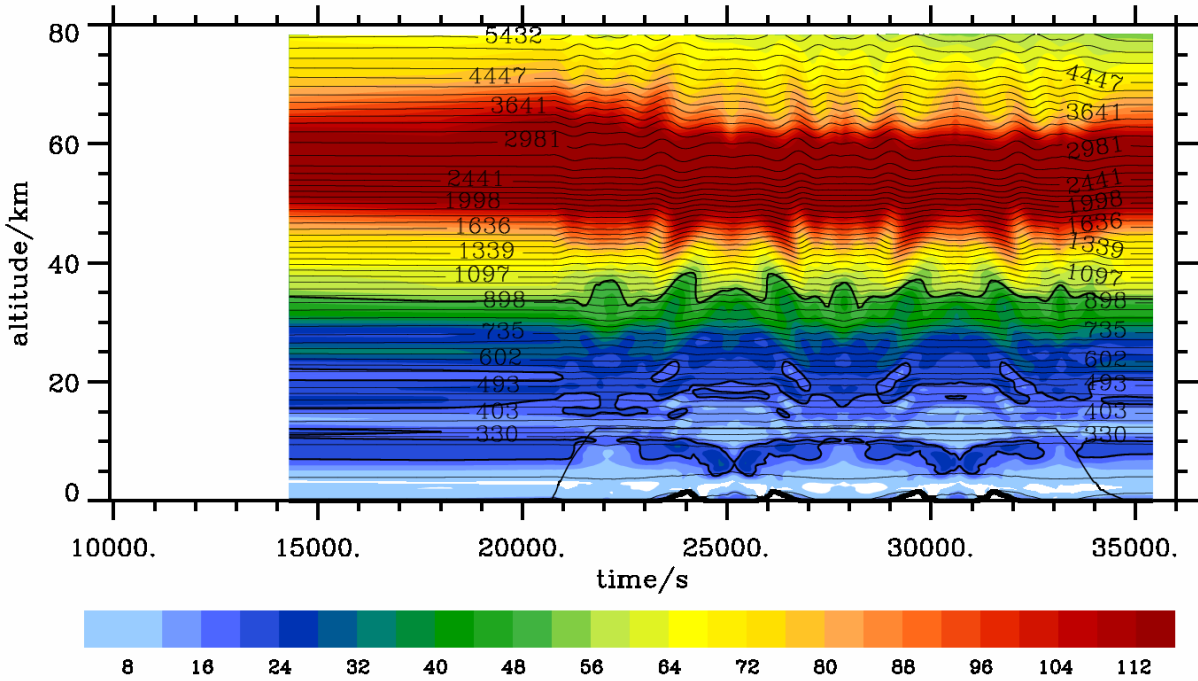


Figure RF22 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF22 on 13 July 2014.

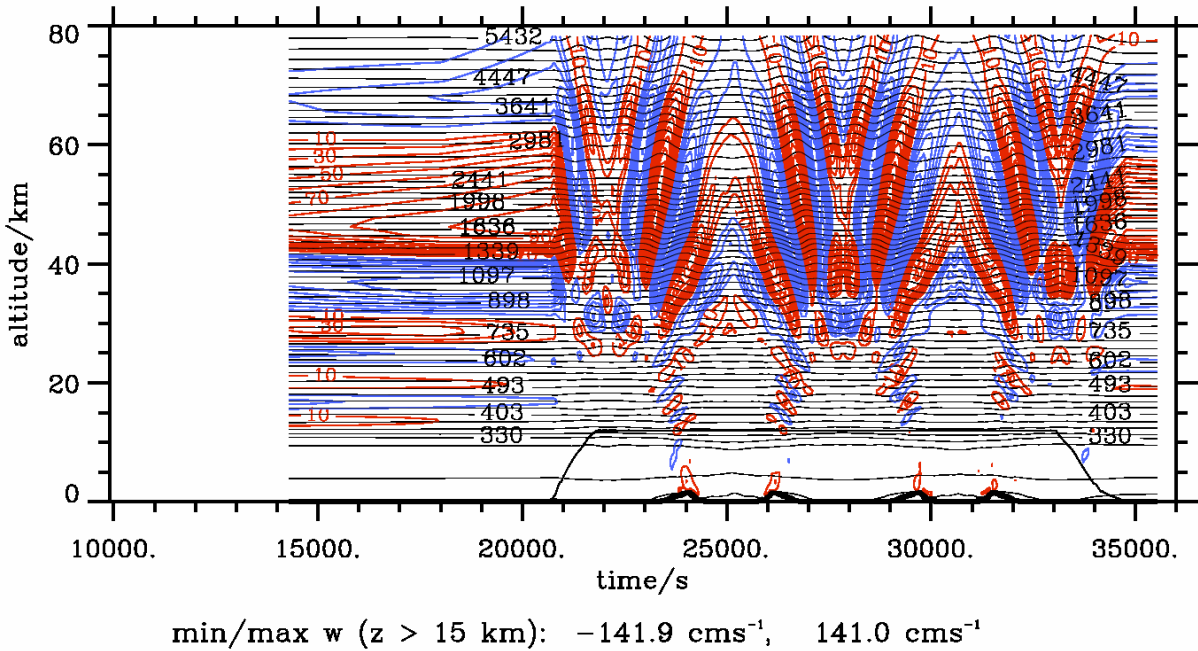


Figure RF22 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF22 on 13 July 2014.

Research Flight RF22 13 July 2014

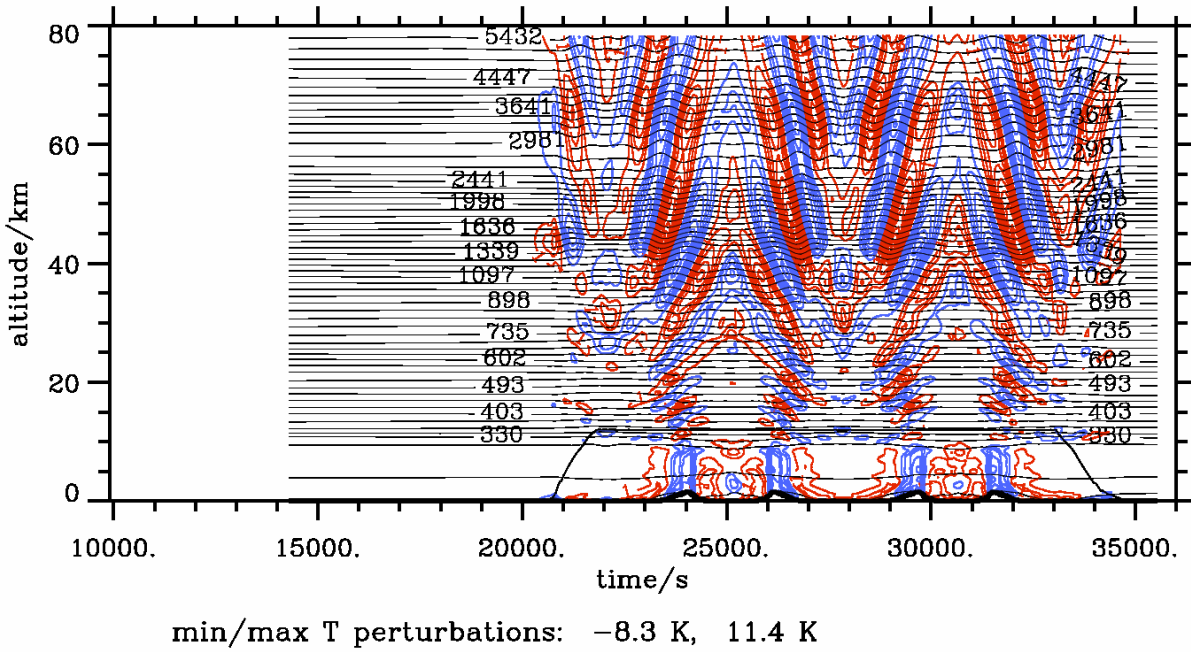


Figure RF22 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF22 on 13 July 2014.

Research Flight RF23 14 July 2014

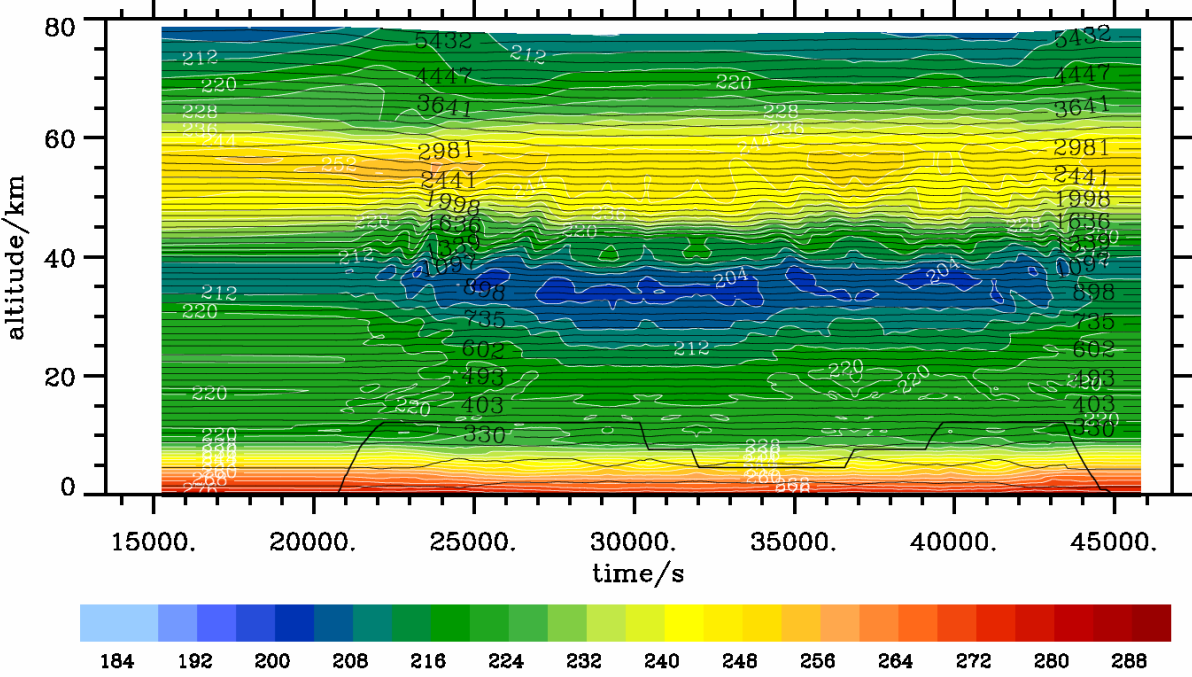


Figure RF23 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF23 on 14 July 2014.

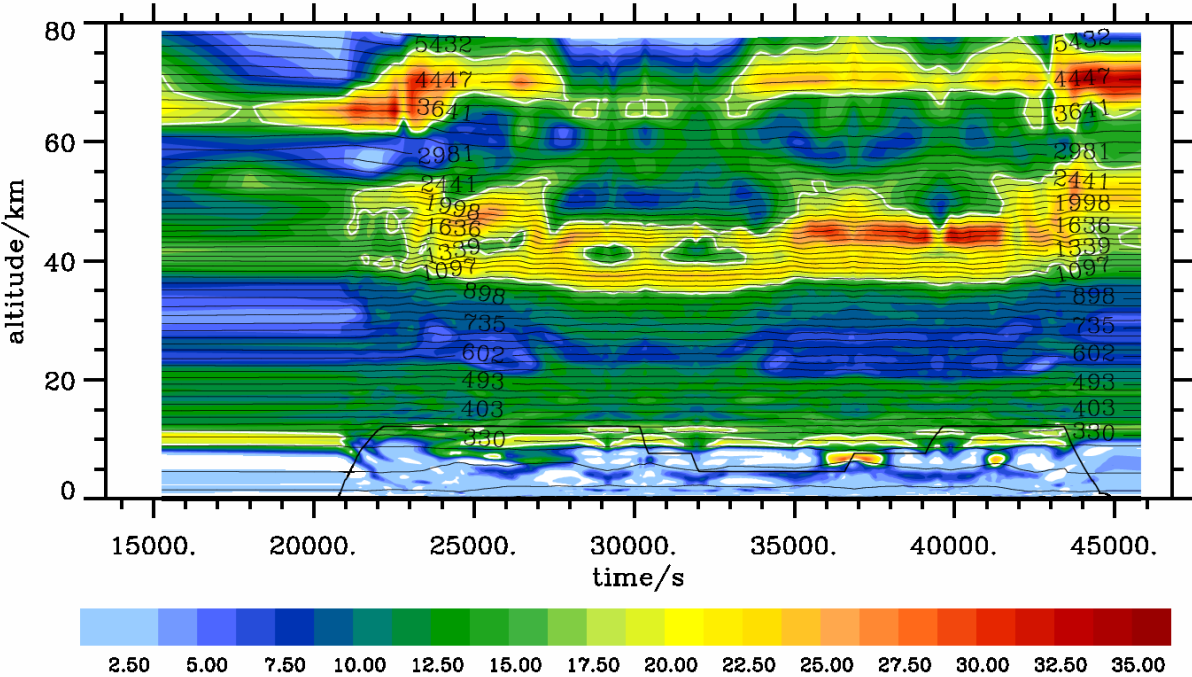


Figure RF23 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF23 on 14 July 2014.

Research Flight RF23 14 July 2014

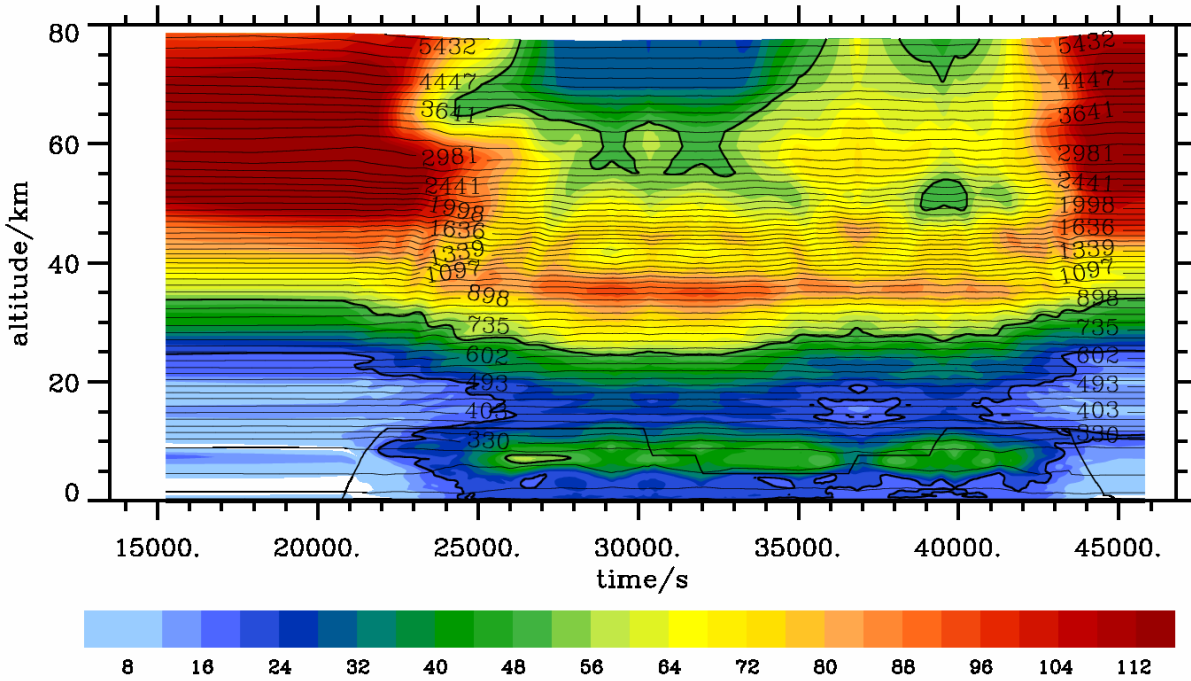


Figure RF23 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF23 on 14 July 2014.

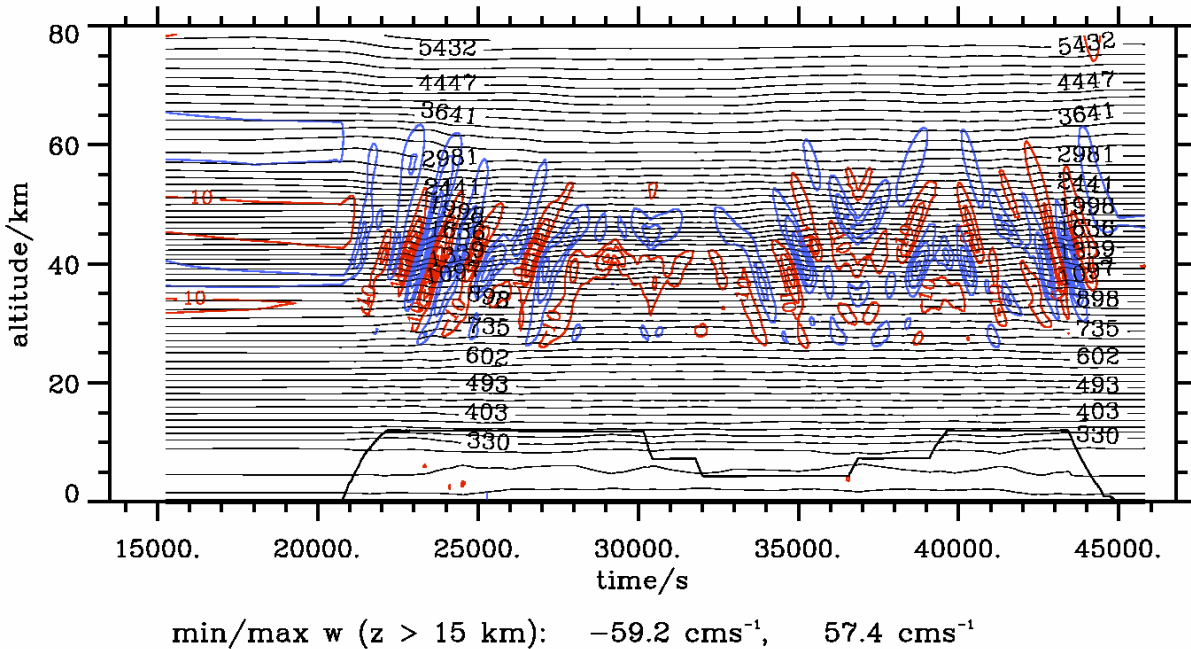


Figure RF23 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF23 on 14 July 2014.

Research Flight RF23 14 July 2014

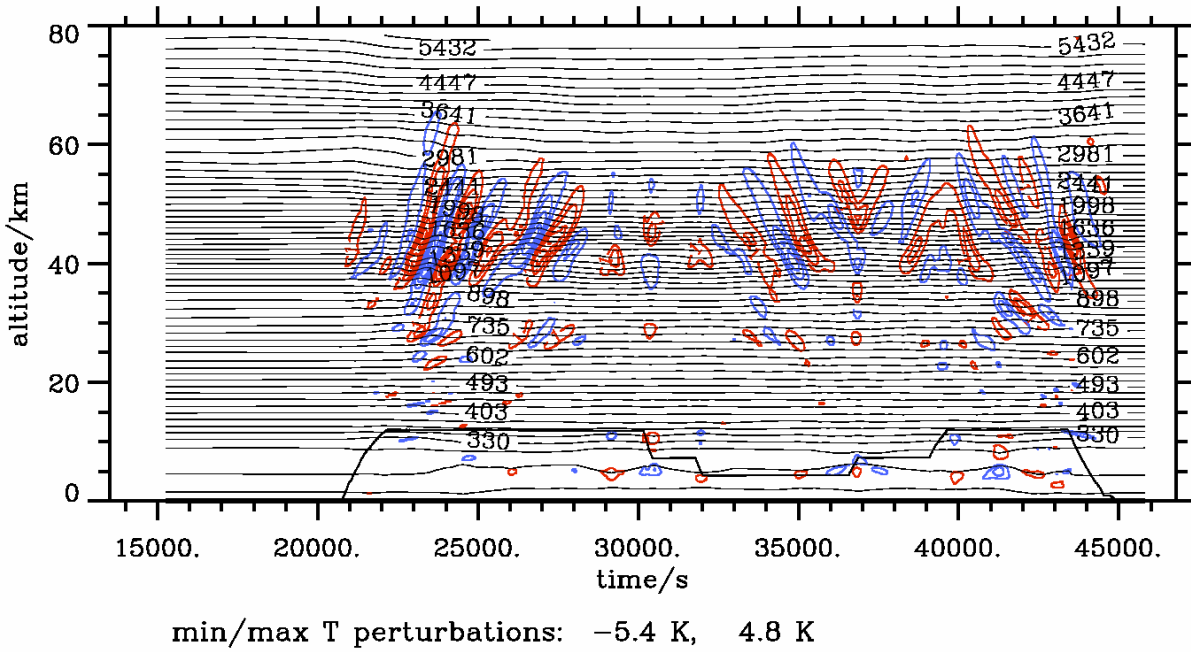


Figure RF23 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF23 on 14 July 2014.

Research Flight RF24 15 July 2014

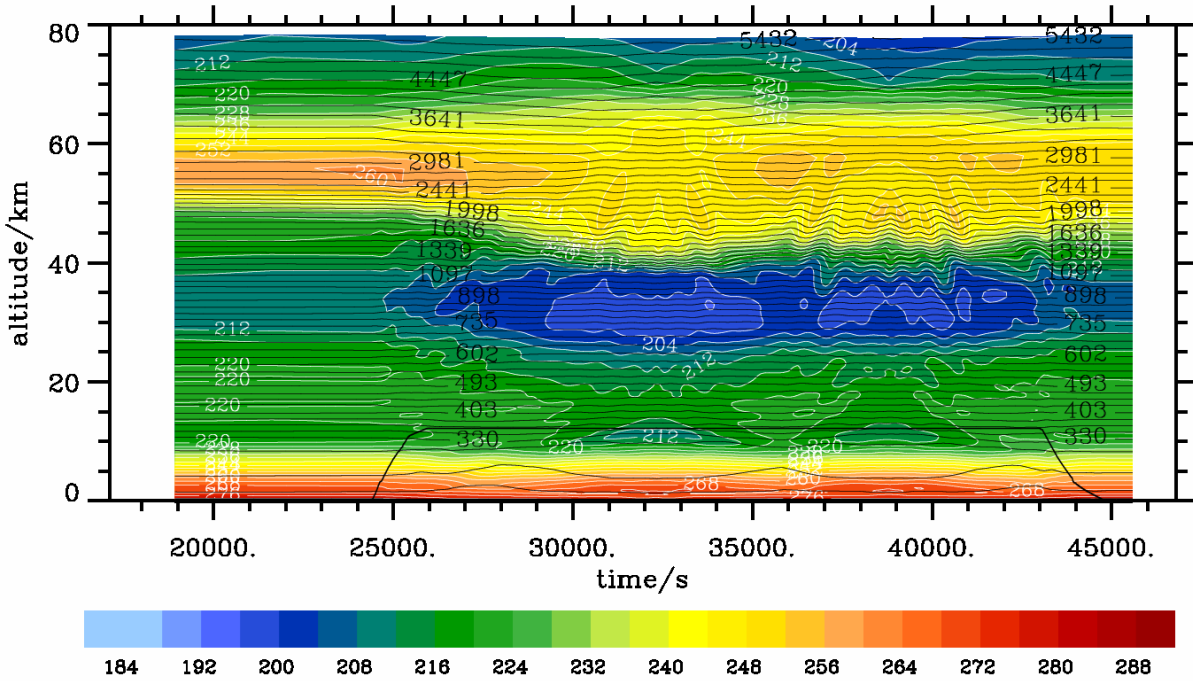


Figure RF24 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF24 on 15 July 2014.

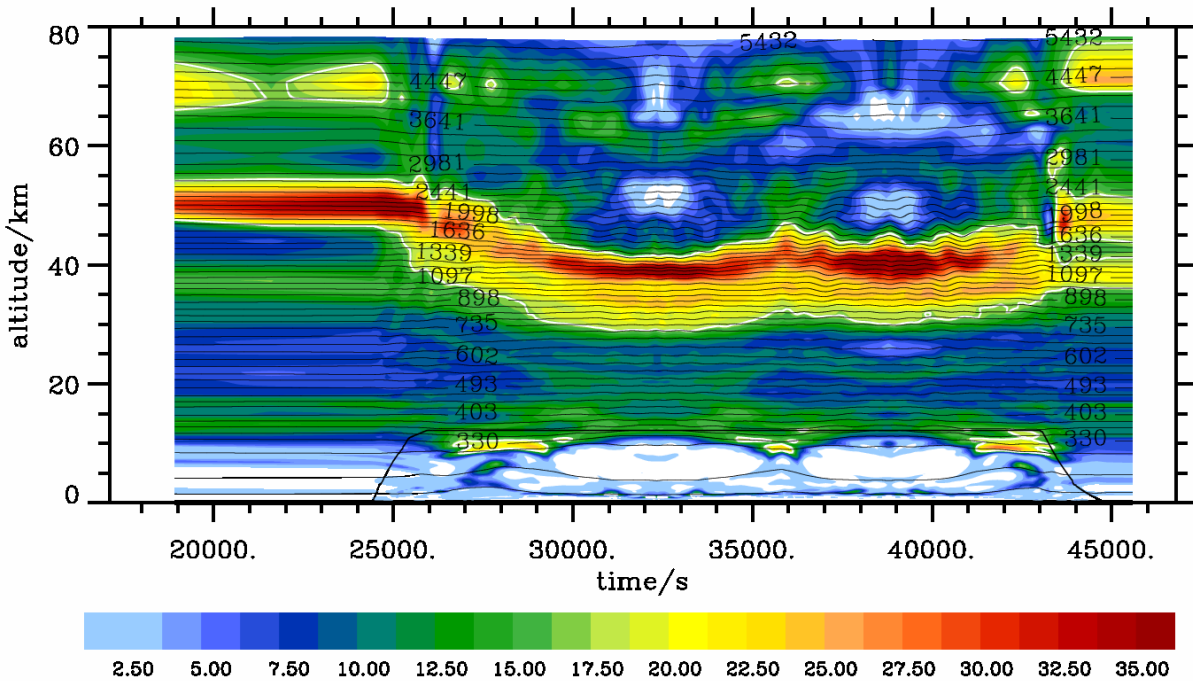


Figure RF24 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF24 on 15 July 2014.

Research Flight RF24 15 July 2014

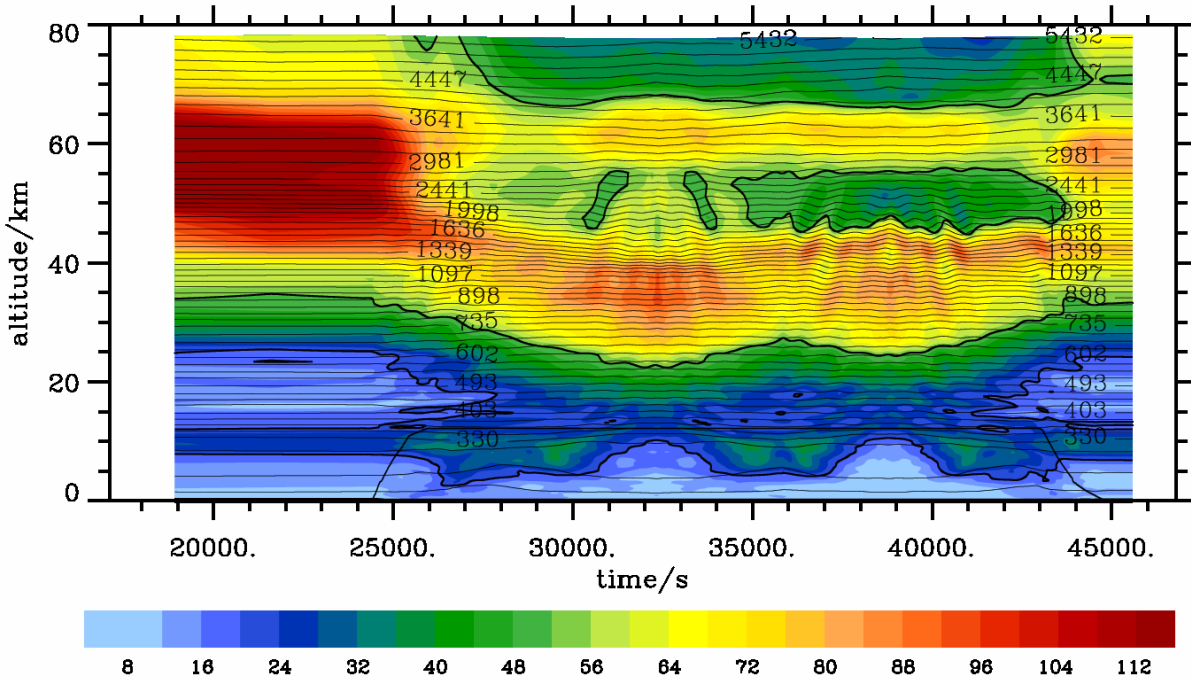


Figure RF24 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF24 on 15 July 2014.

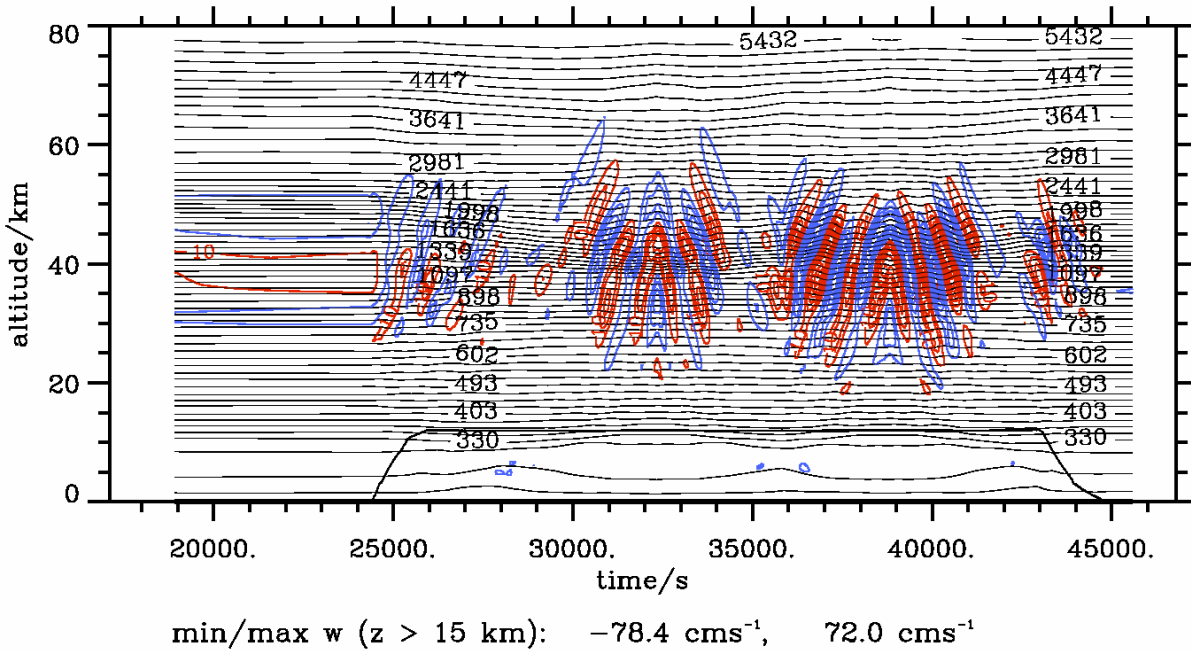


Figure RF24 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF24 on 15 July 2014.

Research Flight RF24 15 July 2014

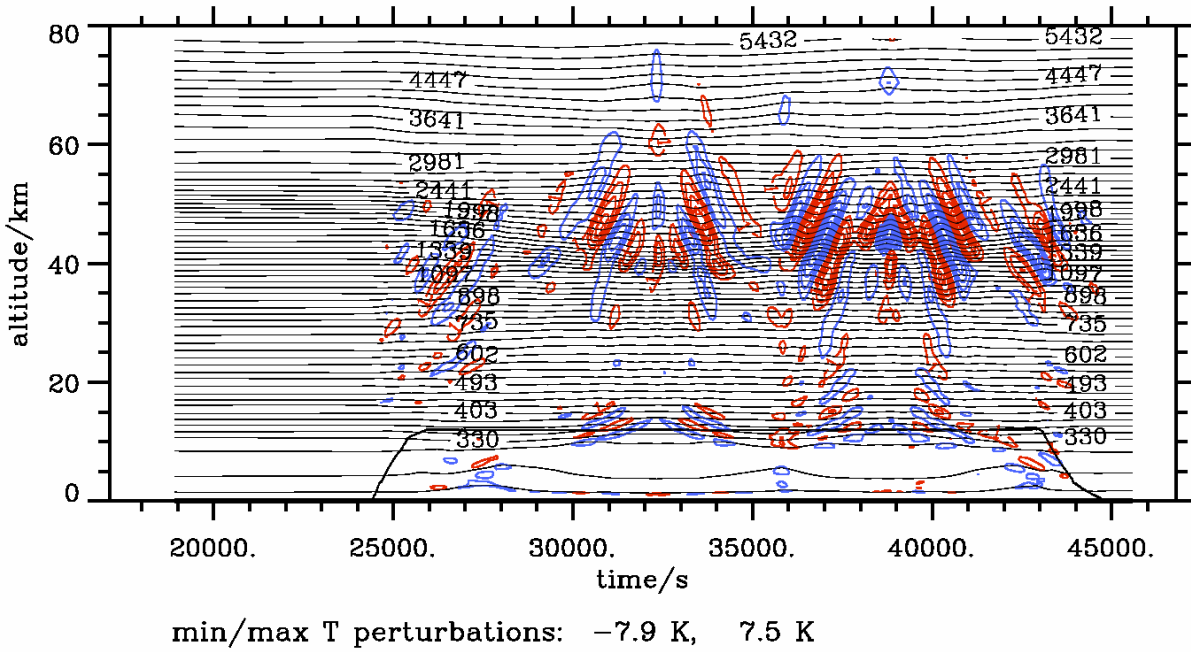


Figure RF24 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF24 on 15 July 2014.

Research Flight RF25 18 July 2014

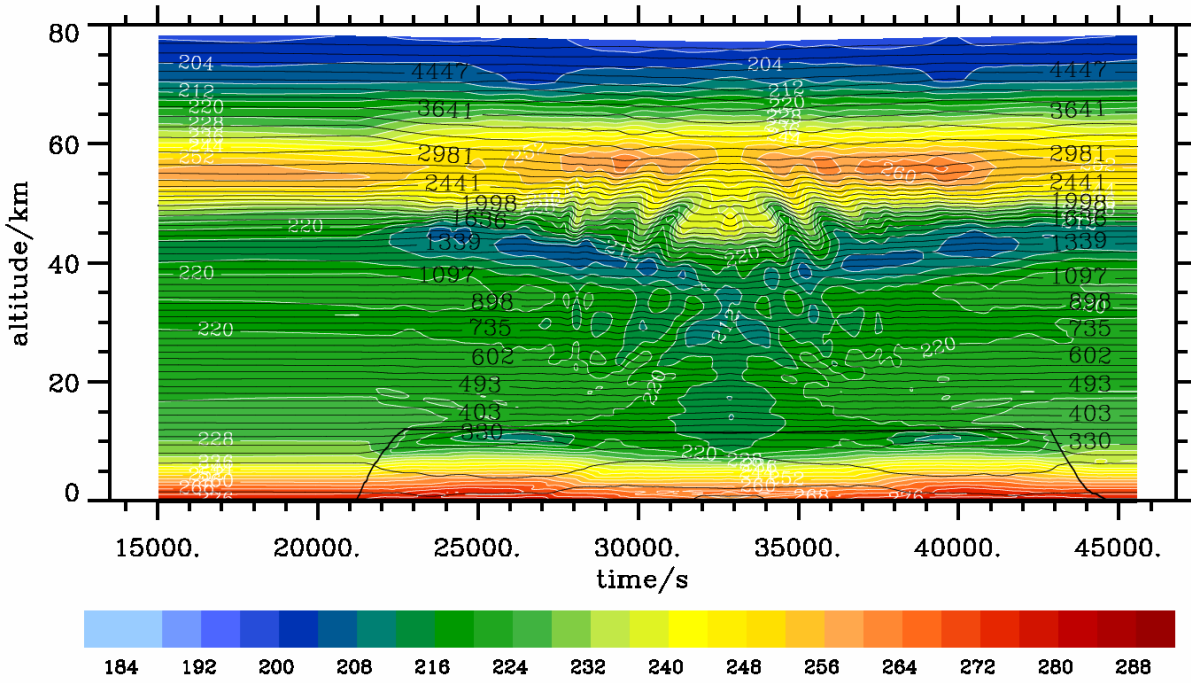


Figure RF25 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF25 on 18 July 2014.

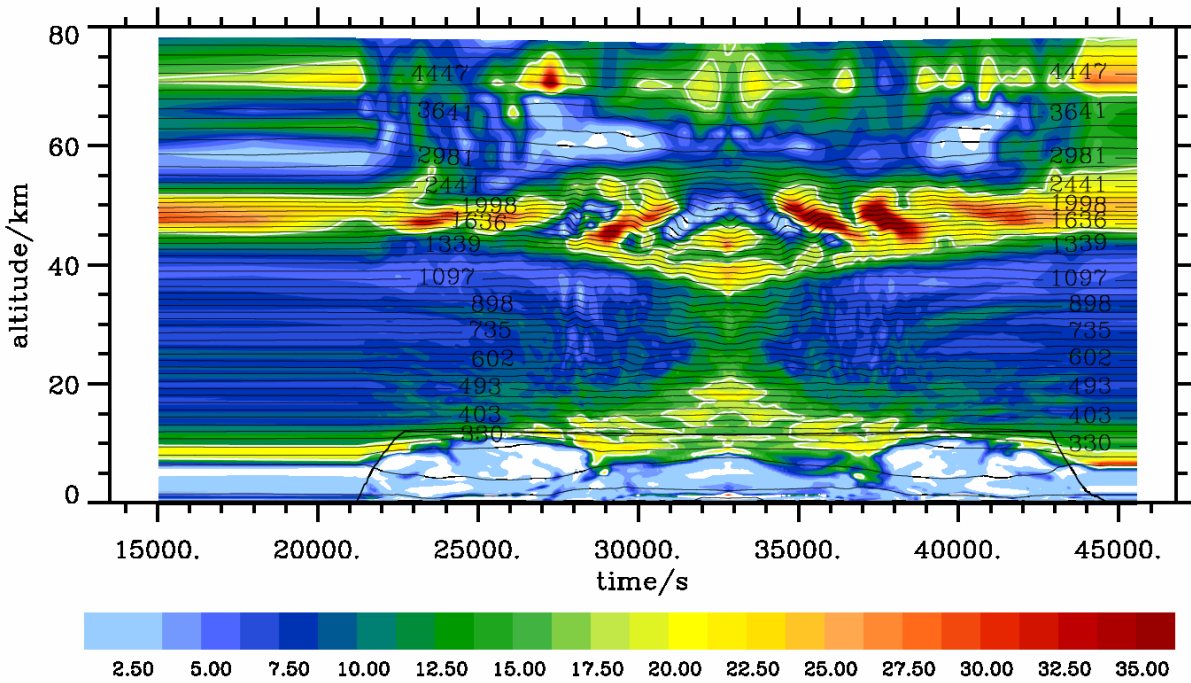


Figure RF25 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF25 on 18 July 2014.

Research Flight RF25 18 July 2014

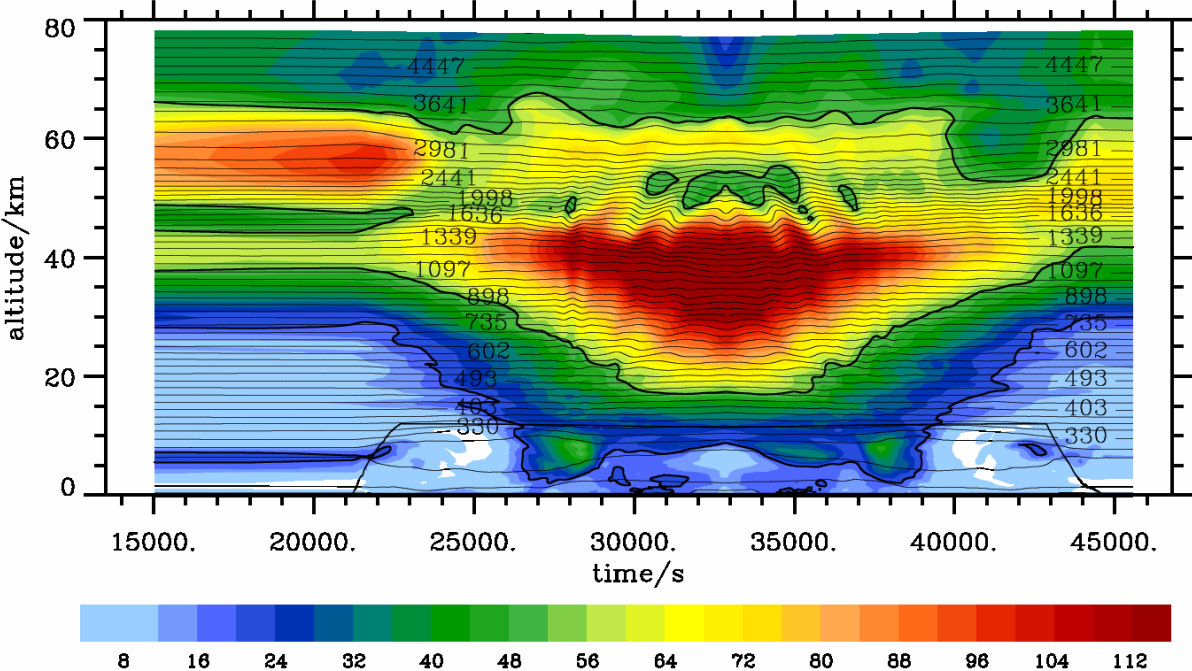


Figure RF25 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF25 on 18 July 2014.

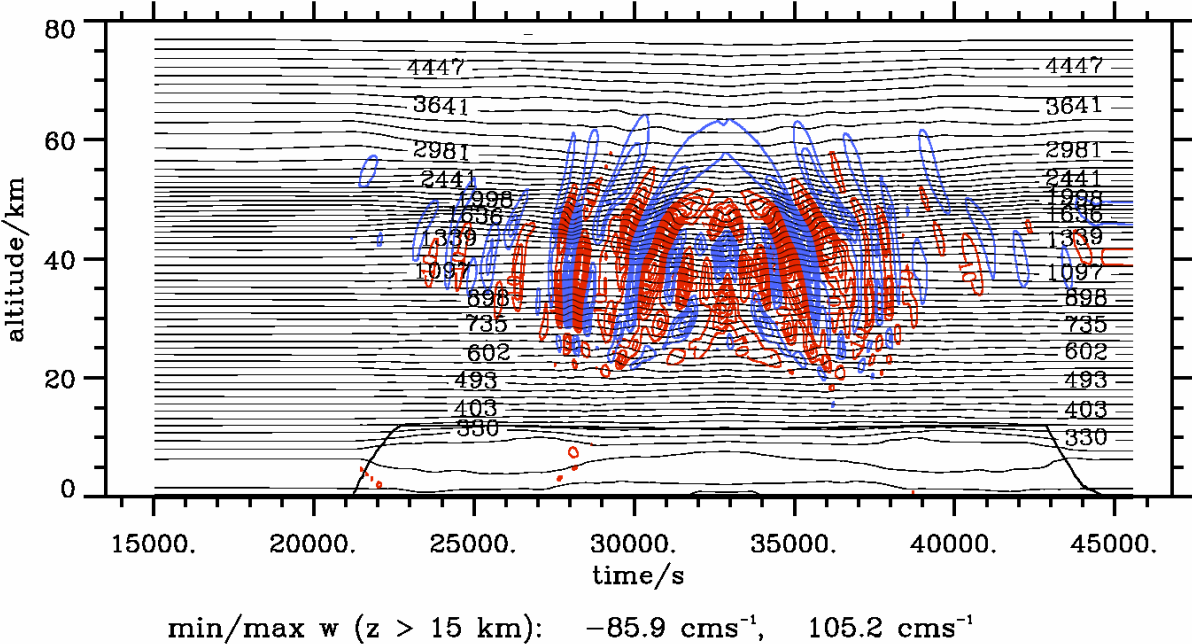


Figure RF25 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF25 on 18 July 2014.

Research Flight RF25 18 July 2014

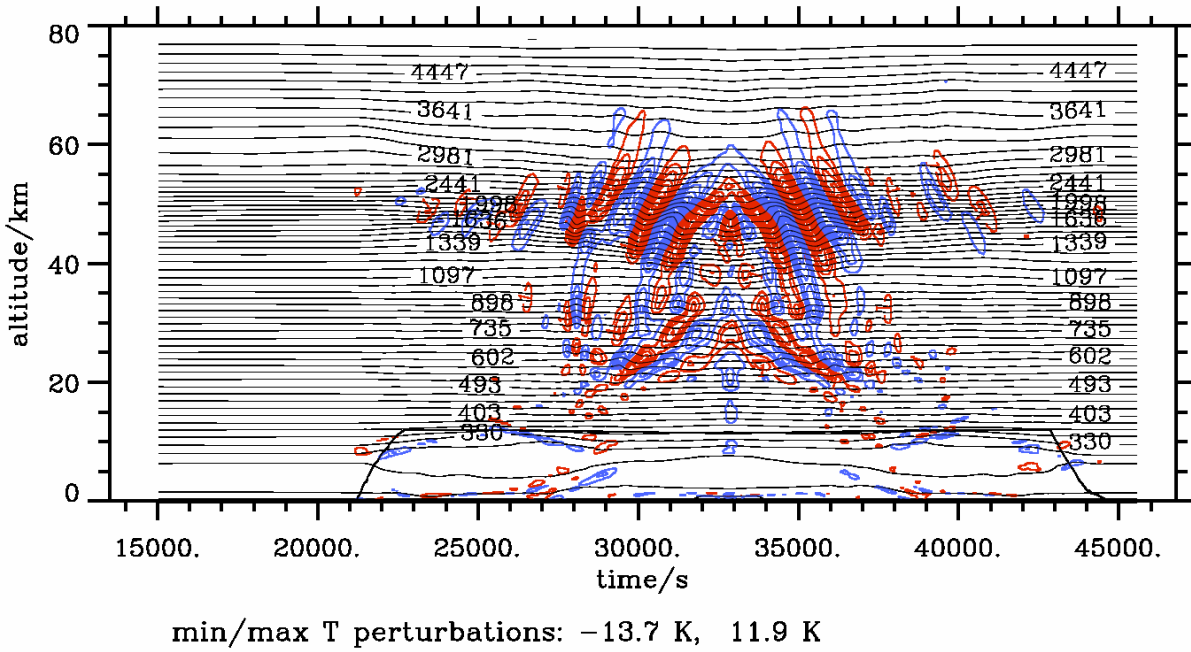


Figure RF25 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF25 on 18 July 2014.

Research Flight RF26 20 July 2014

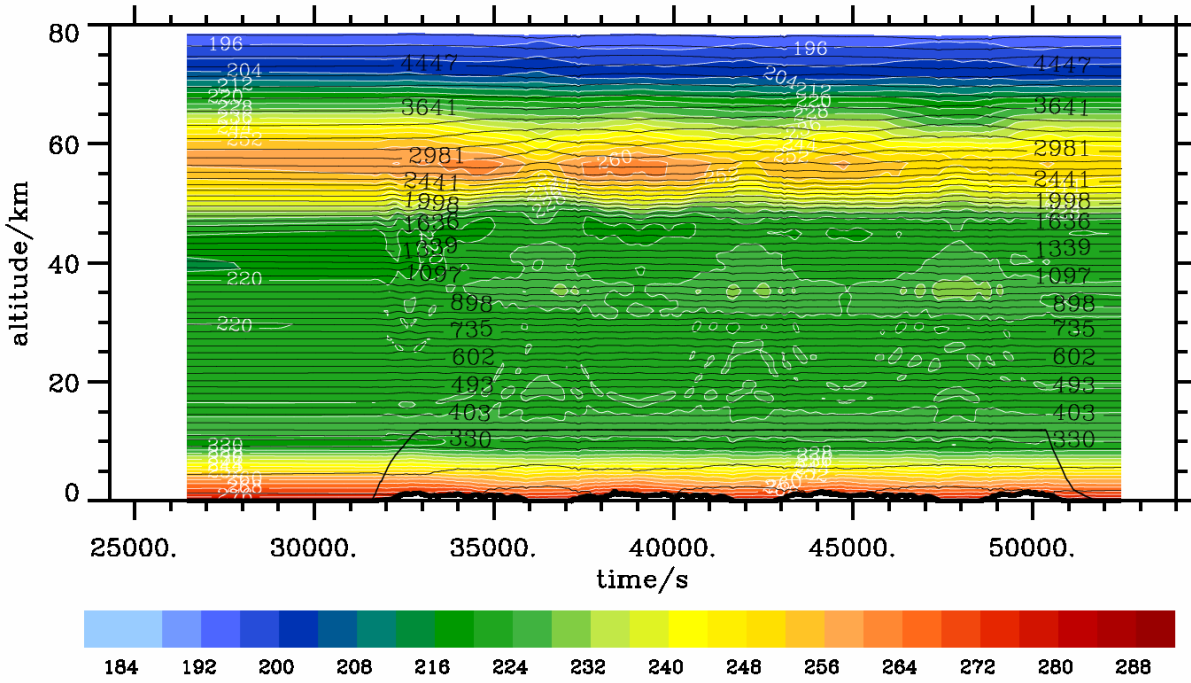


Figure RF26 a: Temperature (K, color coded, top) and potential temperature (K, black contour lines) along the flight track of RF26 on 20 July 2014.

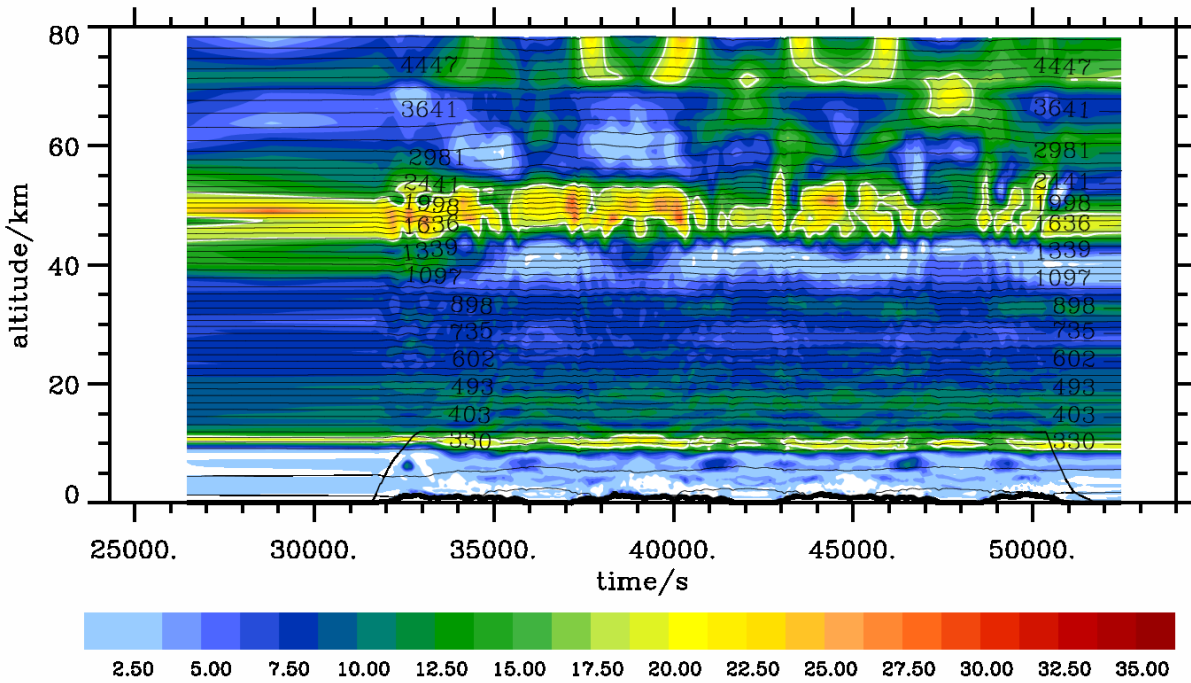


Figure RF26 b: Modified potential vorticity (PVU, color coded, below) and potential temperature (K, black contour lines) along the flight track of RF26 on 20 July 2014.

Research Flight RF26 20 July 2014

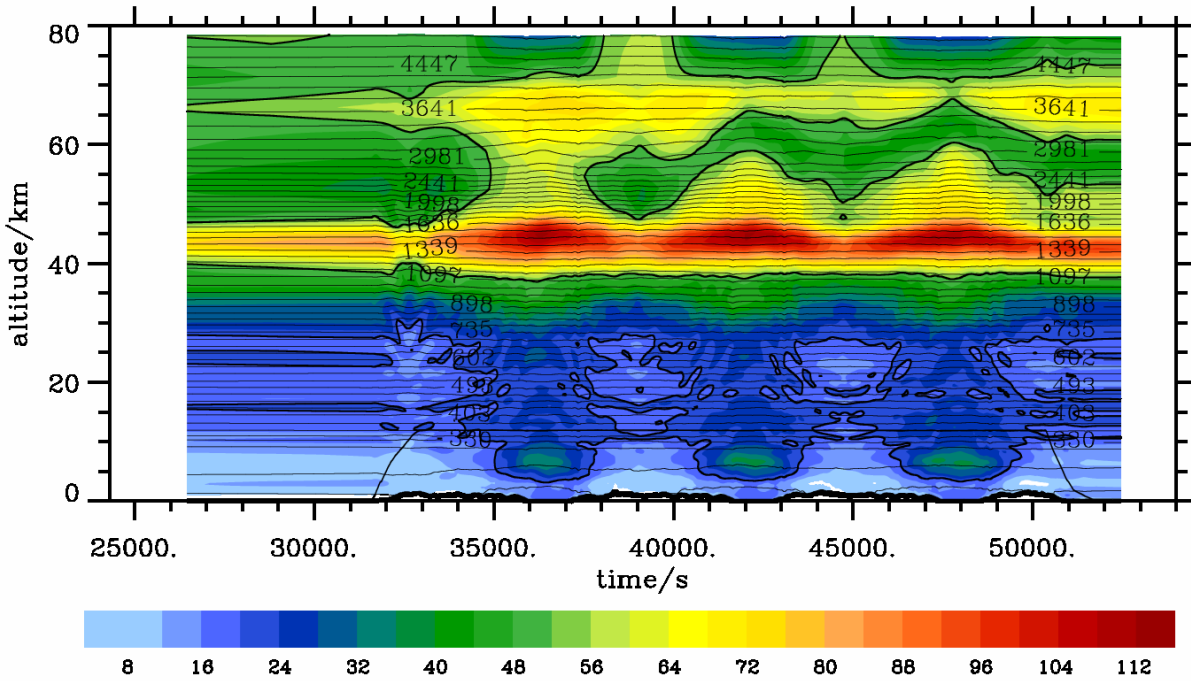


Figure RF26 c: Horizontal wind (m/s, color coded, 20 m/s and 52 m/s are enhanced by thick black contour lines) and potential temperature (K, black contour lines) along the flight track of RF26 on 20 July 2014.

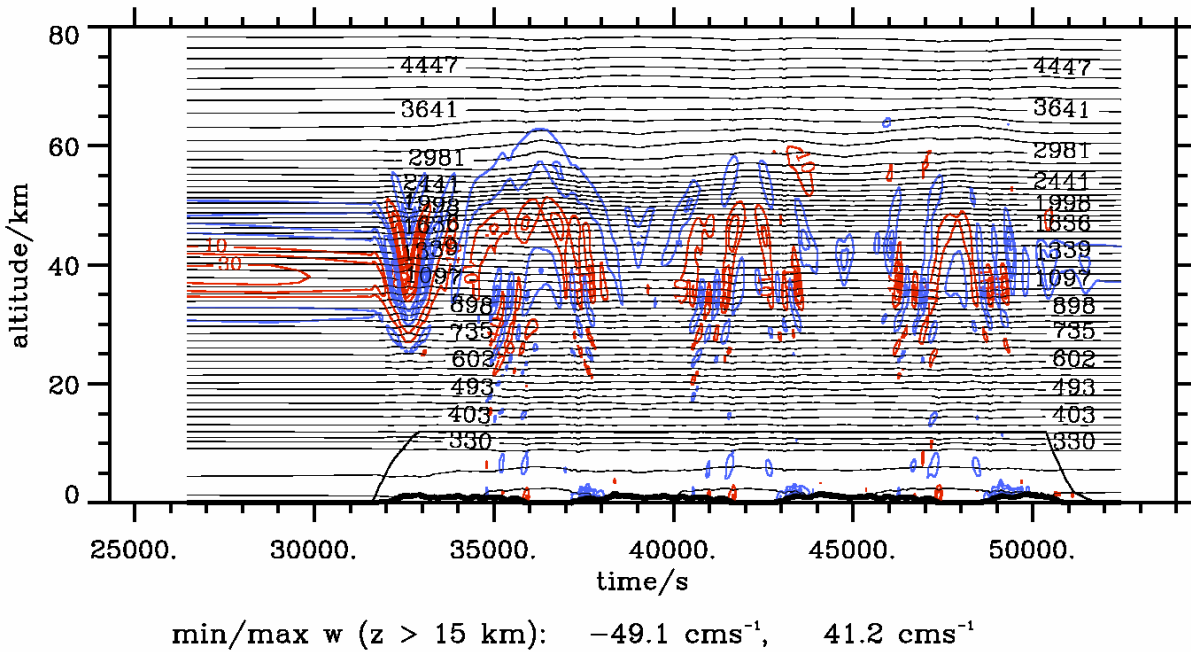


Figure RF26 d: Vertical velocity (cm/s, increments of 10 cm/s, red upward, blue downward) and potential temperature (K, black contour lines) along the flight track of RF26 on 20 July 2014.

Research Flight RF26 20 July 2014

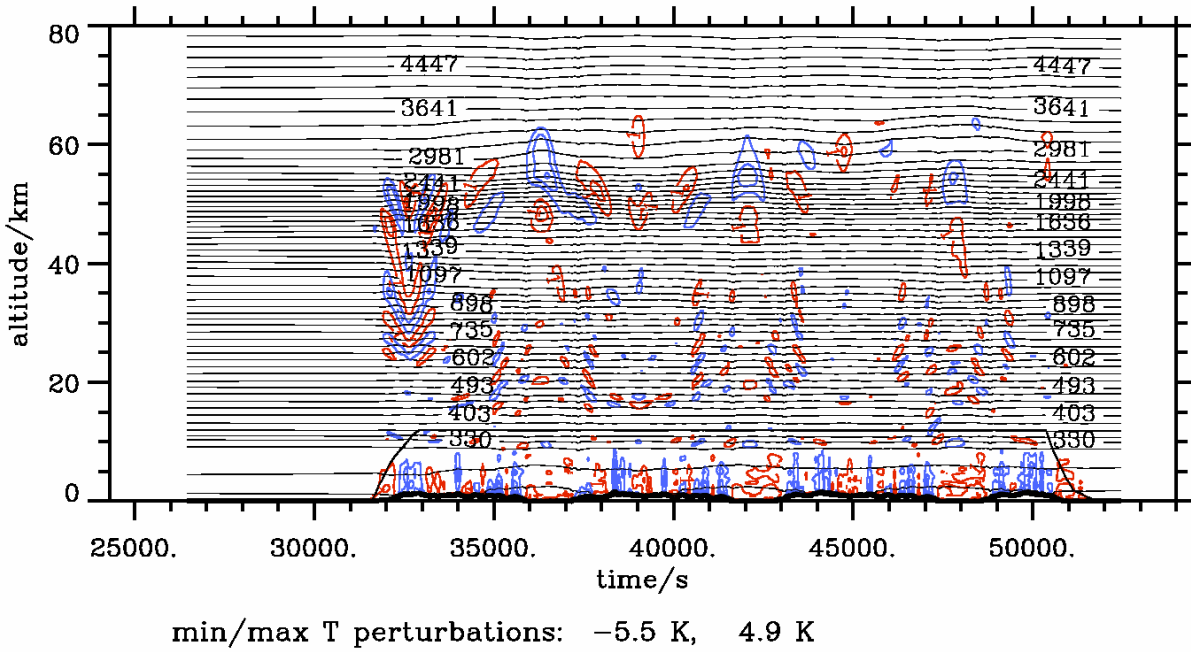


Figure RF26 e: Temperature perturbations (K, increments of 1 K, red positive, blue negative) and potential temperature (K, black contour lines) along the flight track of RF26 on 20 July 2014.