



Navigatus.aero

Queenstown Aviation Wx System Recent analysis work - turbulence



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Queenstown Weather reporting system

- A system developed to support RPT jet services at Queenstown Airport. While originally implemented to support night operations at the aerodrome, its value to also support day operations was quickly recognised. That value is reflected in the current usage:
- Registered users: ~300 active
- Web access sessions per quarter: ~4200 (*~3200*)
- Web log-ins per day: ~20 to ~ 55 (reflecting the forecast weather conditions)
- In-flight access: ~ 4 reports / flight prior to IAF
- Tower and En route teams now have access to aid use post TOD

Philosophy

Customer-centric (pilot / flight-planner) mind set underpinned all aspects of the design of the service and considerable pilot input was sought and flight-experience calibration time and feedback obtained during development of the system and service.

- Give a rich wind picture – a real-time picture
- In place of the day-time visual cues (*trees/ grass / dust devils / water / smoke*)
- Environmental gains – reduce go-arounds and diverts/returns

The challenge





Stations placed as close to flight path as possible



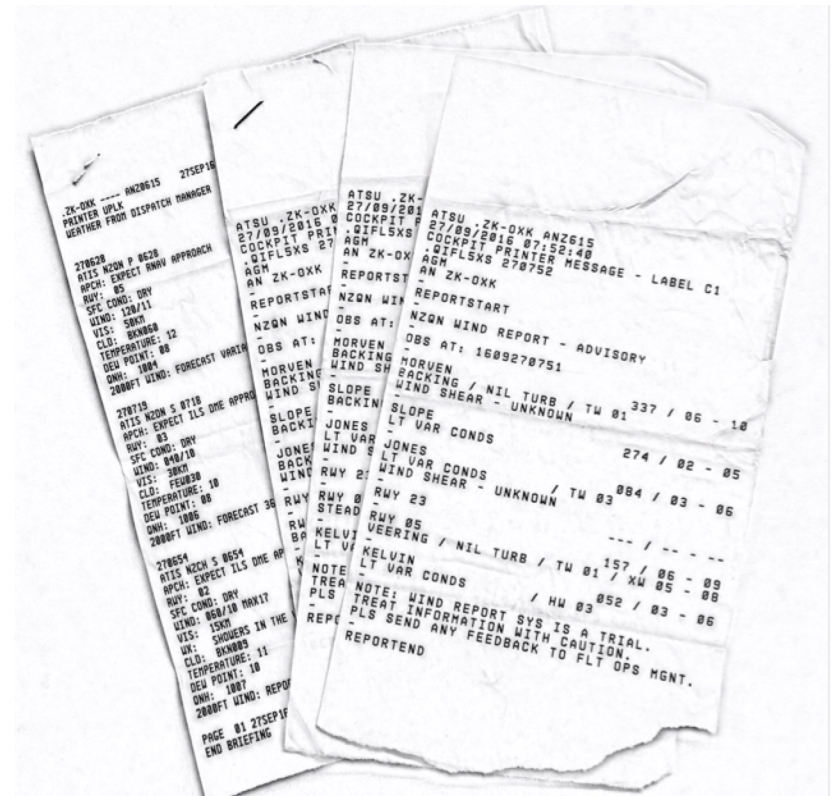
Challenging approach



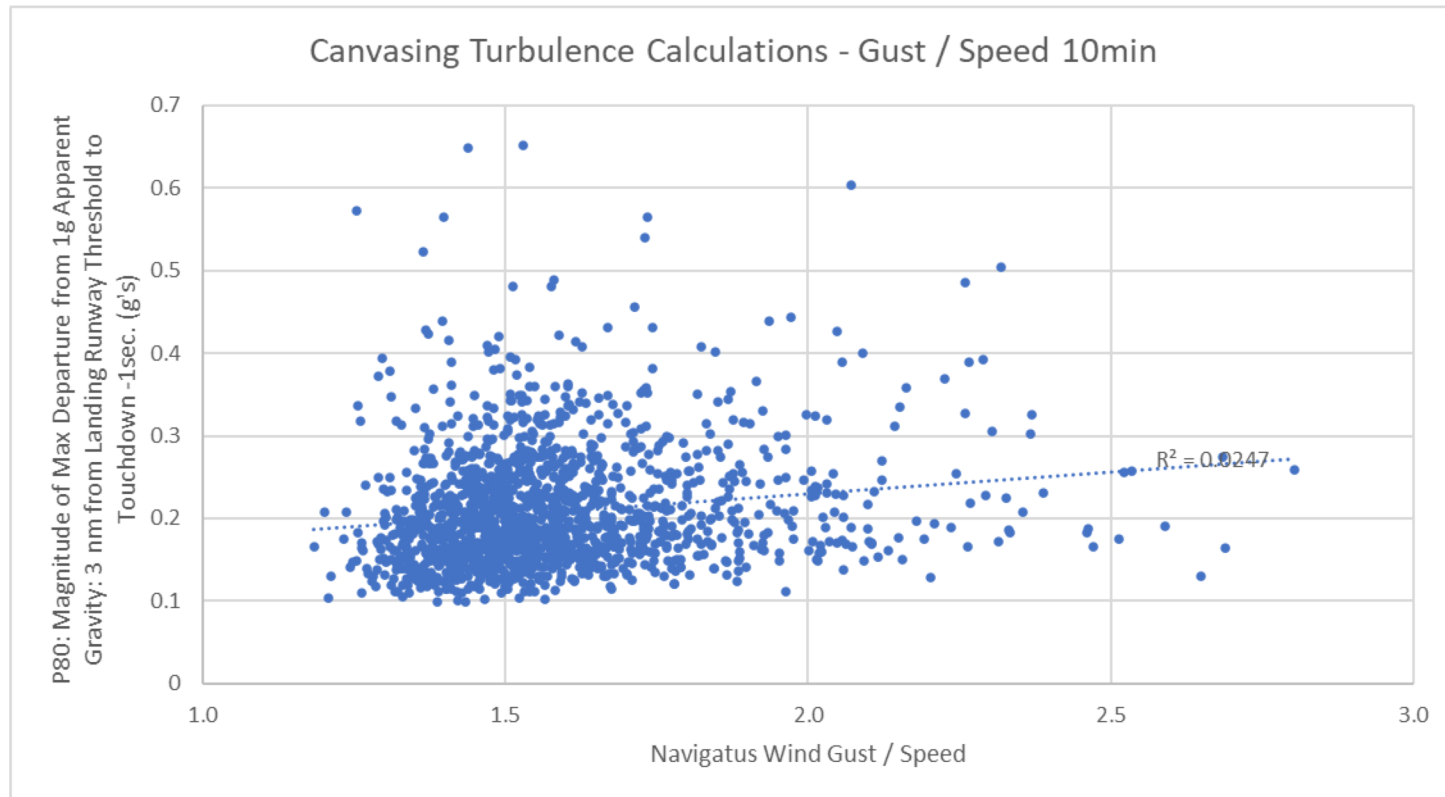
In-flight data

```
APW
211026020802
-
REPORTSTART
-
NZQN WIND REPORT
-
OBS AT: 2110260207
-
MORVEN                250 / 06 - 11
STEADY / NIL TURB / HW 05
WIND SHEAR - NIL
-
SLOPE                 200 / 08 - 12
VEERING / NIL TURB
-
JONES                235 / 11 - 16
BACKING / LGT TURB   HW 10
WIND SHEAR - NIL
-
TDZ 23                234 / 13 - 17
BACKING / LGT TURB   HW 13 / XW 00 - 00
-
TDZ 05                224 / 09 - 14
BACKING / NIL TURB   TW 09 / XW 02 - 02
-
DEER PARK            230 / 10 - 15
VEERING / NOT REPORTED
-
KELVIN              255 / 09 - 14
VEERING / LGT TURB / TW 07
-
NOTE: SLOPE HILL IS ADVISORY.
PLS SEND ANY FEEDBACK TO FLT OPS MGNT.
-
REPORTEND
```

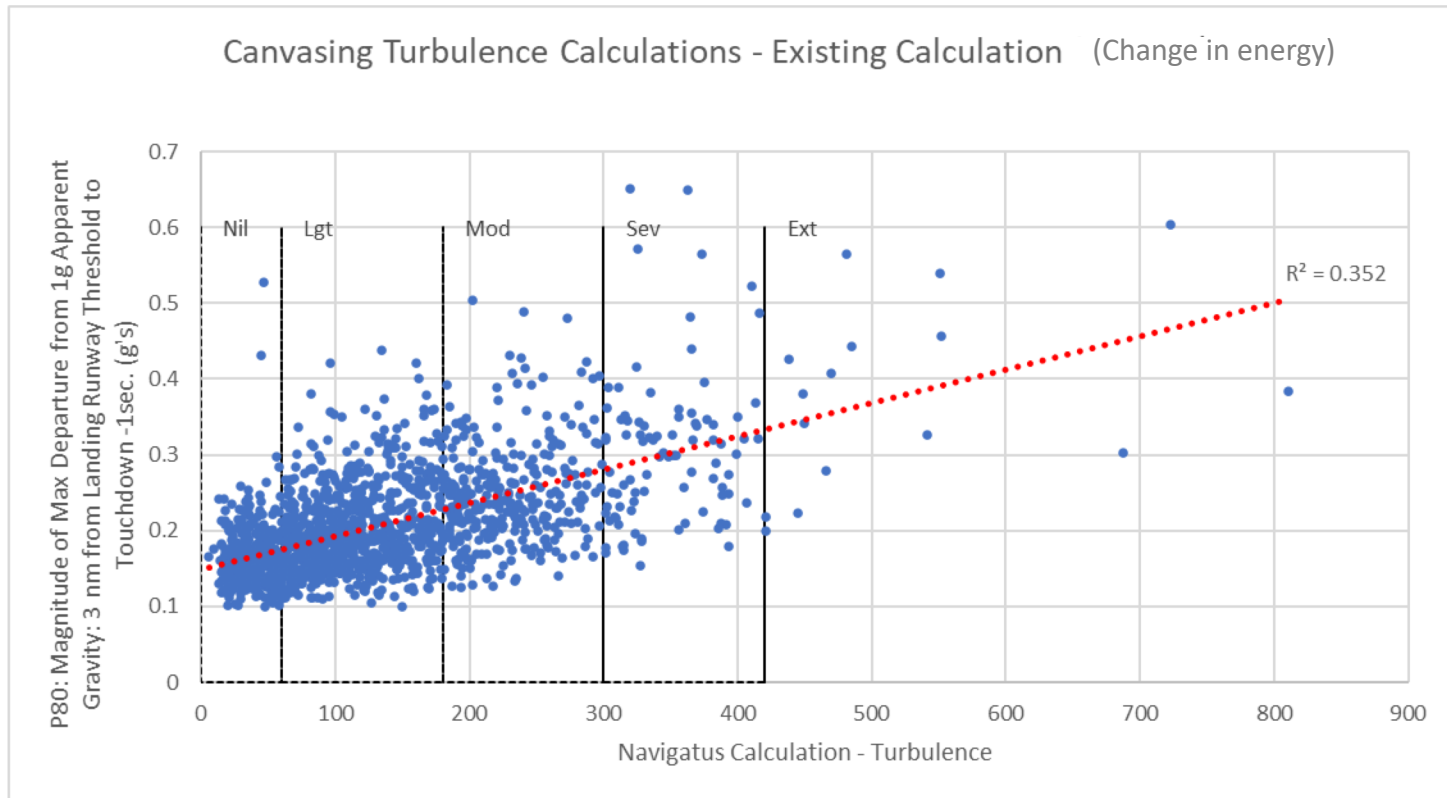
Nil
Light
Moderate
Severe
Extreme



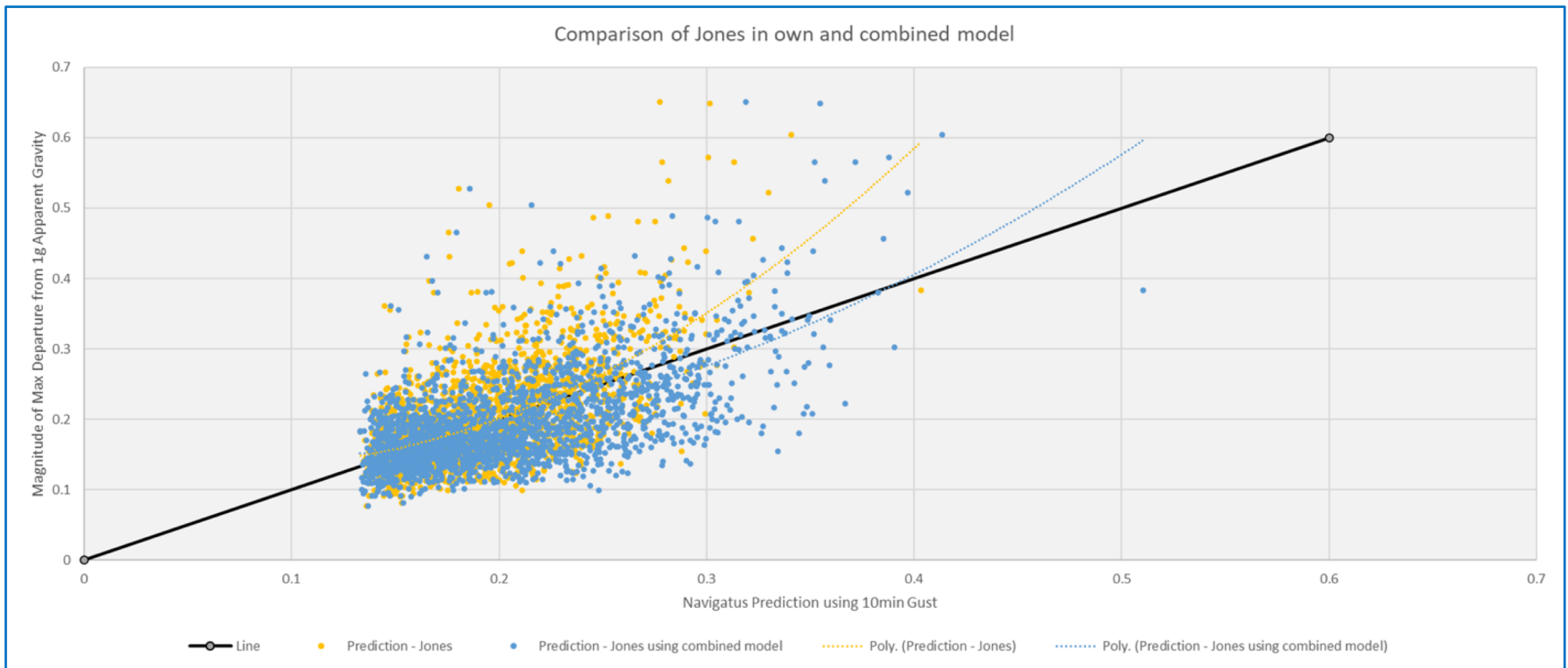
Simple approach



Existing Correlation



Investigation - example



Analysis continues

Customer-centric (pilot / flight-planner) mind set underpinned all aspects of the design of the service and considerable pilot input was sought and flight-experience calibration time and feedback obtained during development of the system and service.

1. Present to pilot cohort during end-of-season forum
2. Seek pilot guidance / agreement
3. Monitor rate of go-arounds / diverts

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