

Preliminary data!

CYYQ: Weather Assessment for Landing & Alternates

Nov 3, 2025

Alex Moore, First Officer

Calm Air

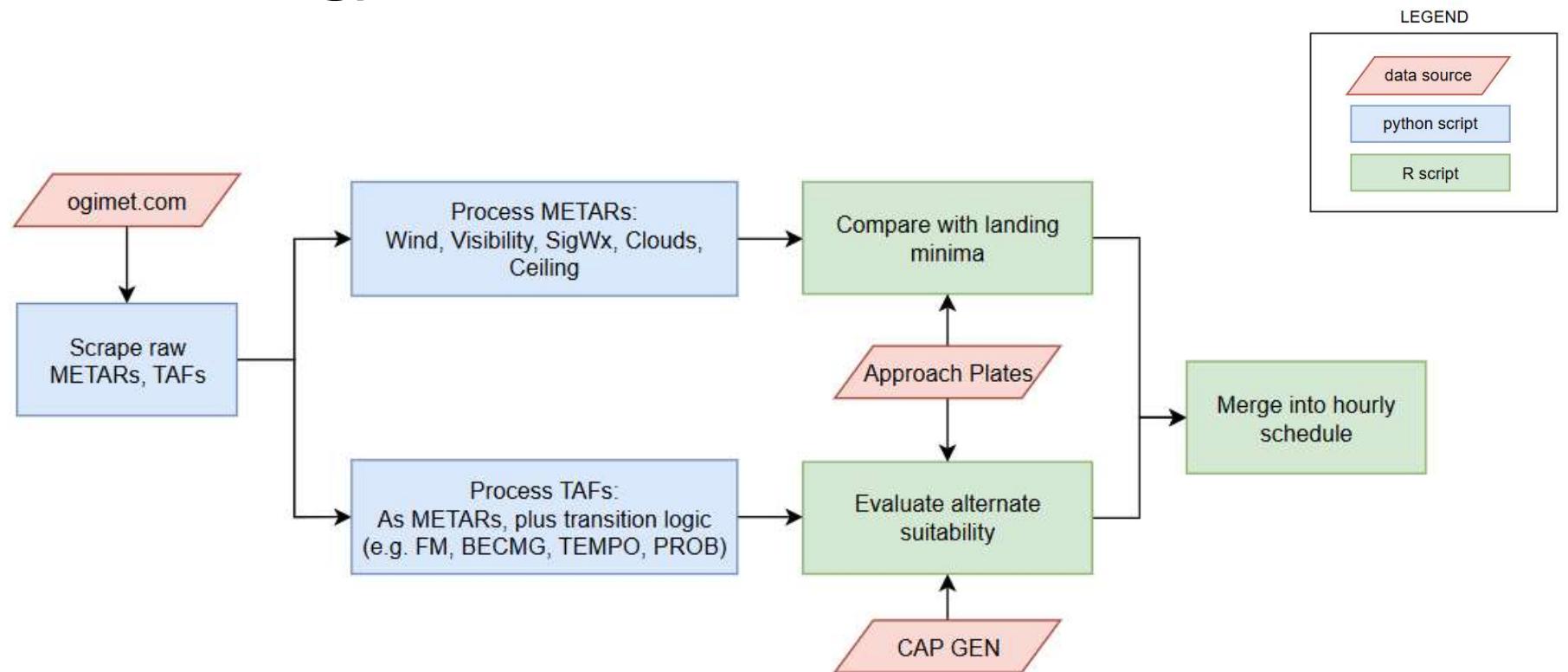
Preliminary data!

Purpose & Scope

- Analysis for the evaluation of a proposed 2-alternate flight planning policy.
- For each hour in the analysis period:
 - Could we land in YYQ?
 - METAR above landing minimums (visibility \geq Ops Spec, ceiling $>$ minimums)?
 - Which 2 alternates were available?
 - Used TAFs issued 3+ hours before arrival
 - Forecast above alternate weather minimums (CAP GEN rules)
 - Options: CYGX, CYTH, CYYL, CYNE, CYQD

Preliminary data!

Methodology & Data Sources



Preliminary data!

Results: Jan-Oct 2025 (10 months, hourly)

- YYQ METARs were suitable for landing 99% of the time
- Fractional availability per alternate:

Aerodrome	CYGX	CYTH	CYYL	CYNE	CYQD
Available as alt	88%	96%	93%	85%	93%

- Distribution of number of simultaneously available alternates:

Number of alts	Count	frac
1	168	2%
2	490	7%
3	1,466	20%
4	2,157	30%
5	2,960	41%



2+ alternates available 98% of the time.

Preliminary data!

Sample Datasets

The following sample (**preliminary**) datasets have been provided:

- Oct_2025_Processed_METARs.csv
 - Hourly raw & processed METAR, with landing suitability analysis
- Oct_2025_Processed_TAFs.csv
 - Hourly raw & processed TAFs, with alternate suitability analysis
 - Notation guide:
 - A -> B indicates A BECMG B
 - A (B) indicates A TEMPO B
 - A [B] indicates A PROB B
- Oct_2025_Alternate_Availability.csv
 - Merged dataset

Further Work

Preliminary data!

- Validate results & fix any bugs
- Clean up code
- Expand analysis period: 10+ years of data available
- Scope refinement – what exactly do we want to investigate with this data?
- Related analyses:
 - Seasonality and alternate availability
 - Statistical tables for crosswinds to inform training standards
 - Expanding scope to YRT sked & Freightier ops