SUPPORTING
EUROPEAN
AVIATION

# EUROCONTROL – IFATCA – SESAR Conference
# Climate Adaptation Session

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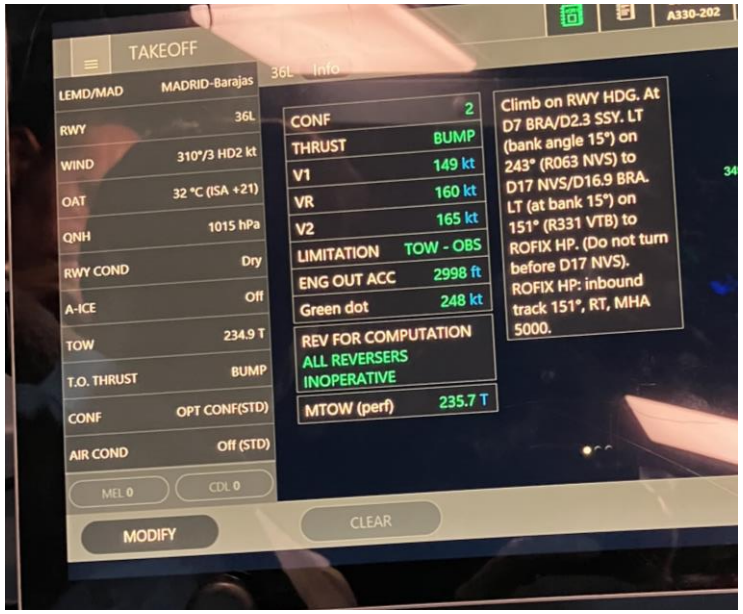
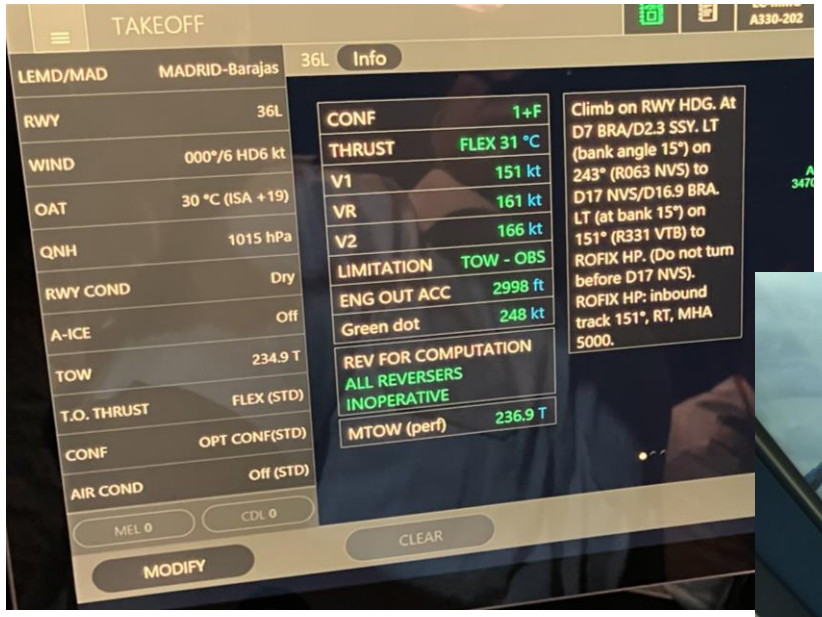
FOUNDING MEMBER sesar JOINT UNDERTAKING
NETWORK MANAGER

# Take-Off



- Higher temperatures at airports:
  - Longer TOD and LD (brake usage vs turn-around times)
  - Higher use of engine thrust (Flex vs TOGA)
  - Reduce MTOW
- Longer taxi times due to weather disruption

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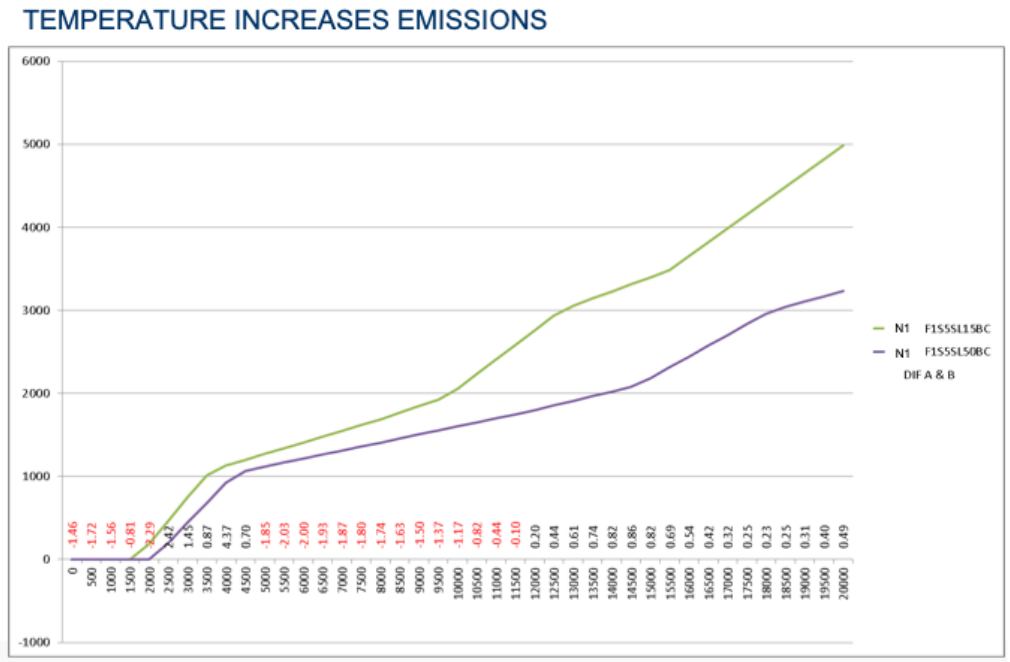
# Climb



- Higher temperatures at airports:
  - NADP profile
  - Engine failure performance
  - Longer time to reach ToC (higher fuel consumption)
- More deviations needed due to weather disruption

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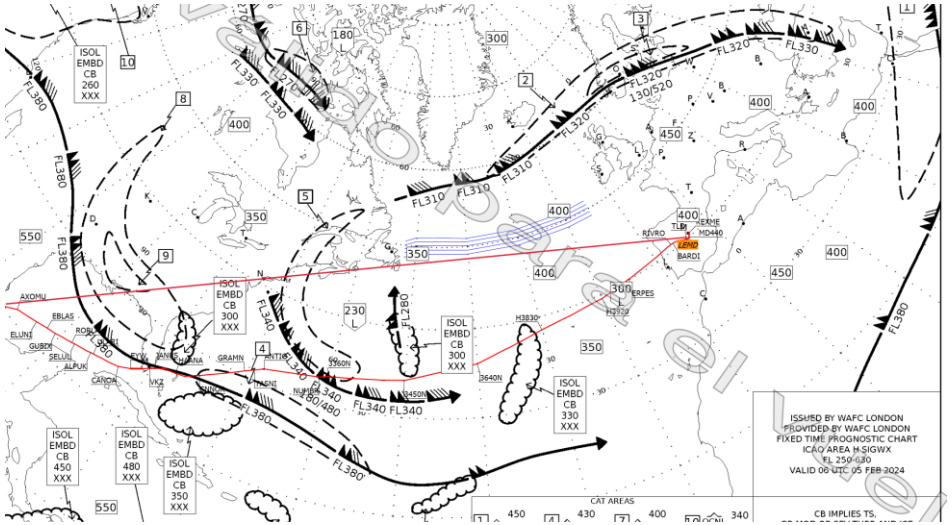
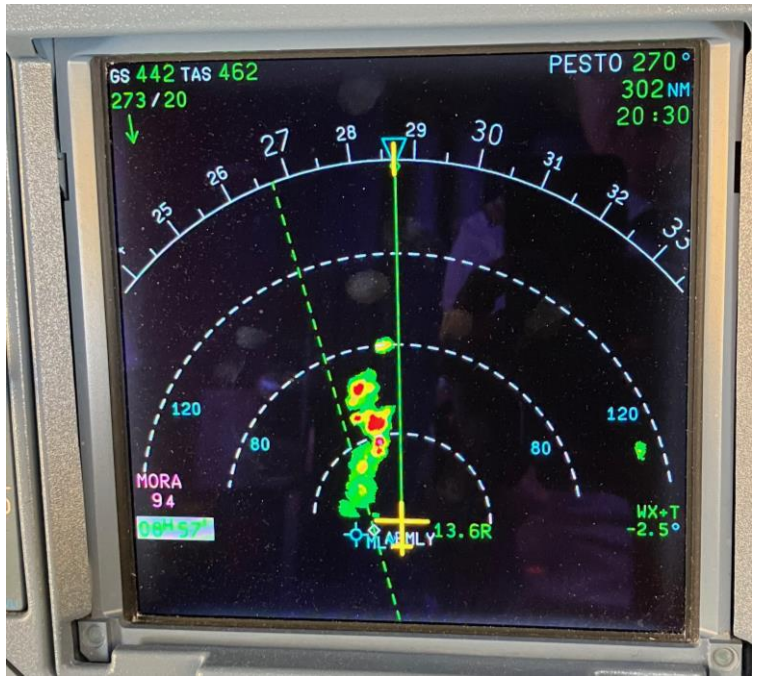
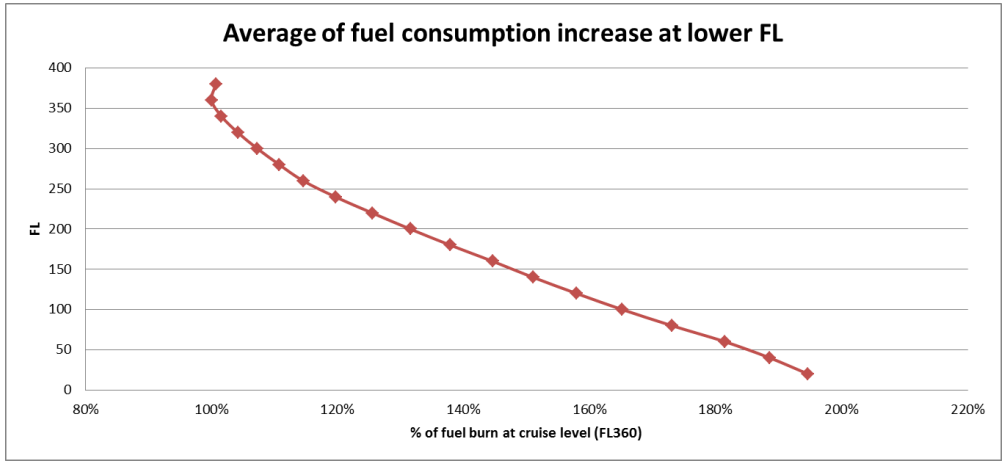
# Cruise



- Jet streams can make routes longer
- Wx deviation: higher fuel consumption
- Turbulence: different FL from optimal



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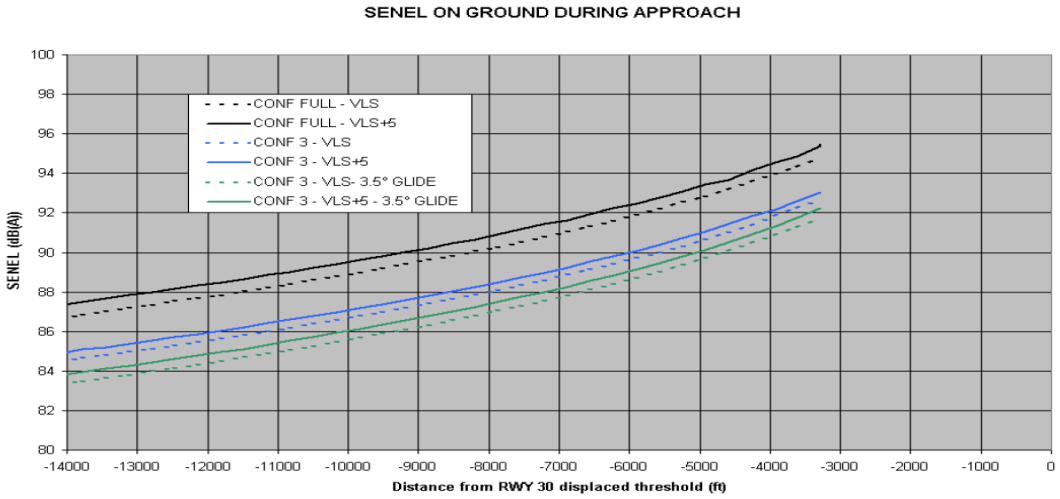
# Arrival




```
1A:LEMD-LPPS-GCTS-EA:GVAC-SBFZ-1A:SBBR-SGAS-SUMU
ALTN ROUTE SAEZ- DAGUS DCT UGIMI SAEZ
ALTN ROUTE SAAR- DAGUS DCT DORVO DCT FDO DCT ESKON SAAR
MEL/CDL: 99-99
99-99 FUEL CONSUMPTION PERCENT INCREASE (1.00 %)
**SID R36L CCS4N **STAR R06 TELAK1C
**MACH AREA .80 ENTRE NELSO Y ESLEL
**PTOW 231200 KGS  T32° QNH 1013 WIND -5KT  BUMP CONF 2
** 1 POR CIENTO INCREMENTO FUEL CONSUME POR BODEGA REFRIGERADA
** 20 MINUTS HOLD POR METEO EN DESTINO
```

| CI SCENARIO | KG | MIN | DEST SUMU DIVN WT 157240 | | | | |
|---|---|---|---|---|---|---|---|
| CI0 | +5 | +00:00 | ALTN | DIST | FUEL | TIME | MINBL |
| CI300 | +0 | +00:00 | SAEZ | 164 | 3190 | 00:40 | 79690 |
| +/- 1000KGS TOW | 305 | | SAAR | 316 | 5600 | 01:12 | 83158 |

- Higher temperatures:
  - Longer LD, brake wearing, less low noise low drag
- Wx at destination:
  - More fuel required
  - More holdings
  - Possible fuel emergencies
- Mass Diversions: alternate policy

| | | |
|---|---|---|
| TAXI+APU | 00:17 | 580 |
| TRIP | 12:14 | 70470 |
| HOLD SUMU | 00:20 | 1370 |
| CONTINGENCY | 00:22 | 2120 / 3PCT |
| ALT SAEZ | 00:40 | 3190 |
| FINAL RES | 00:30 | 1960 |
| ADDITIONAL | 00:00 | 0 |
| UNUSABLE | | 0 |
| EXTRA | | 0 |
| TANKER | | 0 |
| RAMP FUEL | | 79690 |
| MIN FUEL ALT SAEZ | | 5150 |

Boarding Pass

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