



**NATS**

## **Benefits of a Voluntary Reporting Scheme**

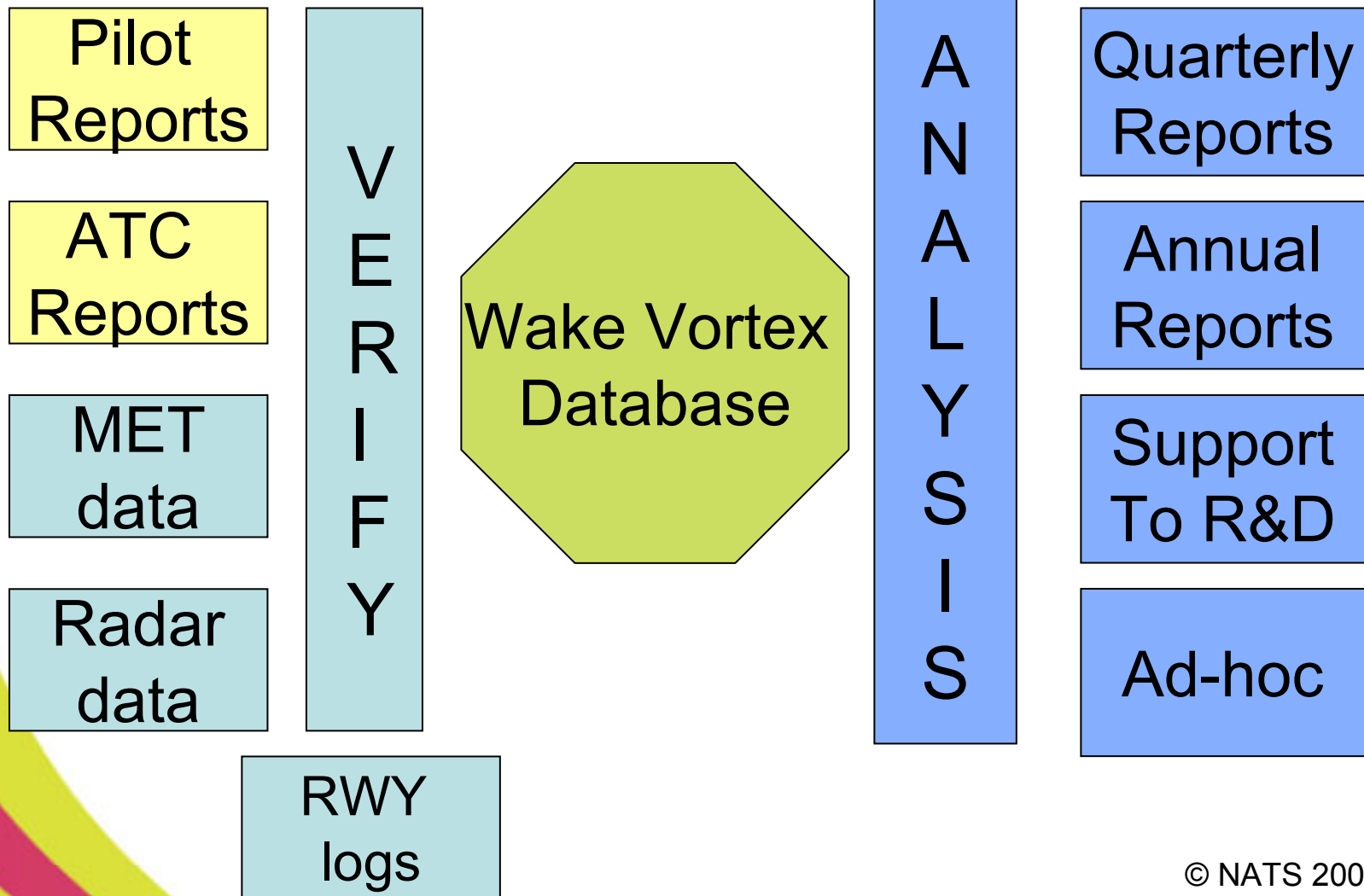
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Wakenet –Brussels 2007

## NATS Wake Vortex Database

- Voluntary reporting of wake encounters in UK airspace
- Database established 1972
- ATC input now electronic via NATS Safety Reporting System
- Contains over 5000 encounters
  - ~17% are CAT A (AoB > 30 Degrees)
- ~65% London Heathrow

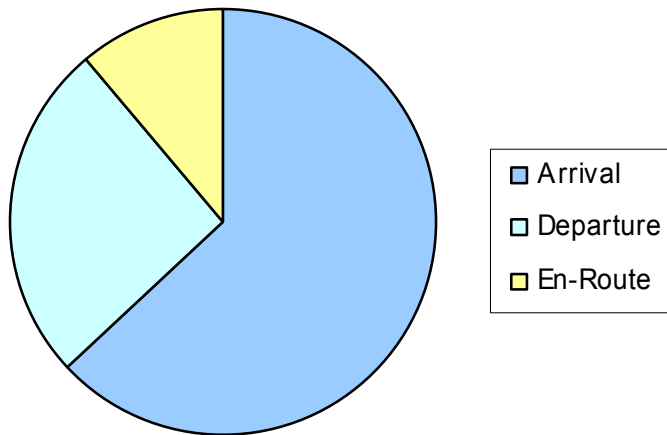
# Database Process



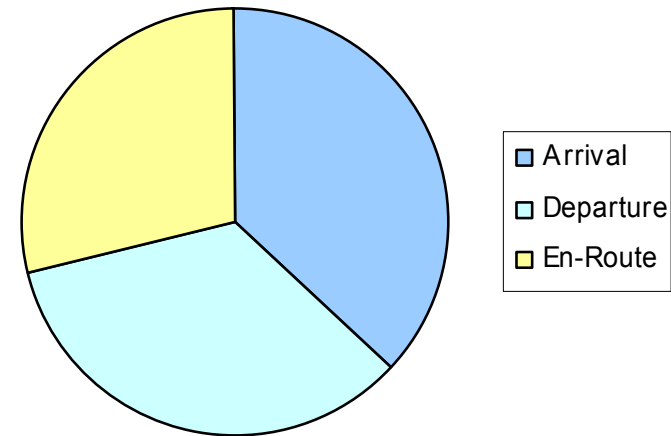
# Comparison of Database with Other Sources - Questionnaire

- Questionnaire distributed November 2006 to UK airlines

The flight phase on which WV are occurring from the database



The percentage of pilots that reported a WV encounter occurring every 20 flights





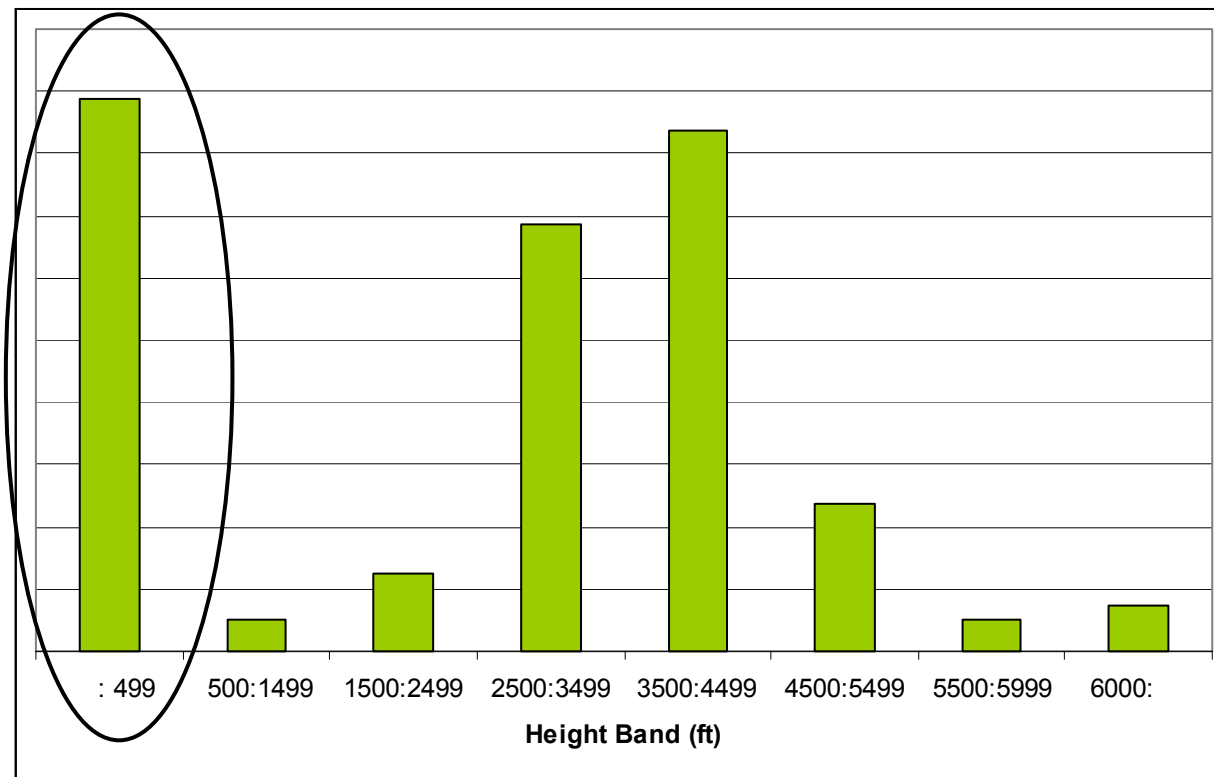
## Comparison of Database with Other Sources - Questionnaire

- Arrival Phase major factor in database, but equal factor in Questionnaire
- Database highlights areas of non-acceptability of WV encounters
- Database provides more information than WV encounter numbers

## Comparison of Database with Other Sources - FDR

- S-wake project WP5 showed cluster of WV encounters detected from FDR at 3000 & 4000ft

Voluntary database provides extra info

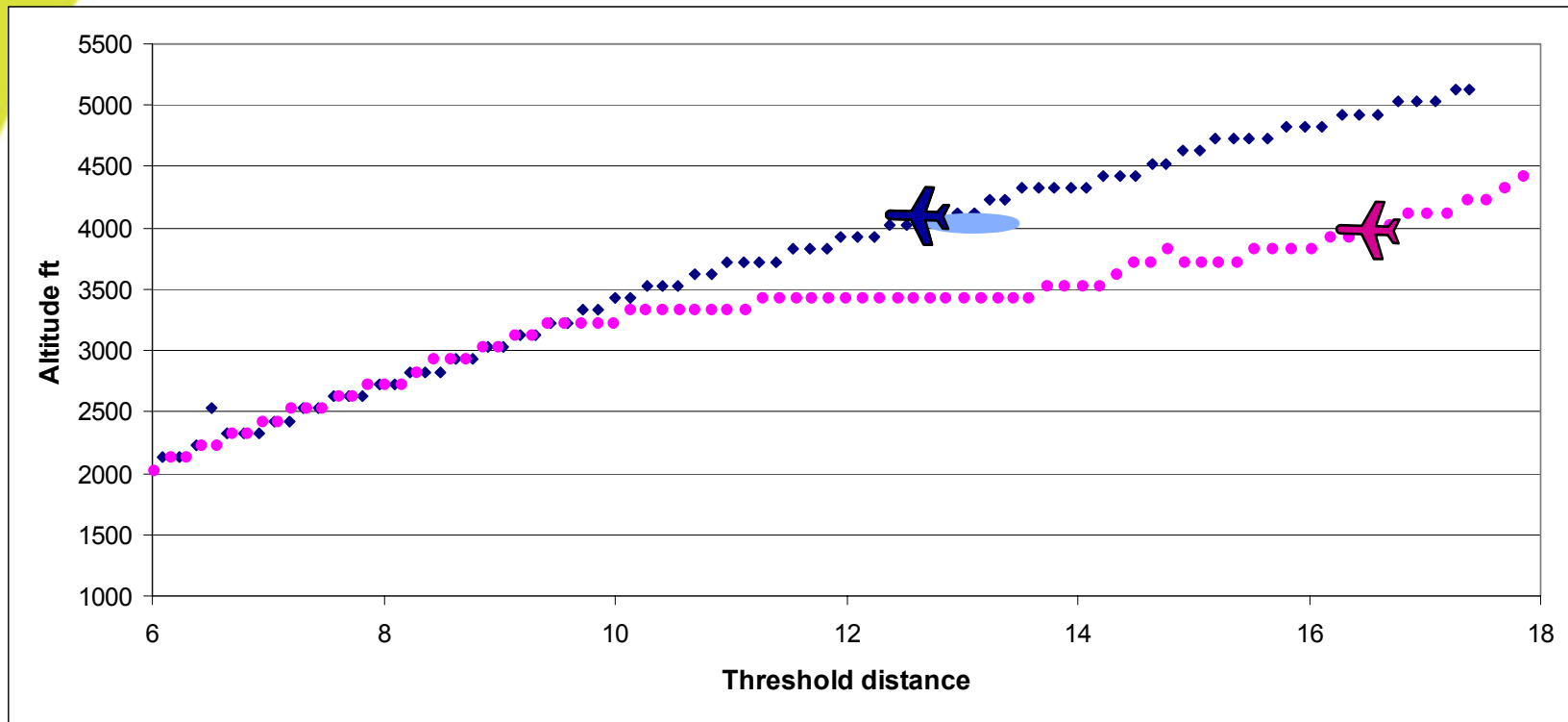




## **Benefits of Voluntary reporting – Future Concepts**

- Reports highlight possible issues with WV in future procedures and airspace design
- Example: TBS - Recent encounter in strong headwind

40kt headwind, time to encounter ~84s



Reports can highlight areas or potential wake vortex risk for both current and future procedures





## Benefits NATS gained from WV reporting

- NATS has 5 WV categories
  - Optimise capacity at NATS' major airports
- WV database used to satisfy regulator
  - WV categories are correct
  - Aircraft in each category are correct
  - Spacing policy to 4DME



## Conclusion

Voluntary reporting can:

- Highlight areas of WV concern
  - Identify any trends
- Be used for safety assurance for current procedures
- Be used to highlight potential WV risk areas in new procedures or airspace changes

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