# FAAM

AIRBORNE LABORATORY

## To Boldly Go...

Airborne measurements of storms, fires, gas leaks, and everything in between.

#### **Graeme Nott**



## In the Thick of it

- FAAM and the BAe-146 atmospheric research aircraft
- Measurements of the Elgin platform gas leak
- Chasing a sting jet in the North Atlantic
- Flying over fires; smoke plume measurements over Manchester





## FAAM Atmospheric Research Aircraft BAe-146

- Operating Altitude Range 50ft to 35000ft
- Endurance up to 6 hours (12.2 Tonnes fuel)
- Science speed 100 ms<sup>-1</sup> (~200 knots)



## FAAM Atmospheric Research Aircraft *Remote Sensing*



## FAAM Atmospheric Research Aircraft In-situ Measurements



## FAAM Atmospheric Research Aircraft Instrument Configuration



Photo: G. Gratton



Photo: C. Chan



Cabin is fitted with rack-based instruments that are tailored to each specific scientific campaign.

#### FAAM Atmospheric Research Aircraft



Photo: NERC

#### Fly-by of the RRS Discovery



#### Plume dispersal forecast 0-1000 ft, 30 March 2012





Source: Met Office

#### B688 Flight track



Graphic: A. Wellpott

#### Plume dispersal forecast 0-1000 ft, 3 April 2012





Source: Met Office

B689 Flight track



Graphic: A. Wellpott

Total leak ~ 2.5 million kg Total UK loss ~ £1 billion

Impact of the Elgin Platform Gas Leak





Terra satellite MODIS visible image 1 Dec 2012 10:31:21

X



Image: NASA GSFC





### **Storm Chasing in the North Atlantic** Dropsonde windspeeds









Photo: G. Nott

#### Flying Through Smoke Plumes Saddleworth Moor



#### **Flying Through Smoke Plumes** C110



















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## Thank you

