

A photograph showing the wake of a ship moving through the ocean. The water is dark blue with white foam from the ship's wake. The sky is overcast with grey clouds. The text is overlaid on the image.

# MetService NZ Marine Programme

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PMO-IV, Orlando 8-10 Dec 2010

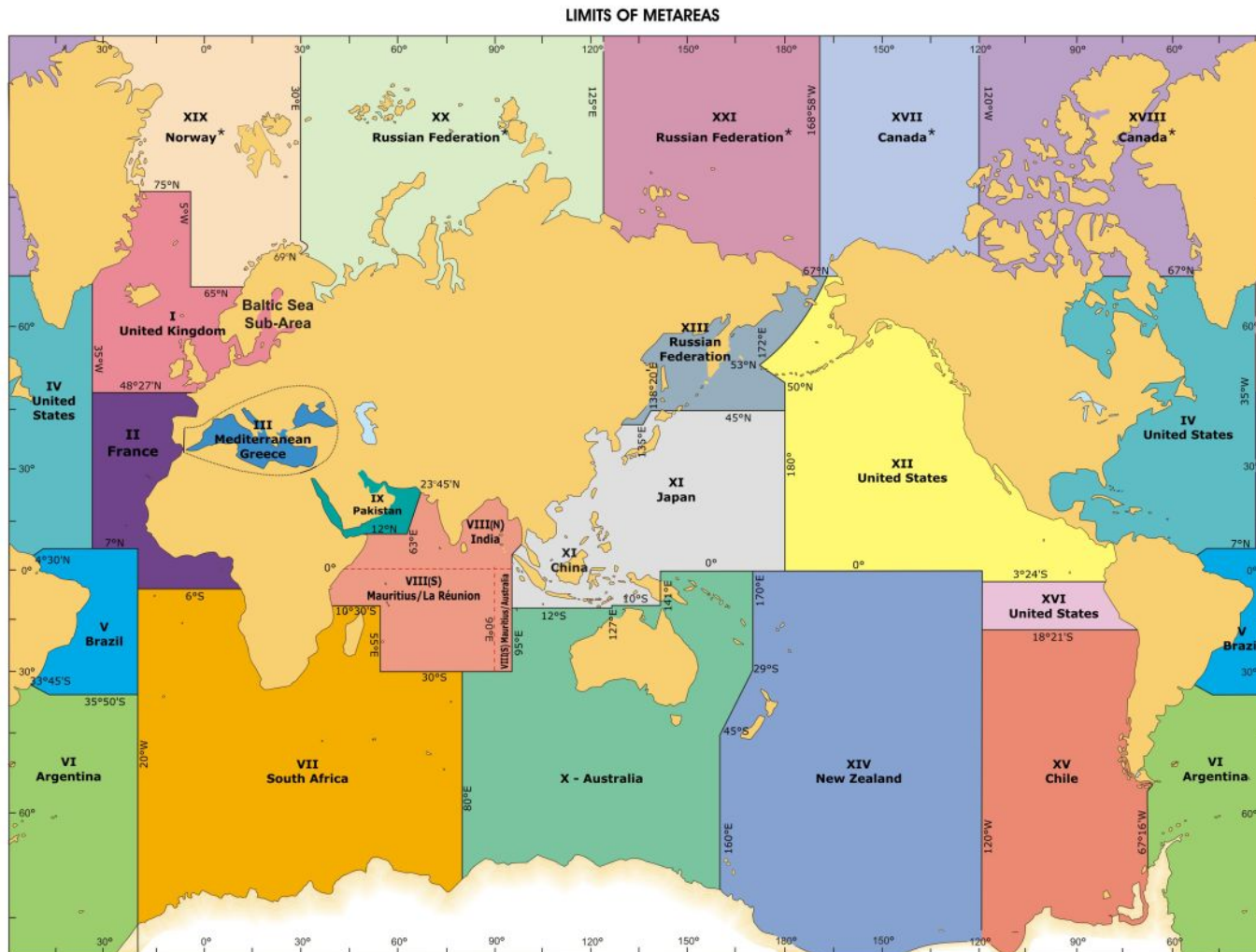
# NZ Marine Programme

## Management of NZ VOS + Buoy Programmes

- All PMO activities - ship visiting
- Recruitment & Decommissioning of VOS
- Monitoring, QC & follow up action
- Assistance to Foreign VOS
- Buoy Logistics + deployment
- Monitoring Buoy data quality



# MetService NZ Marine Forecasting Area (METAREA XIV)



\* The GMDSS is under implementation for the Arctic METAREAs and is expected to be fully operational by 2010/11

# MetService Marine Network

## NZ Marine Network at 1 Dec 2010

### **40** VOS Ships

(1 VOSCLim, 27 Selected, 2 Selected AWS, 1 Supplementary, 9 Auxiliary)

### **8** Drifting Buoys in Tasman Sea

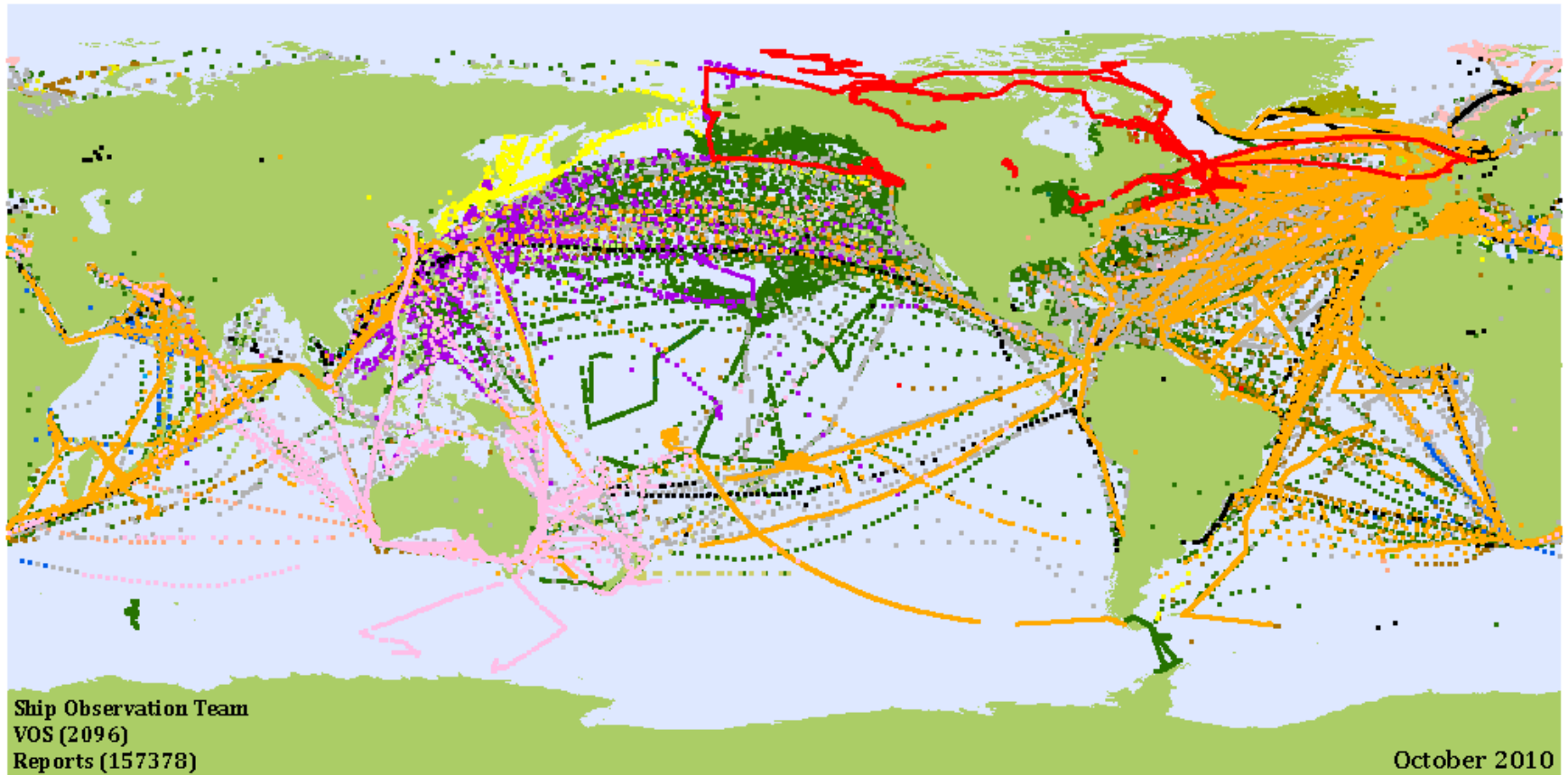
53 deployments to date in 2010

- 3 MetService Buoys
- 2 IRPP, 6 Argos3PP, 32 GDC, 10 Upgrades

# NZ VOS Facts

- High turnover of ships last few years
- More than half NZ VOS Fleet is newer than 4 years old
- Lack of stability = high workload
- Variety of ship types, container ship is most common
- 77% NZ VOS using TurboWin – most using version 4.5
- Most use SAT C SAC transmission, email use increasing
- More training required, make no assumptions
- More after hours visiting

# NZ VOS input >19,000 Obs onto GTS in 2009



AUSTRALIA	CANADA	FRANCE	GERMANY	HONG-KONG	ISRAEL	JAPAN	NEW-ZEALAND	PORTUGAL	SINGAPORE	RUSSIAN FED.	UNITED STATES
AMMC (6253)	CWTO (35)	LFYV (7620)	EU MS (7035)	YHHH (353)	LLBD (69)	RJTD (1849)	NZKL (667)	LFMC (9)	WSSS (1749)	RUNW (35)	PANC (619)
INDIA	CWAO (15718)	LFPW (32130)	EDZW (3286)	IRELAND	NEHERLANDS	NORWAY	UNITED KINGDOM	SWEDBY	RUMS (28)	KWNB (2186)	
DEMIS (1)			GREECE	BIRK (6645)	EIDB (40)	EHDB (11955)	BAMI (5454)	EGRR (5159)	ESWI (901)	RUHB (983)	KWBC (45384)
			LGAT (527)				CWXX (769)				KARS (0)

# Instrumentation

## Manual Observing

- Precision Aneroid Barometer
- Fuess Aneroid Barometer (few ships only)
- Marine Barograph
- Stevenson Screen + thermometers
- Sea Bucket

**New** : Vaisala PTB 330 Electronic barometer

**New** : Plastic screens



# Automation

## Automation

One Marine AWS - RV TANGAROA

- Based on Sutron 9000RTU with manual input option
- MTSAT comms
- Hourly observations
- Tangaroa L 70m, B13.8m, Gross tonnage 2282





# Inspection Regime

- All NZ VOS inspected at least once per year
  - VOSCLim 6 monthly
- Some ships receive several visits
- All barometers calibrated against PMO's Vaisala PTB220AD Transfer Standard barometer which is traceable to National/International standards
- Foreign VOS ships visited when possible and on request

# New Initiatives since PMO-III

- Jun 06 – first plastic screens on NZ VOS
- May 07 – first VOSclim ship recruited
- July 07 – Pub 47 Ver 3 metadata submitted in xml format
- Aug 07 – first mSTAR-SHIP installation
- Dec 07 – New ‘Southern’ Forecast area
- Feb 09 – NZKL SNVE01 hourly bulletins commenced
- Apr 09 – began quarterly GCC submissions
- Nov 09 – first digital barometer installed on VOS
- April 10 – reclassified NZ VOS to new VOS Classes

1<sup>st</sup> VOSClm ship – MV  
VEGA GOTLAND, with  
Plastic MetSpec screens



# Aztec Plastic Screens



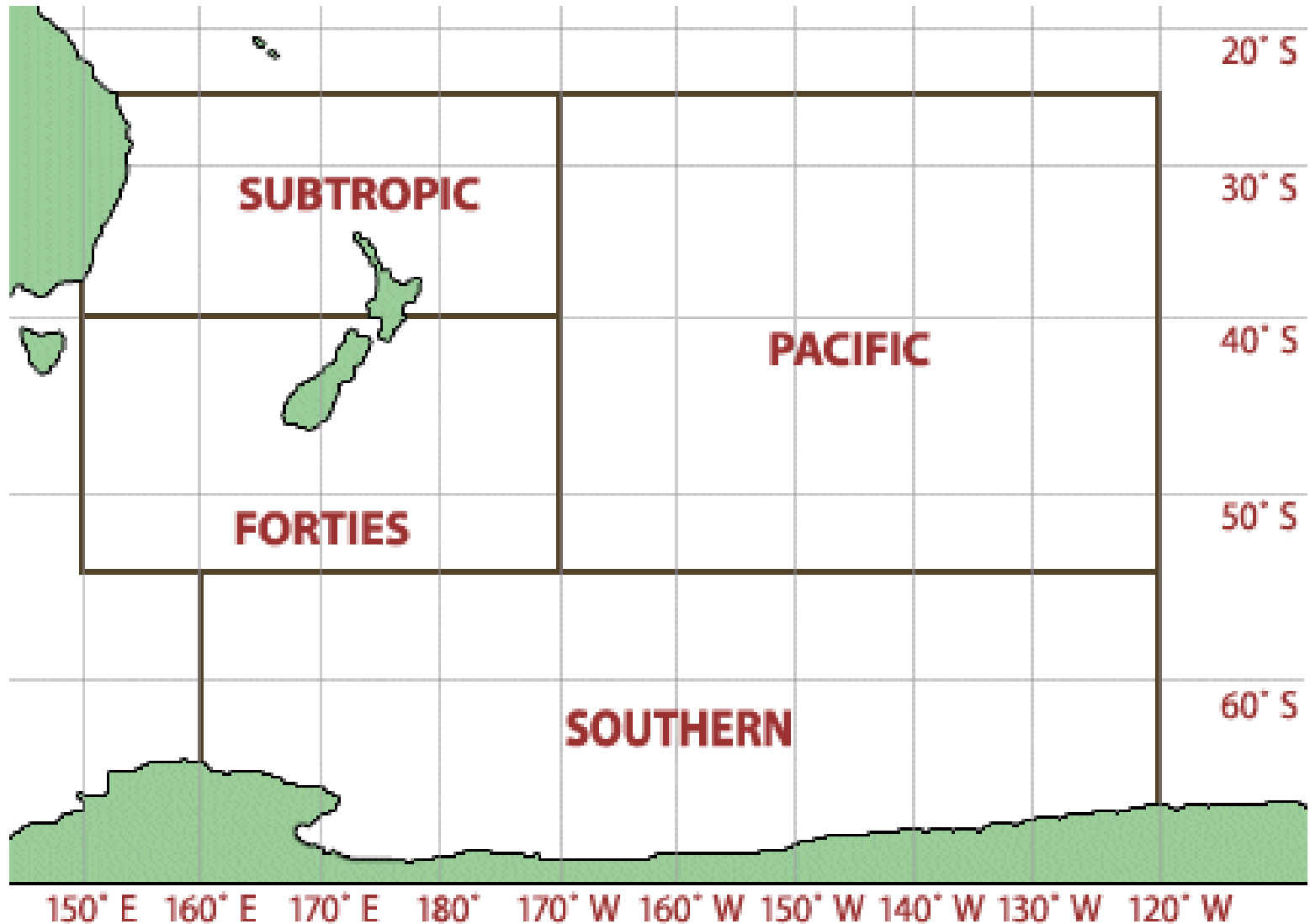
# Low Cost Ship AWS -ZMENA

- mSTAR SHIP AWS based on MetService generic family of land AWS
- GPRS cellular network comms, 1 min data
- Using GPS for position & True WSD
- Coastal container ship SOE, L130m Gross tonnage 7470
- Concept is successful, plan to install on more coastal ships

Vodafone GPRS  
Coverage



# New 'SOUTHERN' Forecast Area



# MCSS Submissions

- Dec 2006 - MetService recommenced submitting VOS IMMT data to the GCCs by collating the IMMT files collected from VOS using TurboWin since 2004.
- Submissions made annually in Dec 06, 07, 08
- From Q1, 2009 submissions made quarterly
- 2009 submissions totalled about 7700 records
- 2010 first three quarters 7000 records submitted

# Vaisala PTB 330 barometer



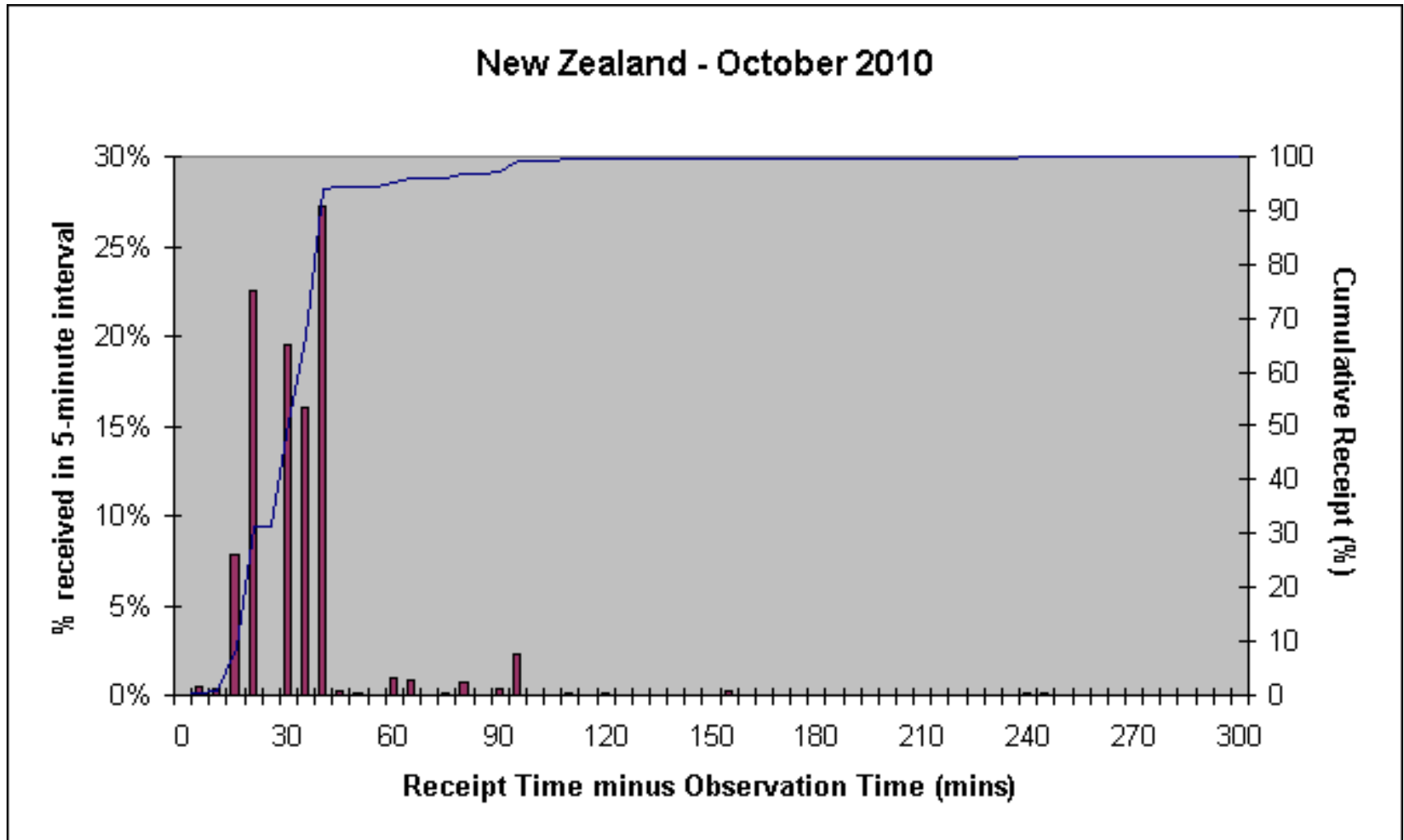
Pressure and  
Pressure Tendency



# Obs Quality & Quantity Monitored

- Count of Obs recvd in Real-Time versus Obs done in E-logbook
- Forecaster & data entry staff feedback
- Use of MeteoFrance VOS QC tools
- Use of UKMO Monthly stats and TOR
- Regular feedback to ships on communications and data quality issues

# TOR NZ VOS October 2010



# Challenges and Difficulties

- Volatility – global crisis, fuel costs, company mergers etc have all affected the NZ VOS
- Lack of stability has affected the recruitment of more VOSCLIM ships
- More training required to get better OBs
- ISPS code needs forward planning, impromptu visits no longer possible
- Not all ships have PCs for TurboWin
- Problems with networked PCs and Read/Write privileges
- Language problems - clear instructions
- Many ship visits done out of normal hours

# Other SOT activities



- Buoy Programme – finding ships and loading buoys for deployment

In addition to MetService Buoy Programme, assist GDC with logistics and deployment of buoys under SOBP

- Assisting overseas agencies with info on ship routes and schedules
- Positive Note: an increase in ships wanting to help with SOT programmes for environmental reasons

# Thanks to International PMOs

- Co-operation between International PMOs is excellent
- Assistance received to issue and remove instruments
- Information shared on ship routes, possible recruits, ship changes and best practice
- I find the PMO work stimulating and interesting



Thanks to global  
PMOs and VOS FP  
for their positive and  
timely help and  
advice