

# Are We Meeting Our DEEPWAVE Mission Goals?

## Proposed Mission Types (EDO and Operations Plan)

Mission	Number of Flights	Ave Flight Duration (hours)	Total (hours)
New Zealand Transects	10	10	100
Southern Ocean Surveys	5	10	50
GW Predictability	5	6	30

# Current Summary of Missions

Mission	Number of Flights	Ave Flight Duration (hours)	Total (hours)	Number of Drops
New Zealand Transects	10.0	~7.1	75.75	151
Tasmania	2	8.25	16.5	18
Southern Ocean	0.5	7	3.5	2
Auckland Is. Macquarie Is.	0	0	0	0
Predictability	2.5		14.5	33
Calib. / Inter.	1	3.25	3.25	0
Total	16	~7	113.50	204

# Projected Summary (Thru Tues)

Mission	Number of Flights	Ave Flight Duration (hours)	Total (hours)	Number of Drops
New Zealand Transects	10.0	~7.1	75.75	151
Tasmania	2	8.25	16.5	18
Southern Ocean	3.5?	6-7?	21.5?	32?
Auckland Is. Macquarie Is.	0	0	0	0
Predictability	2.5		14.5	33
Calib. / Inter.	1	3.25	3.25	0
Total	19?	~7	132.50?	234?

# **Thoughts on Our Mission Goals To Date**

- We are slightly ahead of pace for the South Island missions (76 h out of 100 h proposed or ~75%)
- Scientifically we are behind on 3 main objectives:
  - Southern Ocean Missions (7% of proposed total) including sub-Antarctic Islands
  - Predictability (50% of proposed total)
  - Satellite overpasses (no legs so far)
- We are ahead of the curve on dropsonde usage, but not too far from the curve.
- Upsondes:
  - Hokitika is a bit ahead of the curve (95/150)
  - Haast is ahead of curve – only 13 left (36/47)
  - Lauder is ahead of curve – only 16 left (45/60)
- Due to the ATC restrictions, we may not fly another Tasmania mission unless it is a spectacular/very interesting event offshore Tasmania.

# Thoughts on Our Mission Goals To Date

- For Southern Ocean objectives, the news isn't all bad.
  - Saturday flight; Mon, Tue are very promising
  - Climatologically, we are entering what should be the most active period of the project in the S. Ocean
  - We still have 1/3 of the experiment left and a lot of flight hours still available (~9+ more flights)
  - Should discuss flight strategies for S. Ocean missions to maximize our usage of the lidars and flight level instruments.
- As always, we need to keep a close watch for good-excellent cases for South Island (main DW objective)
- Predictability will need to be more aggressive with short missions (> 6 h) and added predictability modules (2-3 h) on S. Ocean or S. Island flights to meet its goals.
- Keep in mind Satellite Overpass Opportunities for NRL goals – important for AIRS & satellite interpretation.