



Neptune™ - METOCEAN 's Deep-Diving Profiling Floats

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Summary

- Introduction
- Neptune Argo Floats
- Neptune Argo Sensors
- Argo Float Cycle
- First METOCEAN Deployment
- Velocity versus Depth Data
- Temperature Profile Data
- Conclusions



Introduction

- ARGO Requirements
- Technology Match
- Design Capability
- Manufacturing Capability
- Strong Teaming Effort



NEPTUNE™ Argo Floats

- Two Models -- LS and SC
- Design life of 150 profiles over 4 to 5 years with lithium battery pack
- Sea-Bird SBE-41CP or FSI Excell™ CTD Sensors
- ARGOS or ORBCOMM Telemetry
- Air Deployment Option (C-130 aircraft)



NEPTUNE™ Argo Floats and Sensors





NEPTUNE™ Model LS



- Buoyancy engine designed by IFREMER
- Demonstrated long-term reliability based on MARVOR and PROVOR floats
- Robust buoyancy design allows profiles to 2000 meters in all oceans
- Weight: 34kg
Length: 170 cm
Diameter: 17.3 cm



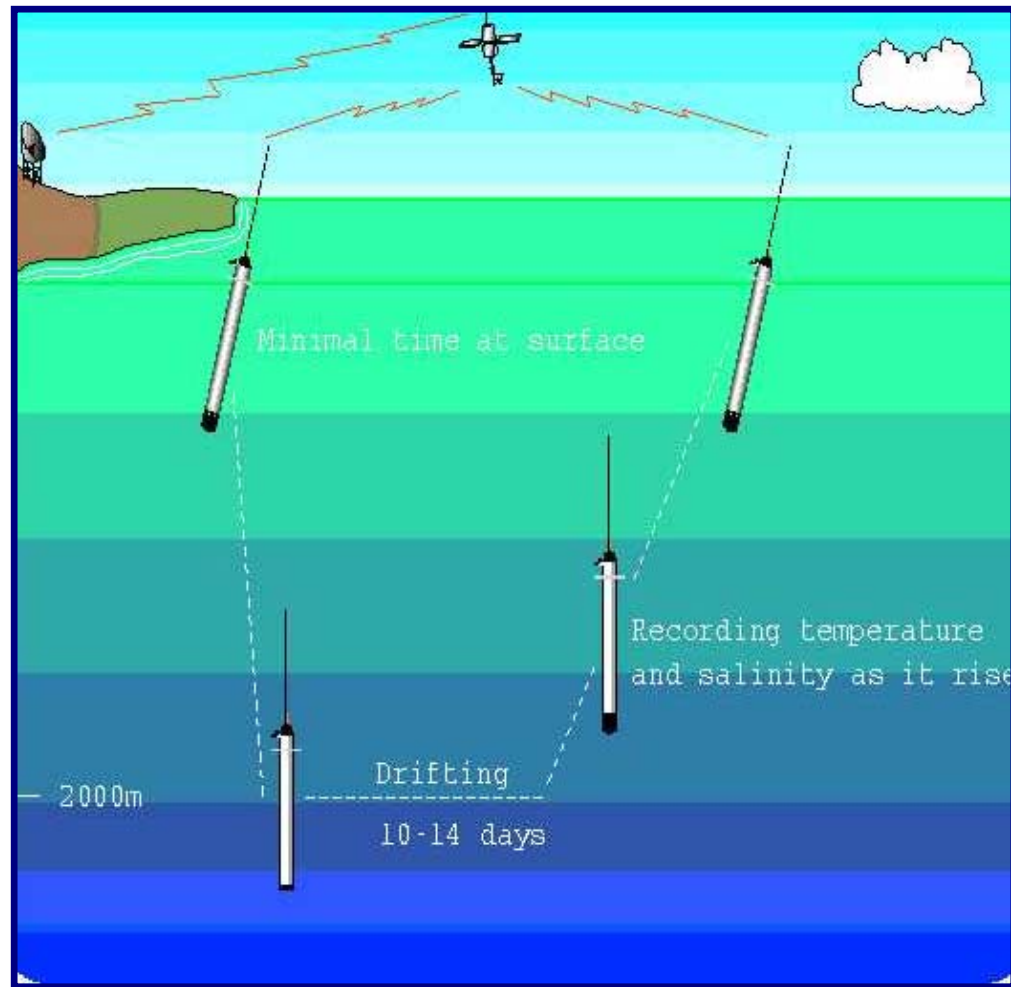
NEPTUNE™ Model SC



- Buoyancy engine design by SIO
- Piston driven engine
- Smaller buoyancy engine limits profiles to 1,500 meters in tropical oceans
- Weight: 30 kg
Length: 110 cm
Diameter: 16.5 cm

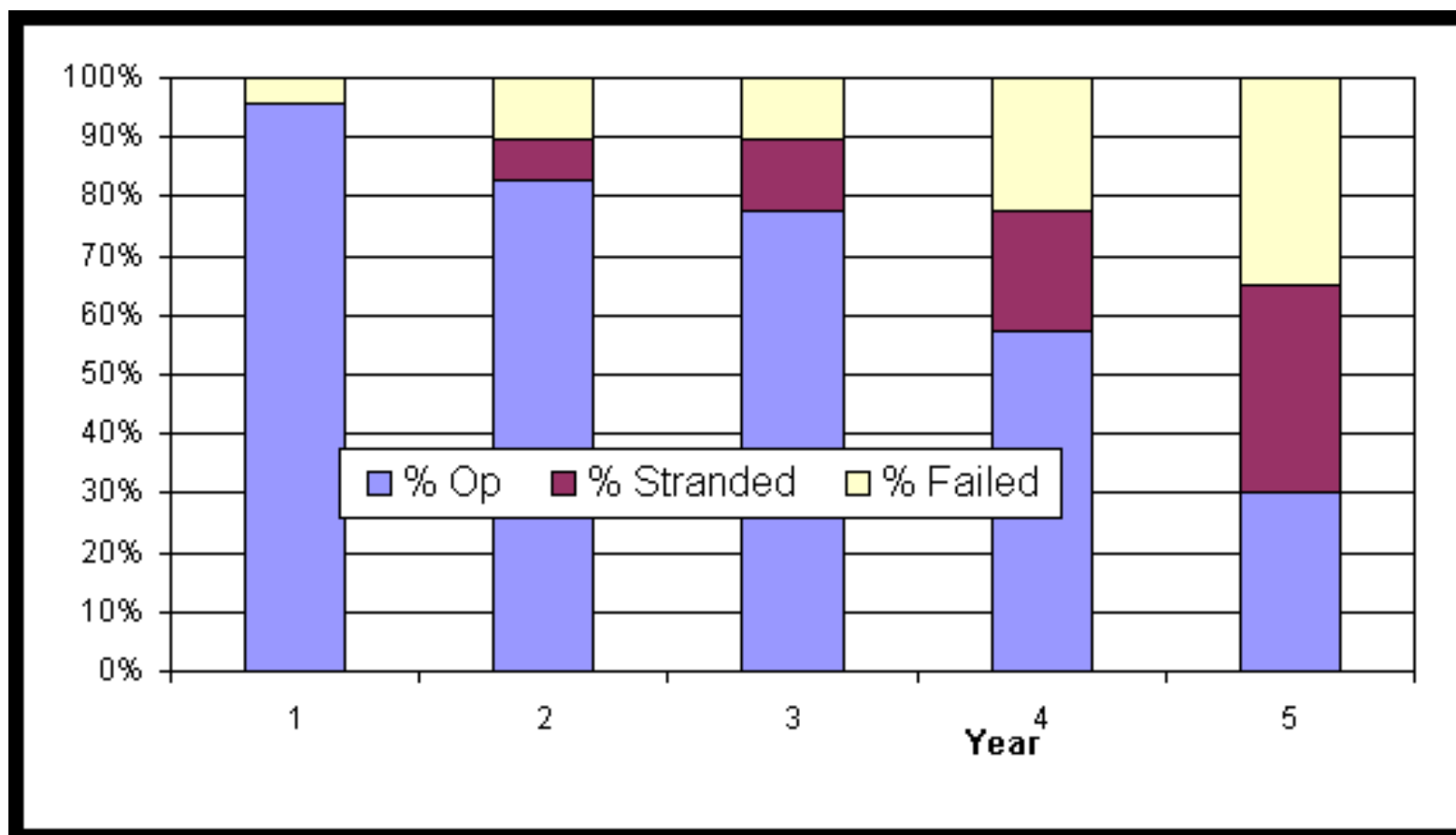


Argo Float Cycle





Provor Buoy Buoyancy Engine Reliability



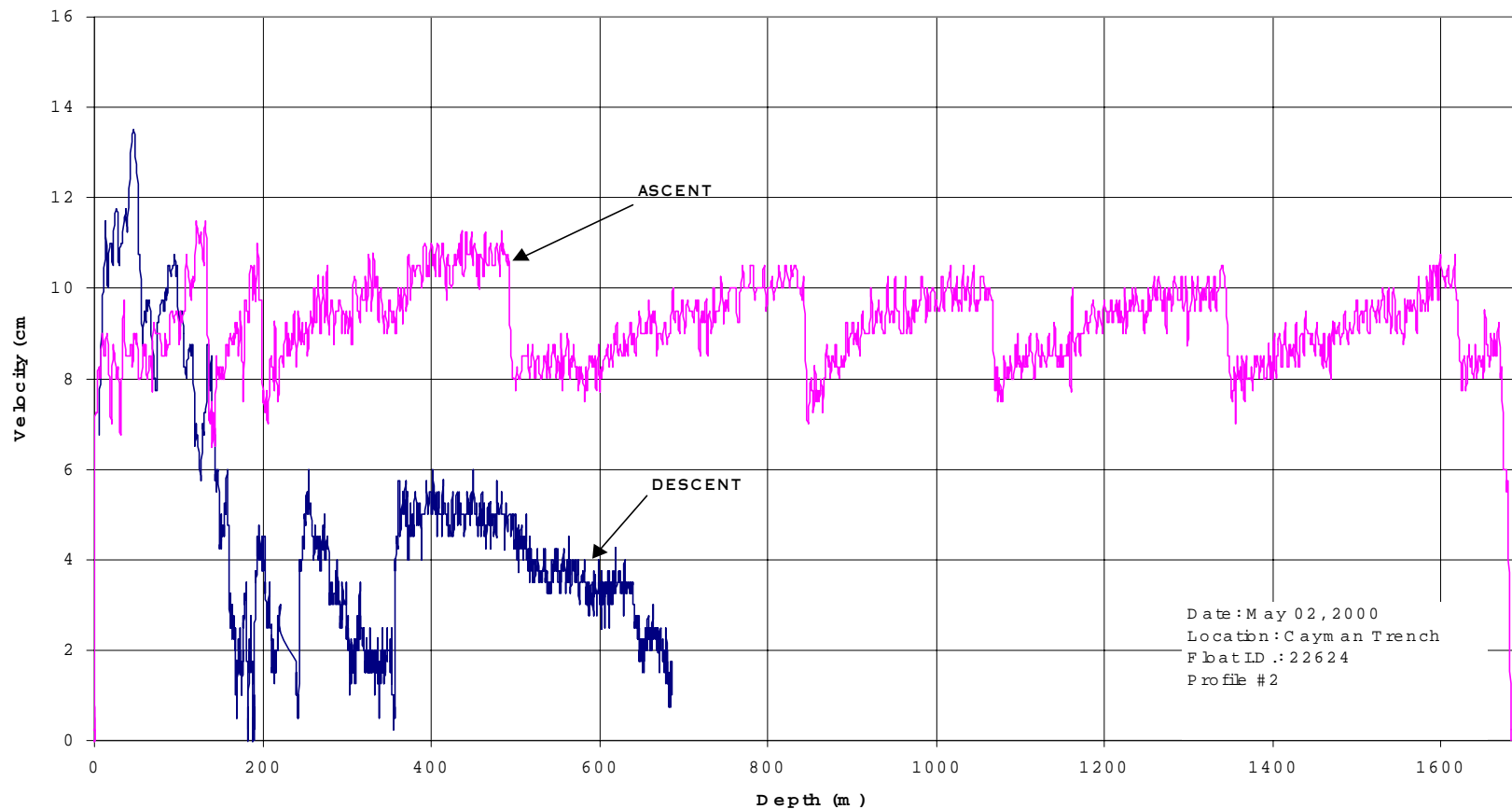


First Deployment of NEPTUNE™ LS Float





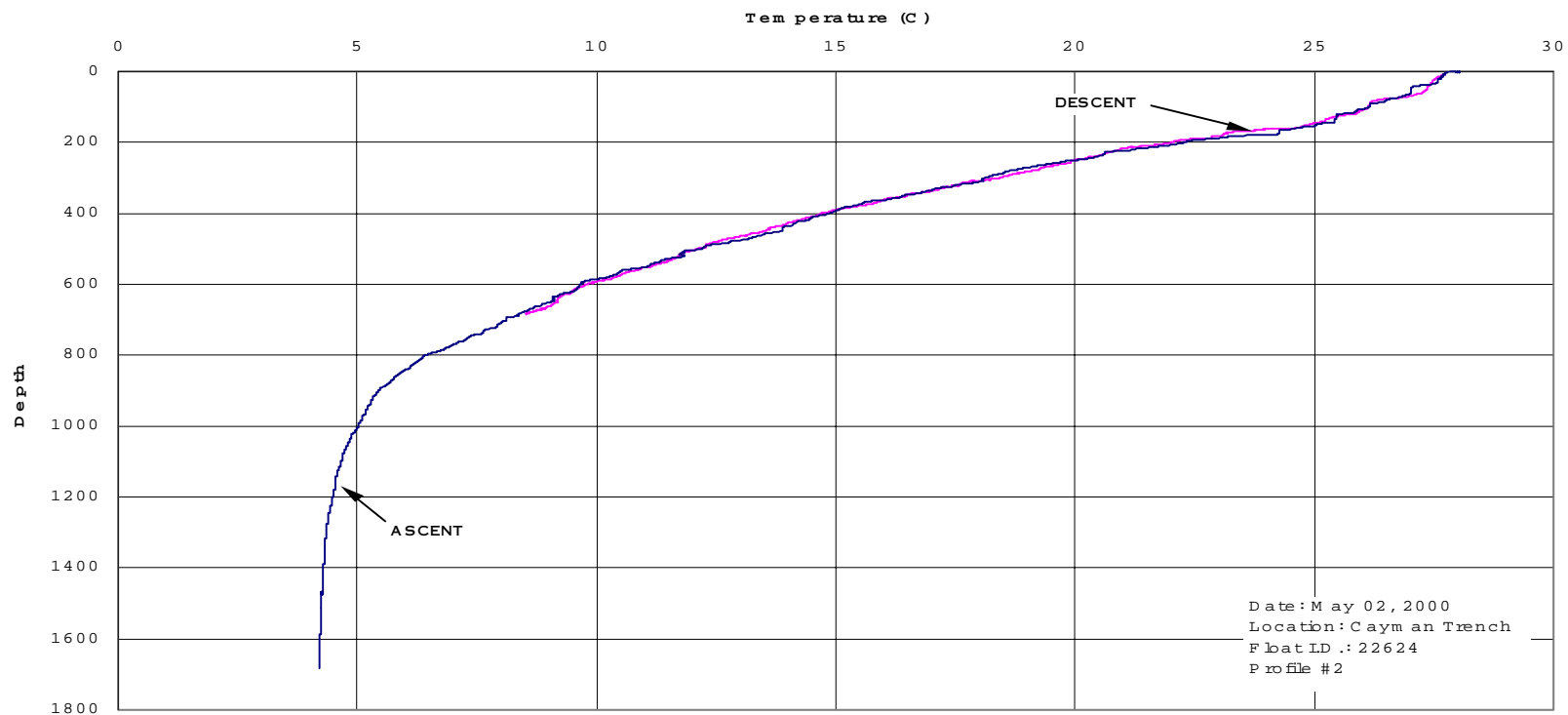
NEPTUNE™ LS Velocity vs Depth





NEPTUNE™ LS

Temperature Profile





Conclusions

- Major Engineering Effort
- Development of Orbcomm Telemetry Continues
- Long-Term Testing Underway
- Neptune Floats now in Production - Available in early 2001