



29th Meeting, 10-13 October 2016, Capri (Italy)



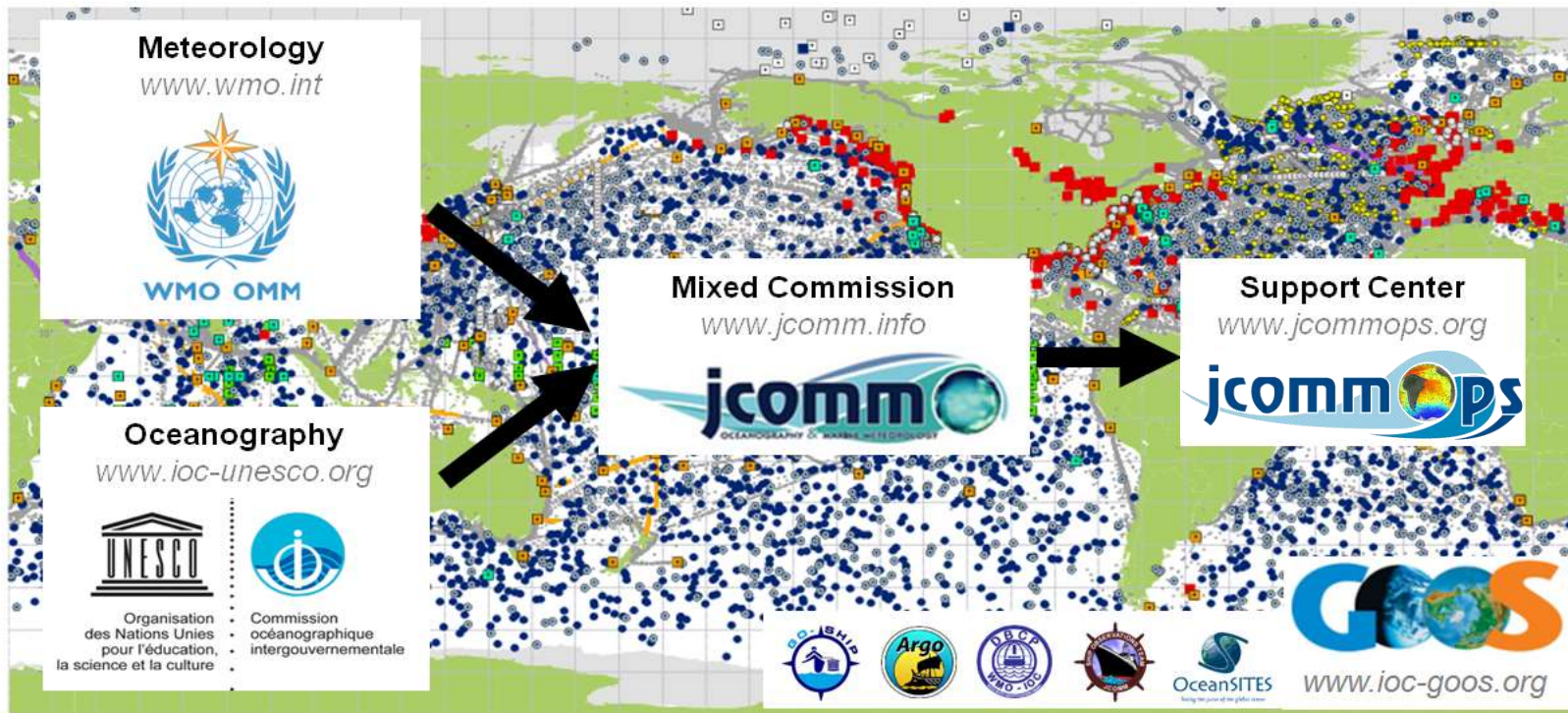
Sharing Cruise Plans: History, Tools and Benefits

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JCOMMOPS

WMO-IOC Joint Technical Commission for Oceanography and Marine Meteorology in-situ Observations Programme Support Center



History about sharing Cruise Information

- conceived by IOC/IODE in the late 1960s (ROSCOP)
- locations indicated by marsden squares or IHB areas
- task left IOC/IODE in 1995 and was then performed by e.g. OCEANIC, POGO
- i. a. submission procedures and security issues at sea led to drop of available cruise plans
- IOC/JCOMMOPS now tasked by OCG to centralize cruise plans and develop innovative interfaces (m2m)
- IOC/IODE to promote JCOMMOPS system to IOC member states at 2017 session

JCOMMOPS Assets

- As IODE: an IOC office under the UN umbrella
- Sustained funding for Ship Coordination and IT development; i. e. not a temporary project
- Coordination center for core in-situ ocean observing networks: Argo, DBCP, GO-SHIP, SOT, OceanSITES
 - Synergies can be identified easily, and also measured:
Avoid Duplication, foster joint efforts (e.g. GO-SHIP ARC01)!
- Adequate IT environment up and running, with tools to degrade/hide cruise details for unauthorized users
- Customized reporting/statistics (nation, program,...)
- API to connect with other user sites

JCOMMOPS Working Environment: OS-like

The screenshot displays the JCOMMOPS web application interface. At the top, navigation icons for Search, Register, and Map are visible. The main content area features a map of the Pacific Ocean with numerous green circular markers representing platform locations. A 'Platforms' table is overlaid on the map, listing various Argo and APEX platforms with their respective details. A detailed view for platform 5904674 is shown on the right, providing comprehensive information about its status, location, and specifications. A 'Query Platforms' dialog box is also present in the bottom left, allowing users to filter platforms based on various criteria.

Platform	Master Program	Reference	Model	Country	Program	Deployment Date	Last Location Date
1	Argo	5902197	PROVORJII	Italy	Argo ITALY	07/04/2016	03/10/2016
2	Argo	5902256	APEX	Australia	Argo AUSTRALIA	25/02/2010	02/10/2016
3	Argo	5901695	APEX	Australia	Argo AUSTRALIA	09/01/2009	04/16/2016
4	Argo	1901467	SOLO_W	United States	Argo WHOI	01/05/2010	26/09/2016
5	Argo	1901154	APEX	Australia	Argo AUSTRALIA	21/01/2011	03/16/2016
6	Argo	6001125	APEX	United Kingdom	Argo UK Bio	12/06/2012	10/01/2016
7	Argo	6901176	APEX	United Kingdom	Argo UK Bio	13/06/2012	09/04/2016

Platform 5904674 Details:

- Reference: 5904674
- Status: OPERATIONAL
- Telecom: IRIIDIUM (# 9630)
- Program: Argo UW-SOCCOM eq. (United States)
- Networks: Argo Equivalent, Argo BioGeoChemical, Argo Global
- Model: APEX
- Fuel: S/N 7388
- Battery: Lithium-15V
- Config: Cycle Time: 240 h, Drift Pressure: 1000 dbar, Profile Pressure: 2020 dbar
- Sensors: SBE41CP (PRES - CND - TEMP), AANDERAA_OPTODE_4330 (OPTODE), DRUCK_2900PDA (PRES), ISUS (SPECTRO_NITRATE), DURA (TRANS_PH)
- Firmware: Control Board: APFS, Board S/N: 9630
- Status Timeline: REGISTERED 03/06/2016, OPERATIONAL 04/06/2016
- Deployment: Lit: -39.96, Lon: -172.57, Date: 30/5/2016
- Deployment: Dept. Platform: INVESTIGATOR, Type: Research Vessels, Call sign: VLMJ, Ref. (ICES Code): 096U, IMO: 9616888, Country: AU

Query & v

Inspect Platform 5904674

About
 Zones
 Data
 QC
 Operator
 Stories
 Adopt
 Edit

Platforms

Platform Sample

Custom Filter

		Master Program	Referen
1		Argo	690319
2		Argo	590325
3		Argo	590169
4		Argo	190146
5		Argo	190115
6		Argo	690112
7		Argo	690112

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Reference:

Status:

Programs:

Networks:

Hide all layers

Projection: Plate Carree (origin = -150°) Coordinates:

Reference 5904674

Status OPERATIONAL

Telecom IRIDIUM (# 9630)

Program Argo UW-SOCCOM eq. (United States)

Networks Argo Equivalent, Argo BioGeoChemical, Argo Global



Latest Location	Latest Observation	Model	APEX
Lat -38.701	Lat -38.701	Float	Float
Lon -172.222	Lon -172.222	S/N: 7338	S/N: 7338
Date 2/10/2016	Date 2/10/2016	Battery: Lithium 15V	Battery: Lithium 15V
125 days after deploy		Config	Cycle Time: 240 h Drift Pressure: 1000 dbar Profile Pressure: 2020 dbar
Points (KML) - Line (KML)		Sensors	SBE41CP (PRES - CNDC - TEMP) AANDERAA_OPTODE_4330 (OPTODE) DRUCK_2900PSIA (PRES) ISUS (SPECTRO_NITRATE) DURA (TRANS_PH)
Above locations can be different due to our multiple location sources (GTS, GDACs and Argos positioning system)		Firmware	Control Board: APF9 Board S/N: 9630
Status Timeline			
REGISTERED 03/06/2016			
OPERATIONAL 04/06/2016			

Deployment

Lat -39.96	Depl. Platform	INVESTIGATOR	Ref. (ICES Code)	096U
Lon -172.57	Type	Research Vessels	IMO	9616888
Date 30/5/2016	Call Sign	VLMJ	Country	AU

Example: Matching GO-SHIP & BGC Argo

Cruises

	Ship	Line	Departure Date	Arrival Date	Cruise Type
17	INVESTIGATOR (REF: 096U)	P15S	2016-04-19	2016-06-16	Academic
18	ROGER REVELLE (REF: 33RR)	I09N	2016-03-21	2016-04-28	Academic
19	ROGER REVELLE (REF: 33RR)	I08S	2016-02-08	2016-03-16	Academic

Query Cruises

Ref: Name:

Line: Survey:

Type: Class: Full GO-SHIP

Programs: Any

Departure Between: 2016-01-01 And: Latest Date

Arrival Between: Earliest Date And: Latest Date

Ship:

Regions:

Cruises Per Page: 20 50 100 200 Displaying 1 - 19 of 19 Cruises

Ref.: 096U20160419

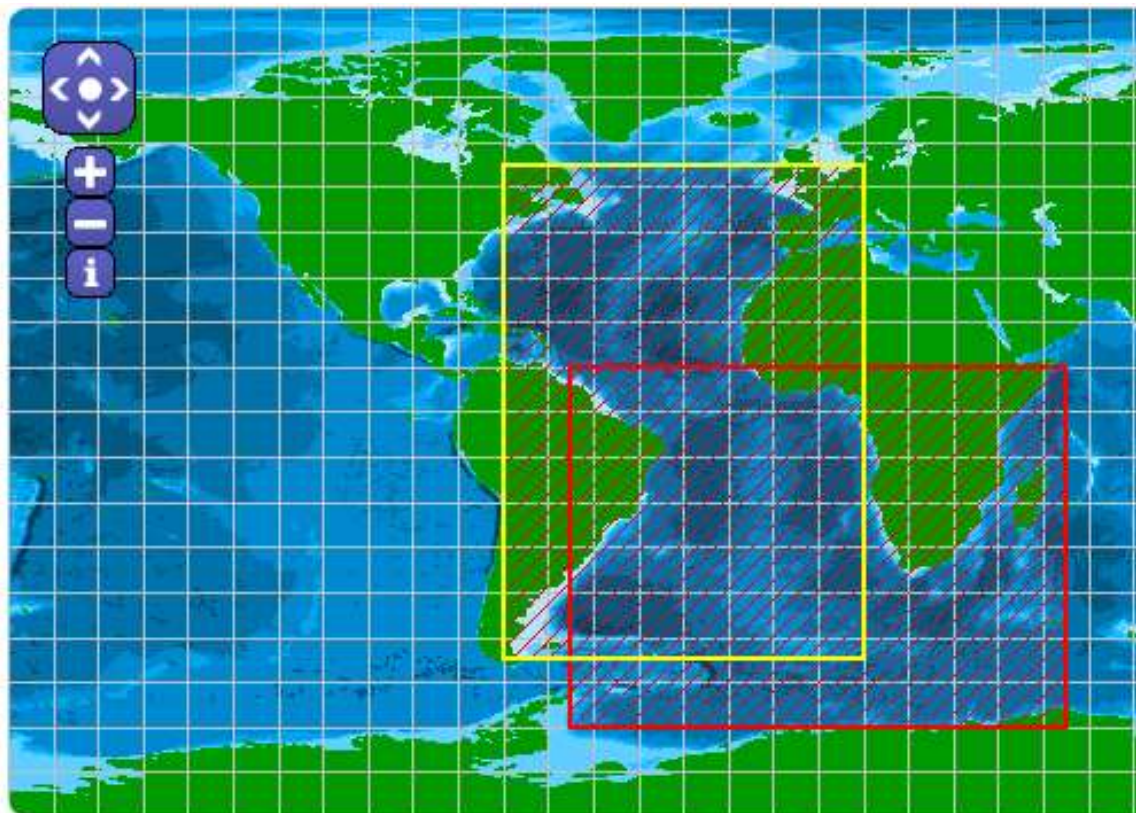
Dep. Date: 2016-04-19
 Arr. Date: 2016-06-16
 Dates pending: no
 Ship: INVESTIGATOR (096U)
 Route pending: no
 Class: Full GO-SHIP
[Open inspect window](#)

Esri, DeLorme, GEBCO, N

Track Details required for more Synergies



Towards an Alliance of European Research Fleets



Details

Input date	2/16/2016 4:21:45 PM
Cruise name	PS98 ANT-XXXI/4
Status	Completed
Shipcode	06AQ
Vessel name	Polarstern
Ship operator	F. Laeisz Shipping Group
Country operator	Germany
Departure	2016-04-10
Arrival	2016-05-14
Berths	Unknown
Departure port	Punta Arenas
Arrival port	Bremerhaven
Specific area	Atlantic Ocean
Sea area	North Atlantic Ocean South Atlantic Ocean
Latitude1	-70
Latitude2	10
Longitude1	-55
Longitude2	55
Discipline	Marine geology Physical oceanography
Chief scientist name	Bernhard Pospichal

Precise & easy Submissions: Manual & M2M

The image displays the 'Register Cruise' software interface, which is used for submitting cruise data. The interface is divided into two main windows: a data entry form and a map view.

Register Cruise (Form) Details:

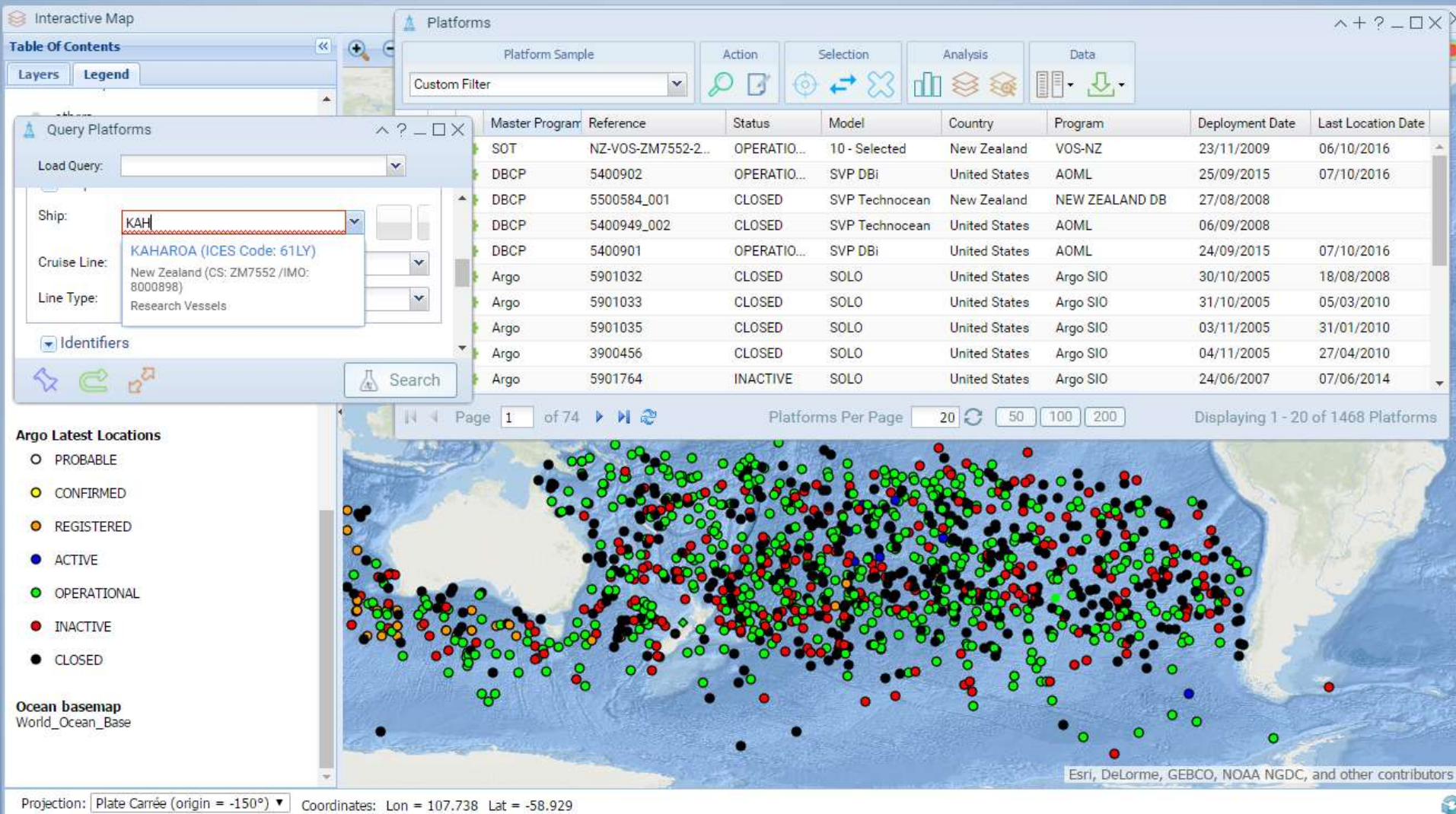
- General:**
 - Name:
 - Type:
 - Program:
 - Line:
 - Status:
 - Ship:
 - Countries:
United States (CS: WDG7080/IMO: 7222138)
Bulk Carriers
- Time Schedule:**
 - Departure:
United States (CS: KAOU/IMO: 9075228)
Research Vessels
 - Mobilization:
 - Demobilization:
 - Operation:
- Contacts:**
- Other details:**

Register Cruise (Map) Details:

- WKT:
- Buttons: Move, Delete, Densify, Register

A green box highlights the 'Register Cruise' window, and a green arrow points from the 'Register' button to a 'Register Cruise' window on the map. A black pencil icon is at the bottom right.

Contributions by RVs across Networks



Example Statistics: GO-SHIP by Country

Cruises
^ ? - □ ×

Action

Analysis

Data

	Ref	Name	Ship	Program	Line	Departure Date	Operation Date	Arrival Date	Cruise Type
1	TMP20...			GO-SHIP NO	75N	2016-06-01		2016-08-31	Academic
2	TMP13...			GO-SHIP IE	A02	2017-06-01		2017-06-30	Academic
3	TMP70...			GO-SHIP UK/NOC	A10	2018-02-01		2018-02-28	Academic
4	06AQ2...		POLARSTERN (REF: 06AQ)	GO-SHIP DE/AWI	A12	2016-12-19		2017-02-03	Academic
5	TMP65...								
6	TMP18...								
7	74JC2...		JAMES CLARK ROSS (REF: 74...						
8	29AH2...	OVIDE	SARMIENTO DE GAMBOA (RE...						
9	TMP32...								
10	TMP19...								

Cruise Summary
^ ? - □ ×

Cruise Sample

Group By

Data

Planned Cruises

Country

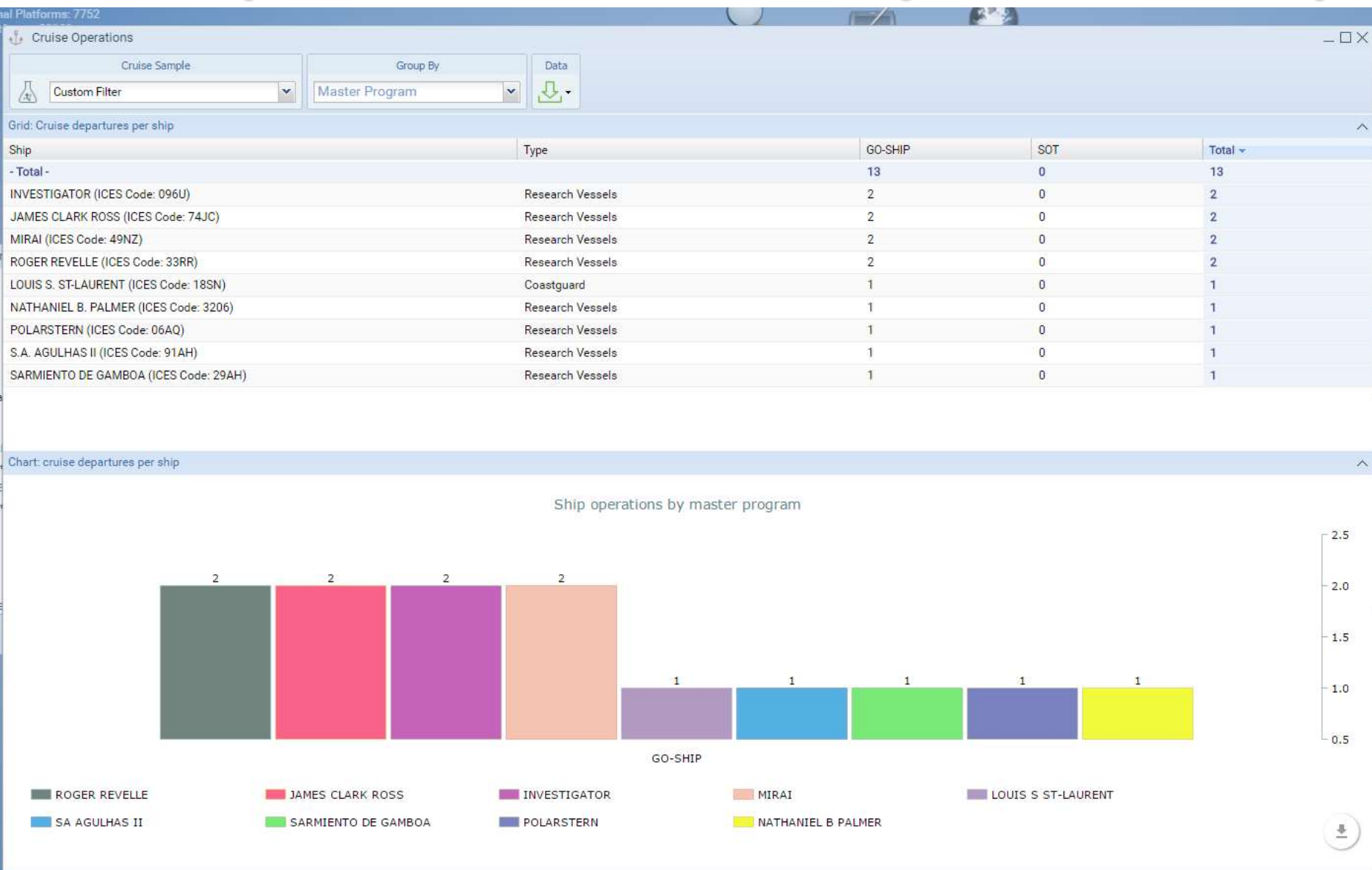
Data

Sample distribution

Country	Percentage
United States	37.04%
United Kingdom	18.52%
Japan	11.11%
Canada	11.11%
France	7.41%
Ireland	3.70%
Australia	3.70%
Germany	3.70%
Spain	3.70%

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Navigation icons

Example: GO-SHIP Cruises by Research Ship



Example of Ship Positions (NRT): SOT-VOS

Inspect Platform GB-VOS-ZDLP-22081991

About **Zones** **Data**

Reference: GB-VOS-ZDLP-22081991
 Status: OPERATIONAL
 WMO: ZDLP
 Telecom: SMAI (#)
 Program: VOS-GB (United Kingdom)
 Networks: VOS

Latest Location
 Lat 13.8
 Lon -28.4
 Date 6/10/2016
 9178 days after deploy

Above locations can be different due to our multiple location sources (GTS, GDACs and Argos positioning system)

Status Timeline

Deployment

Lat	Depl. Platform	JAMES CLARK ROSS	Ref. (ICES Code) 74JC
Lon	Type	Research Vessels	IMO 8904496
Date 22/8/1991	Call Sign	ZDLP	Country FK

Variables		
Variables Observed	First Obs	Latest Obs
Air Pressure	01/01/2014	06/10/2016
Air Temperature	01/01/2014	06/10/2016
Relative Humidity	01/01/2014	06/10/2016
Sea Surface Swell Wave Significant Height	01/01/2014	06/10/2016
Sea Surface Temperature	01/01/2014	06/10/2016
Tendency Of Air Pressure	01/01/2014	06/10/2016
Wind Speed	01/01/2014	06/10/2016
Wind To Direction	01/01/2014	06/10/2016

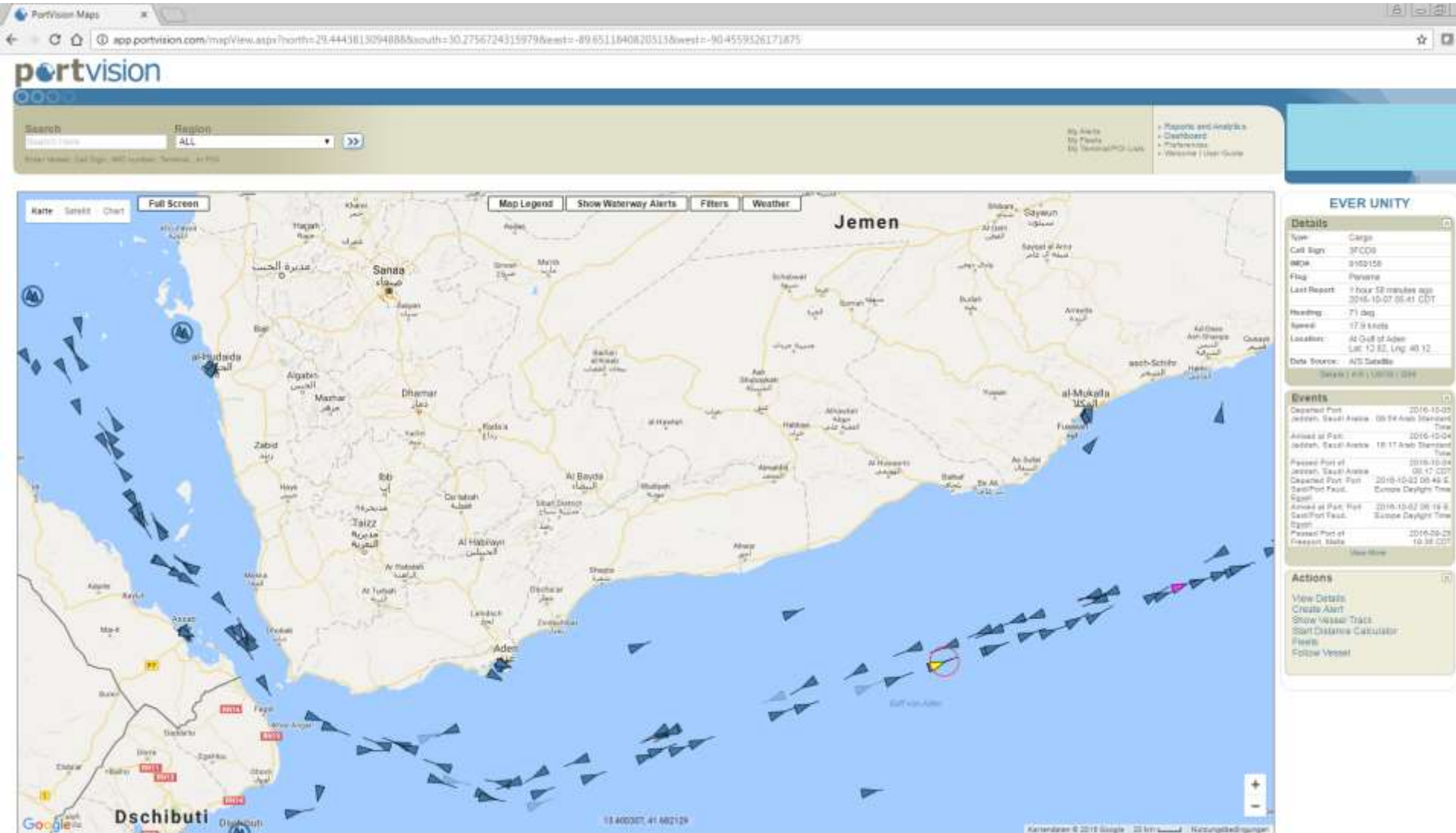
Model: **30 - VOSclim**
 VOS Manual Weather Station

Config: Cycle Time: 0 h
 Drift Pressure: 0 dbar
 Profile Pressure: 0 dbar

Ref.: GB-VOS-ZDLP-22081991

Program: VOS-GB
 Model: 30 - VOSclim
 Country: UK
 Ship Type: Research Vessels
 Météo-France QC Tools (VOS only)
[Open inspect window](#)
[10-day history](#)

Security: AIS Status (RT) Gulf of Aden



Conclusion

- Detailed Cruise Information are needed for coordination across networks – at least for JCOMMOPS Coordinators
- JCOMMOPS ready to centralize, process, publish and promote cruise plans as appropriate / wished by operator
- National Focal Points required for submission/assistance
- Customized reports/statistics/maps easy to create
- What do you want/suggest? Intersessional Task Team?
- Increased IRSO visibility through IOC/WMO coordinated networks / meetings (int./reg.); involve more countries?
- Reasonable sharing of archiving and planning tasks, as cooperative effort with POGO, ICES, OCEANIC, ...



**All marine platforms are registered at JCOMMOPS
...why not all cruises?**

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