Agenda item : F-2.2

41st Argos Operations Committee meeting
prepared by CLS
Date : May 14th, 2007

SYSTEM USE

1. Global system use between April 2006 and April 2007

The number of operating platforms, i.e. seen each day and averaged over one month (see table 1) increased over one year from 8821 in April 2006 to 9329 platforms in April 2007 which represents a **5.8%** increase. This increase is lower than last year (**13.5%**). The yearly increase averaged over the last three years has been **15.0%** and it has been **13.5%** over the last six years.

Table 1 gives the breakdown of operating platforms by domain of application and a synthesis by category of system use : Science, Fishing monitoring, Sensitive use, and Tests.

The number of active platforms, i.e. seen at least once in a month (see table 2) increased during the same period from 15776 to 17263 which represents a **9.4%** increase. It was **10.2%** last year.

Table 2 gives the same breakdown by application and system use as table 1 but for active platforms.

Figure 1 shows the increase of all Argos platforms over the last seventeen years. The lower curve is the average number of platforms seen each day, also called "operating" platforms. The upper curve is the total number of "active" platforms seen at least once in the month. The difference between these two curves has increased regularly since 1988 until June 2000. The ratio which has reached 2 in 2000 is now stable around **1.8**.

Figure 2 shows the increase in each category of system use over the last eleven years.

Figures 3 and 4 show the trend of active platforms in the sensitive use and science categories over the last ten years. Details concerning the sensitive use are given in the non environmental activity report. Oceanography and Wildlife continue to grow faster than other scientific applications.

The number of buoys whose data were sent onto the GTS increased from approximately 1300 in April 2006 to more than 1500 in April 2007 (see breakdown by country on figure 5). Concerning drifting buoys only, the histogram shown in figure 6 gives for each country the number of drifting buoys whose data were sent onto the

GTS : 1376 in March 2007. Figure 7 gives the number of moored buoys : 188 in March 2007.
As displayed in figure 8, in May 2007, the Argo network includes nearly 2850 active floats (2500 in April 2006) and 98% of them are transmitting onto the GTS (information provided by Jcommops).

2. Geographical distribution of platforms :

Figure 9 shows the system occupancy in reference to the Argos2 on-board equipment capacity. The average system occupation rate is now more than **23 %** of the Argos2 capacity.

The Argos 2 capacity was defined by a number of Erlangs giving the elementary probability of reception of 50% which is considered as acceptable for an operational use of the system. The maximum system occupation rate is observed in South America and Indonesia with a maximum between 5.5 and 6 Erlangs at a bit more than 50% of the capacity. The chart was drawn by using data received during 12 hours during one day only (May 11th 2007).

Figures 10, 11 and 12 show the ground distribution of active platforms of different types such as animals, ocean platforms, vessels seen in one month betwwen April and May 2007. For each platform, only the last known position was used to draw the chart.

Table 1 : 2006-2007 Argos “operating” platforms

Operating PTTs (seen daily and averaged monthly)	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	% year
					2006							2007			
Earth sciences	53	62	48	67	72	53	65	40	43	40	52	42	44		-17.0%
Hydrology	410	401	395	387	386	392	392	395	394	766	747	376	374		-8.8%
Meteorology	336	342	344	339	347	344	357	353	343	338	337	333	330		-1.9%
Oceanography	2574	2572	2596	2615	2552	2572	2516	2454	2367	2373	2396	2413	2402		-6.7%
Wildlife	1239	1356	1343	1329	1389	1383	1318	1236	1184	1163	1268	1352	1400		13.0%
Fishing	3186	3313	3362	3260	3334	3231	3006	3056	3080	3127	3213	3181	3326		4.4%
Humanitarian operations	28	28	28	26	24	22	22	26	23	17	26	23	24		-14.3%
Episodic	41	25	44	33	115	1	46	69	37	14	7	21	35		-14.6%
Law enforcement	149	143	143	138	124	130	129	136	126	134	140	151	152		2.0%
Homeland security	479	492	504	514	525	549	558	565	572	597	609	625	650		35.7%
Test & others	326	334	379	364	417	435	406	502	538	694	698	571	592		81.6%
TOTAL	**8821**	**9068**	**9186**	**9072**	**9285**	**9112**	**8815**	**8832**	**8707**	**9263**	**9493**	**9088**	**9329**		**5.8%**

Science	4612	4733	4726	4737	4746	4744	4648	4478	4331	4680	4800	4516	4550		-1.3%
Fishing	3186	3313	3362	3260	3334	3231	3006	3056	3080	3127	3213	3181	3326		4.4%
Sensitive	697	688	719	711	788	702	755	796	758	762	782	820	861		23.5%
Test	326	334	379	364	417	435	406	502	538	694	698	571	592		81.6%
TOTAL	**8821**	**9068**	**9186**	**9072**	**9285**	**9112**	**8815**	**8832**	**8707**	**9263**	**9493**	**9088**	**9329**		**5.8%**

Table 2 : 2006-2007 Argos “active” platforms

Active platforms (seen at least once in the month)	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	% YEAR
					2006							2007			
Earth sciences	105	226	120	260	172	132	249	91	105	102	208	128	127		21.0%
Hydrology	421	417	408	411	404	414	407	411	410	405	391	392	390		-7.4%
Meteorology	424	455	483	456	470	478	475	458	446	466	455	448	434		2.4%
Oceanography	5353	5422	5489	5423	5388	5517	5549	5535	5243	5368	5405	5484	5541		3.5%
Wildlife	3476	3859	4012	4003	3992	3953	3750	3554	3367	3638	3867	4130	3896		12.1%
Fishing	4086	4285	4212	4029	4102	4048	3929	4104	4028	3755	3717	3963	4226		3.4%
Humanitarian operations	479	444	483	431	395	357	373	486	438	254	442	430	434		-9.4%
Episodic	75	76	93	110	159	4	162	143	80	30	21	62	53		-29.3%
Law enforcement	302	298	304	269	233	257	263	275	241	302	281	304	325		7.6%
Homeland security	520	529	556	564	570	578	585	610	623	612	660	715	722		38.8%
Test & others	535	640	872	775	693	958	697	882	1088	996	1003	1095	1115		108.4%
TOTAL	15776	16651	17032	16731	16578	16696	16439	16549	16069	15928	16450	17151	17263		9.4%

Science	9779	10379	10512	10553	10426	10494	10430	10049	9571	9979	10326	10582	10388		6.2%
Fishing	4086	4285	4212	4029	4102	4048	3929	4104	4028	3755	3717	3963	4226		3.4%
Sensitive	1376	1347	1436	1374	1357	1196	1383	1514	1382	1198	1404	1511	1534		11.5%
Test	535	640	872	775	693	958	697	882	1088	996	1003	1095	1115		108.4%
TOTAL	15776	16651	17032	16731	16578	16696	16439	16549	16069	15928	16450	17151	17263		9.4%

Figure 1 : All Argos platforms...

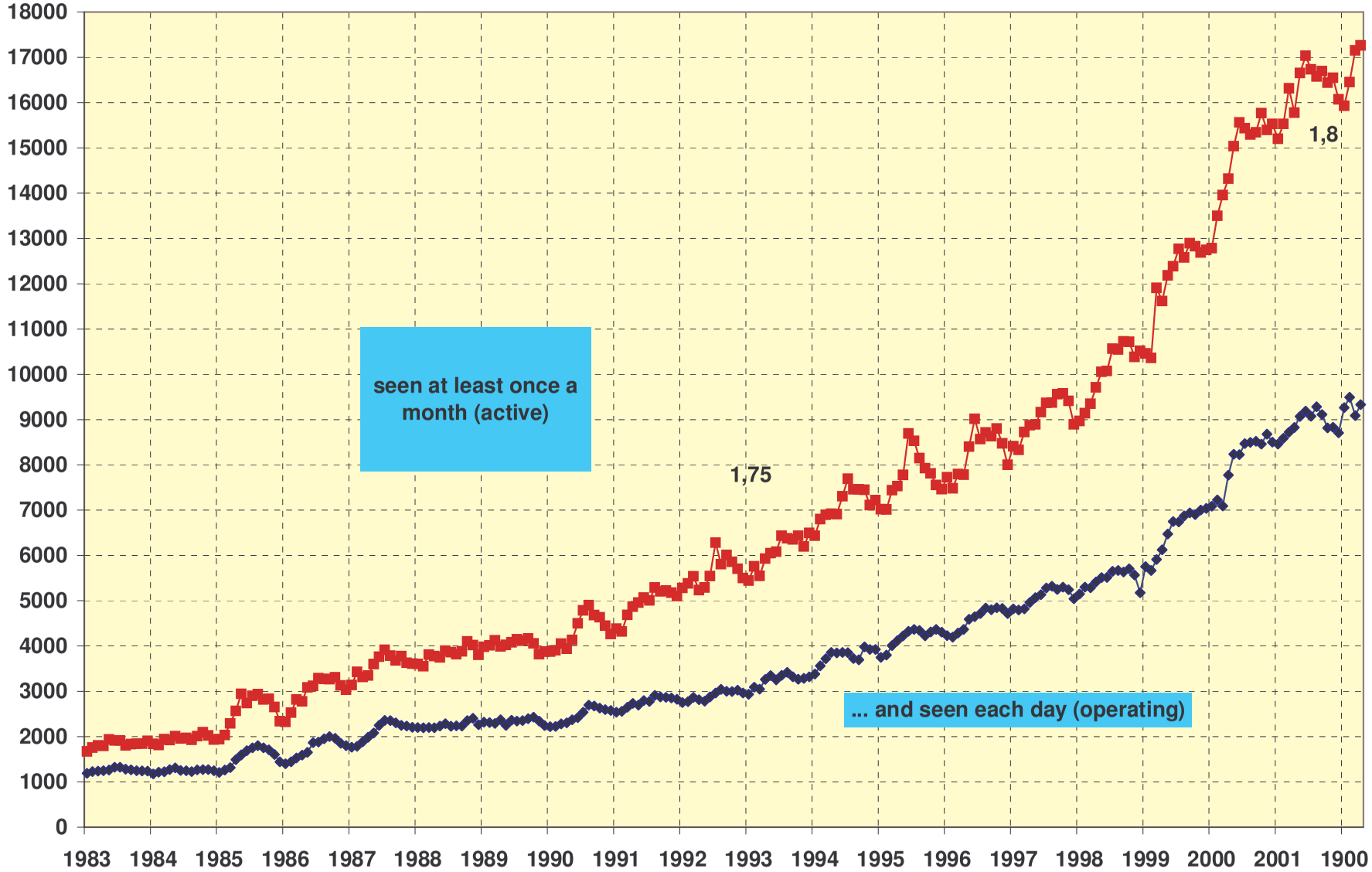

Figure 2 : Active platforms per use (incl. tests)

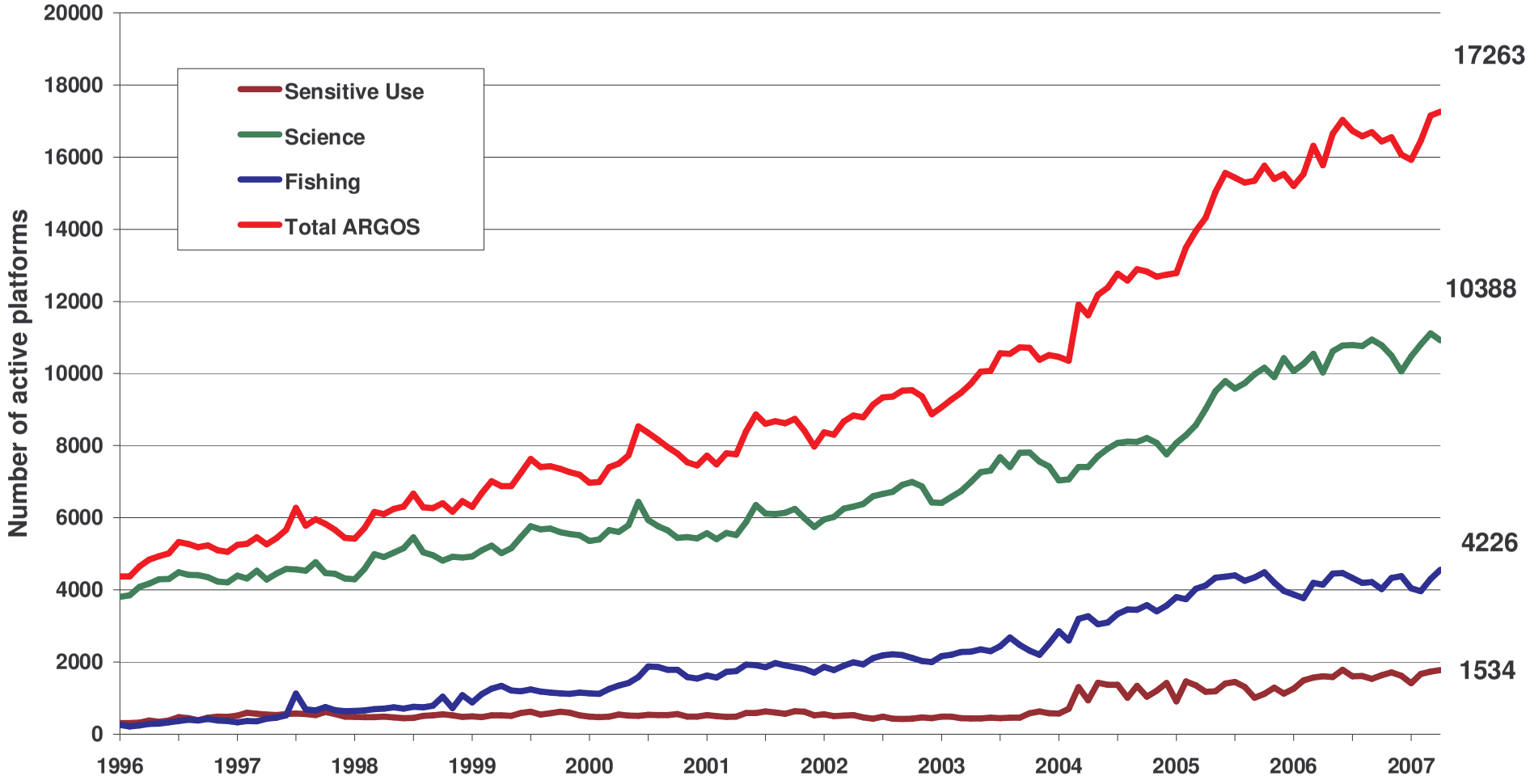

Figure 3 : Active platforms in Sensitive use

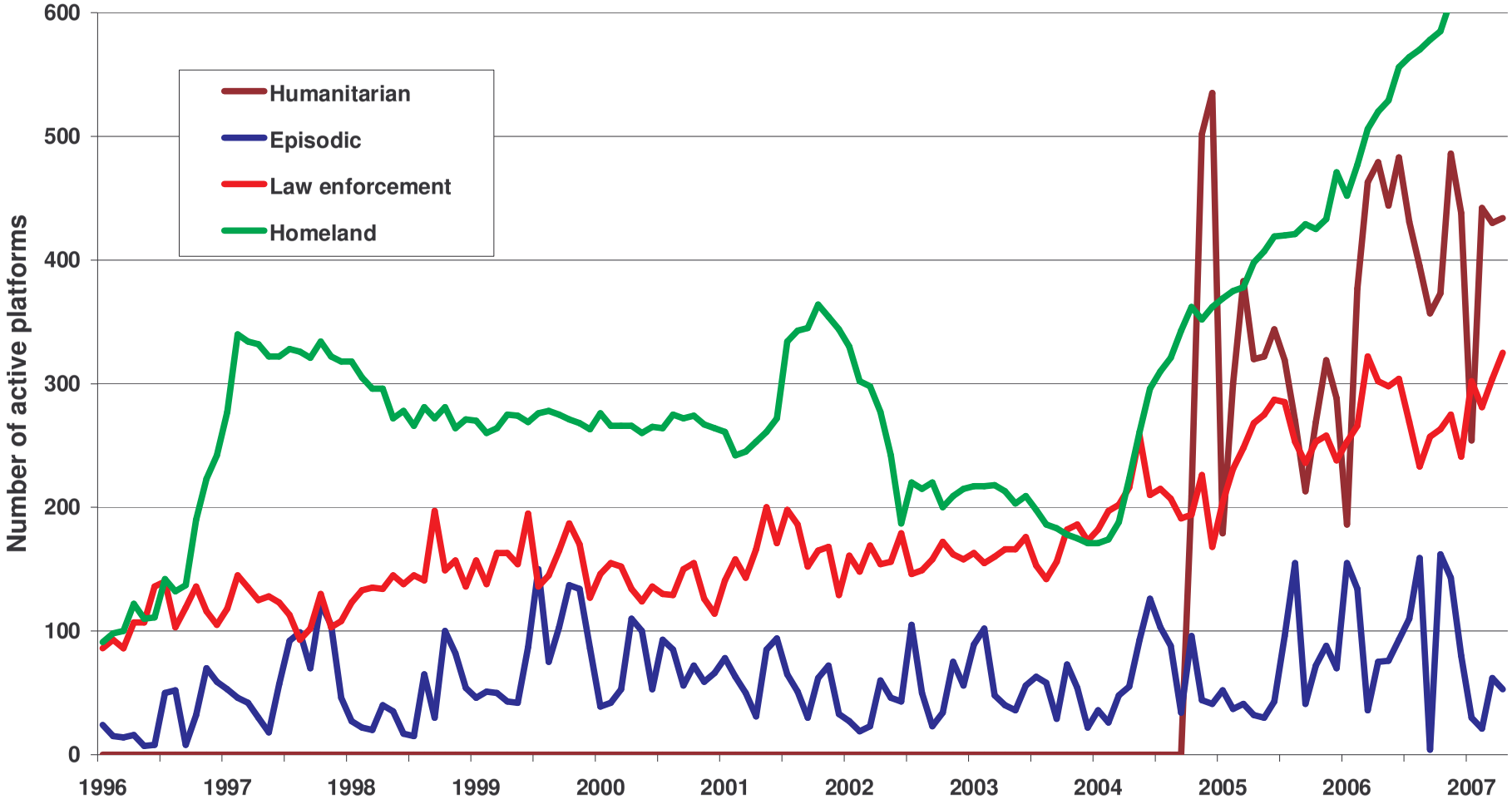

Figure 4 : Active platforms in Science

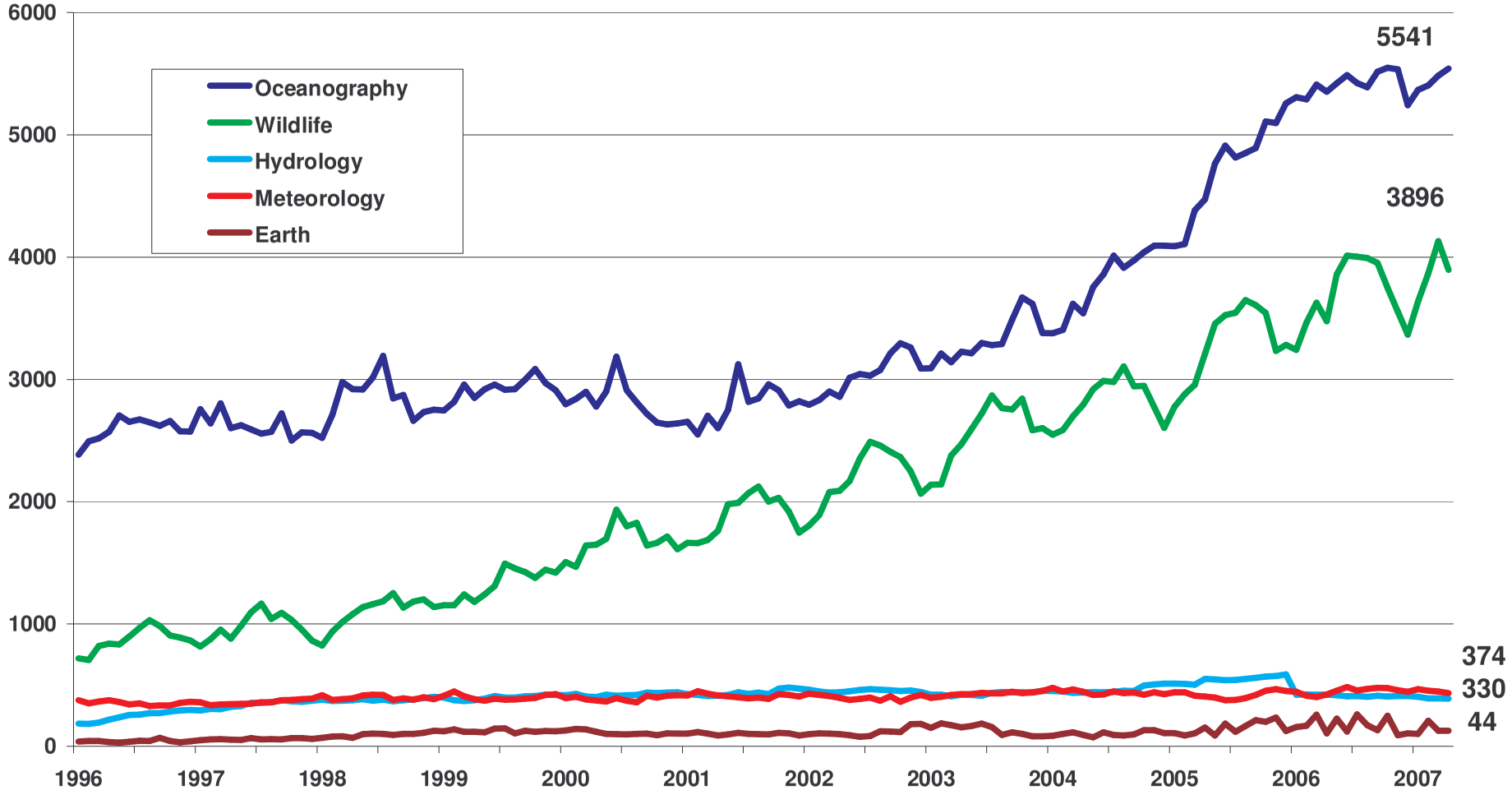

Figure 5 : Operational data buoys in April 2007

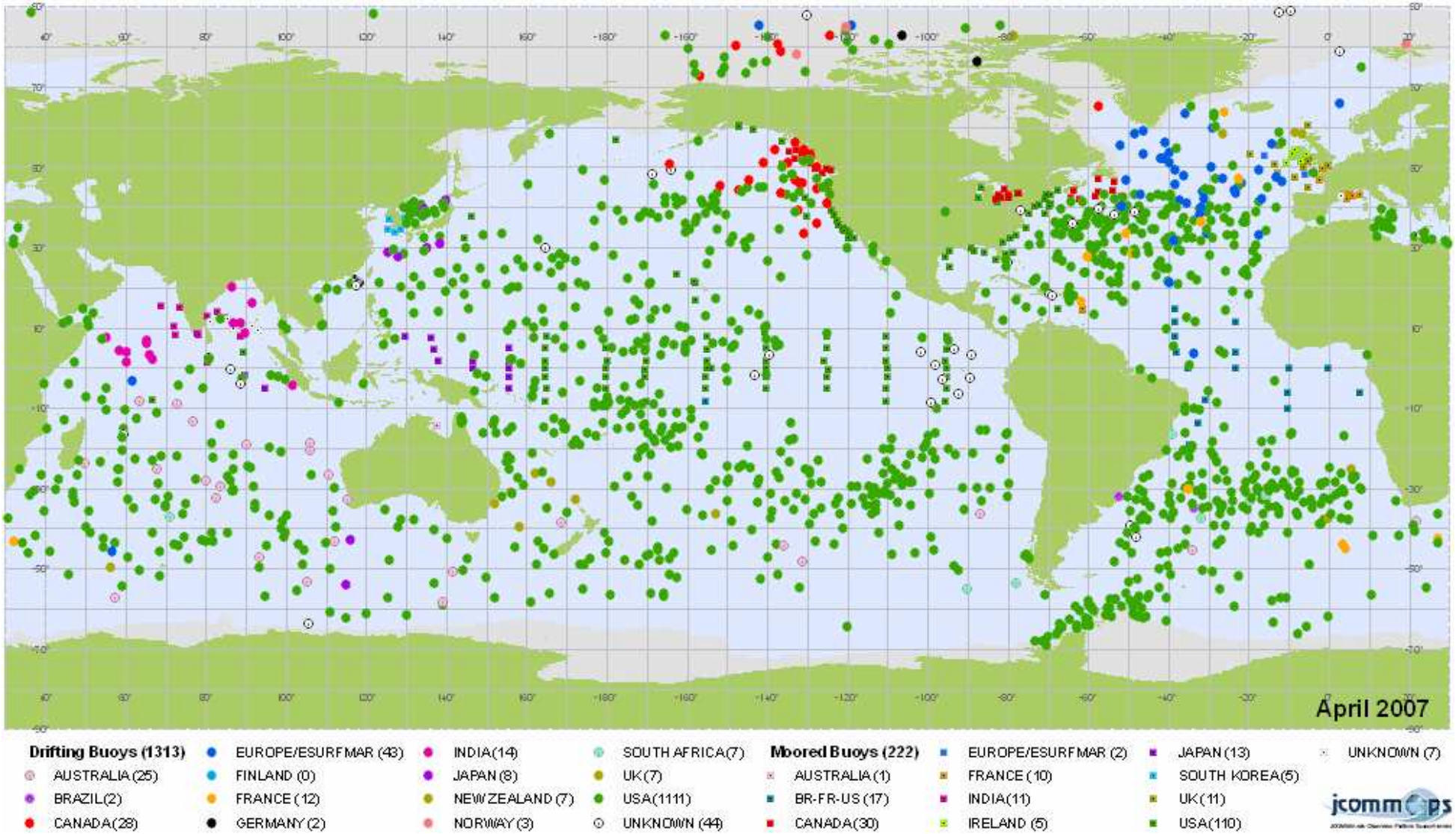

Figure 6 : Drifting buoys

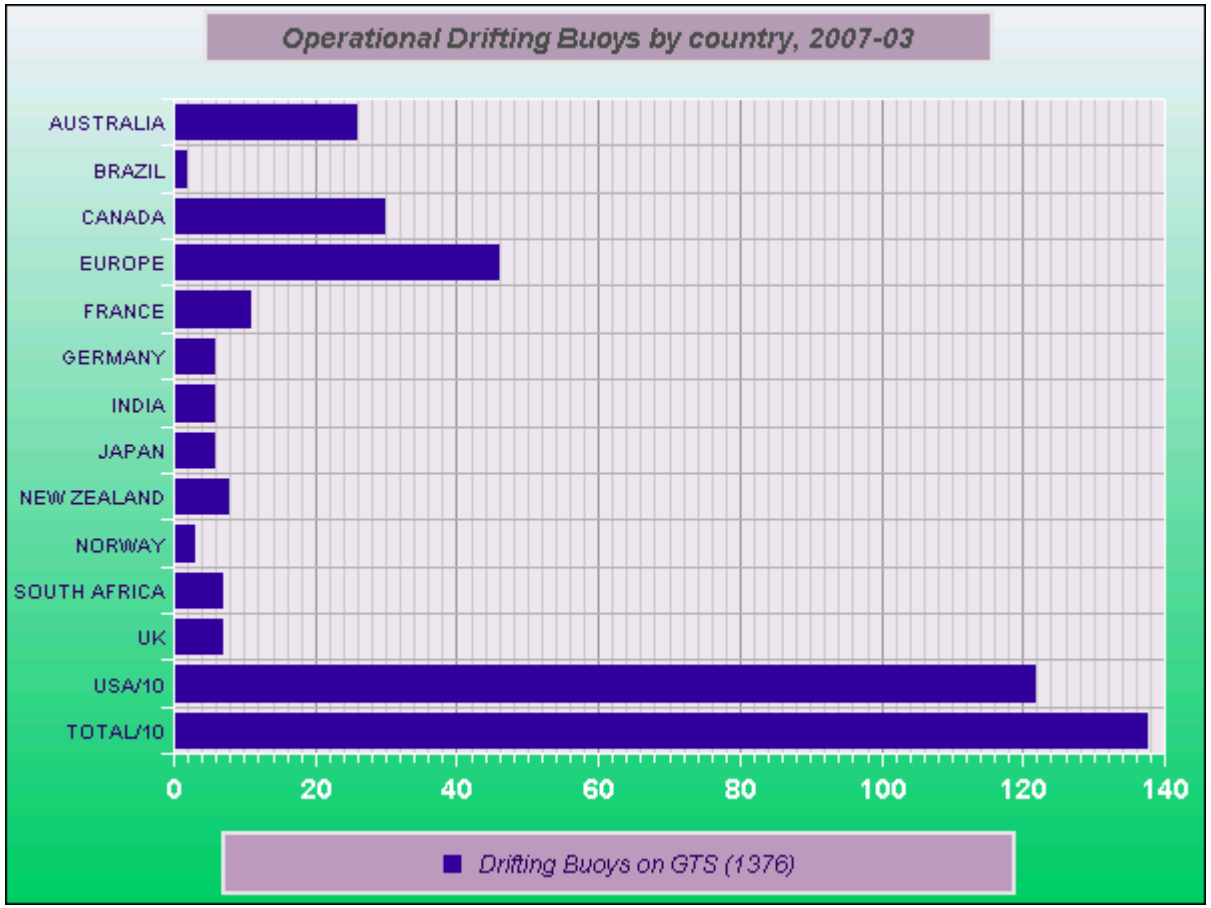

Figure 7 : Moored buoys

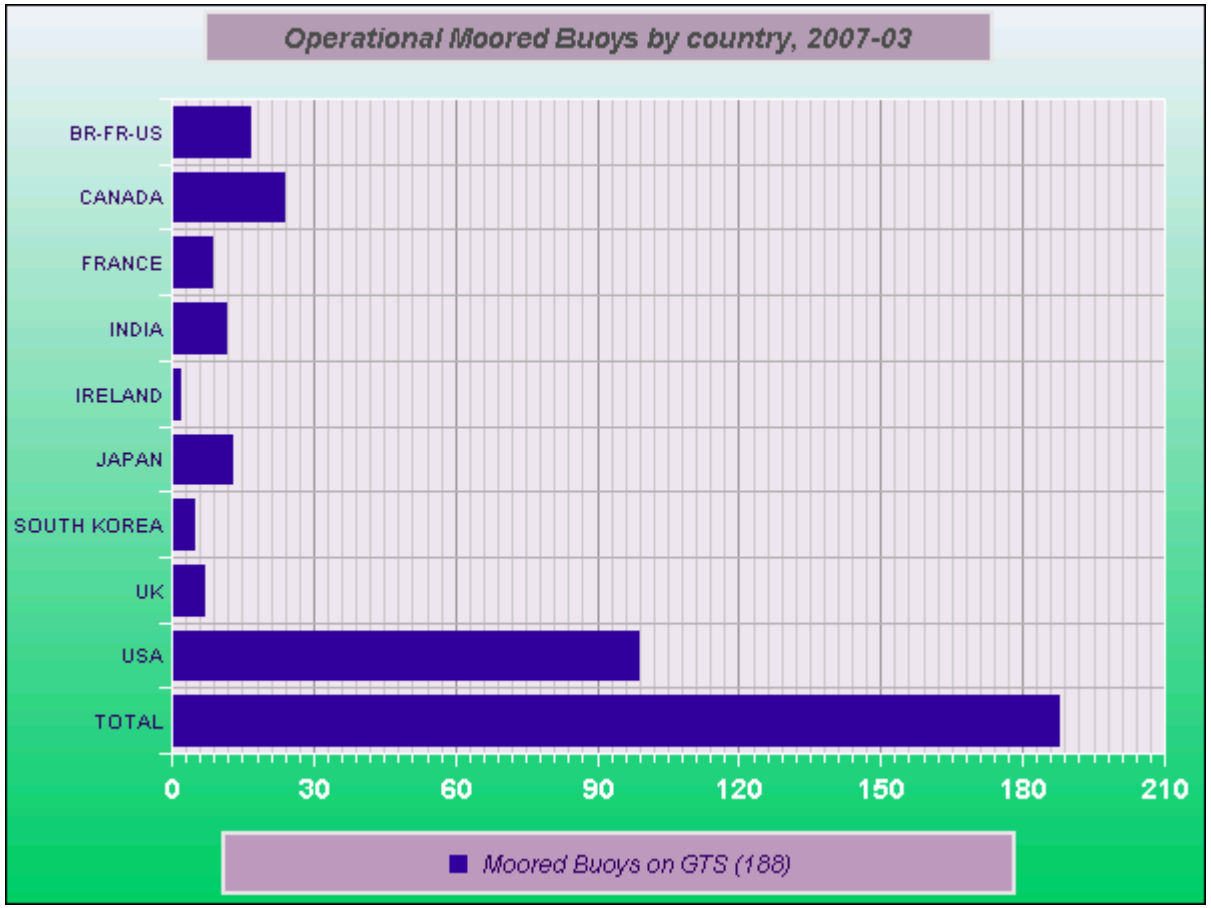

Figure 8 : Argo network in April 2007

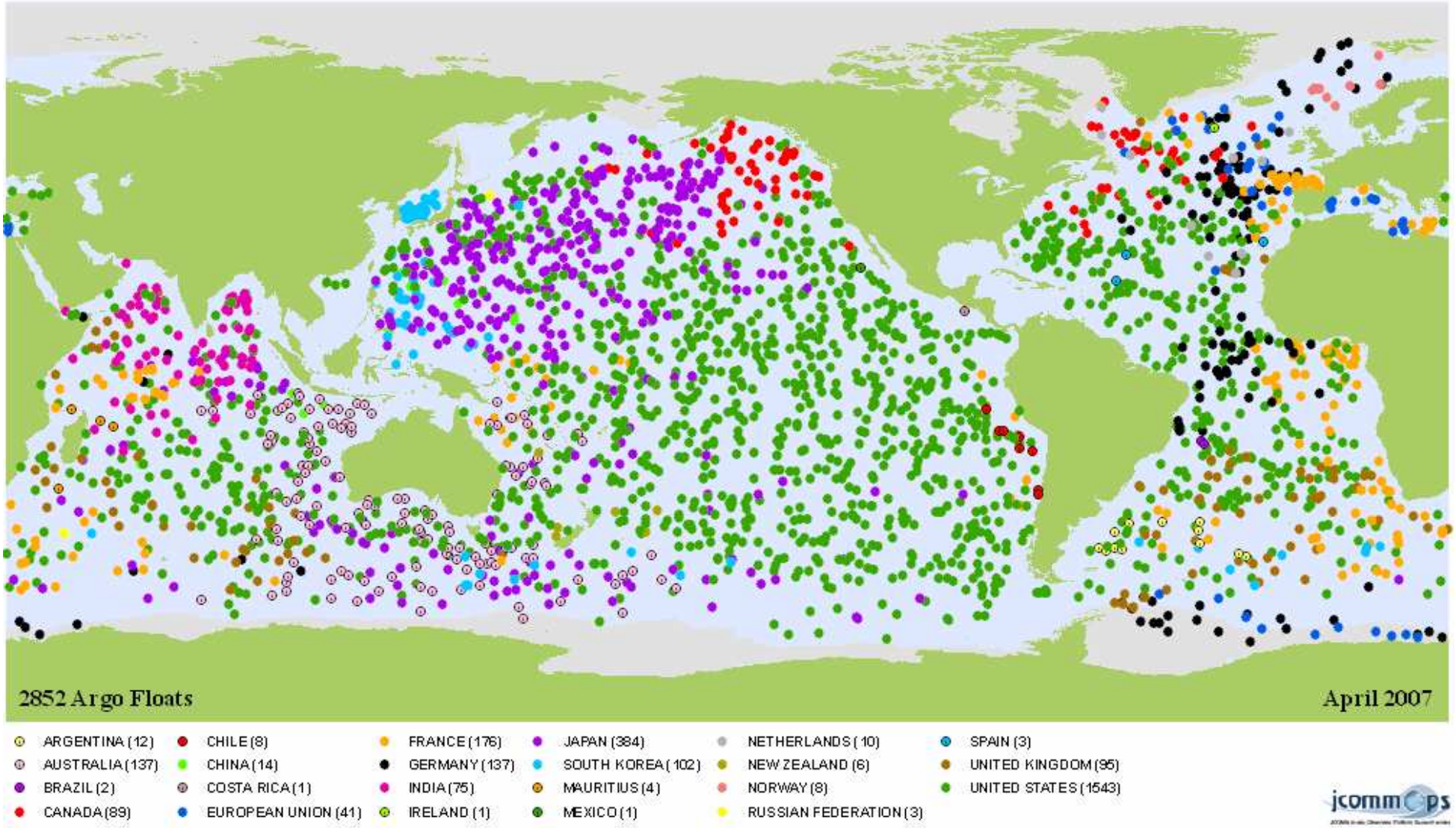

Figure 9 : System occupancy in May 2007 = 23.1%

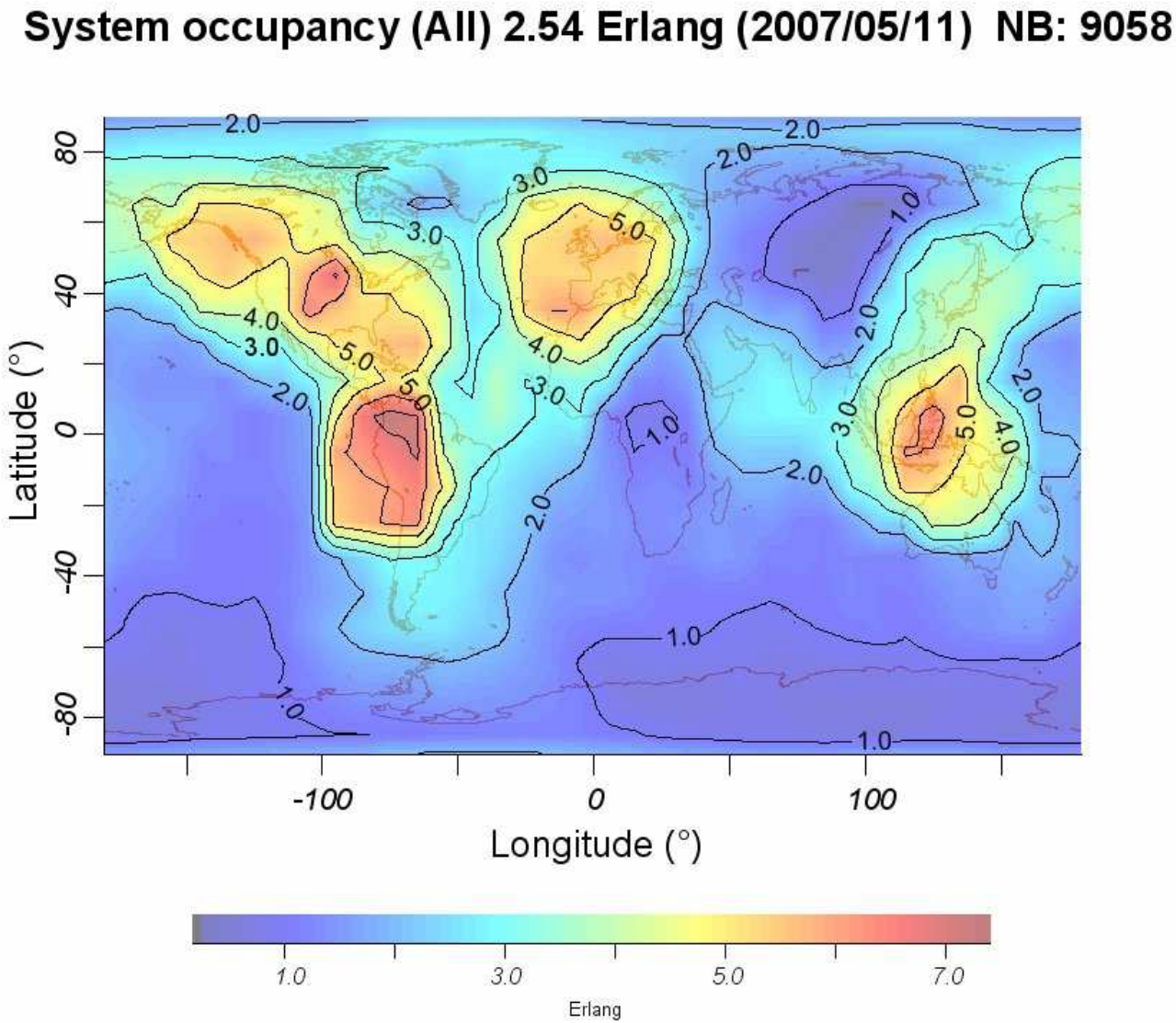

Figure 10 : Ground distribution of active platforms (Wildlife)

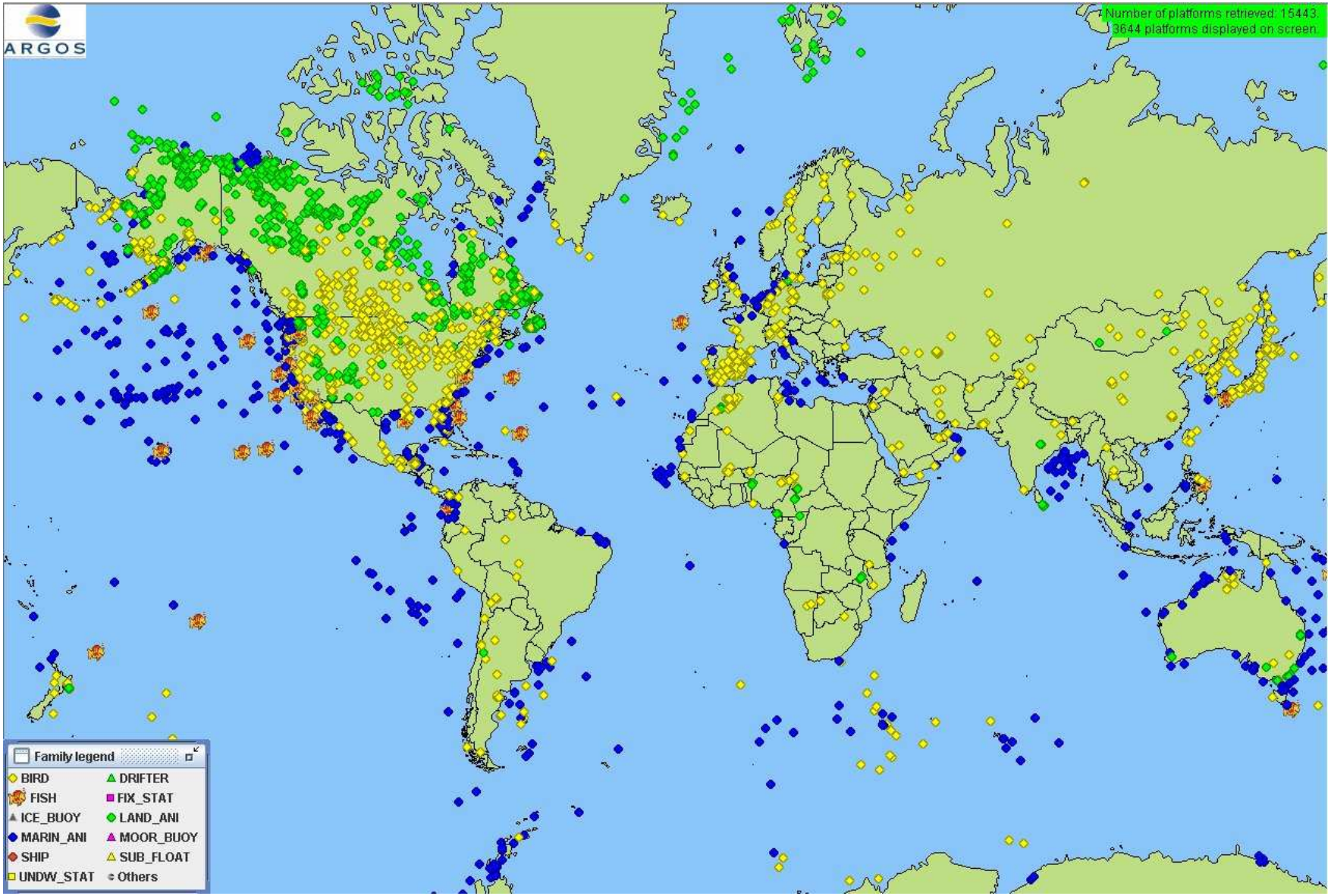

Figure 11 : Ground distribution of active platforms (Oceanography)

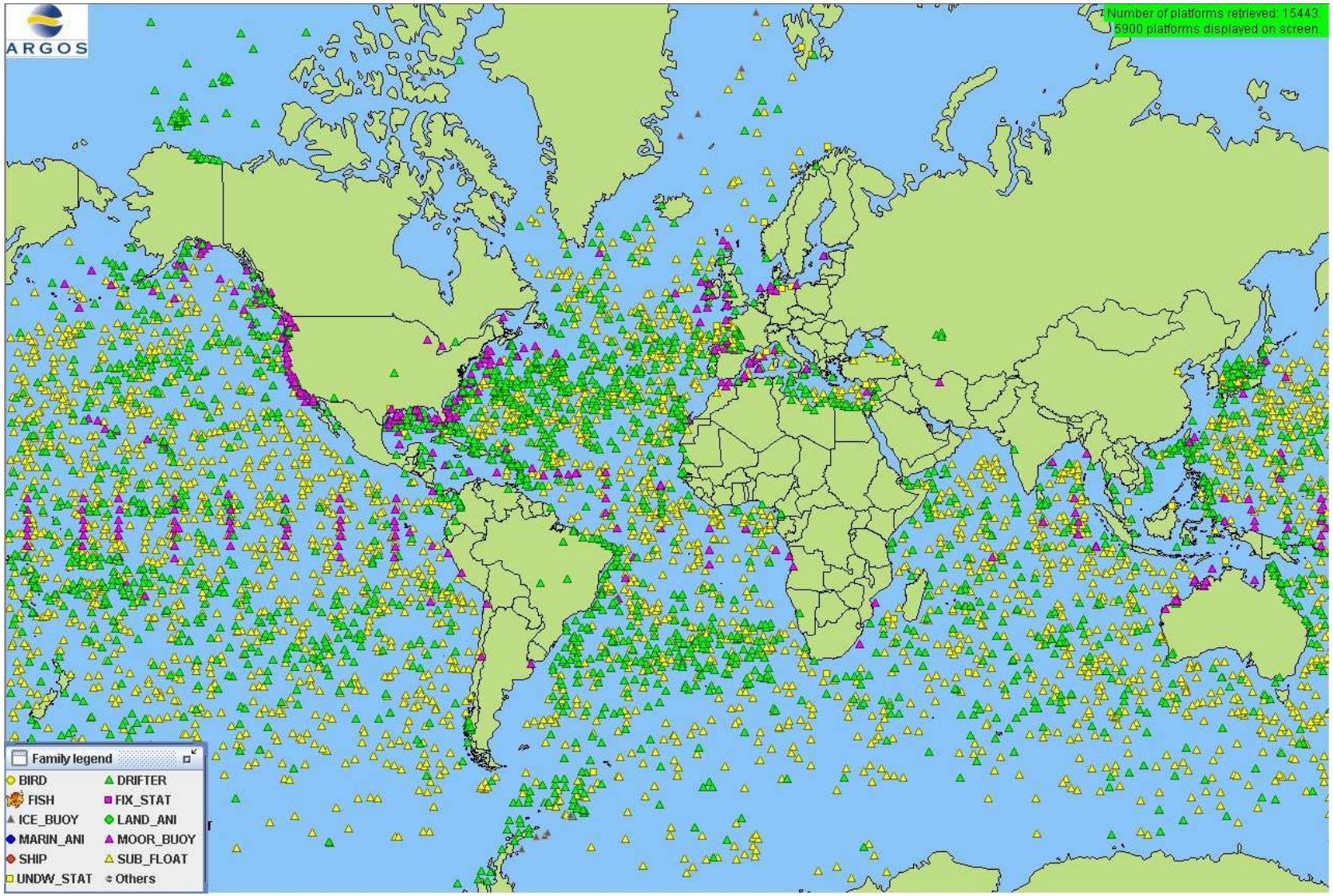
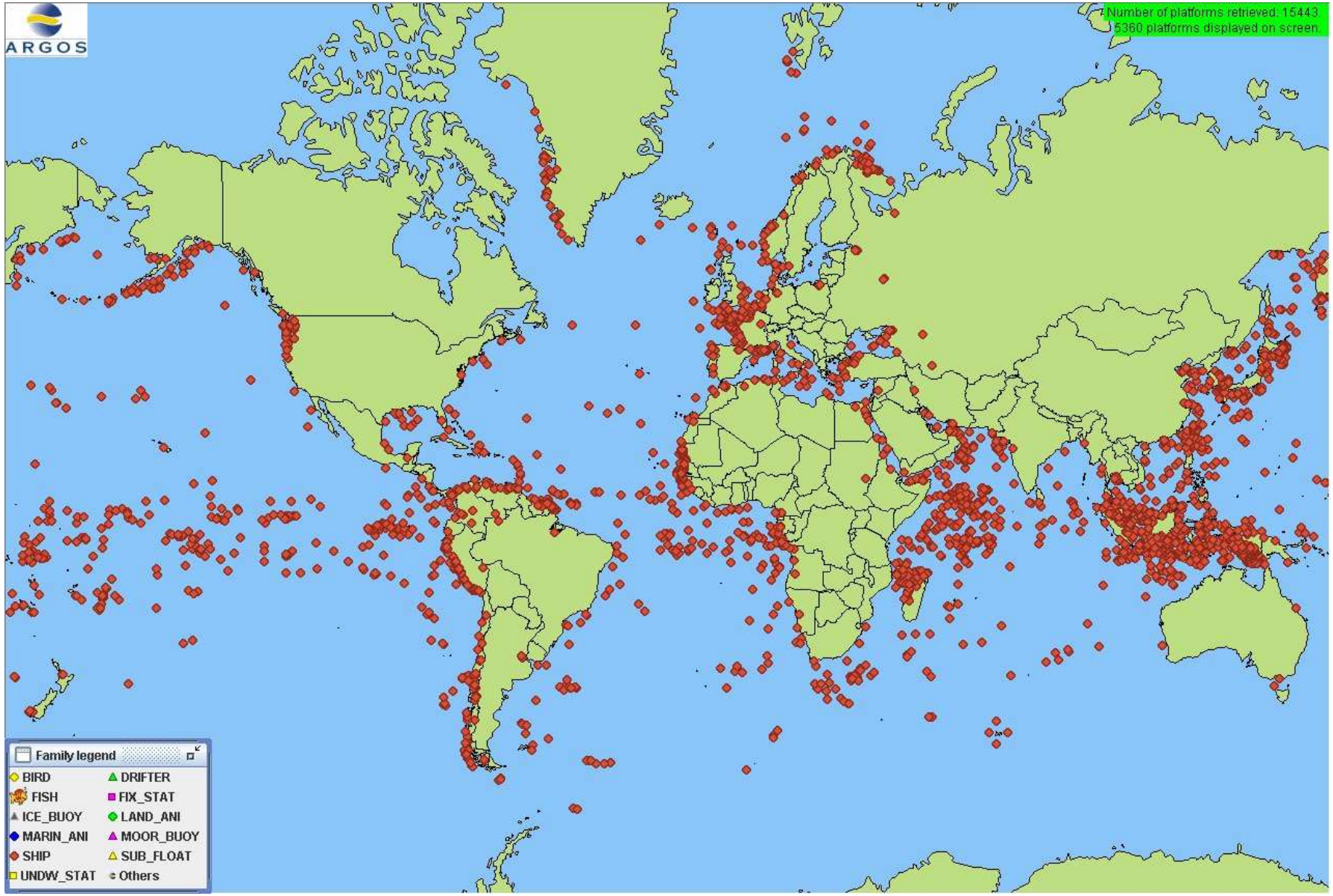
Figure 12 : Ground distribution of active platforms (Vessels)