



## Argo National Report 2021: Ireland

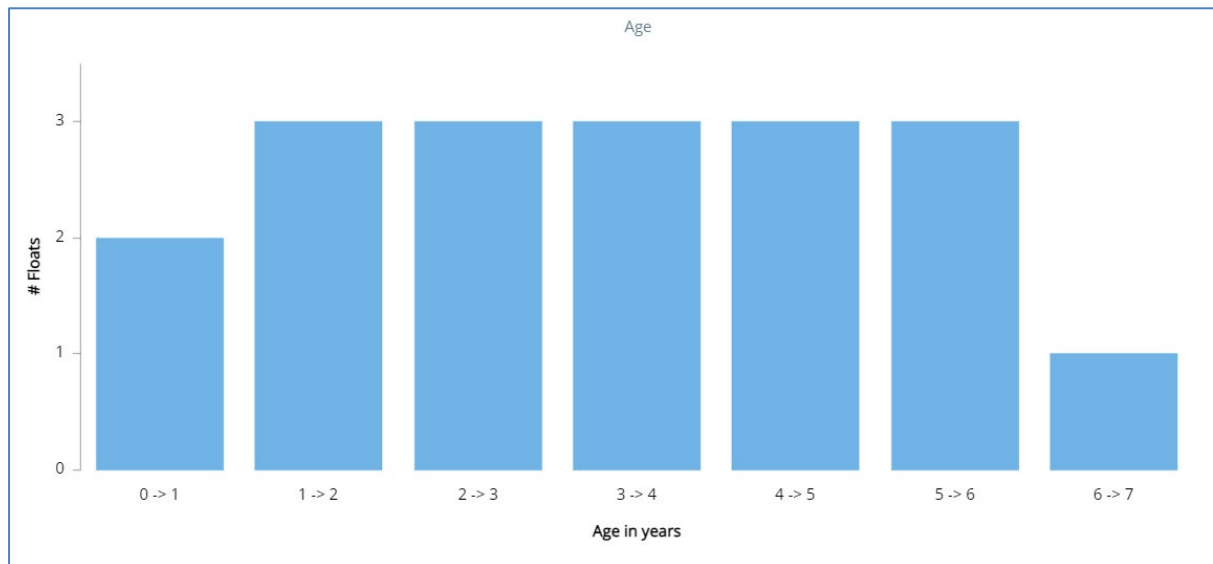
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1) The status of implementation (major achievements and any issues in 2021):

**a) Irish Argo float Overview**

In 2021, Ireland deployed two Argo floats. The floats consisted of a core T&S Arvor float and a Core +O2 float.

The Marine Institute deployed float 6901938 on the 7/3/2021 at 52 59.950 N, 15 31.189 W. Float 6901939 was deployed on the 8/3/2021 at 54 09.012 N, 17 14.334W. These floats were deployed by the Marine Institute research vessel RV Celtic Explorer during the annual Ocean Climate Cruise. A third float was due to be deployed on this cruise also, however, due to issues beyond the control of the scientific team the float was not deployed. A further 3 Arvor floats were deployed by the Celtic Explorer during the AIMSIR cruise in June of 2021 on behalf of our colleagues in BSH (Argo Germany).



**Above:** Age distribution of Irelands Argo Fleet.

2021 saw the Irish fleet increase to 18 floats which is an all-time high number of profiling floats within the Irish Argo fleet. The planned deployment of further floats in 2022 will add considerably to the amount of data being recorded as well as to the research capabilities within the Irish Argo fleet. It is envisaged that in 2022 a core Arvor float will be deployed as well as a Teledyne APEX BGC float.

Marine Institute Argo Float Overview (2021)					
Operational Floats (2021)					
Float	WMO #	Float Identifier	Make/ Model	Deployed	Status
1	6901919	7244	TWR/APEX	22/04/2015	OPERATIONAL
2	6901921	7243	TWR/APEX	23/03/2016	OPERATIONAL
3	6901922	7242	TWR/APEX	14/04/2016	OPERATIONAL
4	6901923	7241	TWR/APEX	09/04/2016	OPERATIONAL
5	6901924	7240	TWR/APEX	10/02/2017	OPERATIONAL
6	6901925	7841	TWR/APEX	11/02/2017	OPERATIONAL
7	6901926	7842	TWR/APEX	20/05/2017	OPERATIONAL
8	6901928	7844	TWR/APEX	12/02/2018	OPERATIONAL
9	6901929	AI2600-17EU001	NKE/ARVOR	12/02/2018	OPERATIONAL
10	6901930	AI2600-17EU002	NKE/ARVOR	27/03/2018	OPERATIONAL
11	6901931	AI2600-17EU003	NKE/ARVOR	06/12/2019	OPERATIONAL
12	6901932	AI2600-17EU004	NKE/ARVOR	29/05/2019	OPERATIONAL
13	6901933	AI2632-18EU038	NKE/ARVOR + (O2)	28/05/2019	OPERATIONAL*
14	6901934	AI2600-18EU030	NKE/ARVOR	31/08/2020	OPERATIONAL
15	6901935	AI2600-18EU032	NKE/ARVOR	10/09/2020	OPERATIONAL
16	6901937	AI2600-18EU031	NKE/ARVOR	05/09/2020	OPERATIONAL
17	6901938	AI2600-18EU029	NKE/ARVOR	07/03/2021	OPERATIONAL
18	6901939	AI2600-18EU039	NKE/ARVOR + (O2)	08/03/2021	OPERATIONAL

**b) Irish floats deployed in 2021 and their status.**

17	6901938	AI2600-18EU029	NKE/ARVOR	07/03/2021	OPERATIONAL
18	6901939	AI2600-18EU039	NKE/ARVOR + (O2)	08/03/2021	OPERATIONAL

**c) Technical problems encountered and solved**

An issue with processing the data being returned from Arvor Core&O2 floats was resolved in 2021. The Marine Institute would like to thank its partners in BODC and indeed in the Euro-Argo ERIC for their assistance in solving this issue.

**d) Status of contributions to Argo data management (including status of conversion to V3 file formats, pressure corrections, etc.)**

Carried out by BODC for the Marine Institute (Ireland).

**e) Status of delayed mode quality control process**

Carried out by BODC for the Marine Institute (Ireland).

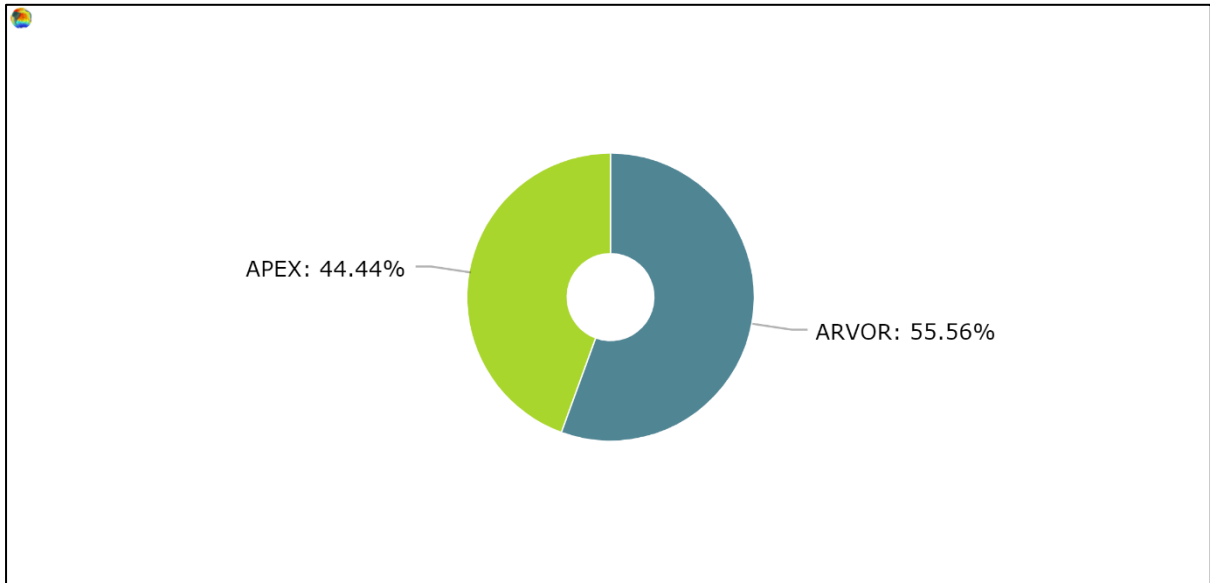
**2) Present level of, and future prospects for; national funding for Argo including a summary of the level of human resources devoted to Argo.**

Ireland continues to be a committed member of the Euro-Argo ERIC. Deployment plans for 2022 consist of an NKE Arvor Core Float and a Teledyne APEX BGC float. Ireland, via the Marine Institute will deploy additional floats where funding allows and will also assist the ERIC in deploying project specific floats where appropriate. Efforts continue towards securing multi-annual funding for Ireland's Argo programme on the national level.

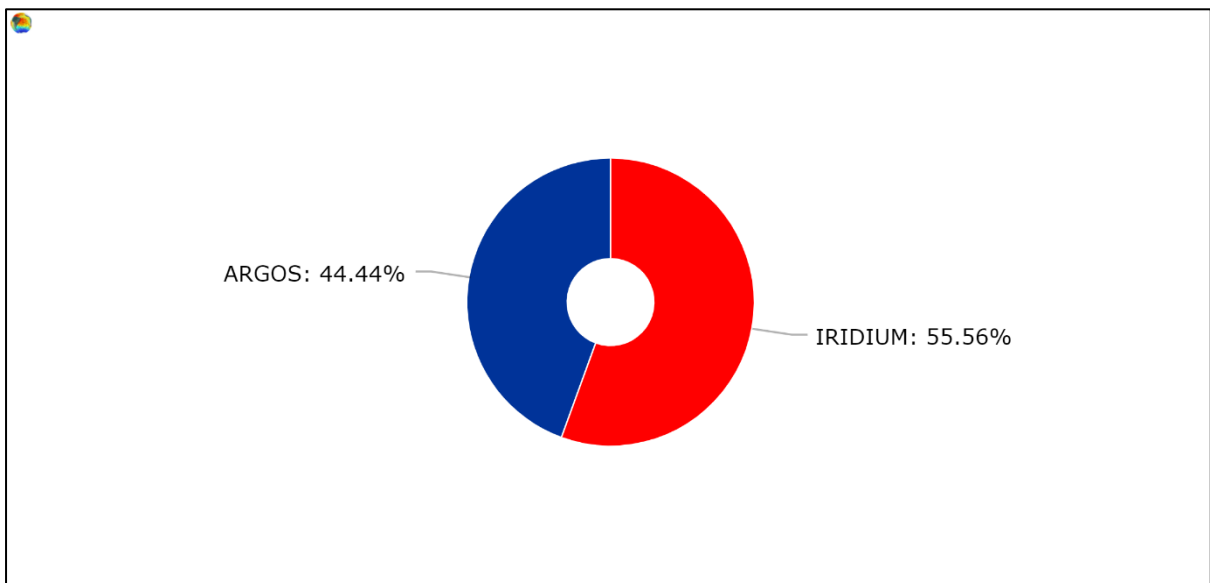


**3) Summary of deployment plans (level of commitment, areas of float Deployment, low or high resolution profiles, extra sensors, Deep Argo) and other commitments to Argo (data management) for the upcoming year and beyond where possible.**

The Marine Institute had planned to deploy three floats in 2021 as per its annual commitment. However, impacts on operational and technical ability due to the Covid-19 pandemic limited deployment opportunities for floats. It is envisaged that a core float and a BGC float will be deployed during 2022. Efforts continue towards securing multi-annual funding for Ireland's Argo programme on the national level.



**Above:** Illustrating the breakdown of Irish floats (NKE (ARVOR) and Teledyne Webb (APEX)). With NKE being the Euro-Argo ERIC tender winning bid, Ireland is seeing the number of ARVOR deployed floats increase.



**Above:** Graph showing the number of Irish floats using ARGOS or Iridium communications. With floats procured via Euro-Argo ERIC having Iridium communication systems the number of Irish floats with iridium communications will continue to increase over the coming years.



- 4) **Summary of national research and operational uses of Argo data as well as contributions to Argo Regional Centres. Please also include any links to national program Argo web pages to update links on the AST and AIC websites.**

Argo data is primarily used to validate ROMS models in the Oceanographic Services section of the Marine Institute. Argo data will also be utilised by a number of PhD students within the Marine Institute and 3<sup>rd</sup> level institutes across Ireland. Irish deployed Argo float data may also be used by researchers on an international level as all data is open and freely available.

Irish Argo National Webpage (hosted by the Marine Institute):

<https://www.marine.ie/Home/site-area/infrastructure-facilities/marine-research-infrastructures/argo-network>

Irish Argo Float Data\*:

<https://www.digitalocean.ie/>

\*May not visualise correctly via Internet Explorer web browser

- 5) **Issues that your country wishes to be considered and resolved by the Argo Steering Team regarding the international operation of Argo. These might include tasks performed by the AIC, the coordination of activities at an international level and the performance of the Argo data system. If you have specific comments, please include them in your national report.**

N/A. Any issues are dealt with via the Euro-Argo ERIC office.

- 6) **To continue improving the quality and quantity of CTD cruise data being added to the reference database by Argo PIs, it is requested that you include any CTD station data that was taken at the time of float deployments this year. Additionally, please list CTD data (calibrated with bottle data) taken by your country in the past year that may be added to the reference database. These cruises could be ones designated for Argo calibration purposes only or could be cruises that are open to the public. To help CCHDO track down this data, please list the dates of the cruise and the PI to contact about the data.**

No CTD data are uploaded to the CCHDO website.

However, all CTD data are emailed to Else Juul Green ([else@ices.dk](mailto:else@ices.dk)) who checks the data before it is uploaded to the ICES Oceanographic data portal annually:

<http://ocean.ices.dk/HydChem/HydChem.aspx?plot=yes>

- 7) **Keeping the Argo bibliography ( <http://www.argo.ucsd.edu/Bibliography.html> ) up to date and accurate is an important part of the Argo website. This document helps demonstrate the value of Argo and can possibly help countries when applying for continued Argo funding. We reached more than 2000 papers published using Argo data! To help me with this effort, please include a list of all papers published by scientists within your country in the past year using Argo data, including non-English publications.**

N/A.