

Progress on overall implementation of Stage 1 of the National Flood Forecasting and Warning Service - Feb 2023

1							
Phase		Establish the Flood Forecasting Centre and Oversight Unit					
Task No		Task Description	Responsibility and Lead	% Complete	Expected completion date	Comments on Progress Oct 2021	Comments on Progress Feb 2023
1a	Set-up	Establish Oversight Unit (facilities and 4 Staff)	OPW	75%	2022	Awaiting on remaining staff from existing interview panel	3 of the 4 staff have been assigned to OU duties
1b	Set-up	Establish Flood Forecasting Centre (facilities and 11 Staff)	MÉ	100%	2022	Another competition via PAS expected to commence shortly. Drawdown likely for remaining positions in early 2022.	11 out of the 11 staff are in place.
1c	Set-up	Establish 24 hour Response Capability at Flood Forecasting Centre	MÉ	100%	2019	A 24/7 on-call roster has been in place since 2019	A 24/7 on-call roster has been in place since 2019
1d	Set-up	Review Legal/Legislative issues and liabilities associated with Flood Forecasting and Warning Functions	DHLGH	95%	2022	Update expected at Stg Grp meeting on 07 Oct 2021	Formal Statement expected at Stg Grp meeting on 22 Feb 2023
1e	Set-up	DHPCLG to provide the financial, governance and other necessary support to Met Éireann for the establishment and development of the service.	DHLGH	100%	2022	All funding arrangements for Stage 1 have been put in place	All funding arrangements for Stage 1 have been put in place

2							
		Development of a National/Catchment Scale Fluvial Flood Forecasting Services Strategy					
Task No		Task Description	Lead	% Complete	Expected completion date	Comments on Progress Oct 2021	Comments on Progress Feb 2023
2a	Set-up	Prepare National Scale Flood Alerts and Flood Forecasting Strategy	OPW	100%		Various memos, short reports assessment of softwares etc have been developed that are guiding the National strategy. This is working well so far, however these require to be pulled together into a formal report to complete the action.	Various memos, short reports assessment of softwares etc have been developed that are guiding the National strategy.
2b	Set-up	Raising awareness of the service with Seminars etc targeted at operational partners	MÉ	100%	Q1 of 2022 + Ongoing	SWFLM introductory session took place on 28 May 2021. Next SWFLM training to take place on 20 Oct 2021 (another the following month for those that can't make the October meeting). Monthly meetings will take place in Q4 2021 and during Q1 2022.	The most recent SWFLM meeting took place on 25 Jan 2023. OPW and Met Éireann continue to present to stakeholders at various conferences.

3							
		Development of a National Scale Fluvial Flood Forecasting Service					
Task No		Task Description	Lead	% Complete	Expected completion date	Comments on Progress Oct 2021	Comments on Progress Feb 2023
3a	Develop and Trial	Develop and procure software, models and ICT hardware required for the Service	MÉ	95%	Q1 2022	Both the FEWS and IFICS systems have been procured and the development of the systems is currently in progress.	HYPE model software for all hydrometric areas has been implemented. FEWS is up and running within Met Éireann. TSSF is up and running in the HPC environment in Bologna. IFICS is due for launch during March 2023.
3b	Develop and Trial	Calibrate, and test flood forecasting models	MÉ	90%	Q4 2022	12 of the models were calibrated and tested in the original contract. The remaining models have been calibrated where possible. Some of the catchments do not have high quality river gauges and thus could not be calibrated. During the non-operational trial the remaining 24 models will be tested.	The non-operational trial has been running since October 2021. A Report on the first year of the trial is due in Q2 2023.
3b	Develop and Trial	Run pre-operational trials of the forecast models and integrator systems	MÉ	90%	Q4 2022	Trial will commence in October 2021 and end Q4 2022.	The non-operational trial has been running since October 2021 and will finish at the end of December 2022. A Report on the first year of the trial is due in Q2 2023.
3b	Develop and Trial	Run pre-operational trials of National Flood Alerts Service	MÉ	90%	Q4 2022	A significant amount of work has been done in the Preparation Stage of the non-operational trial. The Execution Stage will start later in October. The final stage, Evaluation will commence in Q2 2022.	The non-operational trial has been running since October 2021 and will finish at the end of December 2022. A Report on the first year of the trial is due in Q2 2023.
3c	Develop and Trial	Undertake appraisal of options for improving the Stage 1 service	MÉ	30%	Q1 2023	MÉ will produce a report on the non-operational trial with an appraisal of the various options available to improve the Stage 1 service.	OPW and Met Éireann have carried out a review of existing gauge availability. OPW have made Recommendations for new gauge locations. OPW have issued the list of high quality FEMI Stations to Met Éireann.
3c	Develop and Trial	Develop Implementation plan for improving the national scale flood forecasting and alerts service	MÉ	30%	Q2 2023	The Implementation Plan will follow from the report of the trial and the subsequent appraisal of options to improve the service.	Due to be completed in Q2 of 2023. The Implementation Plan will follow from the report of the trial and the subsequent appraisal of options to improve the service.

3							Development of a National Scale Coastal Flood Forecasting Service	
Task No		Task Description	Lead	% Complete	Expected completion date	Comments on Progress Oct 2021	Comments on Progress Feb 2023	
3b	Develop and Trial	Calibrate, and test flood forecasting models	MÉ	75%	Q4 2021	The TSSF software was tested at the ECMWF HPC. It is now being verified to see if it can be made operational there. A final determination is expected by the end of Q4 2021.	The TSSF software was tested on the ECMWF HPC. These tests were successful and the TSSF is now being run on the HPC in Bologna	
3b	Develop and Trial	Run pre-operational trials of the models	MÉ	95%	Q4 2022	Depends on the outcome of the testing of the TSSF.	The TSSF software was tested on the ECMWF HPC. These tests were successful and the TSSF is now being run on the HPC in Bologna	
3b	Develop and Trial	Run pre-operational trials of National Flood Alerts Service	MÉ	95%	Q4 2022	Trial will commence in October 2021 and end Q2 2022. The TSSF forecasts will be used by FFC staff and its performance will be reviewed.	The TSSF forecasts is being used by FFC staff and its performance will be reviewed.	
3c	Develop and Trial	Undertake appraisal of options for improving the Stage 1 service	MÉ	70%	Q1 2023	MÉ will produce a report on the non-operational trial with an appraisal of the various options available to improve the Stage 1 service.	Met Éireann have carried out a review of the TSSF and an appraisal report has been completed.	
3c	Develop and Trial	Develop Implementation plan for improving the national scale flood forecasting and alerts service	MÉ	70%	Q2 2023	The Implementation Plan will follow from the report of the trial and the subsequent appraisal of options to improve the service.	Due to be completed in Q2 of 2023. The Implementation Plan will follow from the report of the trial and the RPS appraisal of the TSSF to improve the service.	

4							Development of a Catchment Scale Fluvial Flood Forecasting Service	
Task No		Task Description	Lead	% Complete	Expected completion date	Comments on Progress Oct 2021	Comments on Progress Feb 2023	
4a	Develop and Trial	Develop detailed implementation plan for catchment scale flood forecasting service	MÉ and OPW	20%	Q2 2023	Various memos, short reports assessment of softwares etc have been developed that are guiding the National Scale, and to a lesser extent, the catchment scale strategy. This is working well so far, however these require to be pulled together into a formal report to complete the action.	Due to be completed in Q2 of 2023. The Implementation Plan will follow from the report of the trial and the subsequent appraisal of options to improve the service.	
4b	Develop and Trial	Commission new monitoring equipment as required	MÉ and OPW	40%	Ongoing	Some new OPW gauges have been installed at AFA's and over 20 new CAMP stations have been installed in the last two years, giving 80 such stations.. Tech Subgroup is working on a strategic plan for a monitoring network specifically for flood forecasting.	Since 2018 OPW have installed 107 new gauges around the country. They have installed 38 new WL and Flow gauges, 21 Water Level only river gauges, 15 tidal gauges and 7 rain gauges across 44 AFA's. Over 20 new CAMP stations have been installed in the last two years, giving 80 such stations.. Tech Subgroup is working on a strategic plan for a monitoring network specifically for flood forecasting. OPW have already identified 35 locations required for catchment scale flow gauging stations.	
4c	Develop and Trial	Develop, procure, calibrate, and test catchment scale flood forecasting models	MÉ	66%	Q4 2022	12 of the models were calibrated and tested in the original contract. The remaining models have been calibrated where possible. Some of the catchments do not have high quality river gauges and thus could not be calibrated. During the non-operational trial the remaining 24 models will be tested.	HYPE model software for all hydrometric areas have been implemented. FEWS is up and running within Met Éireann . TSSF is up and running in the HPC environment in Bologna. IFICS is due for launch during March 2023. Further development of these models will take place in 2023. To make them suitable for catchment scale models	

4							Development of a Catchment Scale Coastal Flood Forecasting Service	
Task No		Task Description	Lead	% Complete	Expected completion date	Comments on Progress Oct 2021	Comments on Progress Feb 2023	
4a	Develop and Trial	Develop detailed implementation plan for local/catchment scale coastal flood forecasting service	MÉ and OPW	70%	Q1 2023			
4b	Develop and Trial	Commission new monitoring equipment as required	MÉ and OPW	20%			OPW have installed 38 new WL and Flow gauges, 21 Water Level only river gauges, 15 tidal gauges and 7 rain gauges across 44 AFA's as part of the roll out of OPW Flood Relief Schemes. No gauges specific to coastal flood forecasting have been installed	
4c	Develop and Trial	Develop, procure, calibrate, and test local/catchment scale flood forecasting models	MÉ	10%			A technical specification is being prepared for the review of models for coastal flood forecasting	

6		Communications Strategy and Reporting considerations					Comments on Progress Oct 2021	Comments on Progress Feb 2023
Task No		Task Description	Lead	% Complete	Expected completion date			
6a	Communication and Reporting	Set up working group and develop communications strategy	OPW and MÉ	90%		Completed and is in draft format for approval pending legal opinion on dissemination of flood alerts and warnings	The communications Strategy document has been completed but is awaiting the Formal Statement from NDFEM before it can be finalised.	
6.2	Communication and Reporting	Develop communications tools (e.g. IFICS)	MÉ	95%	Q1 2022	System has been procured and is being developed. Final User Acceptance Testing will take place early in Q1 2022.	Development of IFICS is at an advanced stage and is scheduled for completion by end 2022	
6.3	Communication and Reporting	Prepare and develop a communications strategy for the dissemination of flood forecasts	MÉ and OPW	95%		Completed and is included in the Communication Strategy and is in draft format for approval pending legal opinion on dissemination of flood alerts and warnings	The communications Strategy document has been completed but is awaiting the Formal Statement from NDFEM before it can be finalised.	
6.4	Communication and Reporting	Launch communications strategy to co-incide with launch of operational national flood forecasting service	MÉ and OPW			This will be launched when the Service becomes operational.	The communications strategy is being implemented already. This will be officially launched when the Service becomes operational.	
7a	Communication and Reporting	Develop Reporting protocol to provide oversight on performance of operational service	OPW	90%	Q4 of 2022		Will be done in conjunction with Met Éireann over the coming months	
7b	Communication and Reporting	Implement reporting arrangements	OPW and MÉ		Q1 of 2023			

7		Technical Considerations					Comments on Progress	Comments on Progress Feb 2023
Task No		Task Description	Lead	% Complete	Expected completion date			
7.1	Develop and Trial	Collate and provide all data required for flood modelling	OPW	100%		All data required so far has been issued	All data required from OPW so far has been issued. Met Éireann are in discussions with EPA to acquire their data in real time.	
7.2	Develop and Trial	Develop protocols for data sharing	OPW	95%	Q4 2021	Nearing agreed wording on the SLA for data sharing	SLA for data sharing has been completed and is to be discussed at the Steering Group meeting on 21 Dec 2022	
7.3	Develop and Trial	Review gaps in data or technical capability and resolve these	OPW	50%	Q1 of 2022	Desk based studies have been done in this regard, however data gaps will become clearer after models have been up and running for some time.	This will be contained in the Review of Stage 1 Report	
7.4	Develop and Trial	Assess new technologies for use in flood forecasting	OPW & MÉ	100%	Ongoing	This will be a continuing process which is so far up to date (hence 100%)	This will be a continuing process which is so far up to date (hence 100%)	