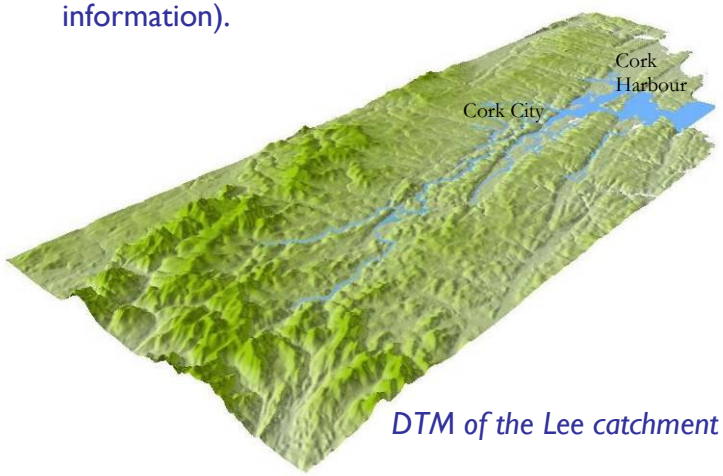
Where we are at

Since our last newsletter, work has been progressing on the construction of the eight computer models of the rivers in the catchment. Seven of these models are due to be completed in the next few weeks. The computer model of Cork City will take longer to construct due to the complexity of the model in this area. We will shortly have a series of river flows to input to our computer models of the rivers and Cork Harbour from our hydrological assessment (February newsletter).

The development of the defence asset database is almost complete. The defence asset database will contain information on the condition of various structures within the River Lee, its tributaries and Cork Harbour (see the December '06 newsletter for further information).



DTM of the Lee catchment

Next issue

In the next issue of the newsletter we will be focussing on the Cork South Docklands Local Area Plan. The project team have been working with Cork City Council on the issue of flood risk management for this area. The next issue of the newsletter will be available at the end of September.

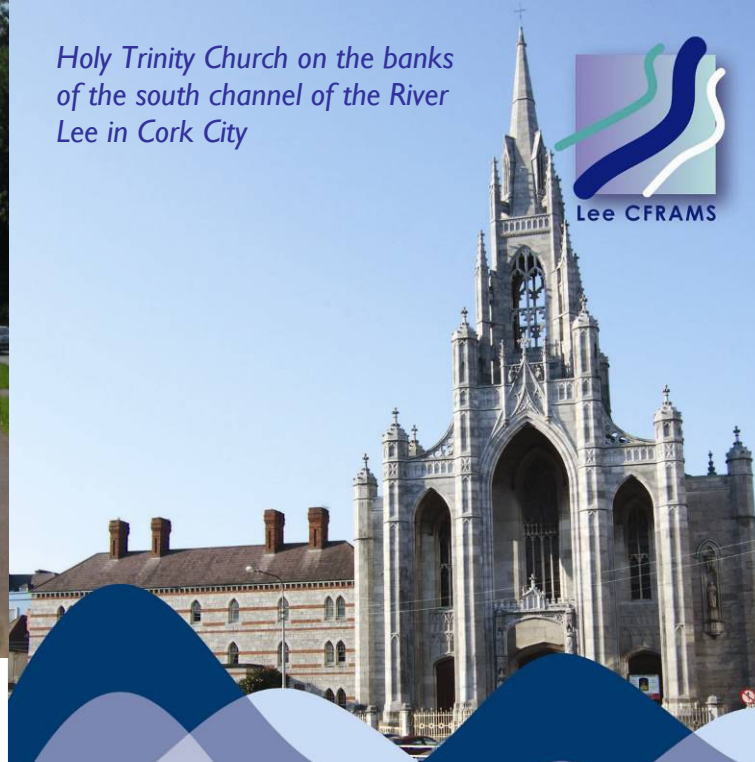
River Glashaboy near Glanmire

Contact details

If you have any questions or require any further information relating to this study or if you would like to be included on a distribution list for future issues of this newsletter please email LeeCFRAMStudy@opw.ie

Further information is also available on our project website at www.leecframs.ie

Halcrow



Holy Trinity Church on the banks of the south channel of the River Lee in Cork City

Lee CFRAMS

LEE CATCHMENT FLOOD RISK ASSESSMENT AND MANAGEMENT STUDY

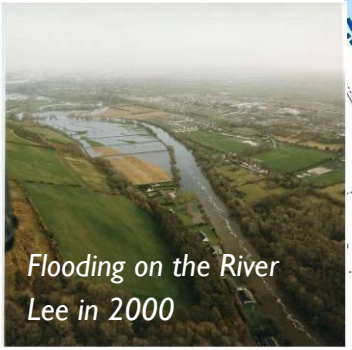
Newsletter - 12
August 2007

OPW

Introduction

Welcome to the twelfth edition of the Lee CFRAM Study Newsletter. In this month's newsletter we focus on one of the three key areas of mapping being developed for the LeeCFRAM Study, namely the flood extent maps. In future editions of the newsletter we will focus on the two other flood mapping formats being developed; flood hazard maps and flood risk maps.

An update on our progress since the last newsletter is available on the back page. Don't forget that you can keep up to date on all aspects of the project by visiting our project website at www.leecframs.ie



Flooding on the River Lee in 2000

Location	Water Level (mOD) per AEP					
	Existing Conditions			Possible Future Conditions		
	10%	1%	0.10%	10%	1%	0.10%
1	100.11	100.56	100.92	100.34	100.84	101.14
2	99.76	100.01	100.29	100.03	100.30	100.56
3	99.68	99.98	100.41	99.96	100.18	100.68
4	99.65	99.96	100.27	99.89	100.21	100.51
5	99.20	99.52	99.84	99.46	99.82	100.07
6	98.93	99.27	99.55	99.23	99.56	99.78
7	98.55	98.95	99.19	98.81	99.19	99.43
8	98.36	98.81	99.21	98.58	99.05	99.43
9	97.91	98.19	98.61	98.19	98.42	98.81
10	97.63	98.00	98.24	97.86	98.21	98.46

Example of a flood extent map for the LeeCFRAMS. (Please note that this is hypothesised data and is not based on actual model results)

Focus On

Flood extent mapping

Flood maps are one of the main outputs of the hydraulic modelling process (discussed in the March & May newsletters) and will form the way in which the hydraulic model results are communicated to each of the end users including for example, the general public and planning authorities.

The objectives of flood mapping are:

- to aid the flood risk management and design process.
- to increase public awareness of flood risk areas
- to highlight areas which will be most affected by a certain flood event to allow for emergency response planning and design.
- To increase awareness in planning and development management.

Flood extent maps illustrate the estimated area inundated by a particular flood event for a given annual exceedence probability (AEP). The AEP is a statistical measurement indicating the likelihood of a flood event of a certain intensity occurring or being exceeded in any given year. Thus a 10% AEP describes a flood event which has a 10% chance of occurring/being exceeded in a given year. Flood maps will be produced for the 50%, 10%, 5%, 2%, 1%, 0.2% and 0.1% AEP. Flood extent maps will also be produced for the 'most likely future scenario'. Information on this scenario can be found in the June edition of the newsletter.

The flood maps will be produced using a combination of the hydraulic model results and a Digital Terrain Model (DTM) of the catchment developed from the LiDAR (Light Detection and Ranging) survey of the floodplains (see the May newsletter for further information on LiDAR).

The map above is an example of a flood extent map and shows how the flood extents for the Lee catchment may be presented. The shaded blue areas show the extent of flooding for a given AEP. The dotted and solid lines surrounding the shaded areas show the level of uncertainty associated with a given flood extent. Information on how this uncertainty is calculated will be available in a future edition of the newsletter. Points along the centreline of the river will be associated with a table on the map showing the water level at that point for both a given AEP and the 'most likely future scenario'.

The flood maps will be available for the eight river models and Cork Harbour. The maps will be available in summer 2008 and will be published on the OPW flood mapping website www.floodmaps.ie