

Summary of MDSF Users Workshop

Date: 13th February 2007

Location: HR Wallingford, Howbery Park Wallingford

Attendees

Darren Lumbroso	HR Wallingford
Bob Potter	Halcrow
Ollie Snowdon	Halcrow
Rob Porter	Halcrow
Kerry Turner	Capita Symonds
Jonathan Smith	Jacobs
Elisabetha Tonicelli	Peter Brett Associates
Alex Zirpolo	Royal Haskoning
Nadine Welsh	Royal Haskoning
Matthew Leaver	Capita Symonds
Emily Carpenter	Mott MacDonald
Emma Wren	Mott MacDonald
Alex Minett	Halcrow
Ian Ringer	JBA
Tony Green	JBA
Liu Yang	JBA
Angus Pettit	JBA
Andrew Lowe	Halcrow

Morning Session

The workshop began with a brief introduction from Darren Lumbroso, during which each attendee introduced themselves to the group and stated their level of MDSF experience.

The rest of the morning consisted of a series of formal presentations, each about 20 minutes long. Each of these was then followed by a Q&A stimulated discussion.

The main points from each presentation are as follows:

Bob Potter, Halcrow - MDSF v3.4.0 – What's New?

- Each of the 12 recognised enhancements in the latest version of MDSF were described. Some examples of these were:
 - Changes to the calculation of AAD
 - The addition of a PVd calculation
 - A change to the treatment of negative depth damages
 - The incorporation of revised damage curve data from the MCM
- Some known bugs were highlighted
- A list of possible future improvements was also presented. Some examples of these were:
 - Inclusion of some form of flood risk to people calculation
 - Auto-adjustment of property threshold levels from within MDSF
 - Data validation tool – to check all input data and provide warnings before starting analysis

- Enable importing of geo-referenced cross section data

Angus Petitt, JBA – The use of MDSF in Scotland and its use in economic appraisals

- Use of MDSF for Scottish flood defence database
- CFMPs not currently carried out in Scotland
- Scottish Executive funding to new schemes to £93 million – raised level of government support to councils from 50% to 80%
- Scottish flood defence asset database contains 72 schemes about 40 of which were assessed
- A range of schemes and range of scales
- Lack of information Scottish Executive needs a GIS system to help to review current defence standards
- MDSF provided a consistent approach
- Some data manipulation was required in order to apply MDSF:
 - Overcoming missing key MDSF datasets, e.g. the national property dataset (NPD)
 - AddressPoint data and rateable values from SAA were re-formatted to MDSF requirements to create a property dataset
 - MDSF can utilise many different data types - allows greater range of analysis
- MDSF provided more detailed analysis than standard spreadsheet tables
- Site visit and good data are key
- MDSF can be used for option appraisal scheme
- Multiple look up tables to provide a variety of tests:
 - Longer duration floods
 - Salt water damages (coastal sites)
 - Flood warning damages
 - Basement damages (version 3.4.0)
 - Climate change (water levels)
 - Threshold of flooding
- Uncertainty calculations are important
- Surrogate values used to look at tangible and intangible damage

Rob Porter, Halcrow – MDSF for CFMPs

- Decision as to whether to use old or new version of MDSF
- Hampshire Avon scoping stage done using the old version
- Main stage of study started using new version however significant differences observed in properties affected which meant had to revert to old version for consistency
- Old version of MDSF gives a more conservative damage estimate
- The number of people affected by flooding was estimated by multiplying the total number of residential properties by 2.5
- Studies suggested need for better method of calculating “people affected” in MDSF
- MDSF also does not allow people affected to be aggregated to any polygon, e.g. policy unit. Currently data can only be aggregated by enumeration district – no good for CFMP analysis

Tony Green, JBA – MDSF – The Good, Bad And The Ugly

Good - Software performed well for the purpose it was designed, i.e. generating flood extents and associated damages.

Bad - Inflexible regarding some input data, issues with river centreline, more flexible, limits on grids
Ugly - Arcview 3 features can be a pain to use

- Experience has shown that MDSF works better with small areas
- Farmers on CFMP Steering Groups query agricultural damage which is not based on up to date data
- Review of agricultural damage is required
- Analysis of SFVI is needed
- Policy appraisal – bad to worse. MDSF needs to be linked to policy appraisal needs
- Policy solution could be used in terms of supporting policy appraisal
- MDSF should allow velocity data to be imported
- MDSF should provide more policy appraisal options, e.g. PAG3 approach

Andy Lowe, Halcrow - Case Study: River Nene CFMP Experiences with MDSF

The talk covered the following MDSF processes, relating each to experiences on the River Nene CFMP.

1. Issues relating to creation of flood mapping cross-sections:

- How many sections are required?
- Use of the clone tool
- Problems at junctions
- Problems due to inaccurate river centreline or inaccurate ISIS node locations
- Why over-extending mapping sections can lead to errors

2. Also looked at damage calculation issues:

- Always check NPD valuation data and handling of missing values
- Rank AAD values to find most influential properties
- Best ways to visualise damage data

3. Other topics covered:

- Methods for reducing processing times
- Data storage requirements
- Batching process
- Key considerations for future MDSF development

Afternoon Session

For the afternoon session the attendees split into three breakout groups to discuss 2 key topic areas:

Key messages from the breakout groups regarding possible improvements to the MDSF were as follows:

Breakout group 1

1. Improved error messages
2. Format/data checker software or an example of data formats
3. The ability to change the resolution of agricultural grid
4. An update to the agriculture land classification maps (ALC) maps together with improved agricultural damage curves
5. The ability to batch MDSF runs
6. The ability to automatically zip MDSF files and projects to save storage space when archiving
7. Implement an improved run status bar or percentage complete bar so that the user knows the MDSF is still running
8. Provide the ability to output data from the MDSF to PAG3 spreadsheets
9. Remove need to import river centreline when importing depth grids

10. Improve guidance on how to manage ArcView APR files and views
11. Explicit naming convention in user guide
12. More explicit explanation of methods for calculating agricultural and social impacts to be included in the User Guide
13. Provide the ability to click on a property to view flood depth versus damage curves.
14. Flag up properties with unusual flood depths, e.g. basement flooding or extra-high flood levels

Of these the group also picked out items 2, 4, 5, 8 and 14 as the most important and stated these should be prioritised within the MDSF development program.

Breakout group 2

1. The ability to aggregate the Social Vulnerability Flood Index (SFVI) at a policy unit level
2. Make better use of the MDSF website via:
 - Frequency Asked Question section
 - Providing explanation of common error messages and solutions
 - Make users (and potential users) more aware of website through improved publicity
3. Allow external cross sections to be imported
4. Explain error messages more clearly
5. Provide a data preparation tool to check the validity of input data

The group also stated that all items were of equal importance and should all be included in the MDSF development program.

Breakout group 3

1. The ability to add/remove cross-sections once they have been imported into MDSF
2. Node name limitations – check and rectify
3. Improve user guide to reduce number of start-up errors experienced by new users
4. Any good tips posted on website by users should be incorporated into a regularly updated user guide and/or procedures document – into a new “tips and tricks” section.
5. Importing of pre-defined flood extents can be a lottery – user guide should detail what can cause problems.
6. Provide a data input checking tool to assess all user’s MDSF data
7. Add functionality to allow export from MDSF to PAG3 format.
8. Allow viewing of velocity data as well as flood depth.

The group also stated that all items were of equal importance and should all be included in the MDSF development program.