Using

Subjective Risk Assessment

Version 3

Subjective Risk Assessment is a software tool to facilitate qualitative risk assessment in a workshop setting. It can do the following:

	page no.
• record and display scores for likelihood and consequence assigned by a number of groups or individuals to a set of hazards	1-3
• calculate risk scores as the product of likelihood and consequence for each hazard	3
• rank the hazards in priority order for each individual or group on the basis of the risk scores	3
• identify pairs of individuals or groups where disagreement over ranks is the greatest	5
• facilitate identification of hazards where disagreement over ranks is greatest, and the sources of that disagreement (likelihood or consequence)	7
• display summary graphs of a priority order for hazards and the level of uncertainty surrounding each hazard	8, 9
• save scores and export raw data for use by other software	10

Project Directors
Mark Burgman - The University of Melbourne
Jan Carey - The University of Melbourne

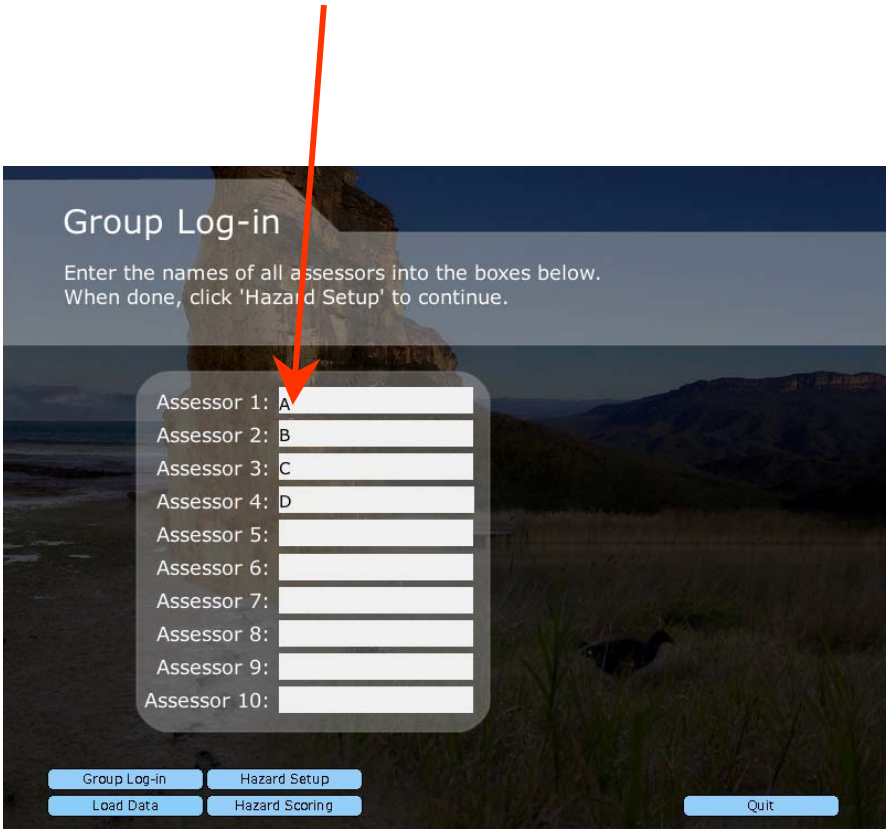
Version 1.0 Developer
Hugh Campbell - Highbrow Interactive

Version 2.0/3.0 Developer
Ryan Chisholm - The University of Melbourne

Scoring likelihood and consequence - 1

Group Log-in

Individual assessors or groups of assessors can be assigned distinguishing names or abbreviations.

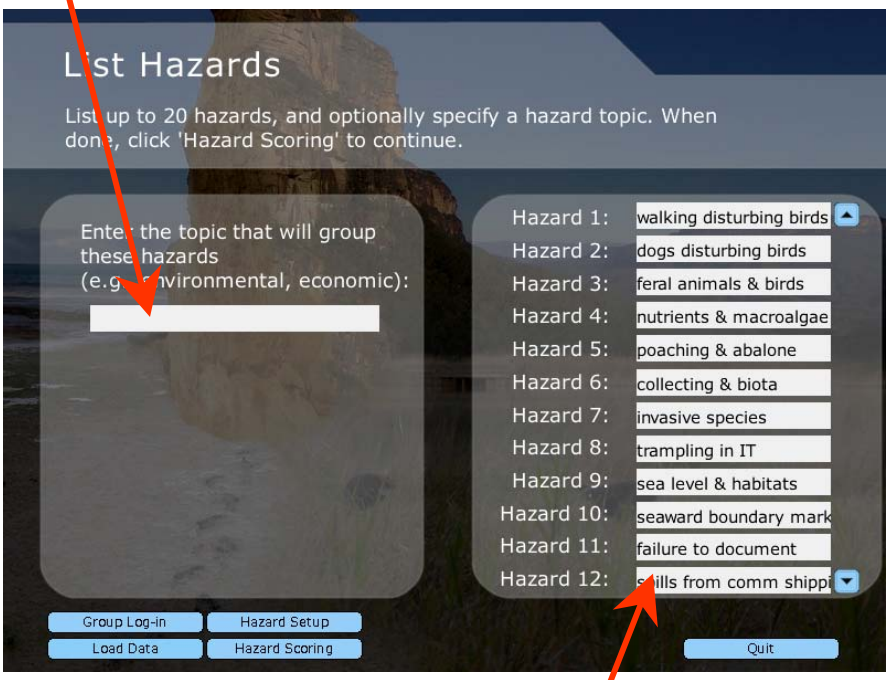


Scoring likelihood and consequence - 2

List Hazards

Hazards can be grouped by topic to allow separate ranking within topic.
e.g. ecological hazards, hazards to visitors
or Park A, Park B, Park C.

Note that if you chose to do this, the scores for each distinct group of hazards will need to be saved separately. (see page 10)

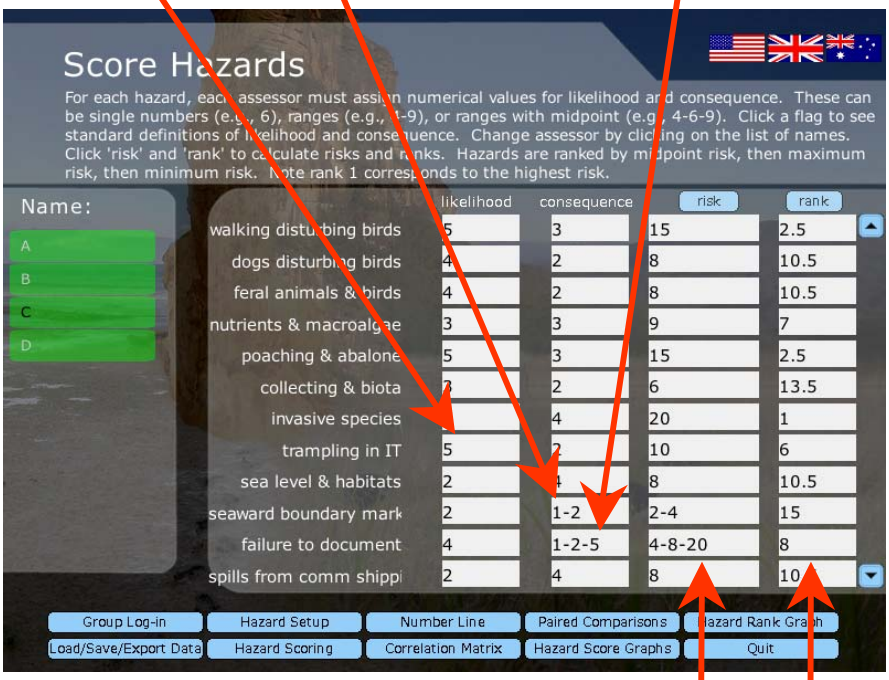


Enter the hazard names here.
Truncation will occur on some later screens (e.g. the graphs), so make sure that the first ten characters of each hazard are distinctive.
e.g. use " urban litter" and "marine litter" rather than "litter from urban areas" and "litter from marine sources"

Scoring likelihood and consequence - 3

Score Hazards

Scores may be entered as
point estimates, a range of values, or a range with a best estimate.



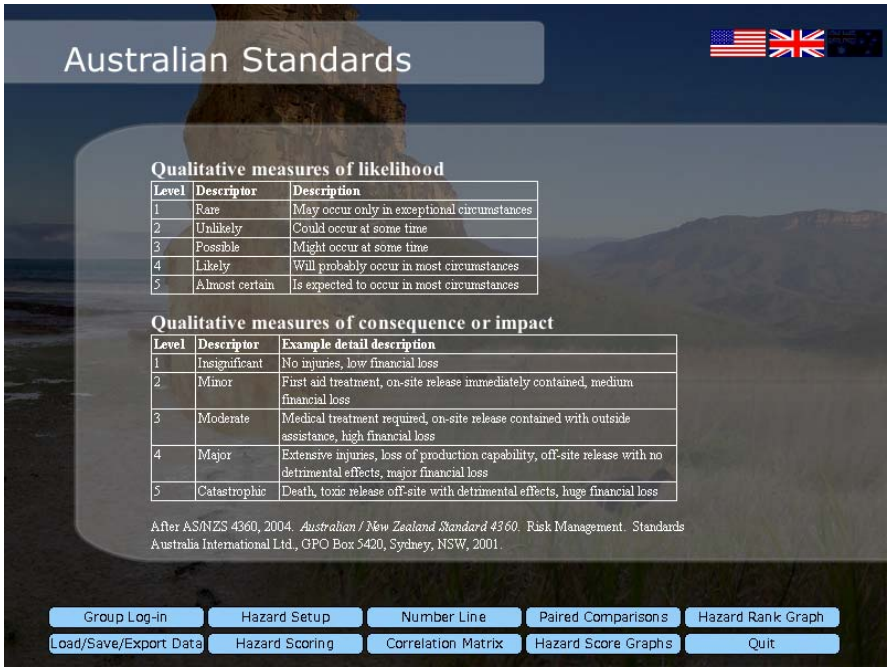
Risk scores will be calculated using interval arithmetic, then ranked.

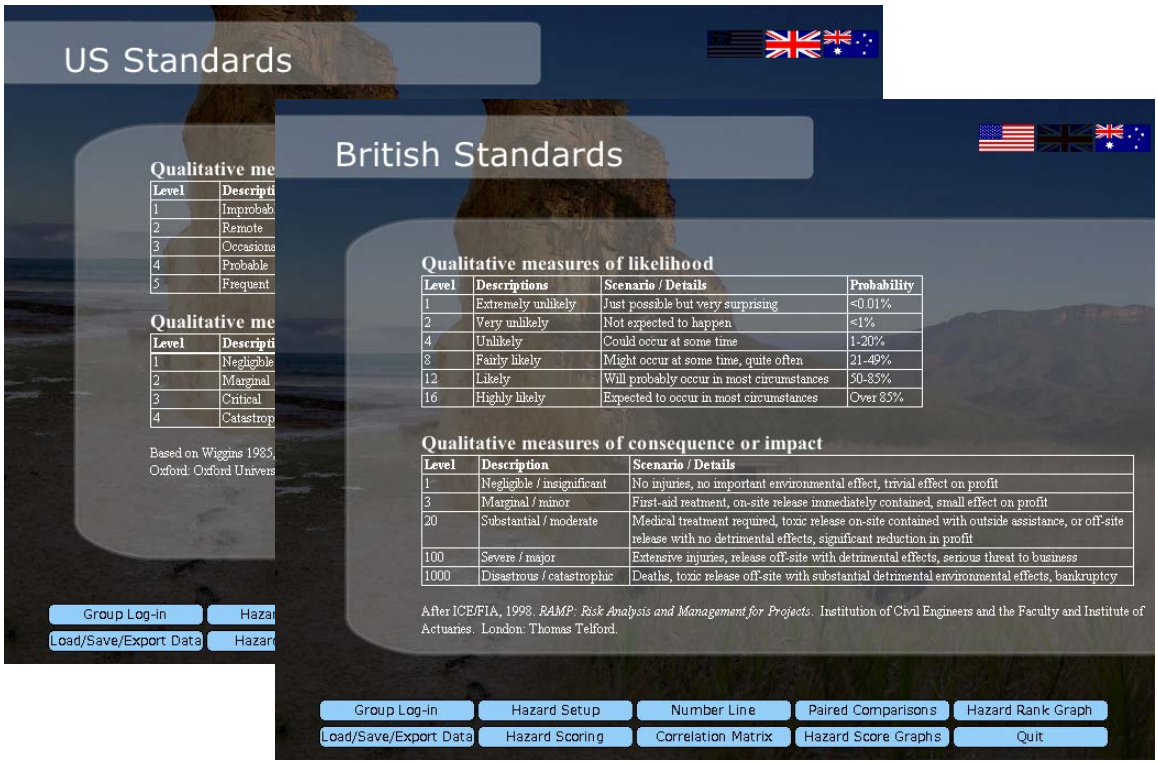
Note: the scoring system used should be such that the maximum possible risk score is less than 65,535. The program will crash at this score!

Scoring likelihood and consequence - 4

Standards

Three sets of standard definitions of likellihood and consequence are provided for reference, but it's perfectly acceptable to use alternative scores and/or definitions.



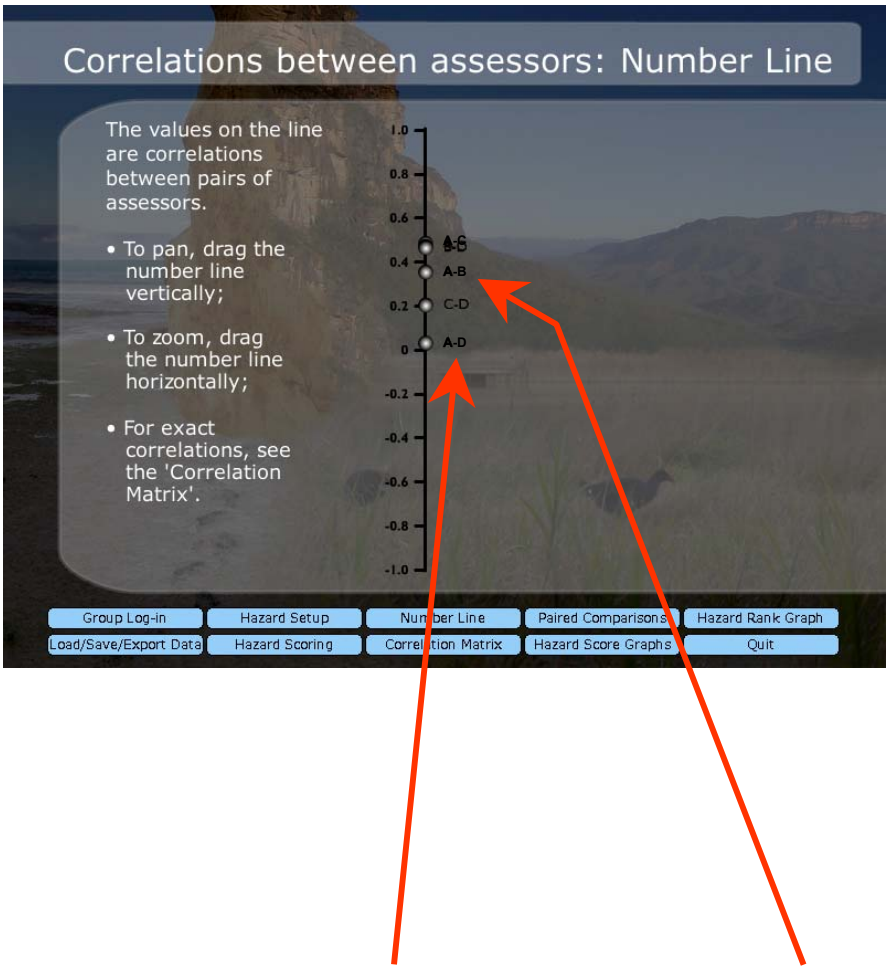


Group Comparisons - 1

Number Line

The number line quickly identifies pairs of individuals/groups where the overall level of disagreement was highest.

A value of +1 indicates that the assessors in question ranked the hazards in exactly the same order (although the risk scores may have differred). A value of -1 means the assessors ranked the hazards in exactly opposite orders. Values around zero indicate no real pattern in the two sets of ranks.



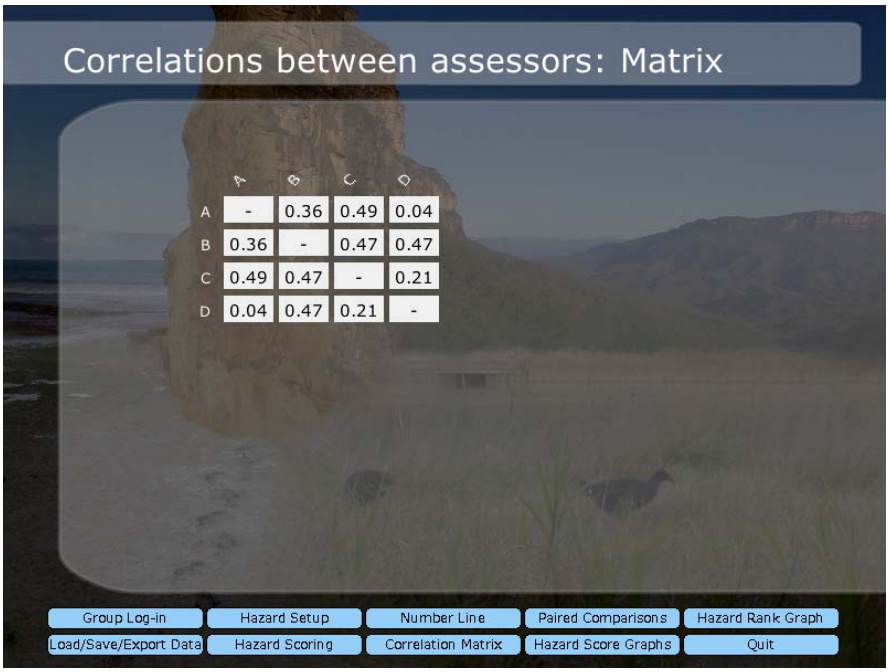
In this example, A and D disagree more than A and B.

The values shown on the line are Spearman's rank correlations. Details of their calculation can be found in most standard statistical texts.

Group Comparisons - 2

Matrix

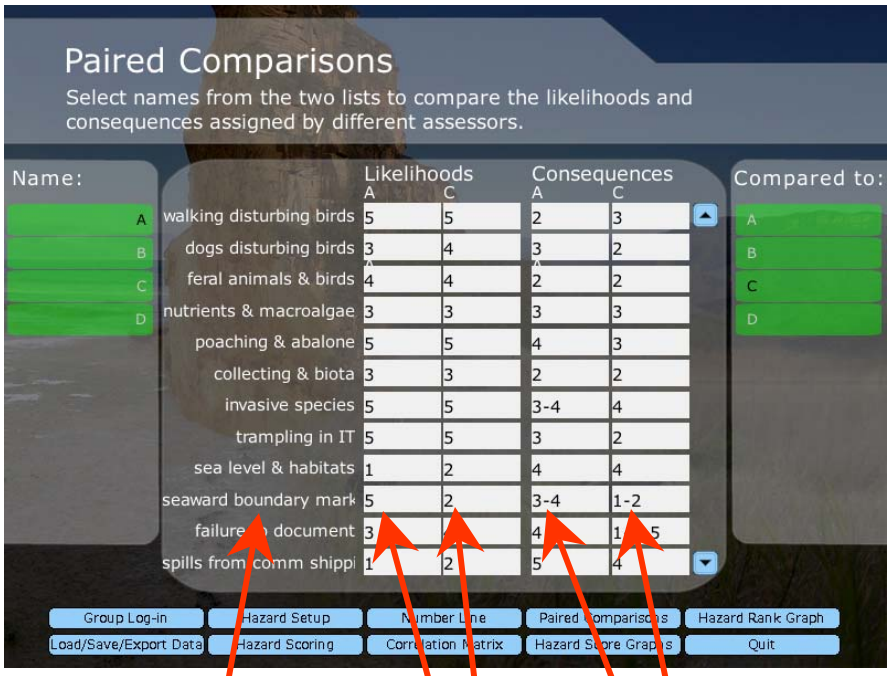
The correlations presented on the number line can also be accessed in matrix form.



Group Comparisons - 3

Paired Comparisons

Having noted, for example, that A and C have the greatest level of disagreement, you can use the Paired Comparisons to quickly identify the major sources of that disagreement.



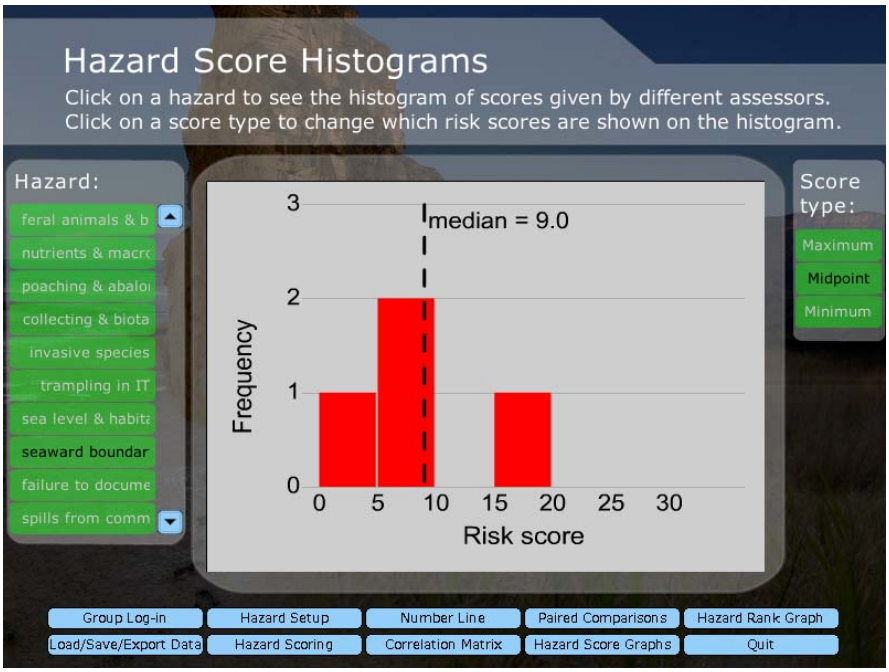
i.e. which hazards?

for likelihood or consequence or both?

Summary Graphs - 1

Hazard Score Histograms

The distribution of scores for a selected hazard can be displayed in a histogram.

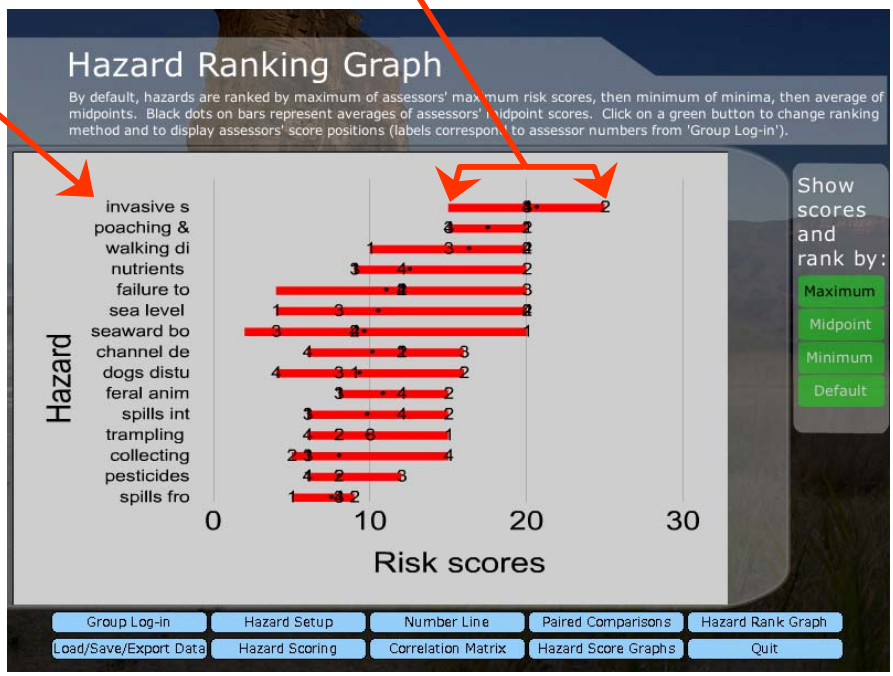


Summary Graphs - 2

Hazard Ranking Graph

The Hazard Ranking Graph

- presents the hazards in a priority order
- indicates the level of uncertainty associated with the risk score of each



Saving, Exporting or Loading Data

Data from a risk assessment can be saved for later reloading, or exported in a format suitable for most spreadsheets or word processors.