**MODEL/PRODUCT/TOOL/FRAMEWORK EVALUATION CRITERIA**

Tool Reviewed:\_Joe Scott- Wildfire Risk Assessment Framework (P. Anderson Compiler)

Small Group Members: Please listen carefully to the presentation for the tool you have been assigned to review. Record comments below related to your understanding based on what you hear. There will be a chance to get clarification with the presenter later in the day.

|  |  |
| --- | --- |
| **Criteria** | **Review Comments** |
| Tool Objectives | Clear objective – determine fire risk and provide basis for evaluation of composite risks and trade-offs in a spatially explicit domain |
| Processes Modeled | Spatially explicit fire probability and fire severity with outcomes weighted by spatially explicit values (predominantly highly valued human assets but could be a much broader array of valued features or characteristics)  |
| Vegetation classification used | Not explicitly defined – presume can be driven by whatever landscape spatial vegetation data exist for various land areas. Likely standardize on data available to fire management community. |
| Treatment of uncertainty | Probability of burning, over different fire intensity levels, is considered as a statistical phenomenon; assessment outputs are deterministic – expression of uncertainty to users not apparent in the product examples  |
| Spatial options/landscape size limits | Unclear what the minimum area of resolution is but the applicable spatial extent ranges from project, landscape to regional scales contingent on data availability and computing resources.  |
| Required inputs and possible outputs | The fire modeling component of the framework is driven by data sets common to this exercise – requires fuels, weather, and other spatial data for landscape fire modeling. The other input required is some form of valuation data bases – this can be derived from some standards but may require expert judgement in applcaition and assignment of wildfire risk to individual high-valued resource.  |
| Scenario comparison capability/ease | In principal – scenario comparison should be a straight forward process given appropriate data management and batch programming skills – could be a challenge for forest-level staffs from skill set and computing capacity perspective.  |
| Compatibility with other modeling systems | The integrated risk values generated are very compatible as inputs data to other multi-dimensional assessment or modeling efforts  |
| Documentation/training/ease of use/user interface | Not explicit but appears to require fire expertise as well as data management/programming expertise. Builds on well-developed suite of fire models – each having its own data, knowledge and training requirements. |

|  |  |
| --- | --- |
| **Criteria** | **Review Comments** |
| Planning horizon capability – how many years out can it “look”? 10, 50, 100? | Point in time estimates – not inherently a temporal modeling process. Would need to incorporate other projection or modeling tools to independently model change in conditions – then rerun the risk assessment process. |
| Need for researchers to run the model | Well-trained, experienced fire professionals could likely run the process and interpret the outputs. Expert opinion elicitation component may benefit from research-level facilitiation. |
| Data requirements: existing? readily available? | The framework is based on generally available corporate data sets available to agencies. Application to scenario development and assessment may require novel data constructs (e.g. climate projections) but even these are becoming more readily available. |
| Feasible with existing computing capability? | Can be computationally intensive (cluster computing) while desk-top versions of the underlying programs exist; moving beyond the project scale likely to benefit from access to large capacity computing resources. |
| How simple is it to understand outcomes? | The outcomes are relatively easy to understand – the underlying principals defining risk as a product of fire probability and resource valuation are well-defined and explicit. |
| Are the drivers obvious and sensitivity known? | For the most part the framework drivers and sensitivity depends on the underlying fire models (e.g. FSim) – which are well-developed and documented. The underlying FSim modl is known to run “hot” and needs to be tuned down for many applications; there are also difficulties in fuels-bed data that is a general issue for fire modeling. The uncertainties (weaknesses) tend to be those that exist in the realm of fundamental fire science and represent research needs beyond the scope of this framework.  |
| Is it transparent? Any black boxes? | The underlying fire simulation models are well-defined and documented. This framework is relatively transparent – to the extent the underlying models are transparent (which they are). |
| Can the model predict trends, or would other tools need to generate products to feed in for evaluation? | As stated above – the framework generates point in time outcomes that would require external modeling of condition change in order to develop an analysis of temporal dynamics. |