***REPORT TITLE*** : **A Tsunami Forecast Model For Arena Cove, California.**
Comment Review Response Form

| **General Comments** | **Action Accepted/ Rejected** | **Brief Responder Comments** |
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| Overall, this is a well-written and comprehensive discussion and documentation of the SIFT model application to Arena Cove. In particular, the analysis provided in Chapter 4 appears complete. | Accepted | The reviewer appears satisfied that the Arena Cove report has satisfied its purpose, namely to document the development of the model and its stability. |
| Tides: While I can understand the complexity of introducing real tides into the forecast system, this does not seem like a component that should be glossed over with an approach such as that used … | Accepted with qualific-ation | This reviewer comment refers to SIFT methodology, which is beyond the scope of the report. Admittedly, the inclusion of tides in the operational product would provide a more direct forecast to the warning system. Indications from ongoing research are that predicted tides can be treated as additive, an assumption that is currently employed in tailoring SIFT forecasts to the predicted tidal state. Other limitations, for example that in its current usage non-seismic events such as landslides are excluded, are well known and mentioned in various parts of the report. All are subjects for ongoing research development and are in hand. However the utility of SIFT/MOST in its current operational use has been well demonstrated in several events since its deployment and the intent of the report is to document that the Arena Cove model can be usefully employed within that framework. |
| Place the symbol ® on all DART text. | Accepted | The missing ® symbols for some occurrences of the DART acronym have been inserted throughout. |
| Acronyms like EPSZ, ACSZ, etc. are not fully described in the text. | Accepted | The reader is directed to Appendix B. |
| Miscellaneous typos and wording suggestions from an annotated version of the draft report. | Accepted | Corrected |

| **Specific Comments** | **Action**<br>**Accepted/ Rejected** | **Brief**<br>**Responder Comments** |
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| Section 3.2: 4. Tide gauge location or warning point used mentioned in the Table but not in the text. | Accepted | The coordinates were added to the text in the paragraph in Section 3.2 where its placement is described. |
| Section 3.4: The *.in file is not found in the report that would provide a tabulated list of the friction factor used, offshore water depth, etc. Also it would be nice to see how long it takes to simulate 4 hours of waves for the Arena Cove using the forecast model and reference model. | Accepted | The .in file files were located at the end of the original draft document. This has been corrected and the simulation run time is now documented in Section 3.4. |
| Section 3.5/Table 4: The presented Mannings n value (0.0009) is not a "typical" value. I presume this is actually n^2? | Accepted | The lack of clarity has been rectified in the text. The report actually characterizes the value used as "standard" (in section 3.5) but should have more clearly stated that $n$=0.03 ($n^2$ = 0.0009) was intended. Guidance from various online sources [including the WSP2339 from the USGS (G.J. Arcement, Jr. and V.R. Schneider)], suggest that $n$=0.03 is a reasonable choice for flow in natural channels and flood plains. The value is used in most of our inundation models and appears to be non-critical. |

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| Tables 4 and 5: Suggest combining Tables 4 and 5 and *.in file info into one table. | Rejected | The separation into two adjacent tables, plus Appendix A is thought to give more clarity. |
| Section 4.1: The issues discussed for the need of the micro-tsunami tests are indicative of an incomplete implementation of the shoreline boundary condition … a problem that could produce an embarrassing model failure. | Rejected (as being over-stated). | The comprehensive testing of the model under a wide range of medium and major forcing scenarios are intended to minimize the likelihood of failure under operational conditions. Generally the problems, that have been resolved along the way, have been the result of deficiencies in the DEM (such as unrealistic depth changes) or in the subsampling to the reduced resolution grid feasible for real time application. Instabilities for typical tsunamigenic earthquake magnitudes are immediately apparent. The micro-event runs generally assist in identifying defects in the grid that are undesirable rather than catastrophic; their elimination accelerates the process of grid refinement. While no numerical model of the real world can be 100% reliable, the comprehensive and ongoing testing of tsunami forecast models has, we believe, made their failure under operational conditions highly unlikely. |
| For Figure 7 and 8. Indicate in the caption what the red boxes are. These are mentioned in the text but not in the captions. | Accepted | Captions have been modified. |

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| Figure 9 – note what the red and black lines are in the caption (FM vs RM). It is not given for this figure. | Accepted | The reviewer correctly identified issues with the annotation and captioning of Figure 9. A revised figure has been inserted that uses the color scheme employed elsewhere in the report (black for RM, red for FM, and green for the RM before the grid was finalized). |
| Figures 11 to 19. Provide a pointer to indicate where the inset figure is located in the main figure. | Accepted | A pointer was added to the first figure of the set for this purpose. |
| Texts in some Figures (e.g. Figure 12) are not of the same size, i.e. FM and RM. | Accepted | Corrected |
| 10. Some of the text is blocking the time series (e.g. green text in the time series comparison of Figure 12) is blocking the lowest negative wave in the series. Desktop SIFT indicate the value to be 382 cm however this is not seen in Figure 12. | Accepted | Corrected blocking problem. Difference in deepest trough is virtually the same as SIFT provides. Minor differences associated with changes in the propagation database are expected and discussed in Appendix C. |