



Knowledge base and sensor bus messaging service architecture for critical tsunami warning and decision-support

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The intelligent management of large volumes of environmental monitoring data for early tsunami warning requires the deployment of robust and scalable service oriented infrastructure that is supported by an agile knowledge-base for critical decision-support

In the TRIDEC project (TRIDEC 2010-2013), a sensor observation service bus of the TRIDEC system is being developed for the advancement of complex tsunami event processing and management. Further, a dedicated TRIDEC system knowledge-base is being implemented to enable on-demand access to semantically rich OGC SWE compliant hydrodynamic observations and operationally oriented meta-information to multiple subscribers.

TRIDEC decision support requires a scalable and agile real-time processing architecture which enables fast response to evolving subscribers requirements as the tsunami crisis develops. This is also achieved with the support of intelligent processing services which specialise in multi-level fusion methods with relevance feedback and deep learning.

The TRIDEC knowledge base development work coupled with that of the generic sensor bus platform shall be presented to demonstrate advanced decision-support with situation awareness in context of tsunami early warning and crisis management.

References:

TRIDEC(2010-2013). Collaborative, Complex and Critical Decision-Support in Evolving Crises. EC Integrated Project, Contract: FP7 258723.