DIVE: Data Integration & Visualisation Work Programme

In 2016, the NZ Centre for Earthquake Resilience (QuakeCoRE) and the Resilience to Nature's Challenges (RNC) – National Science Challenge, funded a small team of researchers from Resilient Organisations Ltd. in collaboration with UC CEISMIC (the Canterbury Earthquake Digital Archive) to investigate how to best enable teams of researchers to address complex social problems that will make New Zealand more resilient. The focus of this programme was to identify the types of data QuakeCoRE and RNC research teams would be using, how they planned to analyse and share that data, and how data management practices could enhance the impact of these research programmes.

Between March and November 2016, the team initiated a consultation process involving a series of workshops, surveys, interviews, and software prototype design and testing. The outcomes of this consultation process resulted in several key outcomes:

1. The identification and classification of data types that researchers will be using.

2. The identification of critical data needs for researchers, including:

   a. Systems for knowing about ongoing research (before publication).

   b. Enhanced searchability of data across institutions.

   c. Systems that make sharing research data safe, easy, and desirable.

   d. Establishing standards and guidance for transdisciplinary data management in a way that facilitates data integration, analysis, and visualisation.

   e. Enhancing access to public, proprietary, and sensitive data sources.

   f. Streamlining and clarifying data sharing agreements for datasets that have significant reuse value or to which researchers will add value.

   g. The ability to track data reuse.

The consultation process also involved:

3. Evaluating pre-existing systems that can meet some of the immediate needs of resilience researchers in this space including DesignSafe, the New Zealand Geotechnical Database, and EERI Clearinghouse System.

4. Fostering relationships between key data providing organisations and researchers.

5. Identifying human and institutional factors that inhibit the success of such boundary pushing, transdisciplinary, and cross-institutional research programmes.

Two final outcomes moved the consultation process into the design phase for a system that can begin to meet the needs of resilience researchers and practitioners:

6. The development of several software use cases to guide the development of future data sharing systems.

7. The creation of a working prototype data federation portal system, which we are calling the Data Integration and Visualisation En Masse (DIVE) Platform.

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Powerpoint Presentation from Workshop 1: DIVE_Workshop1_20160518.pptx

Full Report from Workshop 1: Dive_Workshop_1_Report_June2016.pdf

Report from Workshop 2/Progress Report September 2016: DIVE_PlatformUpdate_SEP2016.pdf

DIVE Overview Powerpoint Presentation from the 3rd DIVE Workshop: DIVEWorkshop_3_Presentation_161128.pptx

Affiliated Researchers Presentation from the 3rd DIVE Workshop: Affiliated Researchers Presentation - DIVE Workshop 3

FULL REPORT: RESILIENCE & DATA IN NEW ZEALAND: THE DATA INTEGRATION AND VISUALISATION EN MASSE (DIVE) PLATFORM 2016 SUMMARY: DIVE_2016Summary_Report_C.pdf