

# Australia's National Elevation Framework (NEDF) in Practice

Graham Hammond (Australia)

**Key words:** Coastal Zone Management; e-Governance; Hydrography; Land management; Remote sensing; Risk management; Spatial planning; Elevation LIDAR

## SUMMARY

For over a decade, Australia's national elevation framework (NEDF) has provided a fundamental direction for elevation data work. This has not been a static development, as technology, knowledge and infrastructure has changed and improved, we have moved forward with the NEDF. Our current status and vision for elevation information across Australia and its territories focuses on developing a quality and consistent capture framework, better utilization of the data available and effective and efficient distribution mechanisms aimed at real world users. To develop our vision we had to focus across all these components to achieve our goal of providing quality and quantity of elevation data.

**Data Capture-** we have undertaken many large scale LIDAR surveys within Australia, what we have learnt from our failures and successes. What we have learnt is the importance of consistent specification and standards for data to be captured. We need to couple this with a collaborative approach. Changing the way we deal with clients and suppliers, an open communication environment. Working together to make sure issues that do occur don't have a significant effect of timelines and quality.

**Data Manipulation -** Australia has a lot of elevation data collected, but traditionally that data can exist but may not be available or easily accessible. While nearly all the data is captured and held at the source as elevation point clouds, most products tend to be derivatives of this fundamental data as elevation models. We have recognized the importance of storing the fundamental base point clouds in an infrastructure that will allow for efficient and effective compute of new and updated products based on the closest to source base data available. We have developed projects to allow that utilization based on effective data management held and computed within the National Computing Infrastructure. This will allow for repeatable science with data provenance for new up to date data models.

Data Distribution – How do our users access the elevation data products? Are they Discoverable? How do you provide easy download. Fundamentally providing one location to access information about the data, and also easily facilitation of data download is an extremely important aspect to data. If you can't find it or it takes days to get access, you limit the use of data in decision making. It has been with this firmly in mind we have developed the elevation information system (ELVIS), a cloud computing and interoperability platform for delivering large datasets in minutes. ELVIS has increased our user base by 500% in 6 months; its simplicity is now being extended to deliver multi-jurisdictional elevation data from the one portal.

By concentrating on innovating and developing the three components we develop the whole, rather than only enhancing pieces in isolation. Here, Geoscience Australia's learnt a lot, applied that knowledge and learning to focus on developing across a data theme, to deliver our innovation, coordination and vision for better understanding and modelling of Australia's elevation.

---

Australia's National Elevation Framework (NEDF) in Practice (9061)  
Graham Hammond (Australia)

FIG Working Week 2017  
Surveying the world of tomorrow - From digitalisation to augmented reality  
Helsinki, Finland, May 29–June 2, 2017