**Use Case – Auscoast VDT**

**ICSM**

**CANBERRA, ACT**

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# Issue

There is a need to assess the risks associated with sea-level rise and coastal inundation around Australia. This requires the ability to have seamless elevation data across the littoral zones to undertake the assessments.

# Introduction

AUSCOAST VDT was a tool developed by CRCSI and ICSM in 2013 after an initial study for urban development. The research highlighted that the AUSCOAST VDT is the first stage in providing a tool that would enable higher degree of accuracy of transformation between the tidal planes and Australian Height Datum.

It is currently the only tool available in Australia that allows the vertical transformation between various vertical surfaces used for coastal areas.

# Sample Use Case

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| --- | --- |
| **Name of Use Case:** | AUSCOAST VDT |
| **Created By:** | ICSM AUSHYDROID WG | **Last Updated By:** | Z. Jayaswal |
| **Date Created:** | 02/11/2019 | **Last Revision Date:** | 17-Dec-2021 |

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| --- | --- |
| **Description:** | Project manager for ABC need to know where HAT is to build a wharf at private property G per Building Authority Code.  |
| **Actors:** | Project manager for ABC, Property G owner, Building Authority  |
| **Preconditions:** | Project manager ABC has the following data:1. Water depth at datum = LAT
2. Satellite data at datum = Ellipsoid (GDA94)
3. Elevation data at datum = AHD
4. Reference mark where HAT is known near property G relative to AHD.
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| **Postconditions:** | Project manager ABC has the following data:1. Water depth at datum = AHD/MSL
2. Satellite data at datum = AHD
3. Elevation data at datum = AHD
4. Reference mark where HAT is known near property G relative to AHD.
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| **Flow:** | 1. Project manager for ABC identifies material needed to determine where HAT boundary is for private property G
2. Project manager of ABC identifies the need to vertical adjust some of identified data (1 and 2) so that all data is on the same vertical datum.
3. Project manager of ABC identifies the tool “AUSCOAST VT” is able to vertically transform the required material.
4. Project manager of ABC now has all required material on a single vertical datum that will now enable them to determine the HAT boundary.
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| **Alternative Flows:** | If in step 3 of the normal flow is not done, project manager of ABC needs to source from possible more than one source:1. Where LAT lies relative to AHD/MSL for the area for data (1)
2. Where ellipsoid is relative to AHD/MSL for the area for data (2)
3. There may be time delays due to timeframe in receiving the required transformation information from each source to be able to undertake the transformation.
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| **Exceptions:** | If step 3 from normal flow or there is no data available for the vertical transformation Project manager from ABC is unable to determine the HAT boundary. |
| **Requirements:** | The following requirements must be met before execution of the use case |

Benefits:

The tool will enable the vertical transformation of geospatial information to a common vertical datum for data managers, data users and data producers.

References:

1. deepreef.org
2. ausseabed.org

Sponsor Acceptance

Approved by the ICSM AUSHYDROID Working Group:

Date: 17-Dec-2021