

# 1-Day Workshop, 23<sup>rd</sup> March 2012 on Geological use of satellite ASTER geoscience maps

Presenters: Tom Cudahy and Carsten Laukamp (CSIRO C3DMM)

## Overall Aim

To develop skills in using the recently released satellite ASTER geoscience pre-competitive data for mapping geological information, especially the nature of the regolith, geological units and any superimposed metasomatic alteration.

## Background

The Japanese ASTER (Advanced Spaceborne Thermal Emission and Reflection Radiometer) system onboard USA's TERRA satellite was launched in December 1999 and remains the only "geoscience tuned" satellite system to date providing global mineral group information at high spatial resolution (~30 m pixel). In November 2011, CSIRO's WA Centre for 3D Mineral Mapping (C3DMM) and the Geological Survey of Western Australia (GSWA), with funding support from the WA government's Exploration Incentive and Centre's of Excellence Schemes and CSIRO Minerals Down Under Flagship (MDU), released the first publicly available, state-wide coverage of GIS-compatible ASTER geoscience maps which can be used from the continent-scale (Figure 1) to the prospect-scale (Figure 2).

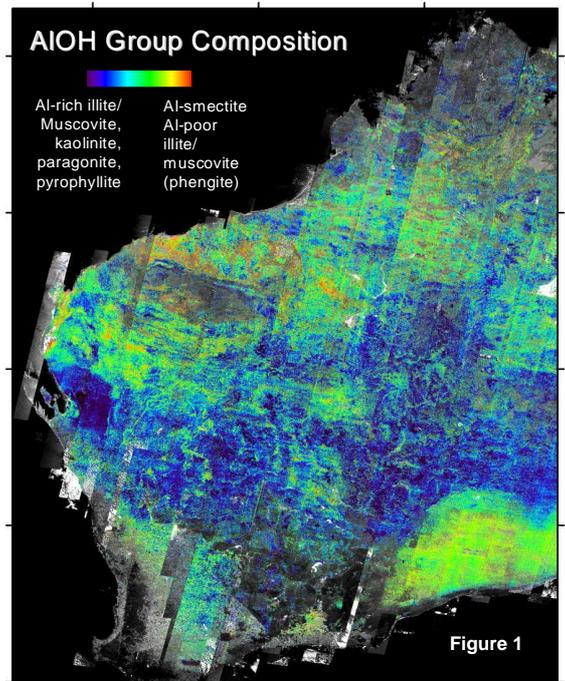


Figure 1

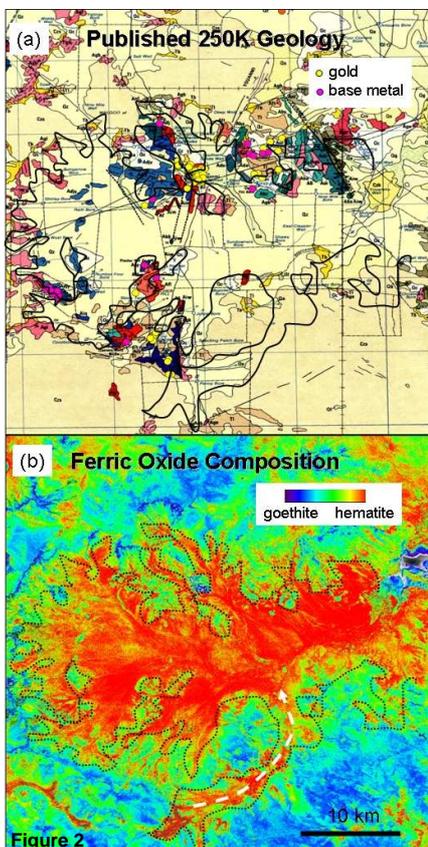


Figure 2

## Workshop Scope

- The underlying theory and design of the mineral products, including content versus composition;
- Accuracy of the products and what can complicate the information;
- How do these ASTER products compare/relate to other optical data, especially from drill core, airborne and satellite hyperspectral systems;
- How the different geoscience products can be individually and in combination with other ASTER geoscience products be used to address questions related to mapping the regolith, parent rock geology and metasomatic alteration;
- Comparisons of the ASTER geoscience products with other pre-competitive data including the published geology and geophysics; and
- Exploration examples on gold, iron ore and base metal systems.

## Workshop Logistics

- The workshop will be held at GSWA's Mineral House in Perth on Friday 23<sup>rd</sup> March 2012. Participants are encouraged to bring their laptops with ArcMap/MapInfo.
- Cost is free.
- RSVP by 16<sup>th</sup> March 2012 to Tom Cudahy ([thomas.cudahy@csiro.au](mailto:thomas.cudahy@csiro.au))

## Access to the digital WA ASTER geoscience maps

- The complete dataset including the BSQ data (~500 Gigabytes), is available from the GSWA product sales via an external drive.
- Auscope map portal <http://portal.auscope.org/portal/gmap.html>.
- Web ftp pull of TIF products: [http://c3dmm.csiro.au/WA\\_ASTER/index.html](http://c3dmm.csiro.au/WA_ASTER/index.html)