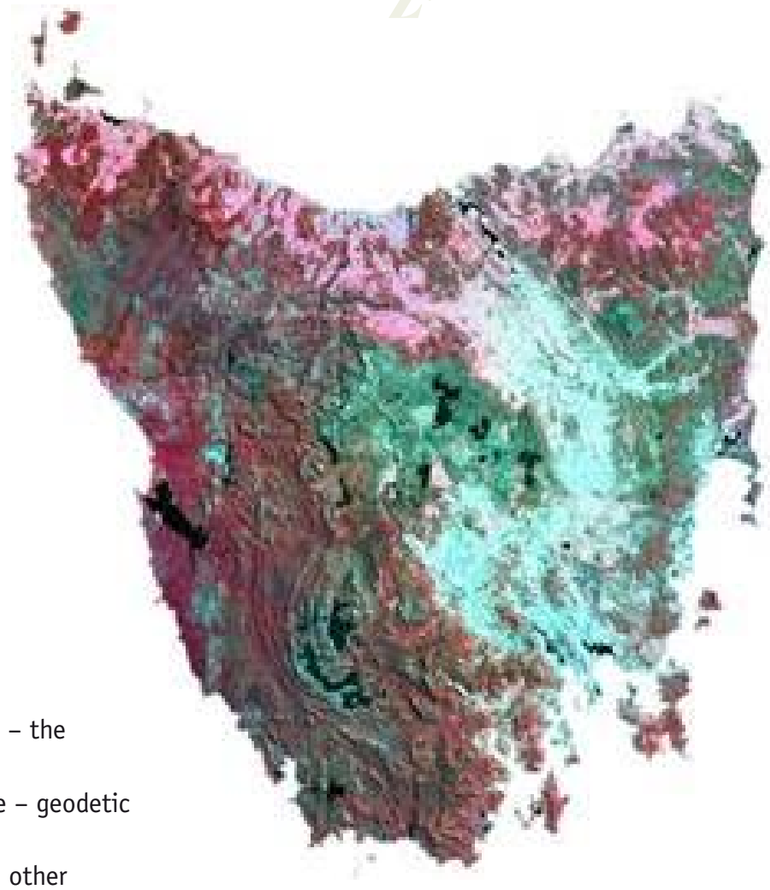
The Modern Era

Since the beginning of recorded history, people have needed to measure and map the world around them. Ancient map makers used tools and instruments which were simple, laborious and not very precise. Scientific developments of the past 400 years are evident in the instruments and maps displayed in this exhibition.

Today's surveyors and map makers have at their fingertips instruments and methods to measure, model and map objects ranging in size from the head of a pin to the entire surface of the Earth. Modern surveying and mapping are concerned with the acquisition, management, analysis and presentation of spatial information – that is, information about the size, shape or location of most aspects of our physical environment.

This might include:

- computer management of spatial information using Geographic Information Systems (GIS)
- measurement of land ownership boundaries – land or cadastral surveying
- measurement, mapping and analysis from satellite imagery or aerial photography – a science known as photogrammetry and remote sensing
- measurement and mapping in the marine environment – the work of the hydrographic surveyor
- defining the shape and dynamics of the Earth's surface – geodetic surveying
- providing spatial control for roads, mines, bridges and other engineering works – the work of an engineering surveyor



A LANDSAT mosaic of Tasmania

All aspects of industry, science and society have an increasing need for high quality information in order to make reliable decisions. Much of that information has a spatial component – a location on Earth – and involves an integrated approach to the science and technologies of measurement, mapping, analysis and visualisation of spatial data.

Some of the most significant breakthroughs in technology during the last few decades include:

- electronic distance measurement – which changed the way that surveyors measured from mountain-top to mountain-top for "trigonometric surveys" and the way that land and engineering surveyors measure and map
- the Global Positioning System (GPS) – used in applications as diverse as managing vehicle fleets to monitoring changing sea levels
- Geographic Information Systems (GIS) – the software used to manage, analyse and display information; they are the 21st Century maps used to turn raw data into information used by decision makers
- remote sensing and photogrammetry – the science of capturing information from sensors such as cameras mounted in aircraft and satellites