

GIS in Schools Program



Jack can see the wonders of nature first-hand

The Program

Since 1998, ESRI Australia has been supporting teachers in implementing Geographic Information Systems (GIS) programs within their teaching programs through the national GIS in Schools program.

A Geographic Information System (GIS) allows the user to visualise, capture, manipulate, analyse, create, query and display any information with a spatial element.

For teachers, this means your students can examine data as well as capture their own data in a local environment to examine and solve local problems.

// Mapping our World

Implementing a GIS program in a school can be a real challenge. The Mapping our World book offers teachers 19 classroom-ready lessons at a range of locations and scales (local, regional and global), and includes the data required to complete the lessons. Mapping our World also provides teachers with a one-year licence of ArcView 9.x to preview the software.

This book is a perfect introduction to GIS, or as a complementary resource for those already using GIS in the classroom.

// Schools Site Licence

This licence allows schools to load the software locally, or over the school's network, providing up to 500 users with access. Maintenance is provided for one year, giving schools access to technical support and any upgrades to the software released within that year. Included in the package are a number of lessons and associated data, created by ESRI Australia for use in your classroom.

Ongoing annual maintenance can be purchased to continue upgrades and technical support once the initial maintenance period is completed.

// Professional Development

Professional development is vital to increasing the skills of your staff. ESRI Australia has a scheduled professional development program in place, with workshops taking place in most capital cities twice a year. Professional development can also be arranged outside of this schedule. Contact our GIS in Schools Coordinator so we can tailor a program to suit your school.

Educators are also entitled to a 40% discount on any ESRI Australia training session, as long as one full-fee place is already booked. This provides schools with access to facilitators with excellent knowledge of ESRI GIS technology.

// How To Purchase

The Mapping Our World book can be purchased online at www.esriaustralia.com.au/mow, or by calling **1800 447 111**.

To purchase the Schools Site Licence or arrange Professional Development at your school, or in your area, call **1800 447 111** or email schools@esriaustralia.com.au

// Other Resources

There are also many other resources available to teachers using GIS.

To find out more, visit www.esriaustralia.com.au/schools or email schools@esriaustralia.com.au



ESRI Australia
Putting knowledge into place

// What is GIS?

Geographic Information Systems (GIS) represent features of the earth, such as buildings, cities, roads, rivers and states on a computer. The technology isn't new, although many people haven't heard about GIS.

On any given day, millions of people around the world use GIS in many different ways.

People use GIS to visualise, question, analyse and understand this data about the physical world and human activity. GIS allows this information to be viewed visually on a map, which provides an advantage over using spreadsheets or databases. Why? Because maps and spatial analysis can reveal patterns, identify problems, and show connections that may not be apparent in tables or text.

// GIS in the Real World

Cities, streets and rivers are not the only physical features that can be mapped. GIS can be used to map dynamic events such as the path of a cyclone or the spread of a disease outbreak. Businesses can map demographic data to learn more about their customers. For example, a pizza chain can create maps that show where younger people live, so they can target their marketing activities to just those areas.

From retail, transportation, finance, defence and emergency management to all aspects of government, GIS can help all industries to work smarter and gain advantage.

// GIS in the Classroom

One key feature of GIS is being able to view multiple layers of information and analyse the relationships between those layers. Schools can use GIS to examine global issues such as development, where economic, social, political and environmental information like GDP can be overlaid with information about clean drinking water access, allowing the relationships between these statistics to be visualised. Your students can then make inferences about development and human health, and get a clearer picture as to what steps need to be taken to reduce inequality in our world.

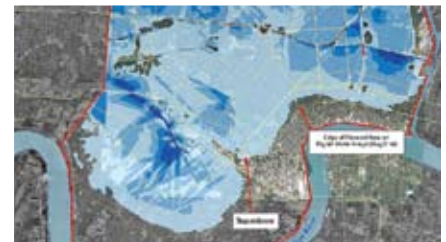
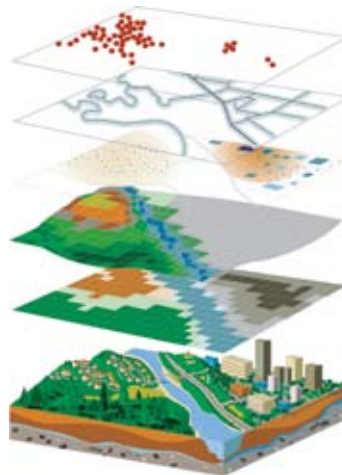
At a local level, a lot of data can be examined from around your school or local area. A popular project with a number of schools across Australia is the use of GIS to map litter, allowing the students to analyse the results, and take positive steps to reduce litter around the school. Some schools are mapping weeds around the school and are using this data to address the problem of introduced species, while other schools are using GIS to visually display the quality of water in their local waterways. The possibilities are endless!

// The King's School

The King's School, Australia's oldest independent school, have been using GIS in the teaching of geography since 2000 across a number of year levels. A GIS project currently underway at King's involves students downloading live earthquake data, and mapping the potential effects of tsunamis on the Australian coastline. Another project involves students measuring and displaying potential water run-off across the school, and mapping the natural flow characteristics across an area of land using contour information to provide a powerful visual illustration. Using GIS to examine "real-world" problems is also a major focus at King's, with students simulating local sea-level rise, mapping the associated risks of coastal degradation at Narrabeen Beach, while also illustrating changes in mangrove and saltmarsh communities in Bicentennial Park in Homebush.

// Findon High School

Findon High School in South Australia has been using GIS as a classroom teaching tool since 1997, with students using GIS to examine a range of topics in the Humanities and the Sciences subject areas. Students at Findon use GIS to view and analyse census data as a means of examining the variance of socio-economic status and lifestyle at a range of scales (local, regional and national). From a historical perspective, GIS is used by the students to map and analyse a range of issues including early documented exploration routes around Australia, medieval counties and battlefields from The Great War. Examining changes across the local area over time has also given Findon students a unique look at the history of their local area. In Science, GIS is used as a means of collating and analysing water quality data from local waterways as well as looking at natural hazards at a global scale. Findon has embedded GIS to such a degree that all students between years 8 and 10 complete projects in GIS and gain valuable spatial literacy skills.



// Want to get your students involved in GIS projects like these?

Talk to our GIS in Schools Coordinator today about how you can introduce GIS into your school - phone **1800 447 111** or email **schools@esriaustralia.com.au**

Our website is regularly updated with the latest information about using GIS in schools - visit **www.esriaustralia.com.au/schools** to find out more.