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## Getting to Know Arcgis Pro

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Leading GIS software vendor ESRI has recently developed a brand new 64-bit GIS package, ArcGIS Pro. This attempt to rewrite Desktop GIS offers a contextual ribbon-based interface where key functions are grouped together logically rather than buried in a set of toolboxes which are obscurely named for historical reasons. The toolboxes are still there, so some continuity should make for easy migration if ArcGIS Pro becomes the future of ESRI GIS offerings. For now however, Pro is marketed as a complementary part of the ArcGIS suite which may prove slightly confusing. It does integrate well though with the ArcGIS Online system, and is licensed by default through an ArcGIS Online organizational account, allowing easy access to Online processing via user credits and web-based publishing and collaboration. This may be a somewhat more radical change for the ESRI user base however, which may contribute to a slower initial adoption rate.

Given the opportunity for GIS professionals to get ahead of next generation software before it is widely adopted, a book on ArcGIS Pro in the long-standing *Getting to Know* series is a very timely addition to the ESRI Press library. Michael Law and Amy Collins' *Getting to Know ArcGIS Pro* allows those new to GIS to gain a rudimentary (but still quite extensive) understanding and, critically, practical experience of common GIS problems and techniques using 'cutting edge' software, but also allows old hands familiar with earlier ArcGIS versions a relatively pain-free way of getting to grips with the re-organised Pro. This is achieved through a series of independent chapters (each with their own data, and example scenario/s) but which are intended to build in complexity (and with less hand-holding) throughout the book allowing the reader to progress in conventional linear fashion.

The emphasis on logical workflows and general good practice should be worthy reminders for GIS practitioners new and old, though some experienced users may question the ordering of concepts at times. This is far from critical, more an issue of personal preference over which topics to cover first, however setting the study area extent is only really mentioned in passing near the end of the book. Readers are also spared great agony over map projections, which are dealt with quite succinctly at times, but this may well be in part due to slicker projection handling in Pro as a result of combined 2D/3D views and automatic inclusion of ArcGIS Online world basemaps.

The authors assume no prior knowledge and begin by introducing what a GIS is, GIS [use] today, basic principles, the ArcGIS platform, and where ArcGIS Pro fits into all this. All very useful to know but thankfully the authors again manage to pull this off with great efficiency meaning that anyone impatient to get hands-on experience can do so, but with some appreciation of the basics behind what they are doing. Given the tightly integrated nature of the ESRI online offerings, Law and Collins cover the ArcGIS Online (AGOL) environment, and mobile apps (Collector for ArcGIS being the obvious example) in addition to Pro itself. Chapter 1 in fact begins by looking at the Online interface since AGOL underpins the whole Pro system. Chapters 2-5 cover a range of topics from a general introduction to Pro, through data handling and subset extraction, data creation/import and editing including use of geodatabases, through to fully automated workflows. Chapter 6 forms a nice watershed point and breathing space in the book by allowing the reader to try out the Collector app on their phone or tablet. This comes after first creating a suitable data storage framework in Pro and preparing a map/form for field-use via AGOL thereby linking the entire set of ESRI systems together and demonstrating how they work together as one integrated system. Chapters 7 and 9 provide bread and butter GIS analysis, the latter concentrating on full-blown suitability

analysis/multi-criteria evaluation, while a final tenth chapter covers map layouts and preparing for publication. Chapter 8 is somewhat novel in that it covers more sophisticated or exploratory spatial analyses such as identifying hot spots/clustering in a crime-analysis context, and includes a look at the relatively young Space-Time Cube tools introduced into recent versions of ArcGIS Desktop 10.x.

*Getting to Know ArcGIS Pro* thus covers an impressively comprehensive range of GIS topics but in a very digestible fashion. All exercises are wrapped up into standalone projects with source data and interim or final outputs made available. Learning objectives are provided for each chapter plus a list of adequately referenced data sources. The book also includes real-world case studies with links to further information provided. A summary is also provided for each chapter and a useful glossary included. Each chapter is broken down into a series of 3-4 sub-sections, with the relevant learning objectives expanded to a fuller list of workflow steps which are repeated as headings and sub-headings throughout each section. Despite all of this, as is common with such materials, it is still easy to get lost in the text at times even though the authors have attempted to address this with coloured and emboldened text. This could perhaps be refined to make emphasised parts stand out more. To help however, the text is also peppered with extra tasks for the reader to complete themselves (with occasional reminders where to find specific tools), and some questions to maintain alertness levels!

The only real complaint, if there must be one, is that the book is written for version 1.1 of ArcGIS Pro (ignore any web pages stating 1.0!) and as this reviewer put fingers to keyboard version 1.3 had just become available. For those on version 1.0, seemingly not greatly compatible with v1.1 Project files, or those currently without Pro altogether, a free trial download of the latest version is available via the ESRI Press site. As with ArcMap previously, there should be fewer issues using older project files with newer versions of the software, though there have been unverified reports of changes to program layout causing newer versions to differ from the description in the book. It is hard though to level criticism at the authors given that it will never be easy to keep a (paper) book fully up to date with rapidly changing software. The only apparent real glitch was in fact a field in the authors' ArcGIS Online map which appeared to differ in name to that given in the text. This is thankfully also only a minor issue, and easily surmountable for most people with even fairly limited experience, but could prove troublesome for some or those entirely new to GIS, and is unfortunate right at the start of the book. A very minor revision would be worthwhile therefore of ArcGIS online content, and text, to catch any changes in ArcGIS Pro and ArcGIS Online (though the authors do note that the latter is prone to change frequently!)

Minor issues aside however, and they are minor, *Getting to Know ArcGIS Pro* is a clear, well-illustrated, comprehensive guide to learning to use ArcGIS Pro for spatial analysis and visualisation. I would have no hesitation in recommending the book to anyone with an interest in Desktop GIS or where it might be headed in the next few years.