

Production Management

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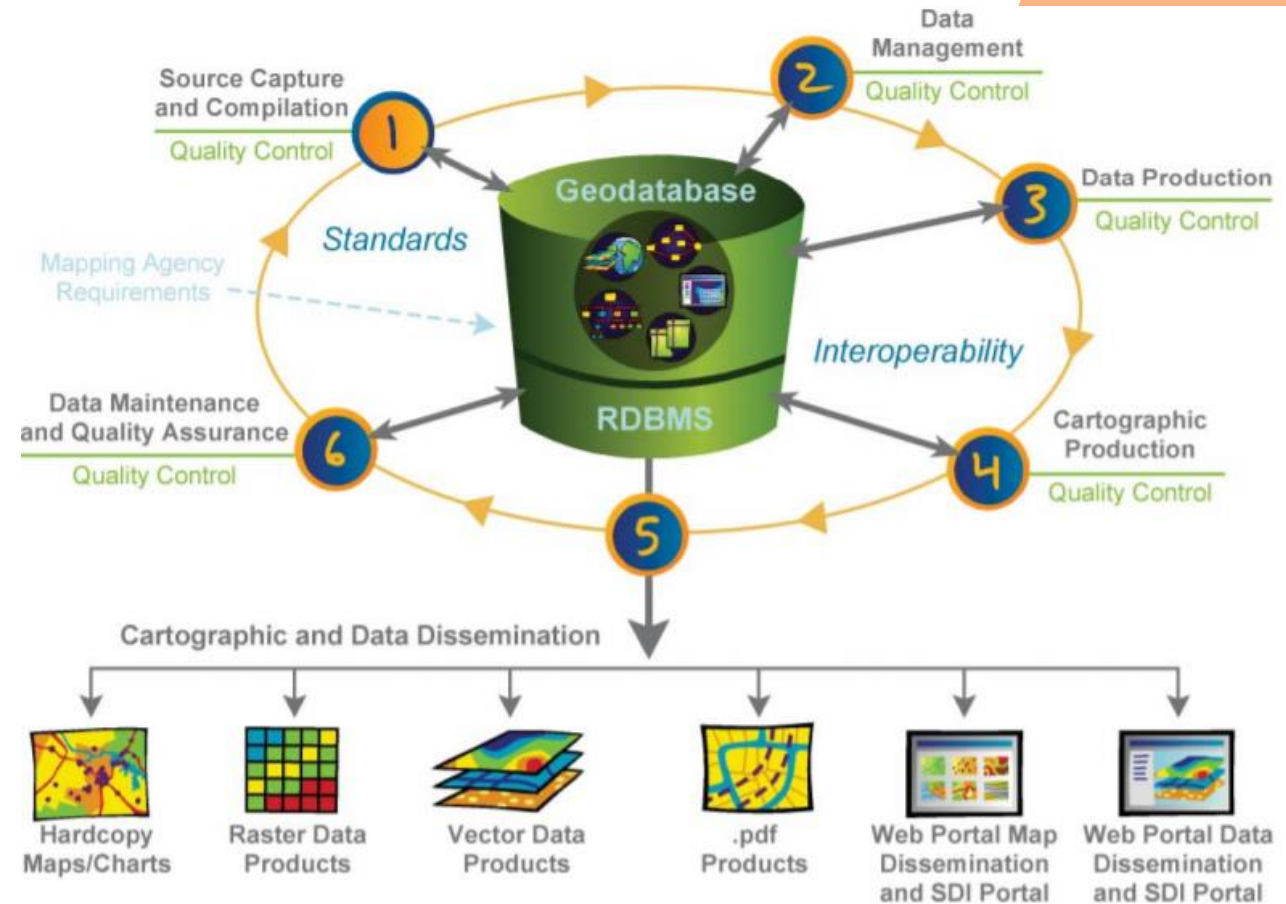
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Map Production

◆ Phases of Map Production

■ Preparation

- ◆ Digital data collection
 - Scanned data
 - Digitised data
 - Existing databases
 - Text files
- ◆ Analogue data collection
 - Hardcopy maps
 - Hardcopy photos
 - Hardcopy text files
- ◆ Assessment of collected materials
 - Is data up-to-date
 - Their projection and scale
 - Is it what we need
 - Is correct conversion possible



Preparation

◆ Hardware requirements

- Graphic screen size (better at least 19")
- PC (as powerful as possible)
 - ◆ RAM based on chosen PC but must be better
 - ◆ Keyboard (extended) and mouse
- Digitiser
- Output devices (paintjet, laserjet, plotter, etc.)
- Transport medium for digital data
 - ◆ Network
 - ◆ External hard drive
 - ◆ Optical disc
 - ◆ Flash drives
 - ◆ Zip drives
 - ◆ Etc.
- Good workplace (chair, illumination, enough space)



Preparation

◆ Software requirements

- Correct **drivers** for digitiser, scanner, printers, plotters
- Correct **fonts**
- Correct **versions of software** with manuals

◆ Output Specifications (as per output)

- Multimedia on screen
- Softcopy (inserted atlas, brochure, report, print on demand)
- Hardcopy (one, few, many, colour or white & black)
- Map size (is output device available)
- Printing devices (offset, laserjet, etc)



Preparation

◆ Personnel requirements

- **Who is needed and when**
 - ◆ What **qualifications** should they have
 - ◆ Is there **need for extra personnel**
 - ◆ Is there **need for overtime**
- **List all elements in map production**
 - ◆ **Preparation**
 - ◆ **Design**
 - ◆ **Reproduction** (re-scaling, scanning, output)
 - ◆ **Digitising**
 - ◆ **Cartographic production**
 - ◆ **Administration**
 - ◆ **Checking**



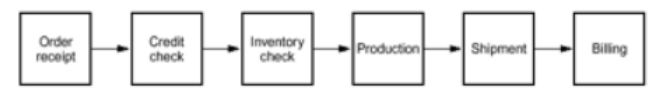
Preparation

◆ Time and cost calculation

- Staff time
- Hardware and software
- Time each stage will take to accomplish
- Time calculation must be done on the basis of a **sample job** if no previous experience is available

◆ Flow diagrams

- These must be produced in advance preferably
- They are a scheme that shows in symbols and short descriptions
 - ◆ How the production flows
 - ◆ Which hardware and software is to be used at each stage
 - ◆ Which personnel are involved at those stages



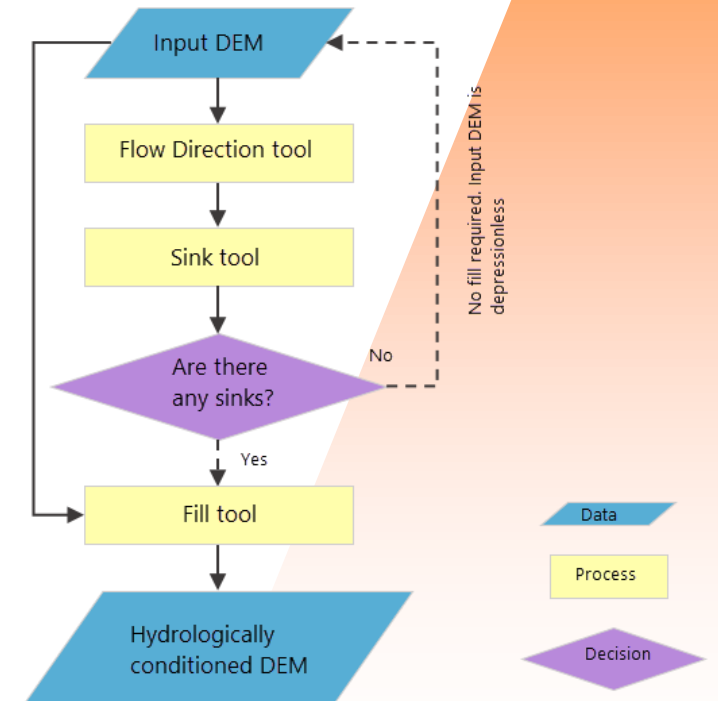
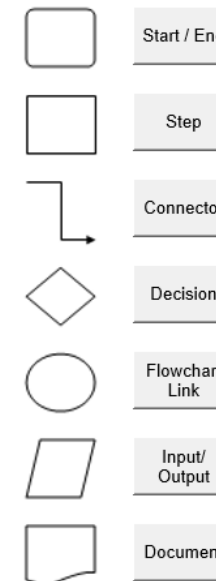
Preparation – Flow diagrams

◆ Function of flow diagrams

- Control **work flow**
- Create **shortest route (critical path)**
- Estimate **time** required for each task
- **Estimate and control cost**
- **Detect problem areas** in the process
- **Know hardware and software availability**
- **Control staff input**
- **Detect lack of training** for staff
- Provide **guidelines**

◆ Flow diagrams symbols

- **Products, processes, production stages, links, platforms**



Document Pre-processing

◆ To ease digitising

- Speedup digitising
- Resolve uncertainties
- Ensure that correct data is digitised
- Relieve operator from non-essential operations

◆ On printed maps

- What has to be digitised and how
 - ◆ Double line symbols
 - ◆ Point symbols
 - ◆ Junctions in road networks
 - ◆ Generalise or not and where
 - ◆ Encoding of digitised data



Scanning

◆ Resolution

- Depends on original and use of scanned data
- 125 – 200 dpi for on screen digitising
- For vectorising the scanning resolution should be $1/3$ of the thinnest line or narrowest space
- For images and photos for output, double the resolution of the output screen ruling or printer resolution
- High resolution generates **large files** and slows down the process



Output Preparation

- ◆ Check colour settings
- ◆ Are all images available
- ◆ Are all fonts available
- ◆ Specify
 - Output size
 - Screen ruling
 - Printer resolution
 - Paper or film use
 - Printer type
 - Media transport type



Output

- ◆ Resolution of printers is in DPI (dots per inch)
- ◆ Resolution for screen is in LPI (lines per inch)



Sample GIS Mapping Project

- ◆ LANDSCAPE LEVEL MONITORING USING GIS AND REMOTE SENSING IN MUNYAMADZI GMA, ZAMBIA

