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A Systems Perspective on Volunteered Geographic Information

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VGIS

VGI ——————————————

GI ——————————

GIS ————————————————

VGIS ——————————————————

VGI

◎ Goodchild (2007) coined VGI based on the growing phenomenon of user generated geographic content that is contributed by citizens/the public using the geoweb.

THE DIVERSITY OF VGI

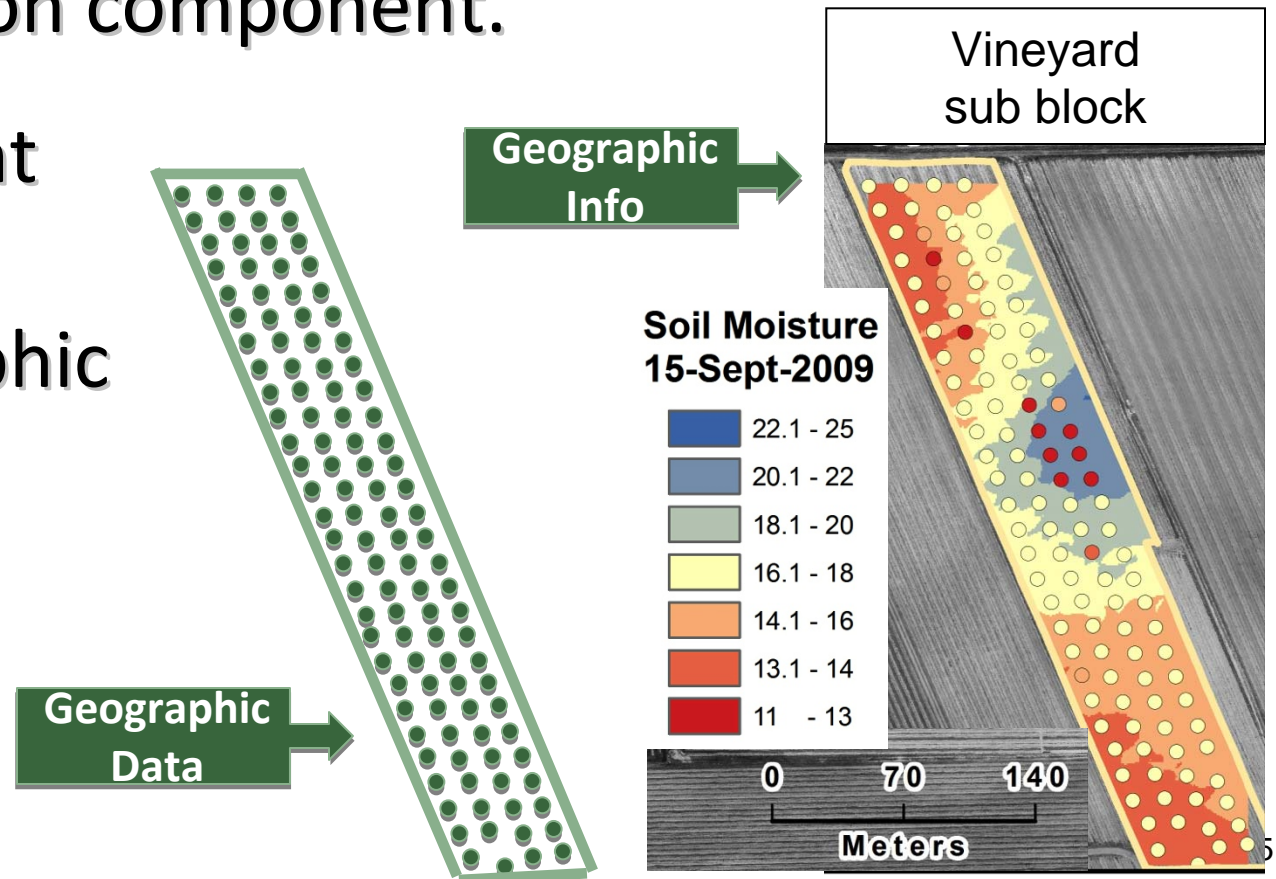◎ Used in a wide range of domains:
- ◉ Social & environmental research
- ◉ Urban planning
- ◉ Emergency response management
- ◉ Reference map development

◎ Evolving definitions and types:
- ◉ Facilitated VGI (Cinnamon and Schuurman, 2012; Seeger, 2008)
- ◉ Harvested or ambient VGI (Stefanidis, Crooks and Radzikoqski, 2011)
- ◉ Involuntary GI or, iVGI (Fischer, 2012)
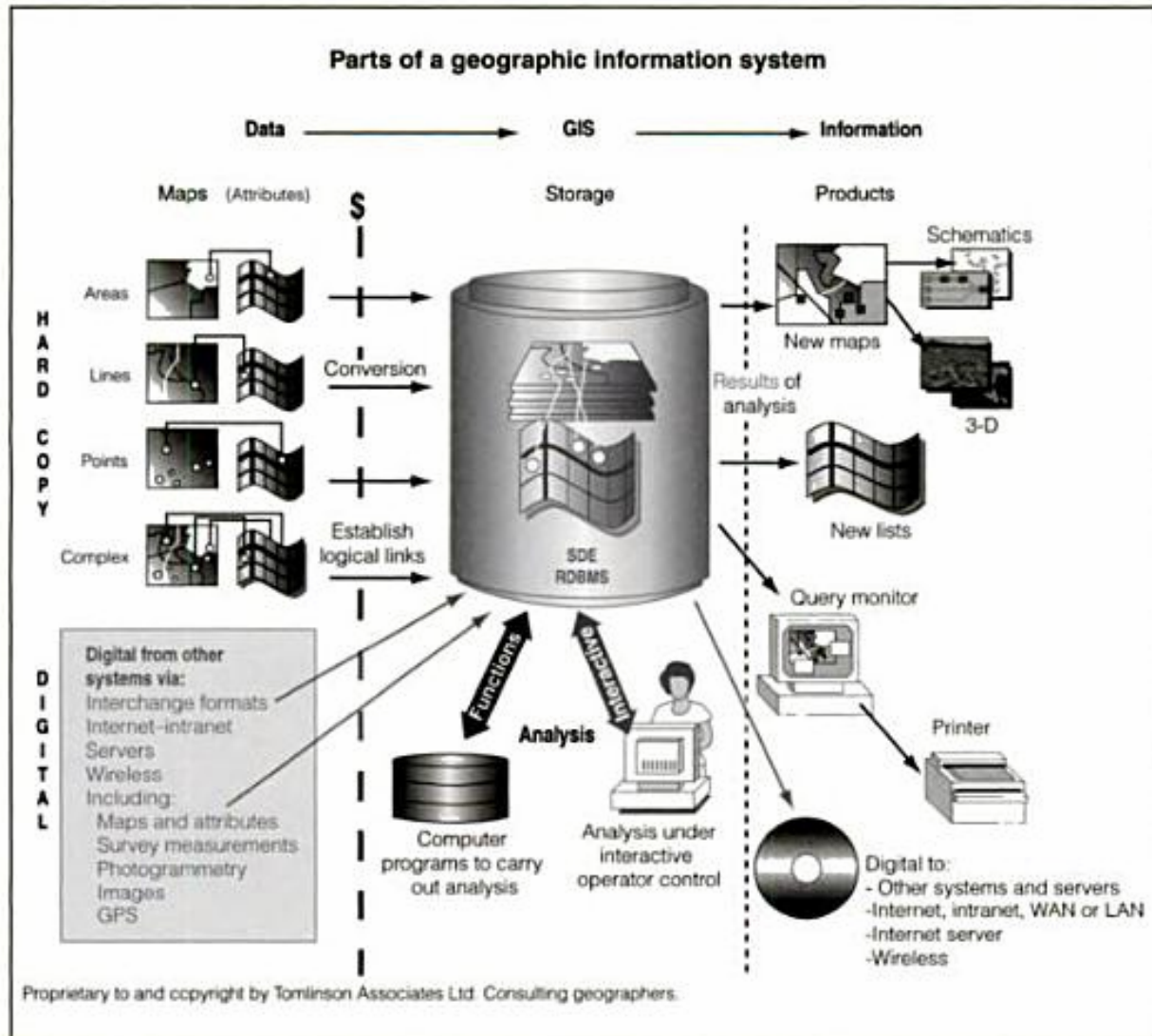
GEOGRAPHIC INFORMATION

◎ Geographic **information** is information with a location component.

◎ Different than geographic **data.**

Geographic Info

Geographic Data

Vineyard sub block

Soil Moisture 15-Sept-2009

	22.1 - 25
	20.1 - 22
	18.1 - 20
	16.1 - 18
	14.1 - 16
	13.1 - 14
	11 - 13

0   70   140

Meters

DATA & GEOGRAPHIC INFORMATION

◎ The data we use in a geographic information system are not considered geographic information.
   ◉ Survey data for base map
   ◉ Field data collection
   ◉ Census results

◎ The data are then inputted, managed, analyzed, and presented using GIS to convert them into usable information.

DATA & GEOGRAPHIC INFORMATION

Source: Tomlinson (2003)

GISYSTEMS

◎ Geographic information, then, is the output of a system.

COMPONENTS:	FUNCTIONS:
◉ **H**ardware	◉ **I**nput
◉ **S**oftware	◉ **M**anagement
◉ **D**ata	◉ **A**nalysis
◉ **A**pplications	◉ **P**resentation

Source: Bill & Fritsch (1994)

APPLYING GIS TO VGI
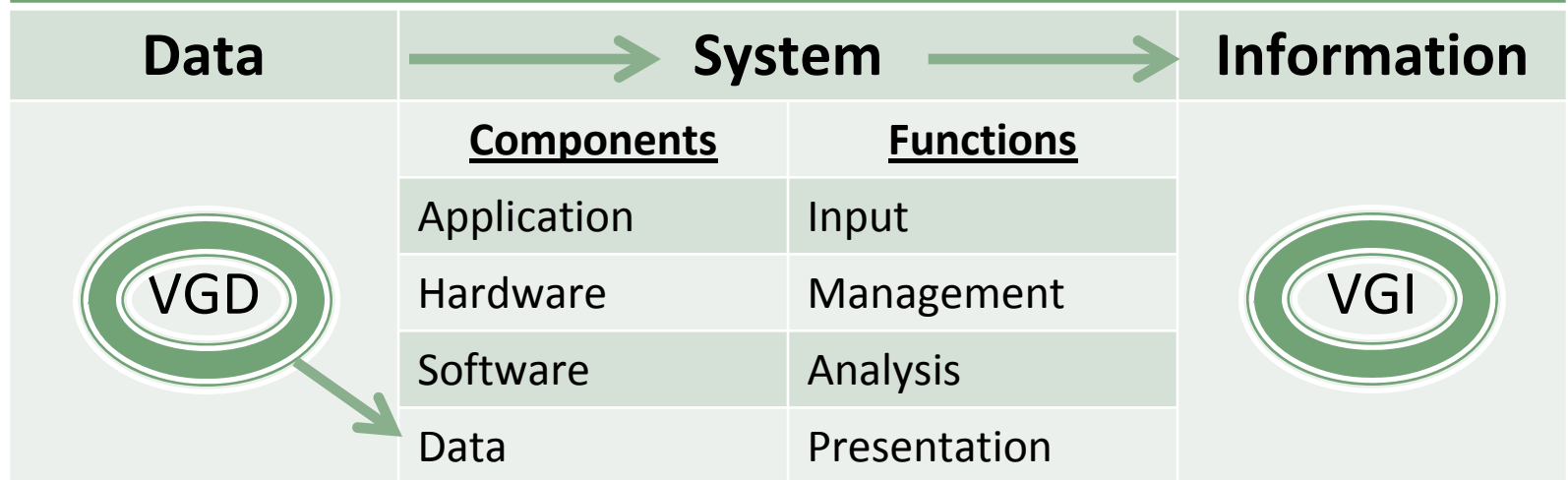
◉ In many reports, the term "VGI" is used to characterize what we consider data.

  ◉ Location of incidents
  ◉ Observations of species
  ◉ Photos and comments

◉ However, this does not take into account the **system** used to collect and process these data in order to create VGI.

VGI-SYSTEMS

◎ Volunteered geographic information systems (VGI-S) employ hardware, software, data and application components (HSDA), and input, management, analysis and presentation (IMAP) functions, to transform web-based user-generated geographic data into information.

VGI-SYSTEMS

Parts of a volunteered geographic information *system*			
Data	**System**		**Information**
	Components	**Functions**	
VGD	Application	Input	VGI
	Hardware	Management	
	Software	Analysis	
	Data	Presentation	

NEXT STEPS

◎ Use the systems approach to:

1. Evaluate other VGI systems

2. Implement a smart growth management geoweb tool

The GREATER TORONTO REGION **Planning Geoweb** is a **collaborative**, **online environment** for **illustrating**, **discussing** & **sharing** regional-scale planning information.