

Data for Decision, 1967 [short version]

This short film was produced by the National Film Board of Canada in 1967 and describes the development of the Canada Geographic Information System (CGIS). Dr. Roger Tomlinson, then director of CGIS, commissioned the film as a way to communicate information about the project to the government, who was funding CGIS development.

http://video.esri.com/watch/128/data-for-decision_comma_-1967-short-version

Video Transcription

00:31 We have spent millions of dollars to explore the surface of the moon.

00:37 Minerals, what's the depth and extent of ore bodies?

00:42 How much water is there?

00:45 What's the topography?

00:47 Where are the best transportation routes?

00:50 How much will they cost per mile?

00:52 Where are the best landing sites?

00:57 We have spent millions of dollars to explore the surface of the moon.

01:02 But, what do we really know about the earth, and its resources?

01:08 Where are those resources?

01:09 How great are they?

01:13 We are in a race against time.

01:16 One billion people are hungry.

01:19 All their time is used to find food.

01:22 They are losing the race.

01:24 The world is losing their potential contribution.

01:29 How can productivity be increased?

01:33 What resources can be developed?

01:36 How fast, and at what cost?

01:40 How should the benefits be distributed?

01:45 We need information.

01:47 Data on resources have been piling up for years, even in the newest countries.

01:52 The problem is, how to store it, measure it, and analyze it.

01:58 Just to look at it, using conventional methods, would take years and years.

02:16 To make decisions, we need facts; but we have facts.

02:21 We have all seen soil maps and census figures.

02:24 So what's the problem?

02:27 The problem is not making the surveys, it is trying to read and summarize the results of the surveys.

02:34 The amount of work involved in handling this data is enormous.

02:38 Even the simplest operations take hundreds of people.

02:46 Raw data and statistics have to be cataloged, stored, summarized, before the data can be used to make decisions.

02:57 The process is painfully slow.

03:01 It's bad enough when you're handling census data.

03:04 It's even worse when you have to handle maps.

03:07 And, so much of our land information comes only in maps.

03:15 Suppose an administrator wants to find out how much good farming land in his province is still undeveloped, and where.

03:23 He has to compare the maps showing good farming areas with the ones showing present land use.

03:29 But they are not of the same scale.

03:33 First, one map must be remade as a transparent overlay at the exact scale of the other map.

03:46 Checked. Retouched. Positioned.

04:06 To measure the area where both factors overlap, you will probably use a dot grid, a method that hasn't changed since the days of ancient Egypt.

04:15 What if he wants to consider other factors, such as the incomes of the people?

04:20 Crop yields in a certain soil, forestry, wildlife, recreation, climate, census data...

04:36 To compare two factors over 100 square miles will take one man a whole working day.

04:42 To compare only six basic factors for all of Canada would take 556 people, eight hours a day, for three years.

04:51 It would cost \$8,000,000.

04:54 But we don't have the staff; we don't have the time.

04:58 More resource data comes in every year, every month, every day.

05:02 Crop and forest assessment, soil surveys, forestry surveys, timber pest counts, wildlife surveys, sampling, analysis, and many others.

05:26 Where have surveys been made?

05:28 Where do new surveys need to be made?

05:31 To make our decisions wisely, we will need every bit of this information, and even more.

05:37 Human beings alone can't handle this vast amount of information.

05:42 But if we harness the computer, and use it to extend our abilities, then we can.

05:49 At the moment, the government is rather like a farmer who has just inherited his farm.

05:54 He doesn't really know how big the farm is, perhaps he doesn't know much about the soil.

05:59 He hasn't got too much idea about the climate, and he's not really sure whether there's usable water.

06:06 And yet, he has to make decisions that will let him plant the right seed, and grow enough food to support his family.

06:15 And if you think that would be a problem on an ordinary-sized farm, think what it would be like with a million square miles.

06:24 The Canada Land Inventory is trying to tackle this problem in two ways.

06:28 Firstly, it's trying to gather together the basic information that we need to know about the country.

06:35 Secondly, it's trying to find out some way of handling this information.

06:41 We like to think that we've got a system that can accept the information, can store it, can analyze it, and present the results in a usable form.

06:52 A system that can do this, not in years, but in hours.