



GIS-BASED WEB-APPLICATION OF MASS MOVEMENTS IN AUSTRIA REGISTERED BY PUBLICATIONS AND INTERNET

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Abstract. The Geological Survey of Austria is going to published information on the natural mass movements through a web-application available to everybody. This application is based on a GIS-based map with point-information on the locality of different types of mass movements (scale 1:500,000), and a GIS-connected database with object-related information. Furthermore, the web-application contains options explaining its usage, general information on the map and mass movement. It is hoped that this web-application will be a helpful and useful meta-tool for everyone to obtain primary information and an overview of the well-known mass movements in Austria.

Key words: mass movements, GIS, data management system, Austria.

Abstrakt. Służba Geologiczna Austrii zamierza publikować informacje o naturalnych ruchach masowych poprzez dostępny dla wszystkich system internetowy. Zastosowany system oparto na mapie z GISowską informacją punktową o miejscowościach, w których występują różnego rodzaju ruchy masowe (skala 1:500 000) oraz na bazie informacji o poszczególnych obiektach, opracowanych w systemie GIS. Ponadto, system internetowy zawiera opcje wyjaśniające zasady korzystania oraz ogólną informację o mapie i o ruchach masowych. Należy mieć nadzieję, że ta aplikacja internetowa będzie pomocna dla wszystkich pragnących uzyskać informację o ruchach masowych w Austrii.

Słowa kluczowe: ruchy masowe, GIS, system zarządzania danymi, Austria.

INTRODUCTION

Compared to other countries Austria may be a small country, but the natural conditions (geology, geomorphology, landscape evolution and climate) are characterised by enormous spatial and temporal heterogeneities, which are causing regions with different dominant types of mass movements and of different frequencies. The knowledge about some well-known mass movements, such as near Sibratsgfall or Eiblschrofen, is excellent due to experimental test sites. The results are a better understanding of the natural

conditions (geological, hydrogeological, hydrological and geotechnical), and of the mechanism of different types of mass movement. It is very important to be able to answer “why”, “where”, and “when” has “what” happened. Many case studies were carried out and countless publications from different researcher teams have followed. This extensive knowledge was published in different types of media (e.g. internet, journals, special papers, internal reports) but no one has compiled this seriously.

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TASKS OF THE DEPARTMENT OF ENGINEERING GEOLOGY (GEOLOGICAL SURVEY OF AUSTRIA)

The department is responsible for recording all the information on mass movements in Austria, which are published or derived from headlines in the media. This is an important assignment running parallel to the department's main-tasks, which are:

- preparing the comprehensive analogue archive-data of digital maps and data based sources;

- developing and estimating risk and susceptibility maps of mass movements, based (a) on the digital mass movement maps and (b) on generally available, adequate digital data with spatial resolution, such as geological maps and digital elevation model.

Occasionally, it is necessary to search the Internet to obtain additional information.

RESULTS AND UTILITY

The Geological Survey of Austria wants to make this recorded information available to everybody through a web-application (Fig. 1). This application is based (a) on a nearly complete dataset of object-related publications, (b) on a GIS-based map with point-information on the locality of different types of mass movements (scale 1:500,000) and (c) on a GIS-connected data base with object-related information, such as geometric features, publication and Internet-links. Furthermore, the web-application contains options explaining its usage and general information on the map (for example the background and data source) and on the mass movement

(type, natural conditions and the steering and triggering factors). But attention, this application shows only a reduced dataset of all the mass movements in Austria, and is not qualified for statistical evaluations nor modelling.

It is hoped that this web-application will be a helpful and useful meta-tool for everyone to obtain primary information and an overview of the well-known mass movements in Austria. The aim is to encourage people to get in touch with the Geological Survey of Austria for further information and possible discussions. The presented poster described objectives, information sources, and functionality of the web-application.

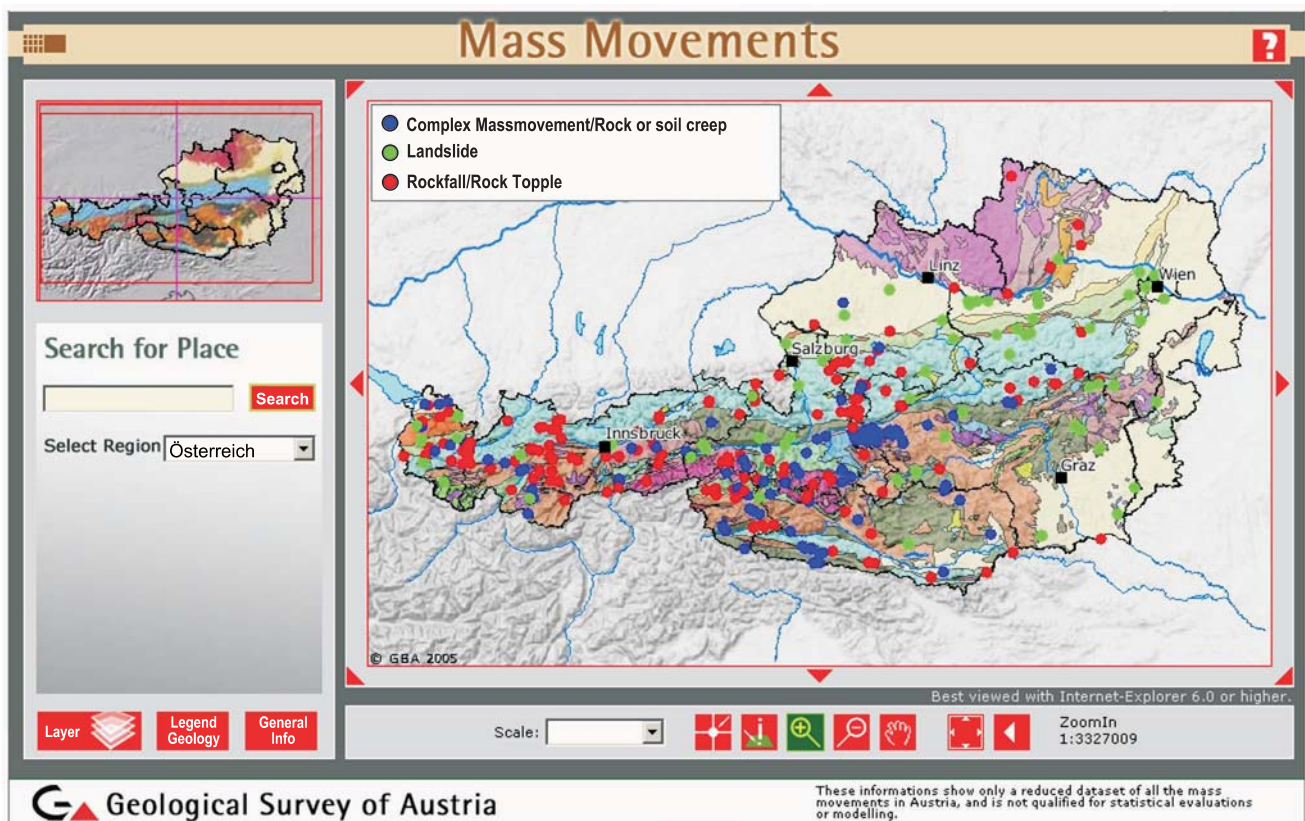


Fig. 1. Web-application starting window