National Landslide Information Center

U.S. Geological Survey
Geologic Hazards Team
Golden, Colorado

USGS

USGS Hazard Information Centers

1. National Earthquake Information Center (NEIC)
2. National Geomagnetic Information Center (NGIC)
3. National Landslide Information Center (NLIC)

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What Resources does the National Landslide Information Center contain?

- Hazard Studies from Around the World
- Fact Sheets, landslide processes and events
- Case Studies – Those performed by the USGS Landslide Program & others
- Landslide Research Papers & other published information
- Emergency Management Information
- Recent landslide events, chronologically
- Bibliographic database – searchable, interactive
- Photographic Images (most not copyrighted and are public domain)
- Video Tape collection of landslide events & info. – for loan

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How does the National Landslide Information Center Disseminate Information?

*Publications – both online, in libraries, and at exhibits
WEBSITE Information,
http://www.geohzards.cr.usgs.gov
*Public talks and presentations – schools, civic
*Exhibits at conferences, schools, and other public forums
*Tours of the Landslide Center & free educational materials
*Toll-free number for emergencies and information
Press releases
*Research and publication of subjects such as economic losses, field reports of impacts of landslides

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International Activities

1. Clearing house for landslide inventory
2. Represents USGS Landslide program at meetings of the International Union of Geologic Sciences, United Nations, & other International meetings
3. Participation in Workshops for foreign earth scientists - aspects of public information
4. Sponsorship of foreign student interns

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FUTURE DIRECTIONS

1. **Greater role in landslide inventory and loss studies**
2. Development of web-based real-time monitoring presentations
3. Expanded working relationship with State Geologists
4. Enhanced role in Emergency Response

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National Landslide Information Center

- **New Emphasis on $ Loss Studies:**
- **Direct and Indirect Losses**
- **Public and Private Losses**

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Losses in North America

- Canada – Estimates vary between $70 million and $1.4 billion (year 2000 dollars) per year

  Casualties: average - 5 people per year
- United States – conservative estimate, $1.6 - $3.2 billion (year 2000 dollars) – (U.S. National Research Council estimates)

  Casualties: average - between 25 & 50 people per year

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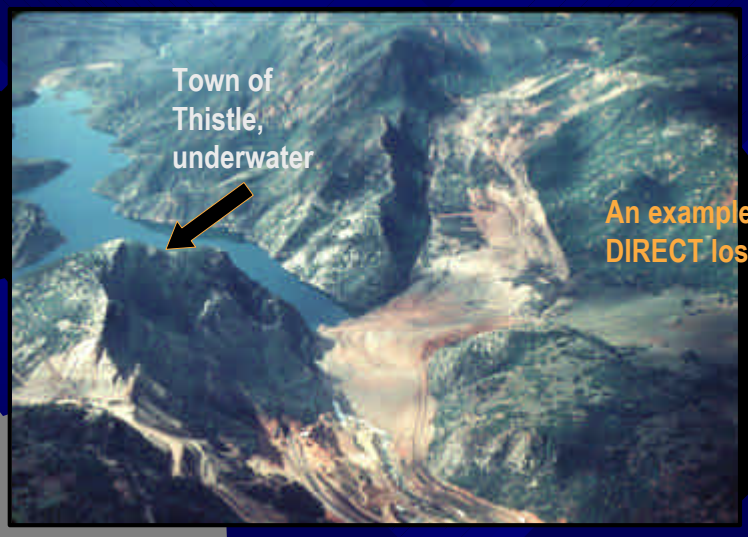
Costliest single U.S. landslide – Thistle, Utah - $688 million (year 2000 dollars)



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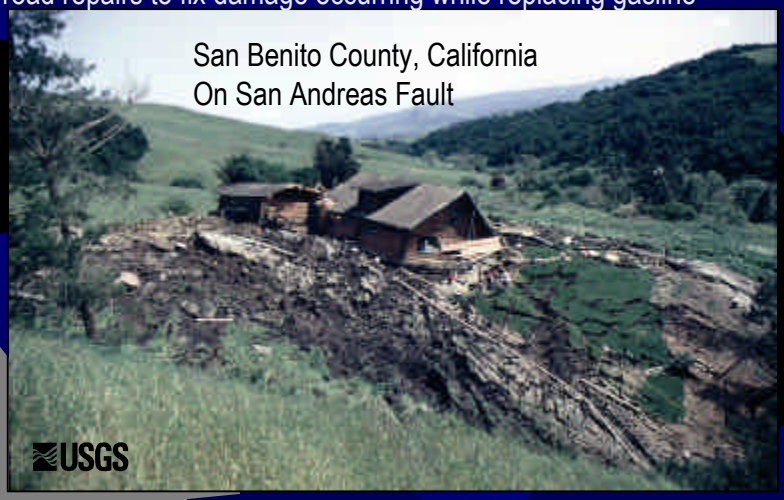
Anzar Road, CA landslide – 1996 - $200,000 **DIRECT** damages to house

$10 - $12 million **INDIRECT** damages – Landslide severed PG&E Gasline3-day gas interruption to city of Santa Cruz, loss of business, road repairs to fix damage occurring while replacing gasline



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Venezuela, South America

Caracas – 1993 rainfall-induced - $6 million in damage

1999 debris-flow damage to the city of Carabelleda, north coast of Venezuela – 30,000 killed - $2 billion in losses throughout Venezuela

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One Billion $ in damages

Earthquake -induced landslide – El Salvador Earthquake 2001

1,000 casualties, many from landslides

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Las Colinas neighborhood in San Salvador, El Salvador

El Salvador Earthquake/landslides

USGS Large landslide blocking the Pan American Highway

Landslide effects on the Natural Environment

- Morphology of both subaerial and submarine surfaces of the earth
- The natural forests and grasslands that cover much of earth's surface
- Quality of streams and other bodies of water
- Habitats of native wildlife, on earth's surface and its streams and oceans

USGS **THESE LOSSES CAN BE DIRECTLY CONVERTED INTO DOLLAR AMOUNTS**