## **COLIMA VOLCANO**

## Collapses and debris avalanches



### What are they?

Large landslides of high mobility which destroy everything in their path, they are produced by flank instability of the volcano, causing the partial destruction of the volcanic edifice. Although they are not frequent, the deposits of at least three events have been identified, the youngest less than 2,500 years ago

#### **Causes:**



### Learn more

National Center for Disasters Prevention www.gob.mx/cenapred

Source: Adapted from the map published by Capra L. and Macías, J.L., 2002 The cohesive Naranjo debris-flow deposit (10 km<sup>3</sup>): A dam breakout flow derived from the Pleistocene debris-avalanche deposit of Nevado de Colima Volcano (México). Journal of Volcanology and Geothermal Research 117, p. 213-235











# About the Colima Volcano

## **Collapses and debris avalanches**

## **Colima Volcano:**



Characteristics of the debris flows

## **Avalanches in the Colima Volcanic complex**



#### Nevado de Colima collapse

More than 18 thousand years ago the eastern flank of Nevado de Colima collapsed. The resulting deposit extended all the way to the Pacific Ocean



#### Ancient Fuego Volcano

Around 4,000 years ago a similar event occurred, with an extent of 40 km. Today the city of Colima is built atop these deposits



#### Present day Colima Volcano

Within an avalanche deposit from the current volcanic edifice, which happened about 2,500 years ago, archeological remains of the first human group in the area (Capacha) have been found

## How do geologists identify them?

Debris

avalanches do

not occur frequently.

but they are

destructive in a

large scale

The clearest evidence that a volcano has experienced a debris avalanche episode is the large horseshoe shaped crater that is left behind during these events