

II Congreso geoEuskadi Kongresua 2021

NHIM proposamena Arrisku Naturalen kudeaketan: prozedurak, metodoak eta lan-fluxuak

Jon Apodaka Saratxo

13 OCTOBER

INTERNATIONAL DAY FOR DISASTER RISK REDUCTION



UNDRR

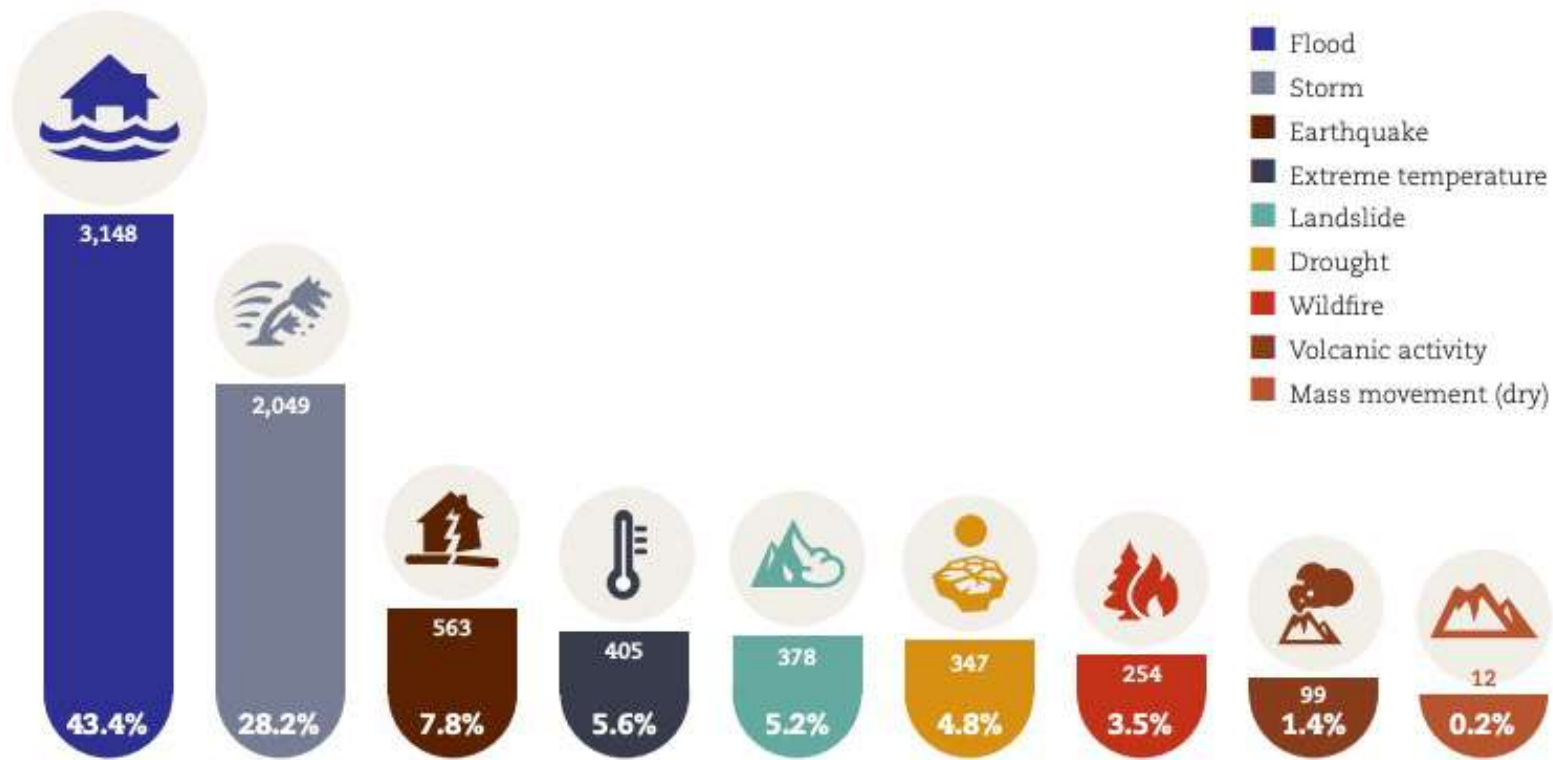
UN Office for Disaster Risk Reduction

**International cooperation
for developing countries
to reduce their disaster risk
and disaster losses**

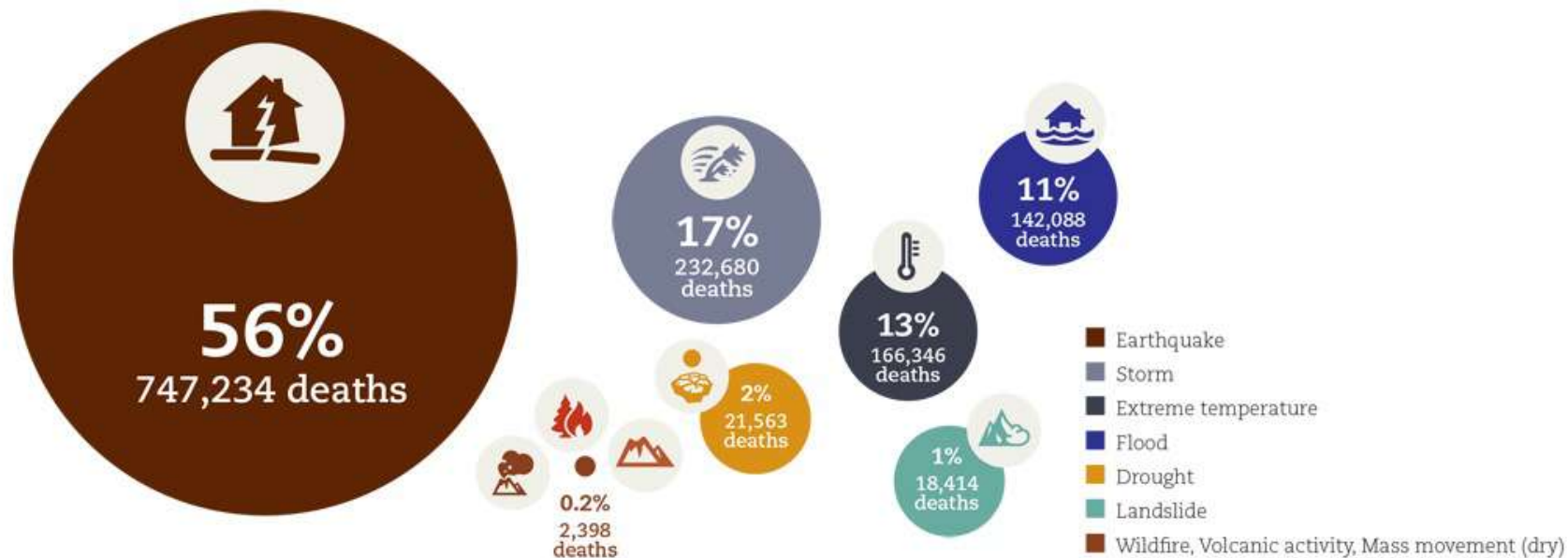
#DRRDay #OnlyTogether



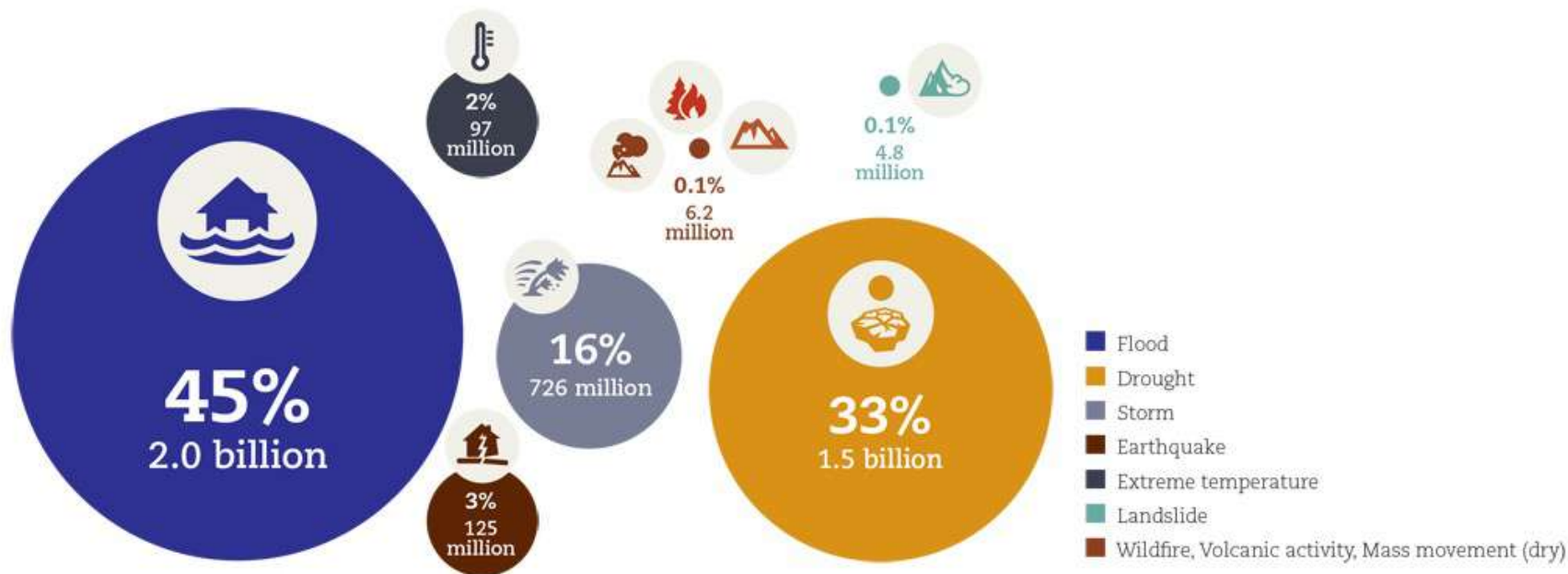
Numbers of disasters per type 1998-2017

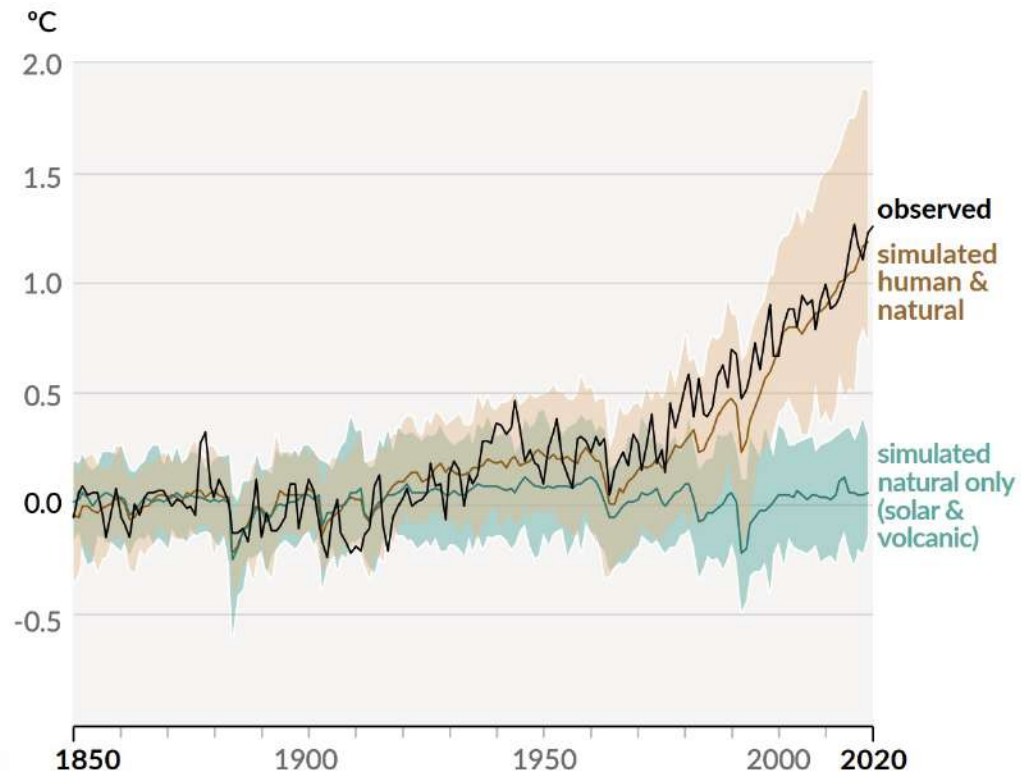
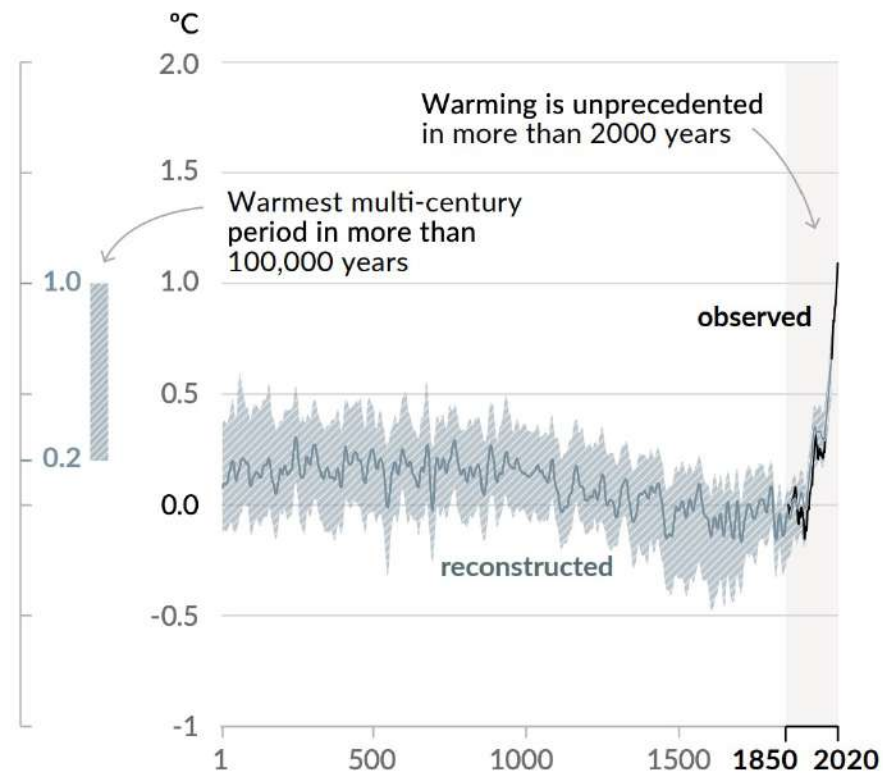


Number of deaths per disaster type 1998-2017



Number of people affected per disaster type 1998-2017





Emergentzia klimatikoaren testuinguruan

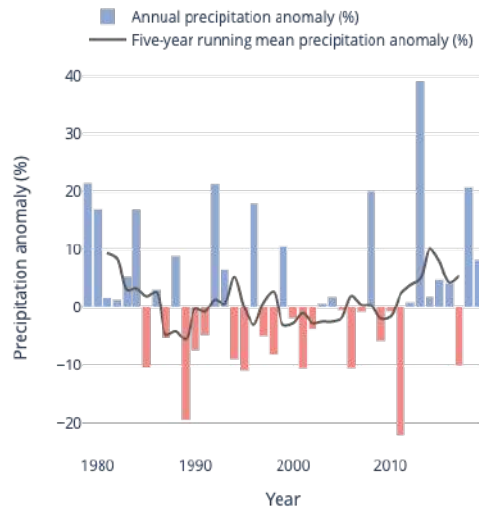
Urteko tenperatura- anomalia

Nola eragin diezaguke?

Osasuna, euri/elur prezipitazioak, arriskuak,
ekonomia...

Urteko prezipitazio anomalia

Euri gehiago egingo du?
Lehorteak izango ditugu?



2021ko uztaila. Alemaniako uholdeak



AF PHOTO

2021ko iraila. Chiquihuiteko (Mexiko) harri jausia



Mario Jasso Cuartoscuro.com

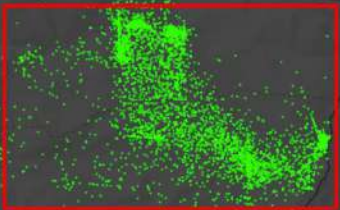


2021ko iraila. Alcanarreko (Cataluña) uholdeak





Meteorologia eta elur-baldintzen
araberako turismo dinamikak

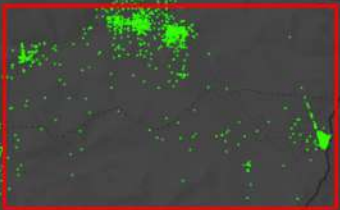


GrandValira Ski Resort



12:37:22

Meteorologia eta elur-baldintzen
araberako turismo dinamikak



GrandValira Ski Resort



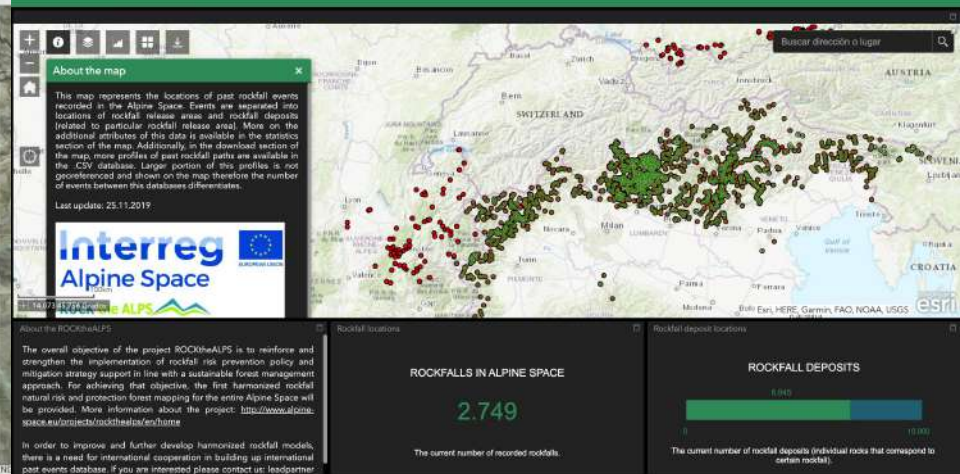
21:33:09

1996ko otsaila. Arinsaleko (Andorra) elur-jausia

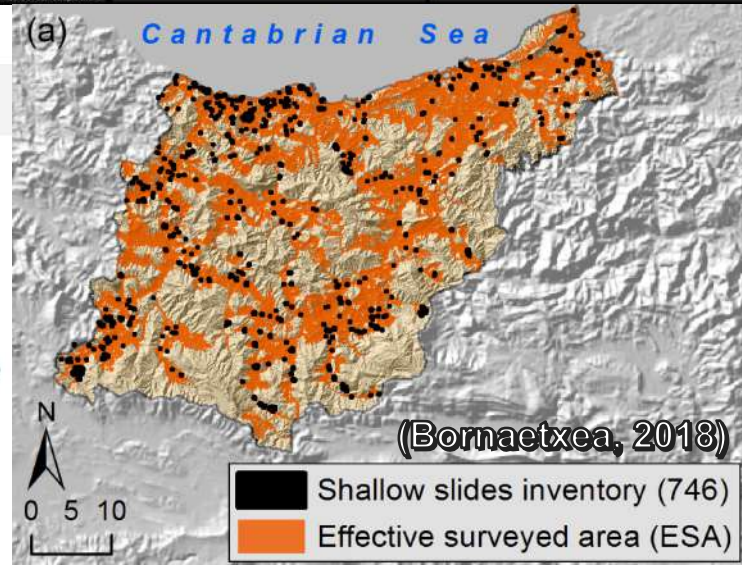




Detalle handiko lur-jausien inbentarioa Marte planetan

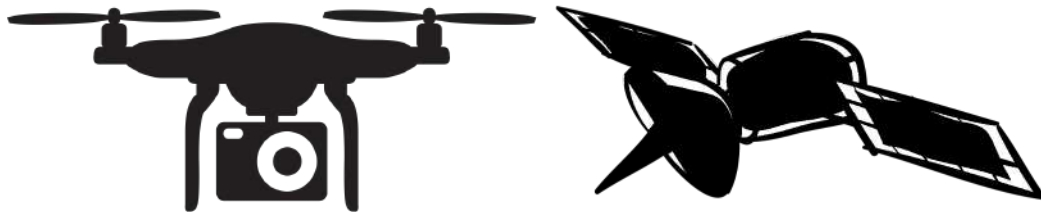


¿Cómo surge? ¿Dónde? ¿Cómo? ¿Cuándo? ¿Para qué? ¿Quieres participar?









DRONAK vs. SATELITEAK

AZTERTUTAKO EREMUAREN TAMAINA

ERRESOLUZIOA (cm/pixel)

PRÆZIOA (EKIPOA)

DATUEN ANALISI JARRAITUA

AIRE-ESPAZIOAREN MURRIZKETAK

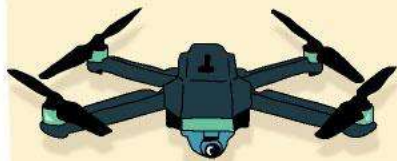
GIZA ERRORE POSIBLE

IRUDI-KANALAK/BANDAK

Z BALIOAK, DEM-DSM-DTM edo HODEI EREDU DIGITALAK SORTZEKO

LEHIA edo **OSAGARRIA?**





maneuverability



price



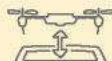
size/portability



ease of use



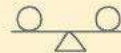
payload capacity



smaller take off
landing area required



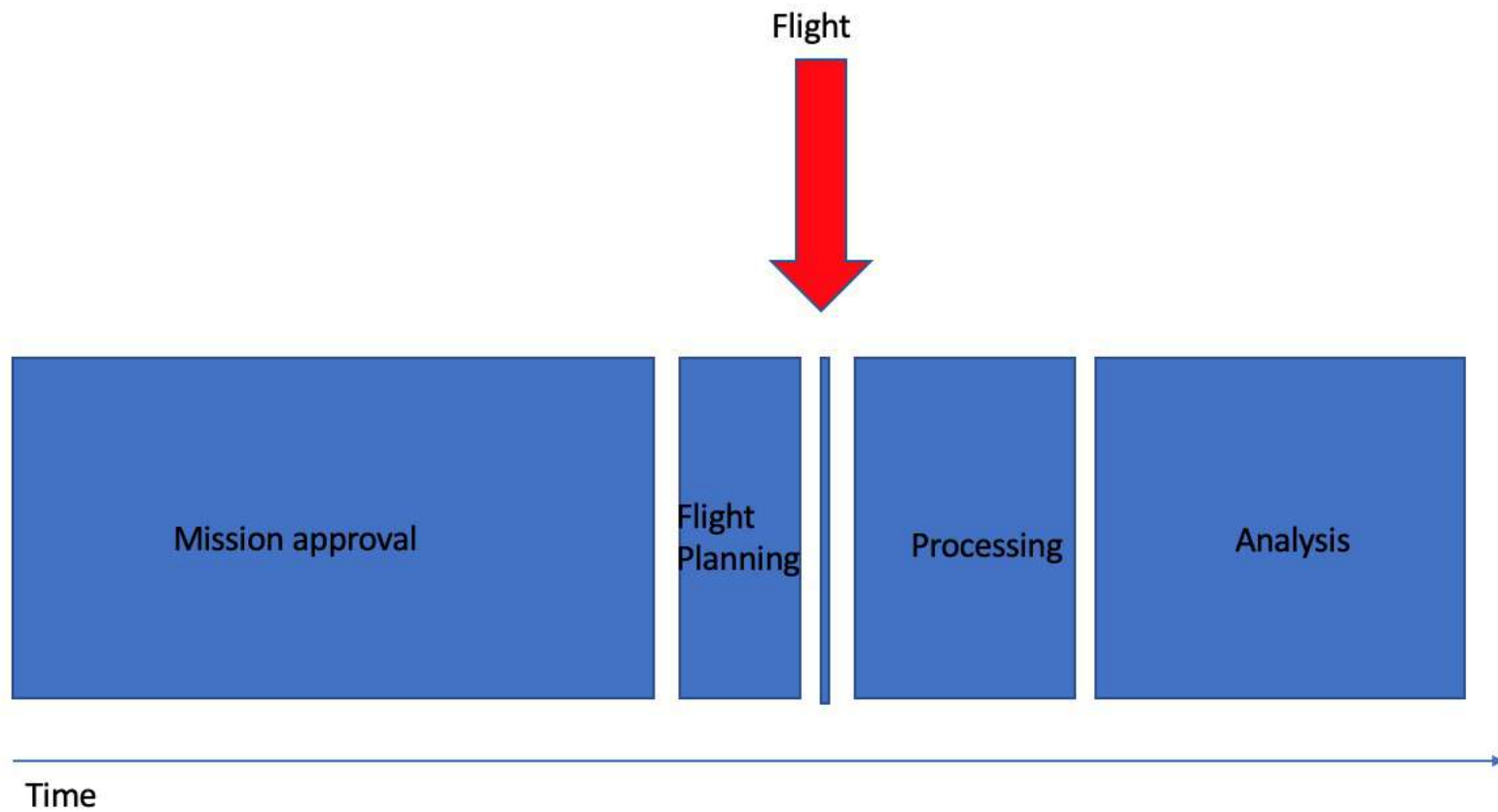
range



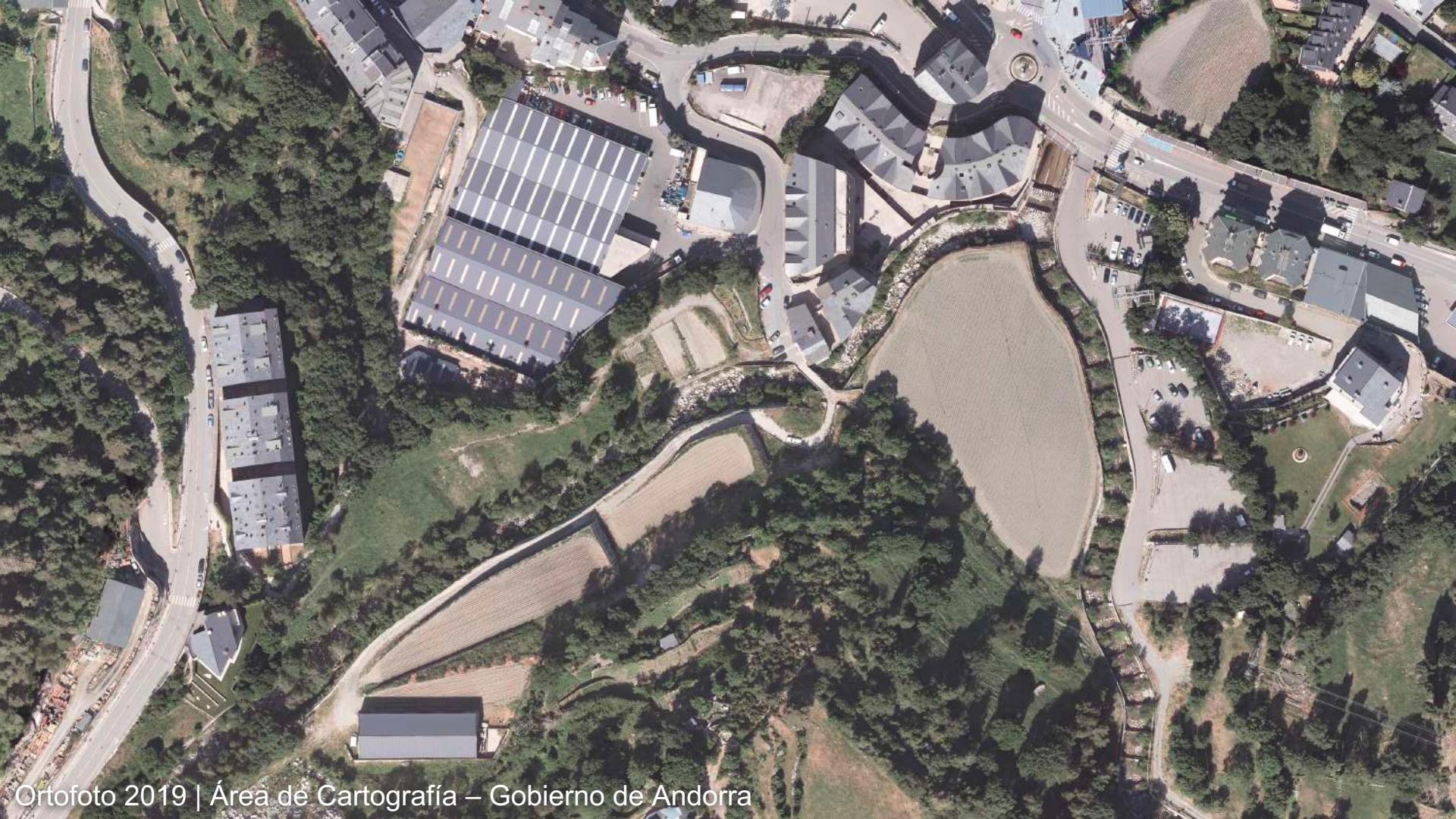
stability



safer recovery from motor power loss





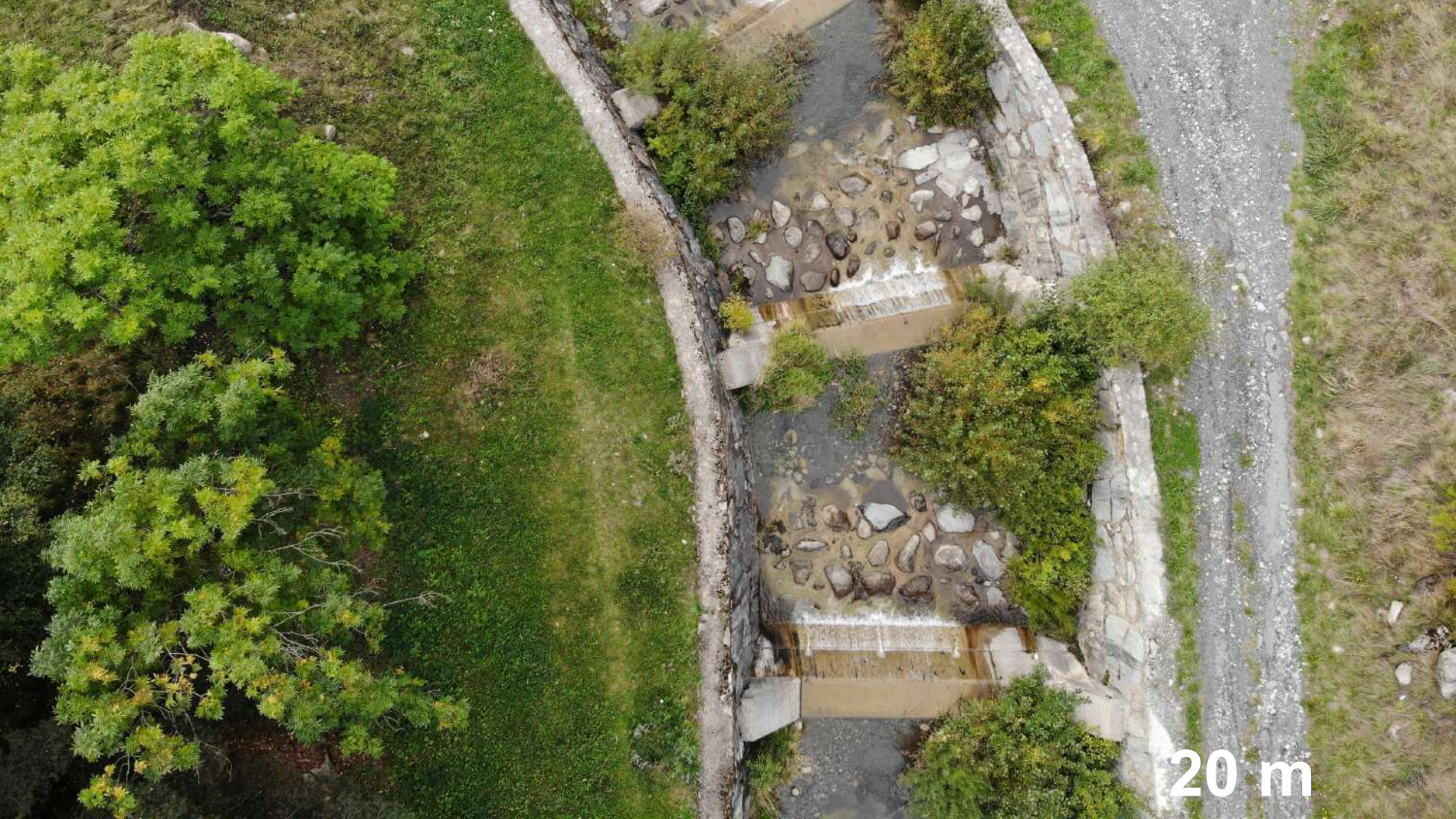




120 m



50 m



20 m



Argazki azkarren/3D eredu erresoluzioa 10cm/pixel baino handiagoa (1-2cm/pixel, hegaldi altueraren arabera)



Perfil topografikoak



Perfil de elevación

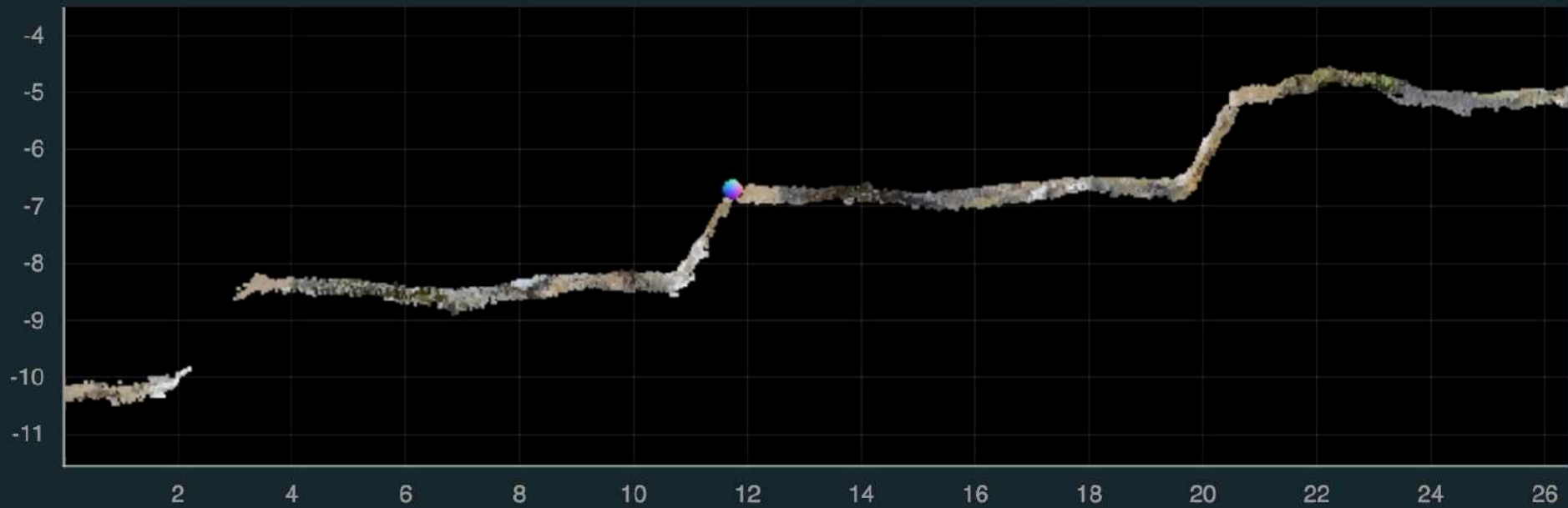


Número de puntos: 79,426

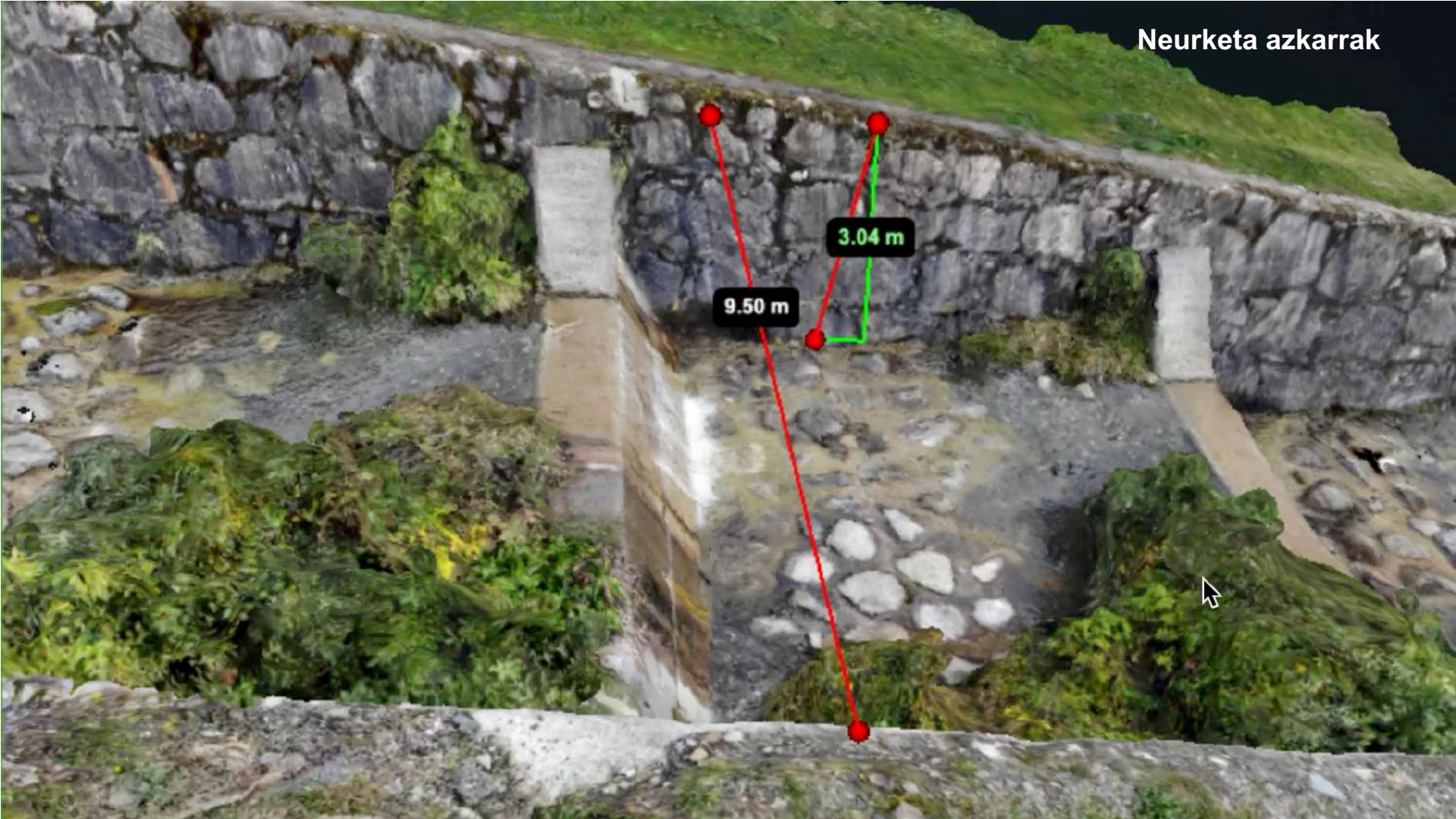
10



CSV(2D) LAS(3D)



Neurketa azkarrak



9.50 m

3.04 m

An aerial photograph showing a residential area in the bottom right corner, characterized by dark, pitched roofs of houses. A road runs along the edge of the houses. To the left of the road is a dense line of green trees and shrubs. The rest of the image is a vast, open landscape with a mix of green vegetation and brown, bare ground, possibly a field or a forest clearing. A faint grid is visible over the entire image.

Valira d'Orient

co

Errosoluzio handiko mapa azkarrek



3D ereduen prozesamendu azkarra





Detalle handiko 3D ereduak.
Arroka-jausien karakterizazioa

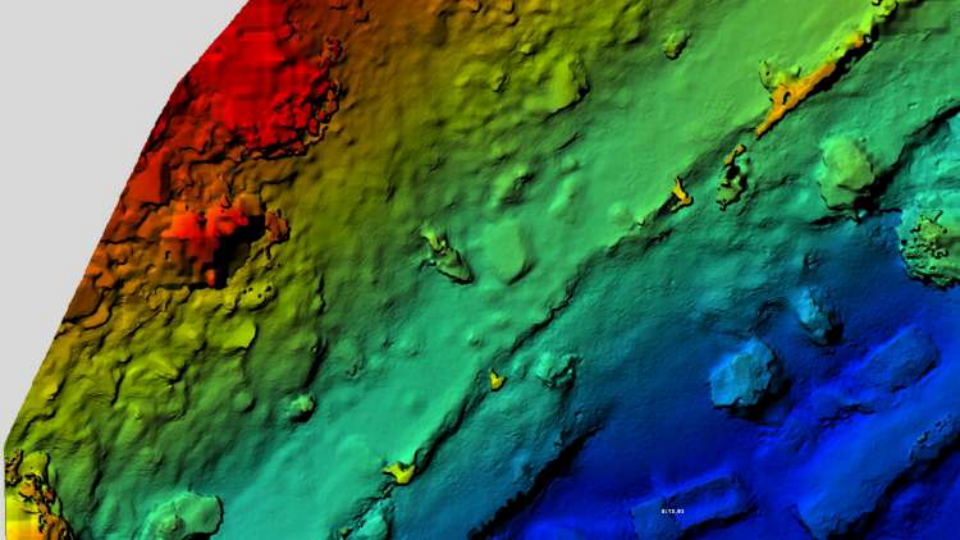




**Detalle handiko 3D ereduak.
Arroka-jausien inbentarioak**



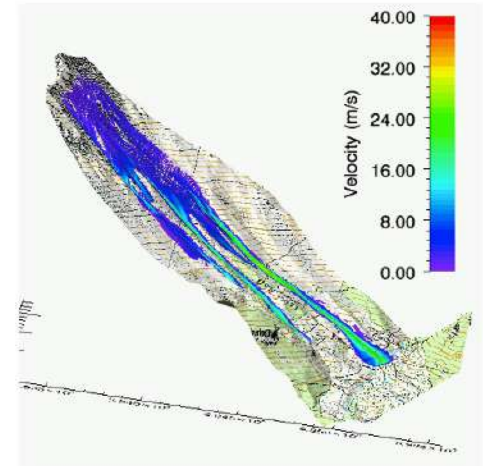
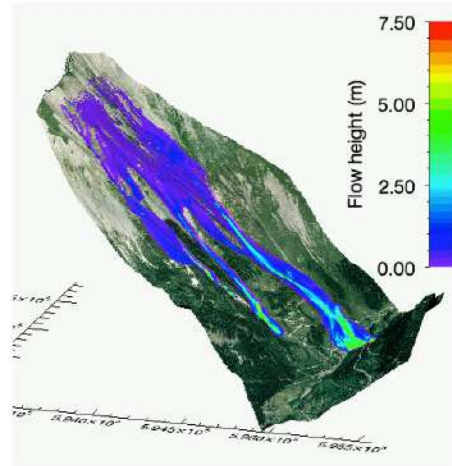


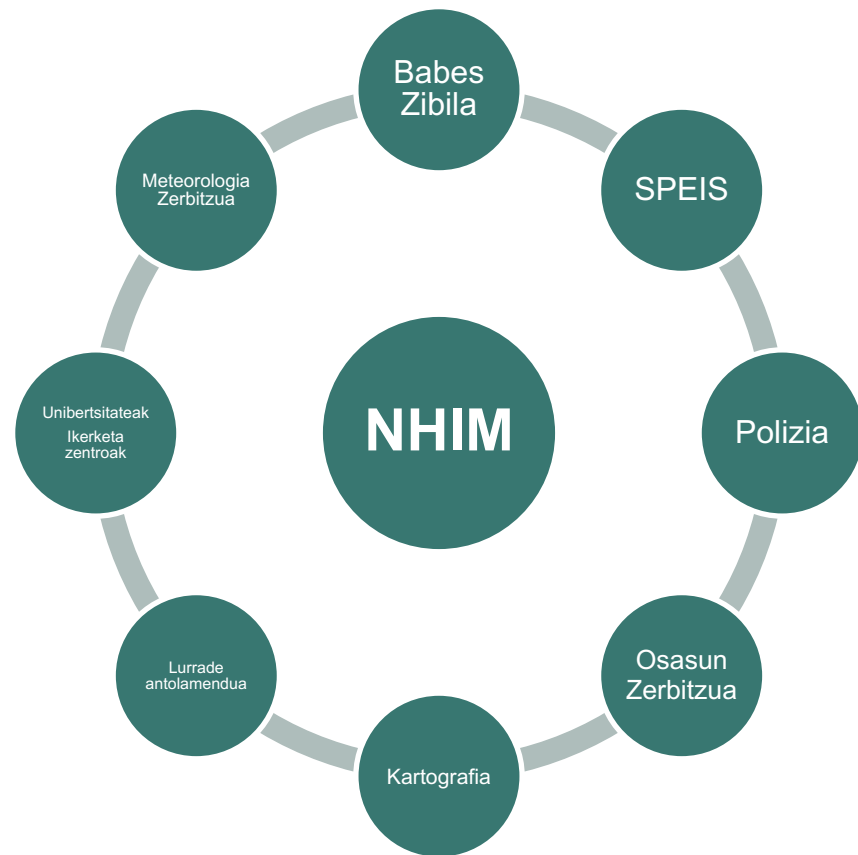




Ezinbesteko informazioa:

ereduak kalibratzeko;
arriskubide, arrisku,
suszeptibilitate ...
kartografiak egiteko;
berreskurapen
proposamenentzako;
arauzko zonakatzerako,
etab.





Ondorioak

- ✓ Lan-metodoa aldaketa
- ✓ Informazio guztia hartzen duen dimentsio anitzeko metodoa
- ✓ Eredu bakarra (HR Rapid Mapping – 3D – Dokumentuak – Lotutako BD). Ez bakarrik geometría
- ✓ Lankidetzatza/diziplina anitzeko lana
- ✓ Kudeaketa eta erabaki azkarrak hartzen laguntzea
- ✓ Denbora aurrezte
- ✓ Prozesuaren optimizazioa
- ✓ Lana kalitate eta errentagarritasun handiagoa
- ✓ Gertakizunaren kudeaketa errazten du eta informazioa partekatzen du
- ✓ Simulazio errealagoa lortzen laguntzen du

Tresna eta teknologia berriak

Teledetekzioa
Dronak
Open Source softwarea
Kode partekatzea
Datu irekiak
Herritar zientzia
Eta abar.



Eskerrak



Govern d'Andorra



*CARTOGRAFIA
OFICIAL D'ANDORRA*



ODM



QGIS



*“You cannot manage your disaster risk
if you are not measuring your losses”*

Mami Mizutori, UN Special Representative of the
Secretary-General for Disaster Risk Reduction

Eskerrik asko,

Galderaren bat?

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