ATES zoning in the Pyrenees

910 km² Total terrain zoned

39% Simple
27% Challenging
34% Complex

Zoning Model (Campbell & Gould, 2014) used instead of the Technical Model v1.04 (Statham, 2006)

Polygons and polygon scale demand expertise and is tremendous subjective

Individual survey to professionals involved in the ATES zoning in the Pyrenees: 75% is objective and 25% is subjective; 85-95% is consistent among individuals of the same mapping team (% of the zoned terrain estimated roughly)

Val d’Aran – Region

563 km² Backcountry & Sidecountry

37% 30% 33%

Canfranc - Valley

18 km² Backcountry & Sidecountry

27% 18% 55%

Benasque – Mountain Huts

127 km² Backcountry

10% 40% 50%

Andorra - Country

195 km² Backcountry & Sidecountry

36% 31% 33%

Andorran government promotes ATES mapping in all the valleys of the country. On-going project

Methodology

ATES zoning rapidly spreading out in the Pyrenees, as part of safety projects promoted by governments, ski centers, mountaineering federations and natural parks

Need for consensus on the methodology to produce objective, consistent and uniform ATES maps across sites and professionals involved

Aragones Mountain Federation (FAM) and Government of Aragón promote ATES mapping accessing and around mountain huts. On-going project

AES ratings around Astún and Candanchú ski centers. An automatic GIS algorithm has been used to control the implicit subjectivity of the Zoning Model

Example in Literola valley, Benasque

Tavascan – Ski center

8 km² Sidecountry

61% 31% 8%

First ATES site in the Pyrenees in 2011. ATES zoning fully completed and ready for the 2018-19 season

Local ski center with large sidecountry terrain. ATES ratings applied for zones and itineraries

ATES ratings in the Pyrenees:

Pyrenees, Centre d’Estudis de la Neu i la Muntanya d’Andorra (CENMA-IEA), Andorra; Campaña Montaña Segura, Federación Aragonesa de Montañismo (FAM), Spain; Campaña Montaña Segura, Gobierno de Aragón (DGA), Aragón, Spain.

Methodology

On-line and downloadable maps
Panels in the trailheads
Terrain class concepts used in travel advices of local avalanche advisories (Aran Avalanche Center and Alurte)

ATES and Avaluator™ Trip Planner included in avalanche training programs by ACNA and EDNA

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