Cfc

Subpolar Oceanic Climate

Location Examples:

- Punta Arenas, Chile
- Tórshavn, Faroe Islands
- Reykjavik, Iceland
- Northern United Kingdom

study
By Juan Gonzalez

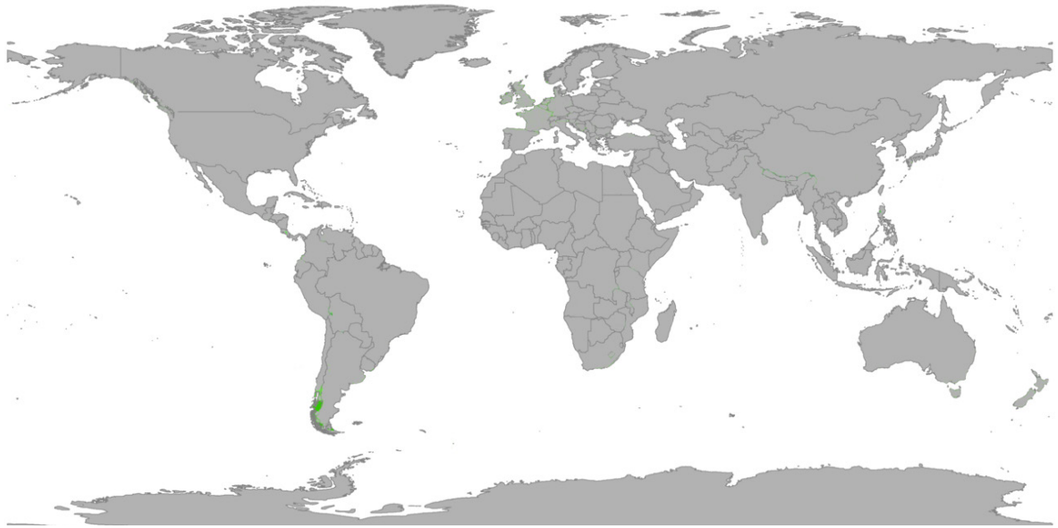
Subpolar oceanic climates are usually located near the polar regions, so they tend to colder than the rest of the oceanic climates. They have only one to three months of average temperatures that are at least 50°F, while the coldest months have temperatures that are below or just above freezing.

Materials used in this climate may range and include, but not limited to, concrete, glass, wood, and metal for both interior and exterior use. Furthermore, due to the large amount of snow, wind, and precipitation throughout the year, the materials are used to use to insulate and protect the interiors.

Sources:
https://en.wikipedia.org/wiki/Oceanic_climate#Locations

https://www.britannica.com/science/marine-west-coast-climate

https://en.wikipedia.org/wiki/Punta_Arenas

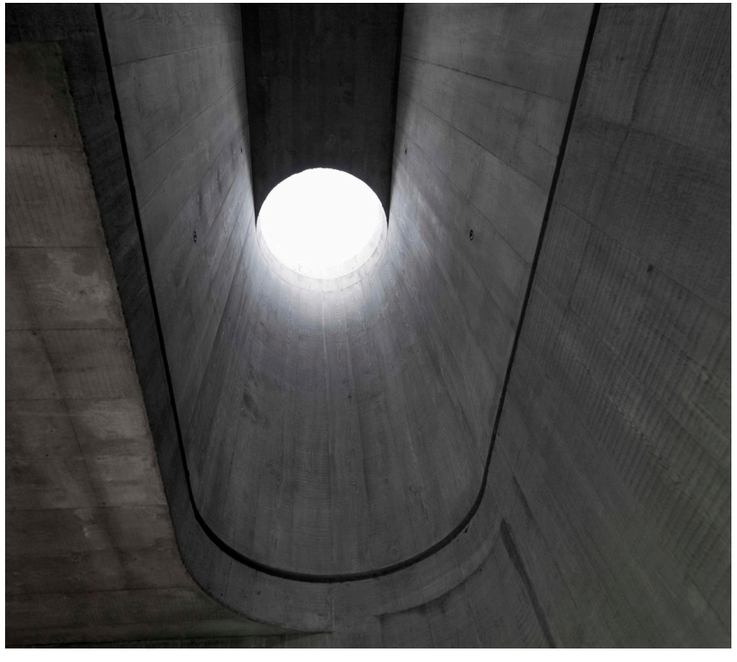


Punta Arenas, Chile

B14 Residence

case study
By Sarah Fahey

Location: Iceland



Architect: Studio Granda

Owner: Private

Year of completion: 2012

Climate: Marine West Coast

Material of interest: Concrete

Application: Interior & Exterior
The home was built using the crushed concrete of the former resident's foundation pad as aggregate for the new on-site concrete pours

Properties of material: Local - indigenous material in Iceland, re-usable, dense, durable, strong

Sources:
https://www.archdaily.com/804325/b14-studio-granda
https://archello.com/project/b14-residence

The Macallan New Distillery & Visitors Experience

case study
By Juan Gonzalez

Location: Tromie Mills, United Kingdom

Architect: Rogers Stirk Harbour + Partners

Owner: Edrington

Year of completion: 2018

Climate: Marine West Coast

Material of interest: Metal

Application: Superstructure

Properties of material: The roof structure is composed of the primary tibular steel support frame. The structure laces through the tiber structure to help resist the torsional forces.

Sources:

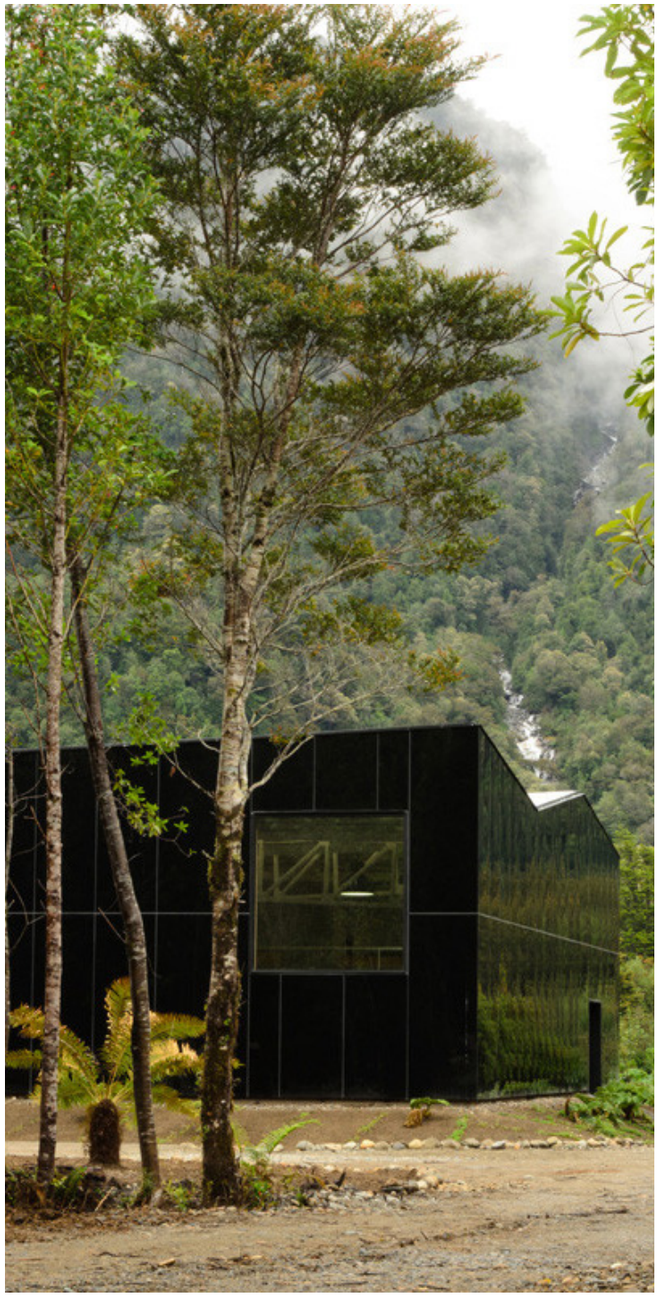
https://www.archdaily.com/894935/the-macallan-new-distillery-and-visitors-experience-rogers-stirk-harbour-plus-partners

Architect Website: https://www.rsh-p.com/projects/the-macallan-distillery/

Glacial Water Botteling Plant

case study
By Juan Gonzalez

Location: Cisnes, Chile



Architect: Panorama Arquitectos

Owner: N/A

Year of completion: 2011

Climate: Marine West Coast

Material of interest: Glass

Application: Exterior

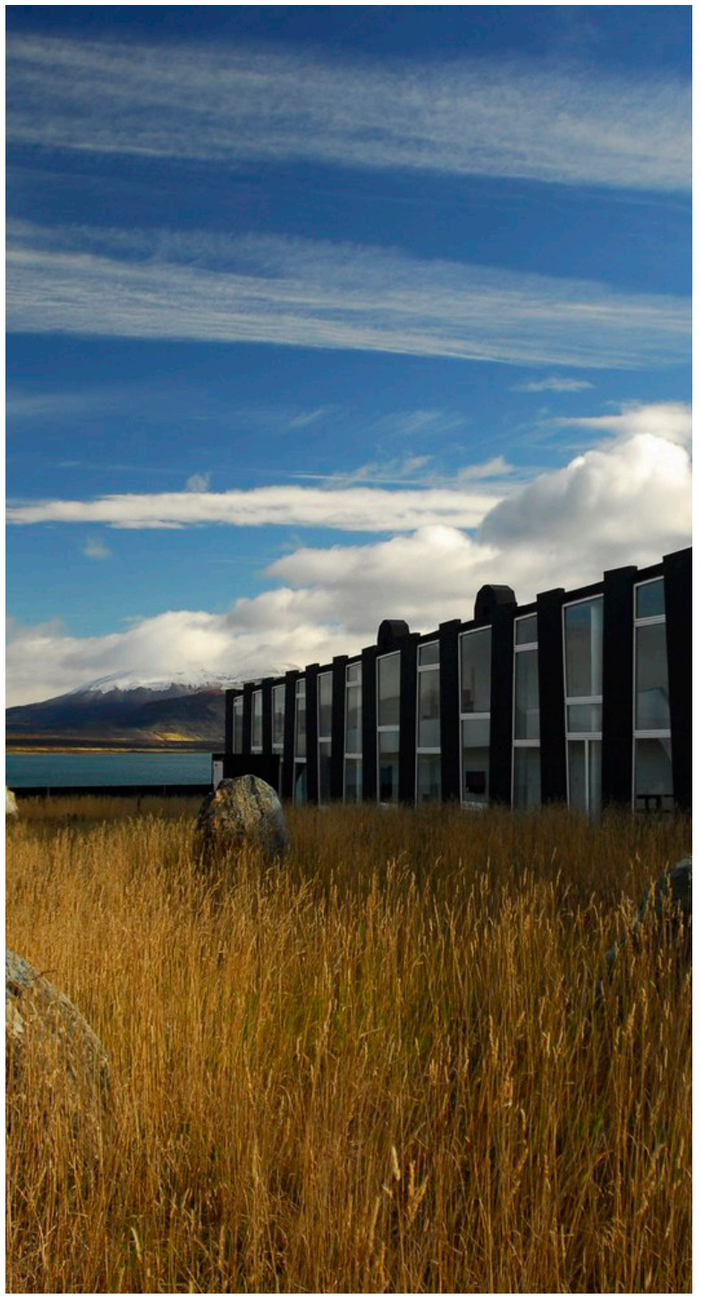
Properties of material: Due to the tough climate conditions, the project uses toughened glass to clad the four facades with a black opaque coating while also reflecting the surrounding environment onto the building.

Sources:
https://www.archdaily.com/223414/glacial-water-bottleing-plant-panorama

Remota Hotel in Patagonia

case study
By Juan Gonzalez

Location: Puerto Natales, Chile



Architect: German Del Sol

Owner: N/A

Year of completion: 2006

Climate: Marine West Coast

Material of interest: Wood

Application: Exterior cladding

Properties of material: The building is enclosed by waterproof plywood panels that have a foot thick expanded polyurethane core for insulation. Also, the plywwod panels are coated with a synthetic asphalt membrane to enhance the insulation and protect against the rainy and windy environment. The asphalt membrane is covered with black fine gravel to protect it from the UV rays.

Sources:

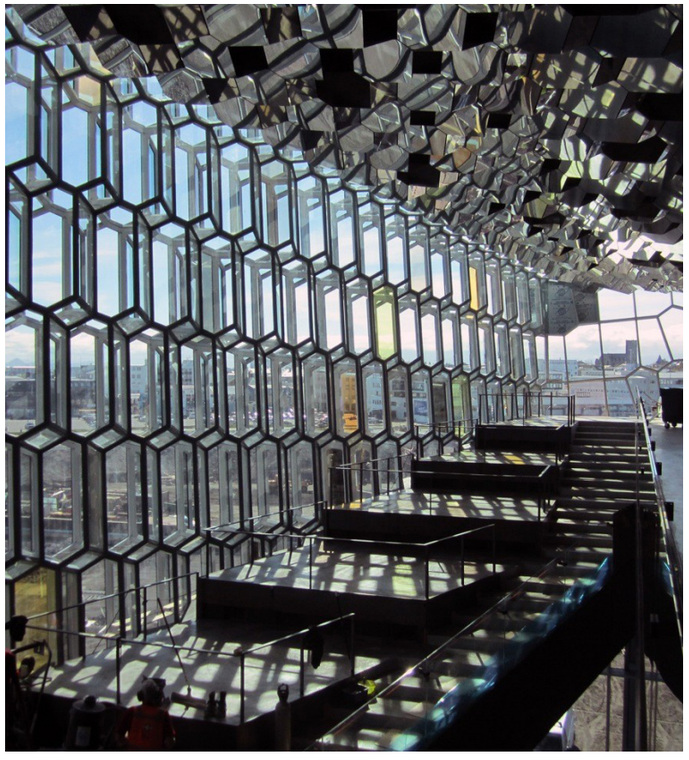
Architect website: http://www.germandelsol.cl/memremota.htm

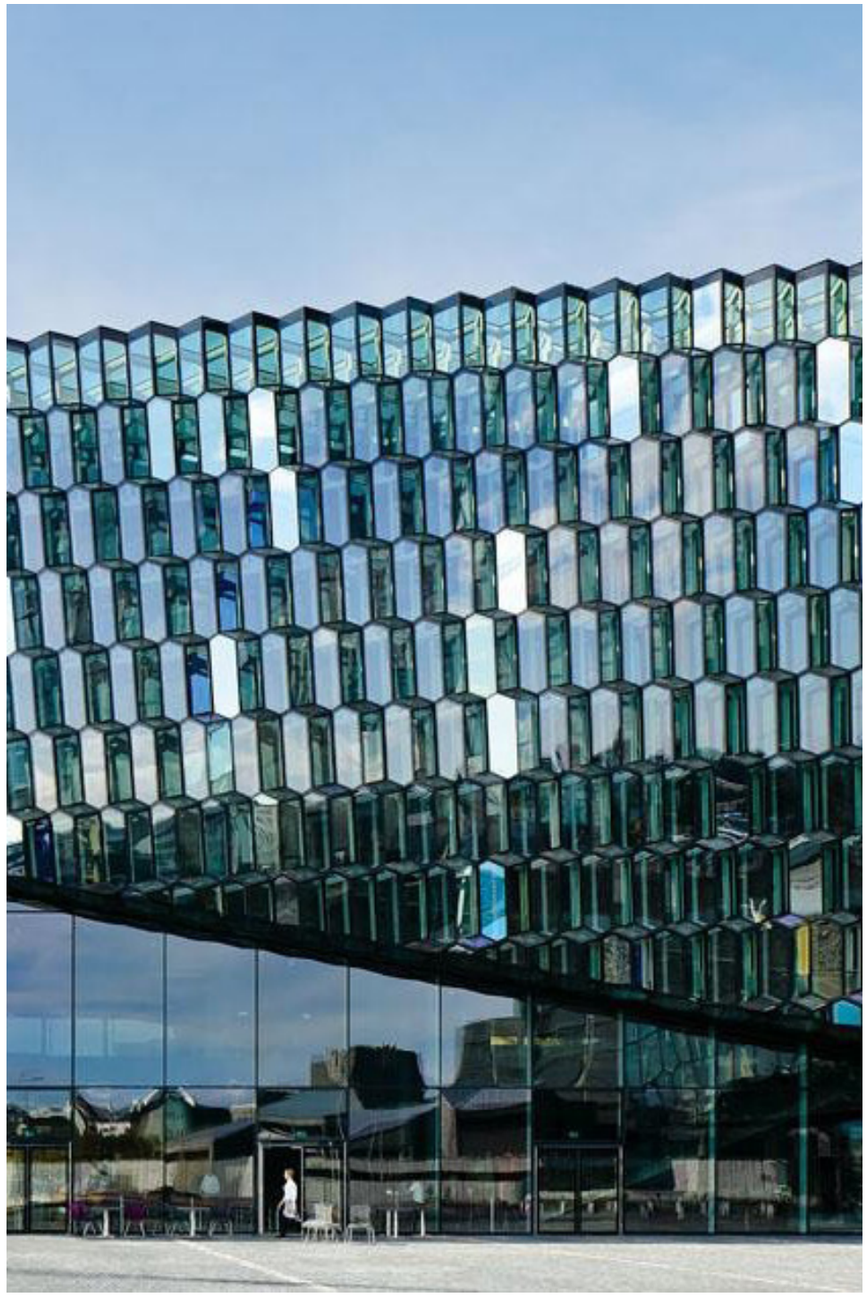
https://www.archdaily.com/575013/remota-hotel-in-patagonia-german-del-sol

Harpa Concert Hall and Conference Centre

case study
By Rui Guo

Location: Reykjavik, Iceland





Architect: Henning Larsen Architects

Owner: Austurnhofn TR – East Harbour Project Ltd.

Year of completion: 2011

Climate: Subpolar variety Oceanic climate (Cfc)

Material of interest: expressive reflecting 3d glass facade, quasi-brick, five-fold symmetry, dichromatic glass

Application: Facade

Properties of material: The mountain like architecture is covered by the shinning glass facade created by a quasi-brick system. Because the 12 sided is inspared by the shape of quasicrystais. Some of the glasses are different color dichromatic glass which enpowers a more dramatic interation with the daylight.

Sources:

https://www.domusweb.it/en/architecture/2011/09/08/eliasson-s-kaleidoscope.html

https://www.archdaily.com/153520/harpa-concert-hall-and-conference-centre-henning-larsen-architects