The Map of Shelters and Refuges from Global Risks (Plan B of X-risks Prevention)

Time

Distance from typical habitats

On the ground

Antarctic bases
Number of shelters: more than 10
Number of people: hundreds
Independent survivability: 1-5 years
Ability to re-create civilization: high
Vulnerability: medium
Best protection against: pandemics, nuclear winter, fallout

Uncontacted tribes
Number of shelters: around 10
Number of people: thousands
Independent survivability: thousands years
Ability to re-create civilization: medium
Vulnerability: high
Best protection against: some types of pandemics

Remote villages
Number of shelters: thousands or more
Number of people: millions
Independent survivability: almost indefinite
Ability to re-create civilization: high
Vulnerability: medium
Best protection against: pandemics

Random survivors
Number of shelters: depends of type of catastrophe
Number of people: unknown
Independent survivability: months
Ability to re-create civilization: low
Vulnerability: high
Best protection against: stochastic events

Air planes

Isolated biospheres
Closed cycle projects

Number of shelters: several
Number of people: thousands?
Independent survivability: years
Ability to re-create civilization: high
Vulnerability: high
Best protection against: pandemics, nuclear war

"Clever" houses with reinforcement
Number of shelters: millions??
Number of people: millions
Independent survivability: months
Ability to re-create civilization: high
Vulnerability: high
Best protection against: pandemics, small impacts and nuclear war
Price: high

Nanotech based homes
are able to withstand any external influences as adaptive shield

Underground

Mines, caves and subways
Number of shelters: thousands
Number of people: millions
Independent survivability: days
Ability to re-create civilization: high
Vulnerability: high
Best protection against: explosions and acute fallout

Bomb shelters
and commercial shelters

Number of shelters: many thousands
Number of people: millions
Independent survivability: days, may be weeks
Ability to re-create civilization: high
Vulnerability: medium
Best protection against: explosions and acute fallout

Cold war command centers and underground cities
Number of shelters: around 10
Number of people: unknown, maybe hundreds
Independent survivability: years
Ability to re-create civilization: high
Vulnerability: could be targeted in war
Best protection against: explosions, fallout, pandemics

Special anti-extinction shelter in remote place
as suggested by Karim Jebari

Number of shelters: at least one
Number of people: 100
Independent survivability: 30+ years
Ability to re-create civilization: high
Vulnerability: low to natural risks, medieum to human hostile action
Best protection against: pandemic, nuclear war
Price: from 2 to 15 billions dollars
Place: secret fertile land (Alaskian island?)
Power: nuclear

Very deep shelters
1 km deep with independent energy sources

Number of shelters: several
Number of people: thousands
Independent survivability: years
Ability to re-create civilization: medium
Vulnerability: low to natural risks, high to human hostile action
Best protection against: pandemic
Price: very high, many billions dollars

Risks: it could be places which benefit from extinction event, start an attack or make secret dangerous research

Nanotech based microscopic shelters
Deep in Earth's crust, which are running humans as uploads and are invisible to any external hostile surveillance.

On the sea

Ships
Number of shelters: many thousands
Number of people: millions
Independent survivability: 1 year for some, may be more
Ability to re-create civilization: high
Vulnerability: medium
Best protection against: explosions, pandemics

Islands
Number of shelters: thousands
Number of people: millions
Independent survivability: indefinite
Ability to re-create civilization: high
Vulnerability: medium
Best protection against: pandemics

Ship wrecks, rafts
Number of shelters: depends of a type of a catastrophe
Number of people: unknown, maybe hundreds
Independent survivability: months
Ability to re-create civilization: low
Vulnerability: high to natural causes
Best protection against: pandemics

Doomsday vault
facilities which will help to recreate civilization by preserving important knowledge, instruments, seeds, resources, but not people

Number of shelters: now one
Number of people: thousands?
Independent survivability: months
Ability to re-create civilization: high
Vulnerability: high
Best protection against: stochastic events, pandemics, nuclear war

Tesla cars
with biosafety system
Number of shelters: many thousands
Number of people: thousands
Independent survivability: days
Ability to re-create civilization: medium
Vulnerability: high
Best protection against: pandemic
Price: included

Sea steading
Independent living communities at sea

Number of shelters: several
Number of people: thousands
Independent survivability: years
Ability to re-create civilization: medium
Vulnerability: low to natural risks, high to human hostile action
Best protection against: pandemic
Price: very high, billions dollars

Special refuges built exactly to much known type and type of a catastrophe after warning

Very large air blimps

Immortal bodies
Upgraded human beings able to survive in space and any hostile environment

Under the sea

Nuclear submarines
Number of shelters: 10-100
Number of people: thousands
Independent survivability: around 1 year
Ability to re-create civilization: high
Vulnerability: medium
Best protection against: explosions and acute fallout

Converting ALL existing nuclear submarines in temporary asylums in short notice (~6 months)

Distributed net of survivalists
Includes hoards with food
Trained people

Number of shelters: depends of type of catastrophe
Number of people: thousands?
Independent survivability: months
Ability to re-create civilization: high
Vulnerability: high
Best protection against: stochastic events, pandemics, nuclear war

Specially rebuilt nuclear submarine ("project Yellow submarine")

Number of shelters: several
Number of people: thousands
Independent survivability: years
Ability to re-create civilization: medium
Vulnerability: low to natural risks, high to human hostile action
Best protection against: pandemic
Price: very high

Risks: could be targeted during nuclear war

Could provide defence against gamma-ray burst with large surface radiation levels

Underwater town
seems not to have much value as it would be vulnerable

Digital shelters
Something like secret location of uploads in global digital network, or secret recordings of human DNA and connectome

They may help to survive some form of Unfriendly AI, if it is not omnipotent

In near space

International space station
Number of shelters: 1
Number of people: 6
Independent survivability: 3 monthes- 1 years
Ability to re-create civilization: low
Vulnerability: high
Best protection against: short, but covering all earth surface catastrophe (airborne pandemics)

"Preppers"
People, who prepare to smaller catastrophe and stock food

Number of people: 3 million people in US
Independent survivability: months
Ability to re-create civilization: high
Vulnerability: high
Best protection against: stochastic events, pandemics, nuclear war

Food storages, and chemically synthesised food, see work of Denkenberger

Moon base
Number of shelters: one
Number of people: dozens
Independent survivability: years
Ability to re-create civilization: low
Vulnerability: low to natural risks, high to human hostile action
Best protection against: pandemic
Price: dozens of billions dollars

Risks: could be converted into nuclear military base by state actor, and used in nuclear war, or attacked

Phil Torres space bunkers
Basic independent space station

Number of people: 200 in each
Independent survivability: decades
Ability to re-create civilization: high
Vulnerability: low
Best protection against: stochastic events, pandemics, nuclear war

Mars base (Musk plan)
Number of shelters: one
Number of people: thousand or even million
Independent survivability: indefinite
Ability to re-create civilization: medium, depends of robotics and many unknowns
Vulnerability: low to natural risks, high to human hostile action
Best protection against: pandemics, impacts, earth-limited catastrophes, including collider accidents and grey goo
Price: trillions of dollars

Risks: could be targeted in space war or participate in it as actor
Risks: transportation fleet could be used as kinetic weapon
Risks: opportunity cost because of high price

Remote moons in Solar system, comets, asteroids, Oort cloud
Use of self-replicating robots and manufacturing nanotechnology for building infrastructure, creation of millions of habitats

Number of shelters: millions
Number of people: millions
Independent survivability: indefinite
Ability to re-create civilization: high
Vulnerability: low to natural risks, high to unfriendly AI
Best protection against: pandemics, impacts, earth-limited catastrophes, including collider accidents and grey goo
Price: may be the small, just one first nanorobot

Risks of space war or space grey goo
Risks of kinetic space weapons
Risks of extremely large artificial explosions inside gas planets or of the creation of very large nukes
Risk of wrong command to the whole system

Remote space

Orion nuclear powered generation ship
Number of shelters: one
Number of people: thousand or even million
Independent survivability: hundreds of years
Ability to re-create civilization: medium, depends of many unknown
Vulnerability: low to natural risks, high to human hostile action, high probability of accidents and failure inside the ship
Best protection against: pandemics, impacts, earth-limited catastrophes, including collider accidents and grey goo
Price: trillions of dollars

Risks: could be targeted in space war or participate in it as actor
Risks: the ship itself could explode, be used as a weapon or a source of weapons, as it has 100 000 nukes for propulsion
Risks: opportunity cost because of high price

High speed nano-starships, starting colonisation wave
Number of shelters: millions
Number of people: DNA samples or uploads
Independent survivability: high
Ability to re-create civilization: high
Vulnerability: low to natural risks, medium to unfriendly AI
Best protection against: almost everything except false vacuum decay and strong UFAI
Price: may be the small, just one first nanorobot

Risks of space war or space grey goo
Risks of laser weapons based in space which are able to target everything

Refuges that are currently in existence; Types of risks: nuclear war, multi-pandemics, supervolcanic explosion

Could be built using existing tech in 10-30 years

High tech shelters against hi-tech risks, which could be built after 30-100 years from now

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