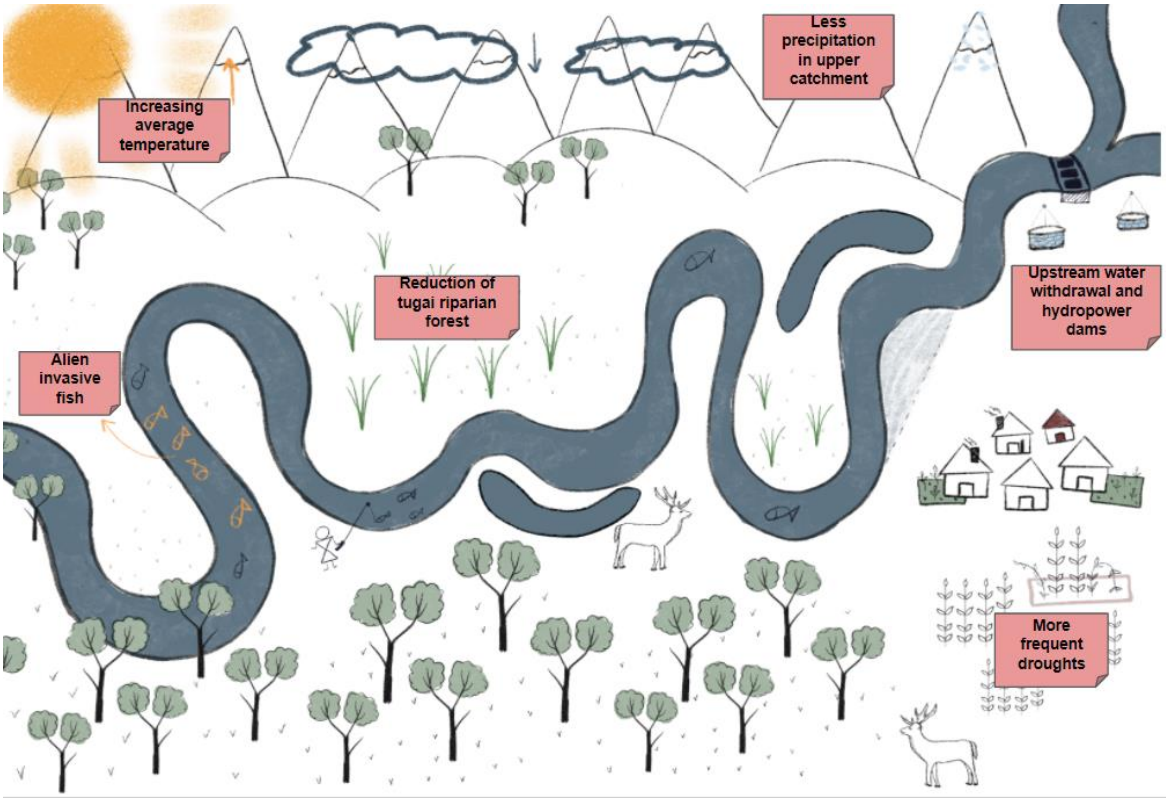


Figure S1. Ecological Drawing of the Potential Impacts of a Specific Climate Scenario (adapted with permission from ref. [25]). An ecological drawing is a visual representation of the project area, including focal ecosystems and species and the human communities that depend on them. Developing an ecological drawing can help clarify the project's conservation targets, ecosystem services, and scope. The team can then use the drawing to visualize how the conservation targets and human communities that depend on them may be affected by climate change. This ecological drawing visually portrays the information included in Table S1 for the "Tinderbox" climate scenario (see Box 2).

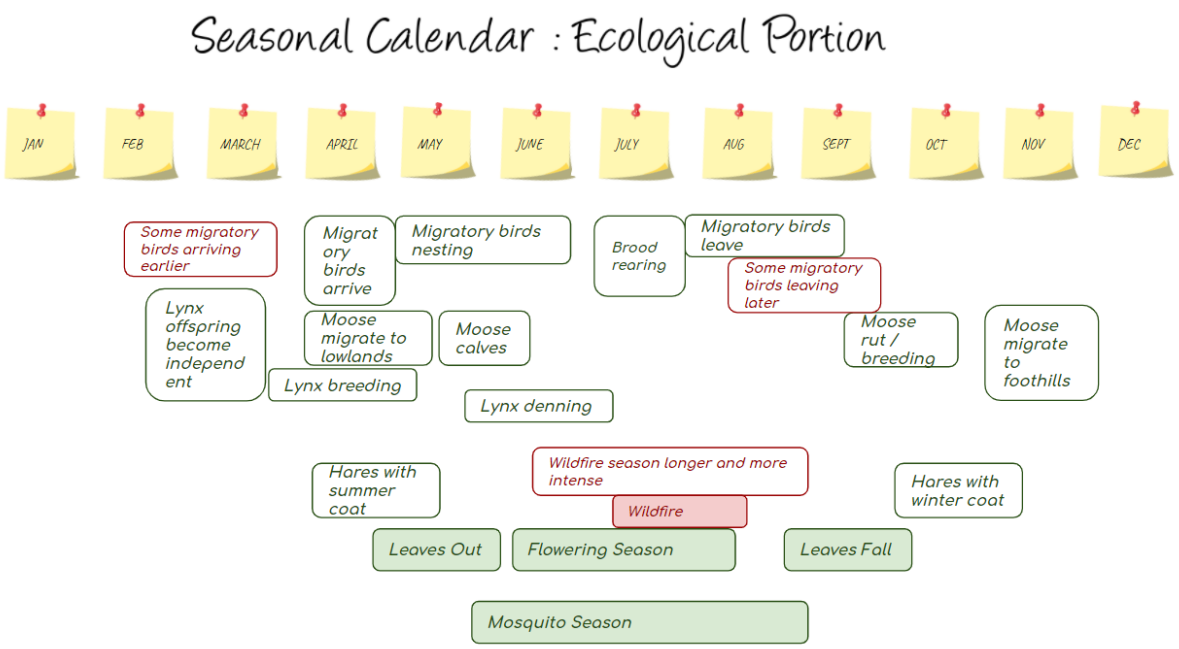
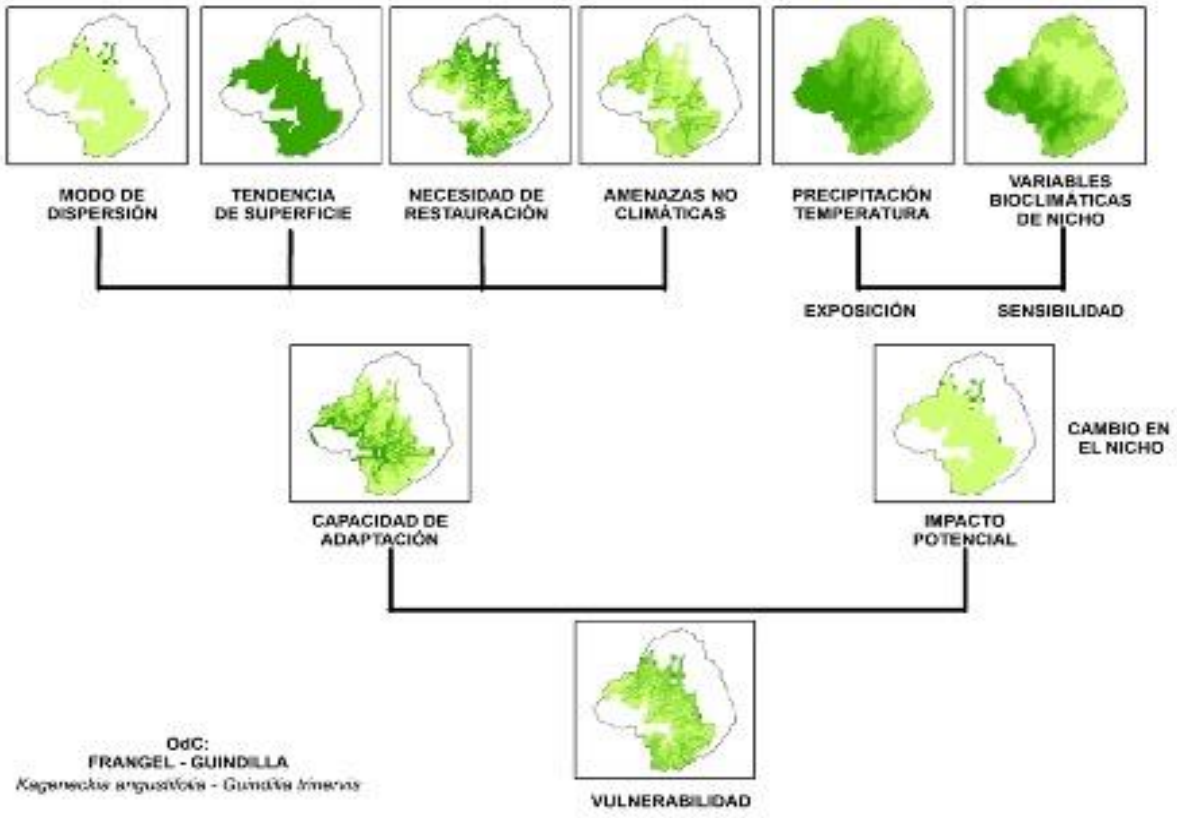
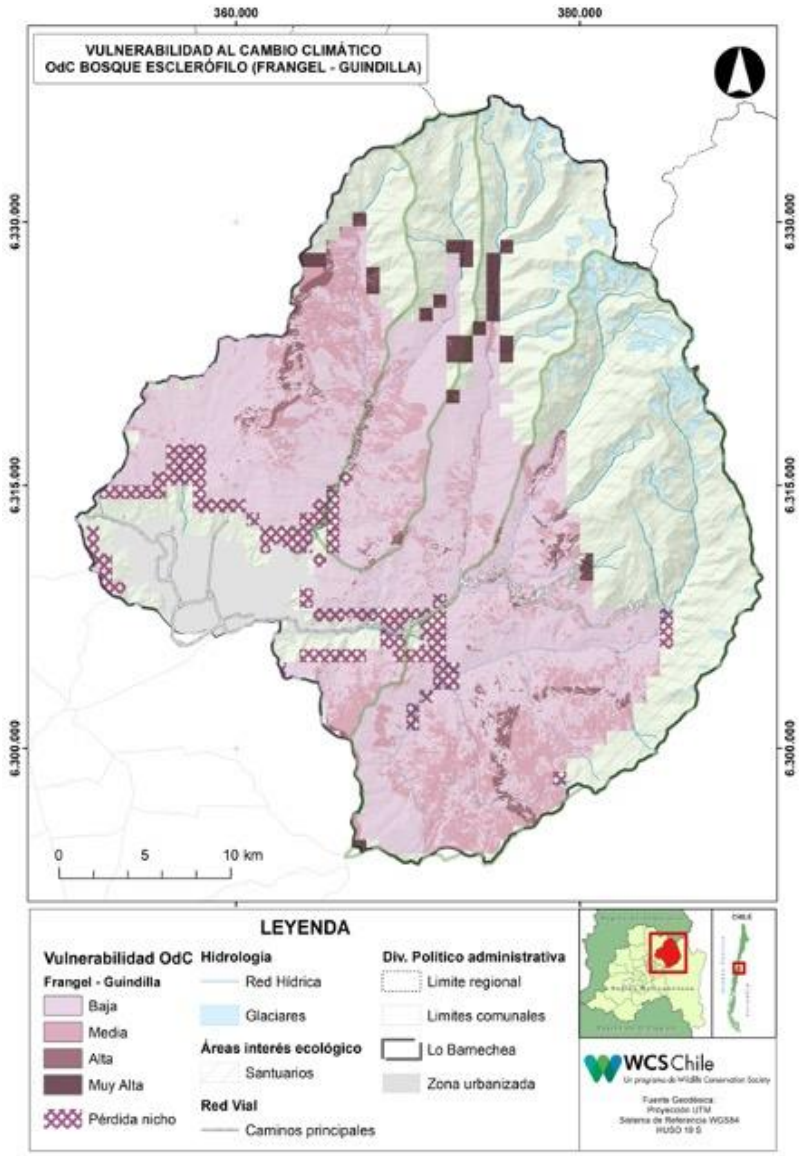


Figure S2. Ecological Portion of a Seasonal Calendar, with Observed Changes In Climate. To help gather information about the importance of climate conditions to conservation targets, a local seasonal calendar can be developed with stakeholders. A seasonal calendar is a simple tool used to understand the annual climate cycle in the project area and how climate influences ecosystems and species (e.g., the timing of flowering or fruiting of vegetation, migration, species reproduction, etc.) and natural resource management activities (e.g., harvesting, hunting, etc.). It can help teams identify critical times when climate change may have a significant effect on ecosystems, species and natural resource management. It can also identify when certain human pressures on species or ecosystems may coincide with times of climatic stress.


MODO DE DISPERSIÓN
TENDENCIA DE SUPERFICIE
NECESIDAD DE RESTAURACIÓN
AMENAZAS NO CLIMÁTICAS
PRECIPITACIÓN TEMPERATURA
VARIABLES BIOCLIMÁTICAS DE NICHO
EXPOSICIÓN
SENSIBILIDAD
CAMBIO EN EL NICHO
CAPACIDAD DE ADAPTACIÓN
IMPACTO POTENCIAL
VULNERABILIDAD
OdC:
FRANGEL - GUINDILLA

a)



b)

Figure S3. Example of a quantitative and spatially-explicit climate change vulnerability analysis used to support climate-smart conservation planning in the Río Mapocho Alto watershed in Chile. a) Diagram illustrating the climate change vulnerability analysis methodology for ecosystems, in which data layers representing exposure (temperature and precipitation) and sensitivity (bioclimate niche modeling) are combined with adaptive capacity factors (mode of dispersal, need for restoration, and non-climate threats) to calculate a vulnerability score for each pixel within the planning area. b) Climate Change vulnerability analysis results for the Frangel-Guindilla Sclerophyllous Forest conservation target in the Río Mapocho Alto watershed in Chile. Darker purple colors represent higher vulnerability, and purple hatching indicates areas where the current climate is suitable for the species, but future climate conditions are not suitable (a loss of suitable climate niche space). Figures reproduced from [27].

Table S1. Potential Ecological and Socioeconomic Impacts of a Specific Climate Scenario (adapted with permission from ref. [25]). After defining climate scenarios such as this one, the "Tinderbox" scenario (see Box 2), which is characterized by longer, more extreme heat events in summer and lower precipitation in winter, it is helpful for the planning team to describe the projected impacts of each climate scenario on flipchart paper, developing a table like this one for each scenario. Because there is rarely published research on the impacts of specific climate scenarios, the planning team will need to discuss and summarize qualitative information about possible impacts, based on local experiences to date and the group's best guess about how each scenario could affect ecosystems and communities and how people may respond to these changes.

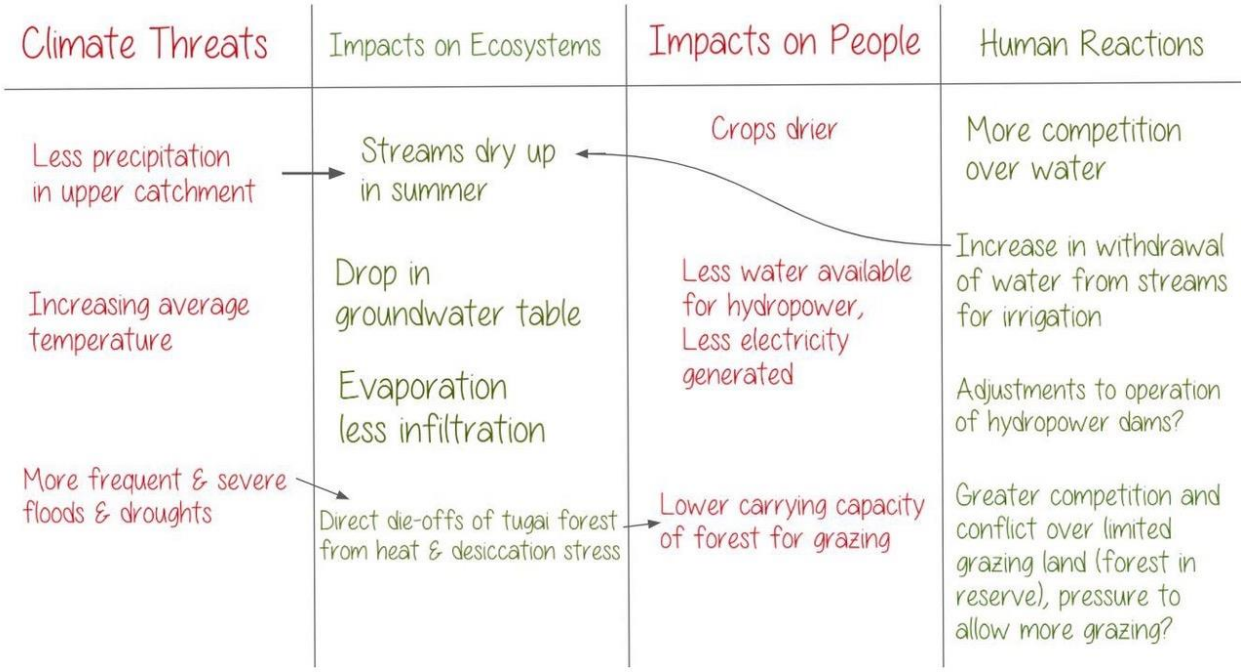


Table S2. Time Frame and Criteria for Rating Conventional and Climate Threats *[25]*

Timeframe & Criteria for Rating Threats	Conventional Threats	Climate Threats
Time frame for threat rating	**10 years**	**2 time frames: 10 years and 30+ years**
Scope - The proportion of the target that can reasonably be expected to be affected by the threat within **ten years,** given the continuation of current circumstances and trends. For ecosystems and ecological communities, measured as the proportion of the target's occurrence. For species, measured as the proportion of the target's population.	**X**	**X**
Severity - Within the scope, the level of damage to the target from the threat that can reasonably be expected given the continuation of current circumstances and trends. For ecosystems and ecological communities, typically measured as the degree of destruction or degradation of the target within the scope. For species, usually measured as the degree of reduction of the target population within the scope.	**X**	**X**
Irreversibility - The degree to which the effects of a threat can be reversed and the target affected by the threat restored.	**X**	
Management Challenge - The challenge that conservation targets face in adapting to the effects of a climate threat, based on the extent to which strategies exist that could help the conservation targets to adapt and the financial and technical feasibility of implementing them.		**X**

Table S3. Criteria for Rating Conventional Threats. The Conservation Standards *[11]* recommend rating the direct threats that affect conservation targets, so that the conservation team can concentrate its actions where they will have the greatest impact. After identifying each of the conventional threats affecting each conservation target, the planning team then rates each threat-target combination according to its scope, severity and irreversibility, using the definitions included here.

Criteria	Definitions
Scope - The proportion of the target that can reasonably be expected to be affected by the threat within **ten years,** given the continuation of current circumstances and trends. For ecosystems and ecological communities, measured as the proportion of the target's occurrence. For species, measured as the proportion of the target's population.	**Low** - The threat is likely to be **very narrow** in its scope, affecting the target across a small proportion **(1-10%)** of its occurrence/population.
	Medium - The threat is likely to be **restricted** in its scope, affecting the target across some **(11-30%)** of its occurrence/population.
	High - The threat is likely to be **widespread** in its scope, affecting the target across much **(31-70%)** of its occurrence/population.
	Very High - The threat is likely to be **pervasive** in its scope, affecting the target across all or most **(71-100%)** of its occurrence/population.
Severity - Within the scope, the level of damage to the target from the threat that can reasonably be expected given the continuation of current circumstances and trends. For ecosystems and ecological communities, typically measured as the degree of destruction or degradation of the target within the scope. For species, usually measured as the degree of reduction of the target population within the scope.	**Low** - Within the scope, the threat is likely to only **slightly degrade/reduce** the target or reduce its population by **1-10%** within ten years or three generations.
	Medium - Within the scope, the threat is likely to **moderately degrade/reduce** the target or reduce its population by **11-30%** within ten years or three generations.
	High - Within the scope, the threat is likely to **seriously degrade/reduce** the target or reduce its population by **31-70%** within ten years or three generations
	Very High - Within the scope, the threat is likely to **destroy or eliminate** the target, or reduce its population by **71-100%** within ten years or three generations.
Irreversibility (for Conventional Threats) - The degree to which the effects of a threat can be reversed and the target affected by the threat restored.	**Low** - The effects of the threat **are easily reversible** and the target can be **easily** restored at a relatively **low cost and/or within 0-5 years** (e.g., off-road vehicles trespassing in wetland).
	Medium - The effects of the threat **can be reversed** and the target restored with a **reasonable commitment** of resources and/or within **6-20 years** (e.g., ditching and draining of wetland).
	High - The effects of the threat **can technically be reversed** and the target restored, but it is **not practically affordable** and/or it would take **21-100**

	years to achieve this (e.g., wetland converted to agriculture).
	Very High - The effects of the threat **cannot be reversed,** and it is **very unlikely** the target can be restored, and/or it would take **more than 100 years** to achieve this (e.g., wetlands converted to a shopping center).

Table S4. Criteria for Rating Climate Threats. When rating climate threats, the planning team should rate each threat-target combination according to these three criteria: scope, severity and management challenge. For each criterion, definitions are shown here for low, medium, high and very high [25].

Criteria	Definitions
Scope - The proportion of the target that can reasonably be expected to be affected by the threat within **ten years,** given the continuation of current circumstances and trends. For ecosystems and ecological communities, measured as the proportion of the target's occurrence. For species, measured as the proportion of the target's population.	**Low** - The threat is likely to be **very narrow** in its scope, affecting the target across a small proportion **(1-10%)** of its occurrence/population.
	Medium - The threat is likely to be **restricted** in its scope, affecting the target across some **(11-30%)** of its occurrence/population.
	High - The threat is likely to be **widespread** in its scope, affecting the target across much **(31-70%)** of its occurrence/population.
	Very High - The threat is likely to be **pervasive** in its scope, affecting the target across all or most **(71-100%)** of its occurrence/population.
Severity - Within the scope, the level of damage to the target from the threat that can reasonably be expected given the continuation of current circumstances and trends. For ecosystems and ecological communities, typically measured as the degree of destruction or degradation of the target within the scope. For species, usually measured as the degree of reduction of the target population within the scope.	**Low** - Within the scope, the threat is likely to only **slightly degrade/reduce** the target or reduce its population by **1-10%** within ten years or three generations.
	Medium - Within the scope, the threat is likely to **moderately degrade/reduce** the target or reduce its population by **11-30%** within ten years or three generations.
	High - Within the scope, the threat is likely to **seriously degrade/reduce** the target or reduce its population by **31-70%** within ten years or three generations
	Very High - Within the scope, the threat is likely to **destroy or eliminate** the target or reduce its population by **71-100%** within ten years or three generations.
NEW Criterion: Management Challenge (for Climate Threats) - The challenge that conservation targets face in adapting to the effects of a climate threat.	**Low** - It is likely that there are adaptation strategies that could help the conservation targets to effectively adapt to the climate threat within a given time frame (near-term, long-term) **AND** this would take a relatively small investment of resources.
	Medium - There is some possibility the effects of the climate threat can be addressed (near-term or long-term) **AND** addressing them would

	be feasible with a moderate commitment of resources.
	High - There is some possibility for the conservation targets to adapt to the effects of the climate threat (near-term or long-term) **BUT** adaptation strategies have **low feasibility**, because they require a moderate to high amount of resources, require actions by multiple partners, are politically challenging, or are technically challenging.
	Very High - It is very unlikely there are adaptation strategies that could help conservation targets to adapt to the climate threat within the scope and time frame (near-term or long-term) **OR** adaptation strategies have **very low feasibility**, because they require a significant amount of resources (beyond what is currently available), require actions by multiple partners, are politically challenging, or are technically challenging.