



FIELDS FOR THE FUTURE

A practical climate adaptation toolkit
for community soccer in the USA

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FOREWORD



Soccer doesn't just live in stadiums. It lives in our streets and parks, beaches and backyards - the everyday spaces where people come together to play, connect and belong.

But when extreme heat, flooding or poor air quality cancels a game, it's not just the 90 minutes that's lost. It's time with teammates. It's the weekly routine. It's the release - the moment players or young people can get out of their heads and into the game.

For millions across the world, soccer is more than a sport. It's a lifeline. And it depends on the places we play.

Those places are now under pressure. And when they're at risk, so are the relationships, routines and communities built around them.

This toolkit is for the coaches, volunteers and organizations on the frontlines - the ones already adapting, often without the support they need. Because every player, at every level, starts here.

Together, we can protect and strengthen the spaces that make the game possible - supporting healthier fields, stronger communities and a future where soccer continues to thrive.

Let's defend where soccer lives.



Earth FC

Football holds up a mirror to society, and it is encouraging to see the game beginning to respond to a changing climate. As extreme weather events intensify, climate adaptation is essential, not only to protect football and the communities around it, but to position the game as a leader, inspiring other sectors to respond with proportionate climate action.

**FOOTBALL ★
FOR FUTURE**

Elliot Arthur-Worsop
Founder, Football For Future.

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Why community soccer needs safe, reliable fields

At every level of soccer, the game relies on safe places to play.

That place might be a community pitch run by volunteers, a school field looked after by a district team, a park maintained by a local authority, or a space cared for by a grassroots organization. Whoever you are, if you're responsible for keeping a pitch open, safe, and playable, this toolkit is for you.

What is climate adaptation?

Across the game, people are noticing that weather is becoming less predictable. Hotter days, heavier rainfall, stronger storms, and poorer air quality can all affect when and how fields are used. These changes create practical challenges for day-to-day operations and raise important questions about player welfare, safeguarding, and long-term maintenance.

Climate adaptation is about anticipating these changes and adjusting how fields and matches are managed so soccer can continue to be played safely, fairly, and reliably, even as conditions change.

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Why climate adaptation matters to community soccer in the USA

Community soccer in the United States is deeply local and highly varied. Many fields are multi-use, volunteer-led, or operating with limited budgets and ageing infrastructure. When extreme heat, flooding, wildfire smoke, or severe storms disrupt play, the impacts are felt immediately by players, coaches, officials, families, and communities.

Adapting to climate risks is not just about protecting facilities. It is about safeguarding people, ensuring access to sport, and keeping community spaces open and welcoming for everyone.

What is the purpose of this toolkit?

This toolkit is designed to help you plan for those challenges with confidence. It translates climate science into soccer language, offering clear, practical guidance to support better decisions at pitch level.

The focus is on adapting existing community fields and their surrounding infrastructure, such as playing surfaces, drainage, changing rooms, stands, and access routes, so they continue to serve their communities safely and reliably.

Who is this toolkit for?

This toolkit is a practical resource for anybody who is responsible or interested in keeping community soccer spaces safe, playable and resilient. It is intended for the places that already exist and are in regular use today. However, the ideas and approaches included here are relevant at any stage of the adaptation and resilience journey, whether you are just starting to notice emerging issues, responding to specific problems, or planning gradual improvements over time.

You do not need all the answers, a big budget, or a long-term strategy to get started. Small, well-timed actions can make a real difference. This toolkit is here to support you in protecting your pitch, supporting the people who use it, and keeping the game going.

The guidance provided herein is practical, but general. For specific questions and concerns, please consult your local authority





WHY SOCCER MUST ADAPT

- 14 of 16 World Cup 2026 stadiums exceed safe-play thresholds for at least three major climate hazards — including extreme heat, unplayable rainfall, and flooding.
- Two-thirds of grassroots fields analyzed in Pitches in Peril will face unsafe or unplayable heat conditions by 2050.
- Every grassroots pitch analyzed in the report already breaches at least three major climate risk thresholds, with conditions worsening by 2050 — from rising temperatures to deeper flood risks.
- Climate change doesn't impact everyone equally. Grassroots sites in the Global South are hit hardest. Averaging 7x more unplayable heat days than Global North sites, they often lack the resources required for adaptation.



FACT

In 2020, the LifeTACKLE project surveyed European soccer fans and learned more than 90% agree or strongly agree with the importance of (1) protecting the environment and natural resources, (2) preventing pollution, (3) respecting the Earth and living in harmony with other species and (4) fighting climate change.

“
CHANGES TO THE
ENVIRONMENT ARE
STARTING TO IMPACT
THE RIGHTS OF
EVERYONE TO HAVE
EQUAL AND INCLUSIVE
ACCESS TO SPORT,
WITH REDUCTIONS
IN AVAILABLE
PLAYING TIMES AND
INFRASTRUCTURES
DIRECTLY AFFECTING
ALL WHO WISH TO
PARTICIPATE.”

FIFA Climate Strategy, 2021

FACT

During exercise, we take in 10-20x more air than when at rest. Most of that air volume comes through the mouth, bypassing the natural filtration systems of the nose meaning molecules of pollution can more easily reach the lungs. (Orr, 2024)



HOW THIS TOOLKIT WORKS



This toolkit will help community soccer organizations understand climate risks and take practical action. You can work through it from start to finish or dip into the sections that are most relevant to your pitch and situation.

The approach aligns with the [U.S. Climate Resilience Toolkit](#) “Steps to Resilience”, adapting it specifically for community soccer and pitch-level decision-making.



A: Understand how climate impacts community soccer

Build an understanding of the climate hazards that could affect soccer where you operate.



B: Identify your local climate hazards

Understand how climate hazards translate into real risks for your specific place of play.



C: Assess vulnerability and take action

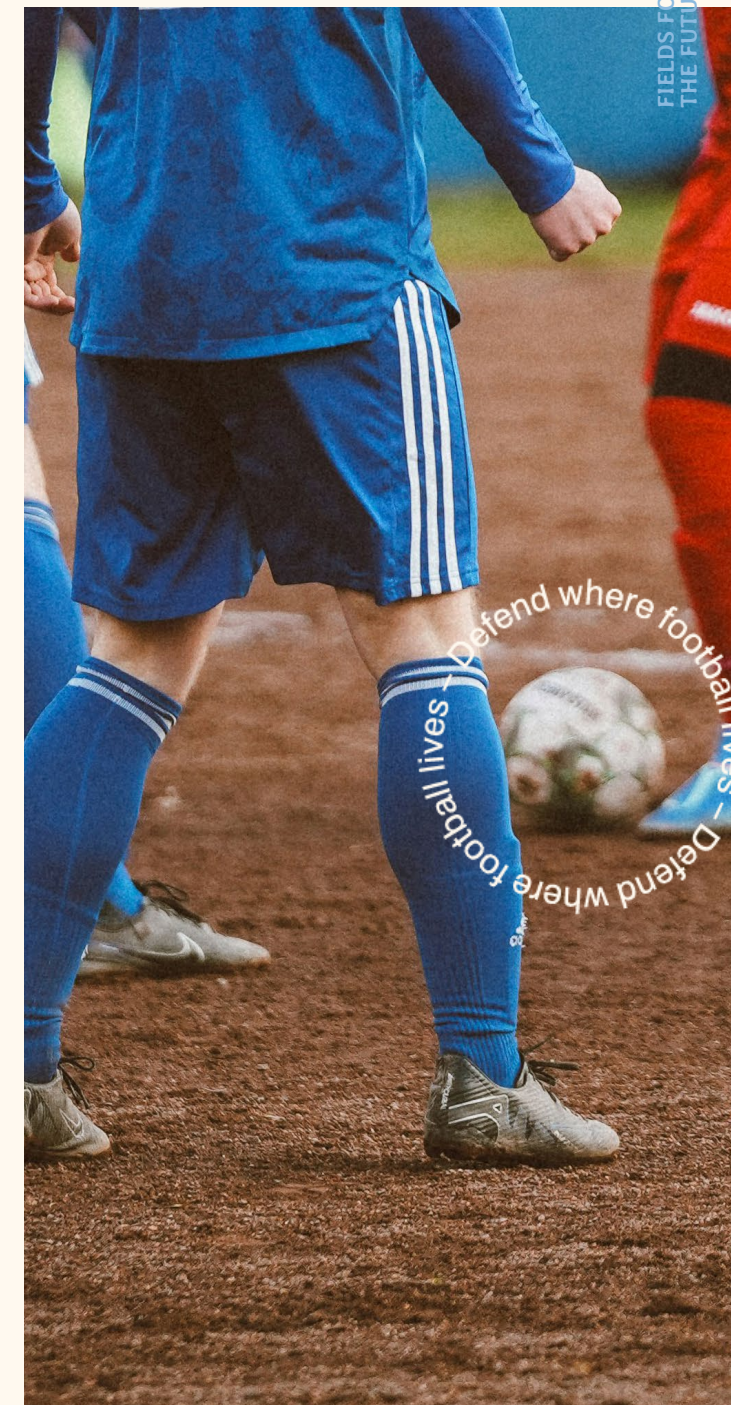
Identify risks, prioritize actions and engage communities to protect your game.

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“ATTACK WINS YOU GAMES, DEFENCE WINS YOU TITLES”

Sir Alex Ferguson



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In the climate crisis, ambition on cutting emissions is essential — but without defensive play through adaptation and resilience, soccer will still lose.

Preparing fields, protecting players, and strengthening community facilities against extreme heat, flooding, and storms is how sport stays in the game.





UNDERSTAND HOW CLIMATE IMPACTS COMMUNITY SOCCER



Build an understanding of climate hazards and how they can affect community soccer.

What this section covers:

A1: Climate hazards to community soccer in USA

A2. What we're protecting

Why it matters:

You don't need to be a climate expert, but understanding how extreme conditions may impact community soccer is the foundation for every good decision that follows.





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A1: CLIMATE HAZARDS TO COMMUNITY SOCCER IN USA

Climate hazards are events or conditions that may cause injury, illness, or death to people or damage to communities. We have identified the six key hazards most relevant to community soccer, based on the U.S. Climate Resilient Toolkit's climate hazard definitions.



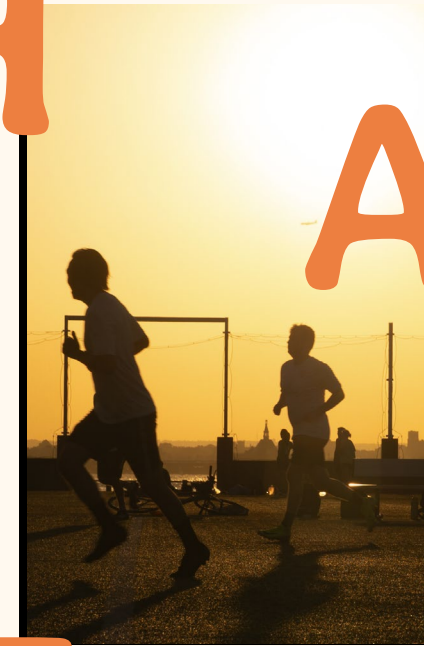
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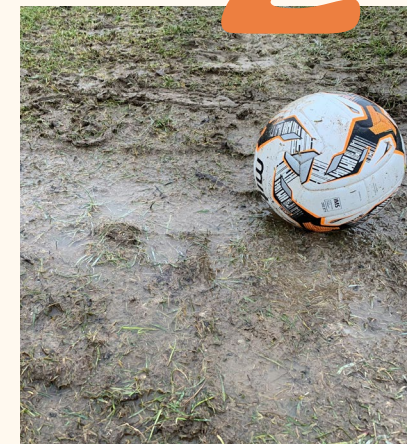
Extreme heat

Description: A period of abnormally and uncomfortably hot and unusually humid weather, typically lasting two or more days with temperatures above the historical averages for a given area.

Impact: Heat hazards impact participants, management of facilities, and organizations through heat illness, cancelled/shortened/rescheduled practices, reduced participation and attendance, and damage to playing surfaces.



Z

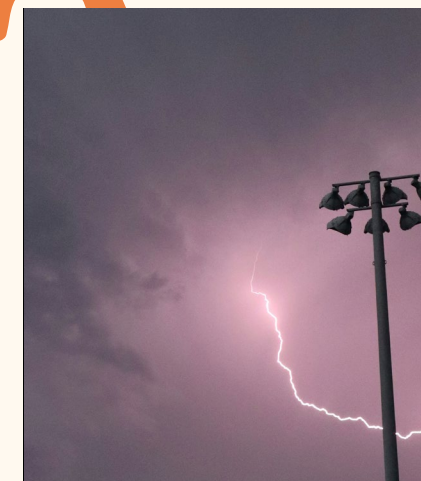


Flooding

Description: Flooding can be general, rainfall induced, or coastal. It is caused by sea-level rise and/or abnormally heavy rain and can be identified by water inundating or covering normally dry land.

Impact: Flooding can lead to waterlogged fields, damaged grass, increased injury risk and disrupted schedules.

A



High winds

Description: Damaging winds, often originating from thunderstorms or associated with hurricanes, tropical storms, and tornadoes.

Impact: High winds have the potential to cause structural damage to facilities, physical injury through debris and connected issues such as electricity blackouts and blocked access roads.

R

D

S





Drought

Description: A drought is a deficiency of precipitation over an extended period of time resulting in a water shortage.

Impact: Natural grass becomes hard and dry, limits on water usage and cancellations.



Air quality

Description: Air quality reflects the abundance of pollution present in air. Pollution is a mix of hazardous substances from both human-made and natural sources. Air quality can also be impacted by wildfires which are unplanned fires burning in natural or wildland areas such as forests, shrub lands, grasslands, or prairies.

Impact: Poor air quality can have long-term health impacts, especially on vulnerable people.



Extreme cold

Description: A cold wave is a rapid fall in temperature within 24 hours and extreme low temperatures for an extended period. Extreme cold is sometimes accompanied by winter storm events in which the main types of precipitation are snow, sleet, or freezing rain.

Impact: Playing surfaces can freeze over or become unplayable due to snow coverage. Risk of hypothermia and frostbite to participants and spectators.

For more information and an extended list of hazards visit: <https://toolkit.climate.gov/hazard>

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Where
Football
Lives

PROTECT THE

GAME

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THE FOUR COMMUNITY SOCCER ASSETS:



AT THE HEART OF
COMMUNITY SOCCER,
THESE ASSETS ARE
DEEPLY HUMAN.
THEY REPRESENT
PARTICIPATION,
SAFETY, BELONGING,
AND ACCESS TO THE
GAME

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AZ: WHAT WE'RE PROTECTING

In climate resilience planning, the U.S. Climate Resilience Toolkit uses the term “community assets” to describe the people, places, and resources that matter most to a community and need to be protected from risk.

In this toolkit, we use the term Community Soccer Assets to reflect what sustains grassroots soccer. This does not mean treating people as objects or infrastructure. Instead, it helps us clearly identify what climate risks affect, who is impacted, and where adaptation efforts should be focused.

For the purposes of this toolkit, we group community soccer into four interconnected assets.



1

Players

This includes: Youth and adult players across all levels and abilities, recreational, competitive, and informal



2

Coaches & staff

This includes: Coaches and assistant coaches, referees and officials, grounds staff, volunteers, organizers, and administrators



3

Spectators & the wider community

This includes: Spectators, parents, caregivers, and supporters, local residents and community groups, schools, clubs, and partner organizations using the space



4

Fields & facilities

This includes: Playing surfaces (grass, turf, hybrid), drainage and irrigation systems, changing rooms, clubhouses, stands, and storage, access routes, parking, and surrounding spaces

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SECTION B



IDENTIFY YOUR LOCAL CLIMATE HAZARDS



Understand how climate hazards translate into real risks for your specific place of play.

What this section covers:

B1: Climate hazards questionnaire

B2: Future climate risk

Why it matters:

Climate hazards vary by location, and the same storm or heatwave can affect two fields very differently. This step helps you focus on the hazards that matter most to you.





B1

CLIMATE HAZARDS QUESTIONNAIRE

Before we get to a risk assessment, it is important that you understand which hazards are most relevant to your club or facility.



Ask yourself:

How many times last season were matches or practice rescheduled / disrupted / cancelled due to bad weather?

Are extreme conditions becoming more frequent / intense / unpredictable?

You don't necessarily need data - patterns and experience are enough to identify your most relevant hazards.

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Extreme heat



Have practice sessions or matches felt uncomfortably hot?

Have practice sessions ever been shortened or cancelled because of the heat?

Have individuals suffered from heatstroke or other heat-related illness?

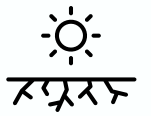
Flooding



Has the playing surface become waterlogged or unplayable after rain?

Have your facilities been damaged due to floodwater?

Drought



Have playing surfaces become hard or dry during parts of the season?

Have you experienced restrictions on water usage?

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HOW OFTEN DO THESE THINGS HAPPEN?

Air quality



Have you experienced smoky, hazy, or polluted air during play?

Have there been nearby wildfires?

High winds



Have storms caused damage or debris?

Have matches been cancelled or postponed due to wind?

Extreme cold



Has the playing surface become solid or uneven due to freezing?

Have individuals suffered from cold-related conditions such as hypothermia, breathing issues or frostbite?





B2

Defend where football lives – FUTURE CLIMATE RISK – Defend where football lives

Climate change is making extreme weather events more frequent and more intense. For community soccer, understanding what this means goes beyond looking at what has happened in the past. It also means recognising how climate conditions are likely to change in the years ahead - and how those changes could affect when, where, and how soccer is played.

We can't predict the future with certainty. But by combining past experiences with climate data and projections, we can build a clearer picture of the risks that may emerge over time. This helps clubs, schools, and community organizations move towards planning ahead and building climate resilience.



Using climate projections at a local level

The **Climate Explorer** is an online tool that provides accessible information on how climate conditions are projected to change across the United States.

Through interactive maps and graphs, it allows users to:

- View historical climate trends
- Explore future projections for temperature, rainfall, heat, and extreme weather
- Access data at the county level, making it relevant for local decision-making

This makes it easier to understand how climate trends may play out in your own community.

Why this matters for community soccer

Built to support the U.S. Climate Resilience Toolkit, the Climate Explorer helps identify future conditions that could place people, fields, facilities, and surrounding infrastructure at risk.

For community soccer, this information can support:

- Better planning for heat, flooding, or poor air quality
- More informed decisions about maintenance & upgrades
- Stronger safeguarding and welfare protocols
- Long-term thinking about pitch resilience and access

Using climate projections doesn't require technical expertise. It's simply another tool to help you anticipate challenges, prioritise actions, and keep soccer safe and playable as conditions change.





ASSESS VULNERABILITY AND TAKE ACTION



Identify risks, prioritize actions and engage communities to protect your game.

What this section covers:

- C1: Introduction to vulnerability and action
- For each community soccer climate hazard:
 - C2: Vulnerability assessment
 - C3: Tiered adaptation actions
 - C4: Engaging your community
 - C5: Funding your adaptation projects

Why it matters:

Most community organizations can't fix everything at once. This step helps you prioritise actions that deliver the biggest benefit with the resources you have.



SECTION C

FIELDS FOR THE FUTURE





C1

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GUIDE TO VULNERABILITY AND ADAPTATION ACTIONS

This section helps you understand how vulnerable your pitch or club is to different climate hazards, and what practical actions to prioritise as a result. You do not need to assess every hazard or every asset. Focus only on the hazards that are relevant to your location and the impacts most relevant to your club or community.

STEP 1 STEP 2 STEP 3

Assess your vulnerability

Use the vulnerability assessment pages to consider how each relevant climate hazard may impact your community soccer assets.

Sensitivity:

How badly would this asset be affected if the hazard occurred?

Adaptive capacity:

How well can the club cope or adapt with what it already has?

Vulnerability:

Based on the above, how exposed is this asset overall? (High sensitivity + low adaptive capacity = high vulnerability)

Focus on what matters most

Once you have rated vulnerability:

- Focus first on high-vulnerability hazards and assets
 - Do not try to address everything at once
 - Accept that different assets may have different levels of risk
- This step helps you prioritise action, especially if time, budget, or capacity is limited.

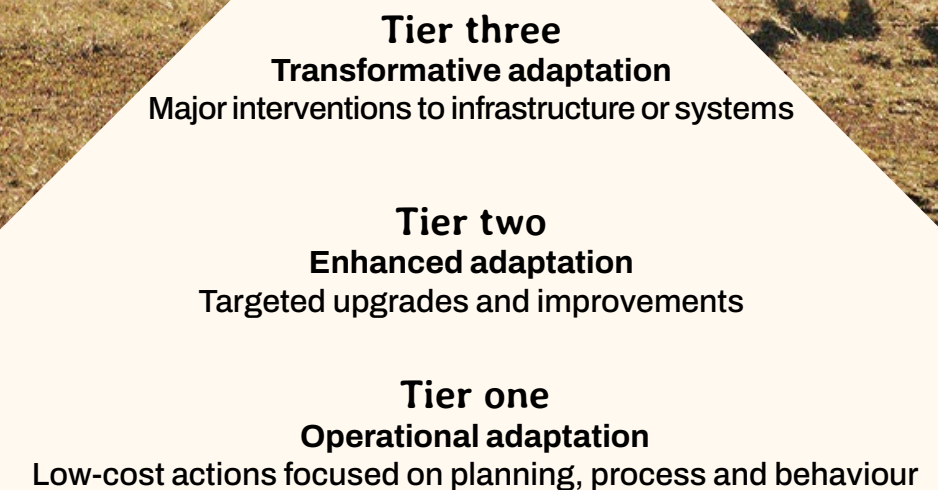
Identify practical adaptations

For each high-priority hazard, this toolkit provides practical adaptation options, organised by:

- Type of hazard
 - Assets affected (people or infrastructure)
 - Level of change required (see pyramid)
- Start with actions that:
- Reduce immediate safety risks
 - Fit your current capacity and resources
 - Can be implemented quickly or at low cost

Over time, you may choose to move toward more ambitious adaptations as conditions, funding, or partnerships allow.

ADAPTATION ACTIONS PYRAMID

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C2

VULNERABILITY ASSESSMENT



EXTREME HEAT

Sensitivity

How badly would this asset be affected if the hazard occurred?

Adaptive capacity

How well can the club cope or adapt with what it already has?

Vulnerability

Based on the above, how exposed is this asset overall?
(High sensitivity + low adaptive capacity = high vulnerability)

Rate the sensitivity, adaptive capacity, vulnerability on a scale (low, medium, high).

ASSETS / PEOPLE IMPACTED

POTENTIAL IMPACTS

SENSITIVITY

ADAPTIVE CAPACITY

VULNERABILITY

PLAYERS

Heat-related illness; dehydration; performance reduction; lost playing time



COACHES AND STAFF

Heat-related illness; need to manage pr; safeguarding responsibility



SPECTATORS AND COMMUNITY

Heat-related illness; discomfort; reduced attendance



PITCH AND FACILITIES

Grass stress; facilities overheating; damage from heat exposure



Adapted from the Assessing Vulnerability and Risk page here: <https://toolkit.climate.gov/assess-vulnerability-and-risk>



C3: ADAPTATION ACTIONS

EXTREME HEAT

Tier one

Operational adaptation

People:

- Introduce heat protocols in line with [US Soccer guidance](#)
- Adjust kick-off times and move practice to morning or evening
- Mandatory water breaks and provide temporary shade structures
- Run heat awareness campaigns
- Utilize shaded areas when people are gathering

Infrastructure:

- Make use of air conditioning and portable cooling equipment such as shelters, fans and misters



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ADAPTATION

Tier two

Enhanced Adaptation

People:

- Introduce permanent shading structures
 - Plant trees near fields to provide shade and capture carbon dioxide
- #### Infrastructure:
- Install or upgrade pitch irrigation systems
 - Install heat monitoring systems, such as a Wet Bulb Globe Temperature monitor
 - Install floodlights to enable play outside of peak heat

Tier three

Transformative adaptation

People:

- Embed heat thresholds into safeguarding, scheduling, and competition rules
- Plan seasonal calendars to reduce exposure to peak heat periods

Infrastructure:

- Significant facility redesign including roofing, ventilation and cooling systems
- Large scale green infrastructure development
- Club relocation to cooler and safer locations
- Invest in heat-resistant playing surfaces

ACTIONS

IMPORTANT: Get expert advice and guidance when implementing tier two and three adaptations.





C2

VULNERABILITY ASSESSMENT



FLOODING

Sensitivity

How badly would this asset be affected if the hazard occurred?

Adaptive capacity

How well can the club cope or adapt with what it already has?

Vulnerability

Based on the above, how exposed is this asset overall?
(High sensitivity + low adaptive capacity = high vulnerability)



Rate the sensitivity, adaptive capacity, vulnerability on a scale (low, medium, high).

ASSETS / PEOPLE IMPACTED

POTENTIAL IMPACTS

SENSITIVITY

ADAPTIVE CAPACITY

VULNERABILITY

PLAYERS

Waterlogged playing surfaces; risk of injury; lost playing time



COACHES AND STAFF

Disrupted schedules; pitch management and repair



SPECTATORS AND COMMUNITY

Access difficulties; safety issues; reduced attendance



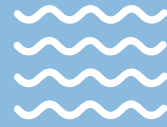
PITCH AND FACILITIES

Waterlogged fields; flood damage to facilities and equipment



Adapted from the Assessing Vulnerability and Risk page here: <https://toolkit.climate.gov/assess-vulnerability-and-risk>





C3: ADAPTATION ACTIONS

FLOODING

Tier one

Operational adaptation

People:

- Monitor forecasts and flood maps
- Create a flood hazard mitigation plan

Infrastructure:

- Clear drains, ditches, and gullies prior to potential flooding events
- Lay sandbags at entryways of buildings, leave internal doors open, and switch off electricity and gas supplies during flooding



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Tier two

Enhanced Adaptation

People:

- Work with local authorities or environmental groups to protect surrounding green spaces and buffer zones

Infrastructure:

- Install flood-risk monitoring systems
- Prepare alternative access routes or transport arrangements
- Equipment storage that is watertight and/or can be easily relocated
- Improve drainage systems for pitch and surrounding areas
- Mitigate flooding through green infrastructure

Tier three

Transformative adaptation

People:

- Adopt long-term flood management and mitigation plans in line with local laws

Infrastructure:

- Install upgraded drainage systems and use sand topdressing
- Upgrade grass in line with FIFA guidance
- Significant infrastructure redevelopments including elevation and flood defences
- Consider relocation if flooding is persistent and of increasing risk

IMPORTANT: Get expert advice and guidance when implementing tier two and three adaptations.





C2

VULNERABILITY ASSESSMENT



HIGH WINDS

Sensitivity

How badly would this asset be affected if the hazard occurred?

Adaptive capacity

How well can the club cope or adapt with what it already has?

Vulnerability

Based on the above, how exposed is this asset overall?
(High sensitivity + low adaptive capacity = high vulnerability)

Rate the sensitivity, adaptive capacity, vulnerability on a scale (low, medium, high).

ASSETS / PEOPLE IMPACTED

POTENTIAL IMPACTS

SENSITIVITY

ADAPTIVE CAPACITY

VULNERABILITY

PLAYERS

Difficult playing conditions; risk from debris



COACHES AND STAFF

Need to manage practice; hazard management; risk from debris



SPECTATORS AND COMMUNITY

Safety issues; risk from debris; disrupted travel



PITCH AND FACILITIES

Storm damage to facilities; fallen trees damage



Adapted from the Assessing Vulnerability and Risk page here: <https://toolkit.climate.gov/assess-vulnerability-and-risk>



C3: ADAPTATION ACTIONS

HIGH WINDS

Tier one

Operational adaptation

People:

- Establish clear stop-play and evacuation protocols, as per US Soccer guidance
- Communicate weather delays and cancellations clearly to participants and spectators

Infrastructure:

- Secure loose equipment, goals, and temporary structures
- Regularly inspect fencing, roofs, and signage



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ADAPTATION

ACTIONS

FIELDS FOR
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Tier two

Enhanced Adaptation

People:

- Work with arborists or local authorities to manage trees safely
- Train staff and volunteers to identify storm-related damage
- Install monitoring systems for high-wind events
- Embed high wind scenarios into emergency and safeguarding plans

Infrastructure:

- Plant trees or hedgerows to create “wooded buffer strips” to slow high winds
- Reinforce stands, shelters, and changing rooms to withstand high winds

Tier three

Transformative adaptation

People:

- Plan seasonal use of fields to avoid peak storm periods

Infrastructure:

- Redevelopment of vulnerable infrastructure
- Redesign of structures and landscape to reduce wind exposure

IMPORTANT: Get expert advice and guidance when implementing tier two and three adaptations.





C2

VULNERABILITY ASSESSMENT



DROUGHT

Sensitivity

How badly would this asset be affected if the hazard occurred?

Adaptive capacity

How well can the club cope or adapt with what it already has?

Vulnerability

Based on the above, how exposed is this asset overall?
(High sensitivity + low adaptive capacity = high vulnerability)



Rate the sensitivity, adaptive capacity, vulnerability on a scale (low, medium, high).

ASSETS / PEOPLE IMPACTED

POTENTIAL IMPACTS

SENSITIVITY

ADAPTIVE CAPACITY

VULNERABILITY

PLAYERS

Injury risk; reduced playability



Low



Medium



High



Low



Medium



High



Low



Medium



High

COACHES AND STAFF

Cancelled practice; more pitch management required



Low



Medium



High



Low



Medium



High



Low



Medium



High

SPECTATORS AND COMMUNITY

Reduced attendance



Low



Medium



High



Low



Medium



High



Low



Medium



High

PITCH AND FACILITIES

Dry, compacted fields; grass damage; watering restrictions



Low



Medium



High



Low



Medium



High



Low



Medium



High

Adapted from the Assessing Vulnerability and Risk page here: <https://toolkit.climate.gov/assess-vulnerability-and-risk>





C3: ADAPTATION ACTIONS

DROUGHT



Tier one

• Operational adaptation

People:

- Adjust practice intensity and pitch use during dry periods

Infrastructure:

- Reduce irrigation frequency
- Water during cool parts of the day
- Repair leaks and inefficient sprinklers

IMPORTANT: Get expert advice and guidance when implementing tier two and three adaptations.

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ADAPTATION

ACTIONS

Tier two

Enhanced Adaptation

People:

- Educate coaches and users on water conservation practices
- Coordinate pitch use across sites to reduce stress on a single surface

Infrastructure:

- Introduce drought-tolerant grass species
- Invest in alternative sources for irrigation, such as rainwater harvesting, groundwater abstraction and surface water abstraction

Tier three

Transformative adaptation

People:

- Develop long-term water management plans with local partners
- Reassess acceptable pitch standards during prolonged drought

Infrastructure:

- Install large-scale water storage or rainwater harvesting systems
- Compare grass types to transition to less water intensive grass or switch to hybrid or alternative surfaces designed for low water use
- Landscape-scale nature recovery programme to strengthen local water retention, reduce runoff and improve soil health

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C2

VULNERABILITY ASSESSMENT



AIR QUALITY

Sensitivity

How badly would this asset be affected if the hazard occurred?

Adaptive capacity

How well can the club cope or adapt with what it already has?

Vulnerability

Based on the above, how exposed is this asset overall?
(High sensitivity + low adaptive capacity = high



Rate the sensitivity, adaptive capacity, vulnerability on a scale (low, medium, high).

ASSETS / PEOPLE IMPACTED

POTENTIAL IMPACTS

SENSITIVITY

ADAPTIVE CAPACITY

VULNERABILITY

PLAYERS

Health risks; safeguarding concerns; need to manage schedules



Low



Medium



High



Low



Medium



High



Low



Medium



High

COACHES AND STAFF

Safeguarding concerns; need for air quality protocols; cancellations



Low



Medium



High



Low



Medium



High



Low



Medium



High

SPECTATORS AND COMMUNITY

Health risks, esp. for vulnerable individuals; long-term health issues



Low



Medium



High



Low



Medium



High



Low



Medium



High

PITCH AND FACILITIES

Potential pitch degradation



Low



Medium



High



Low



Medium



High



Low



Medium



High

Adapted from the Assessing Vulnerability and Risk page here: <https://toolkit.climate.gov/assess-vulnerability-and-risk>





C3: PRACTICAL ADAPTATIONS

AIR QUALITY

Tier one

Operational adaptation

People:

- Implement US Soccer's [Air Quality Index guidelines](#)
- Adjust practice and match schedules during poor air quality events
- Encourage use of personal protective measures, such as masks, especially for vulnerable groups

Infrastructure:

- Make indoor areas available with ventilation or filtration, where possible



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Tier two

Enhanced Adaptation

People:

- Make use of alternative indoor practice spaces with ventilation or filtration, where possible

Infrastructure:

- Plant trees and vegetation barriers to help filter pollutants
- Install indoor air filtration systems
- Install permanent air quality monitors

Tier three

Transformative adaptation

People:

- Embed air quality thresholds into safeguarding and decision-making processes (Recognize to Recover)
- Plan for flexible competition formats during prolonged air quality events

Infrastructure:

- Significant facility redesign including roofing, ventilation and air purification systems
- Large scale green infrastructure development
- Club relocation to lower-pollution areas or enclosed facilities

IMPORTANT: Get expert advice and guidance when implementing tier two and three adaptations.





C2

VULNERABILITY ASSESSMENT



EXTREME COLD

Sensitivity

How badly would this asset be affected if the hazard occurred?

Adaptive capacity

How well can the club cope or adapt with what it already has?

Vulnerability

Based on the above, how exposed is this asset overall?
(High sensitivity + low adaptive capacity = high vulnerability)



Rate the sensitivity, adaptive capacity, vulnerability on a scale (low, medium, high).

ASSETS / PEOPLE IMPACTED

POTENTIAL IMPACTS

SENSITIVITY

ADAPTIVE CAPACITY

VULNERABILITY

PLAYERS

Cold-related health conditions like hypothermia; injury from frozen surfaces; reduced playability



COACHES AND STAFF

Cold-related health conditions; need to manage practice



SPECTATORS AND COMMUNITY

Cold-related health conditions; unsafe travel; discomfort; reduced attendance



PITCH AND FACILITIES

Frozen playing surfaces; damaged infrastructure; snow accumulation



Adapted from the Assessing Vulnerability and Risk page here: <https://toolkit.climate.gov/assess-vulnerability-and-risk>





C3: PRACTICAL ADAPTATIONS

EXTREME COLD

Tier one

Operational adaptation

People:

- Introduce cold-weather play and safeguarding protocols, as per [US Soccer guidelines](#)
- Adjust scheduling to avoid frozen or unsafe surfaces
- Consider cold weather acclimatization
- Encourage and provide extra clothing, gloves, thermal layers, thermal blankets and hot drinks

Infrastructure:

- Use frost covers or heated tents
- Improve snow and ice clearance around access routes
- Make heated indoor areas available where possible



Tier two

Enhanced Adaptation

People:

- Coordinate with local authorities and wider community for shared use of indoor or alternative facilities

Infrastructure:

- Create a “living snow fence” to lessen the amount of snow drifting onto the pitch
- Introduce pitch covers and snow removal equipment
- Install new heated facilities

Tier three

Transformative adaptation

People:

- Review seasonal calendars and league structures to reduce winter strain
- Integrate cold-weather risks into long-term facility planning

Infrastructure:

- Install undersoil heating or hybrid pitch surfaces
- Speak to experts to understand which materials can be used which are better suited to freeze-thaw cycles and implement
- Facility redevelopment to improve shelter and thermal comfort

PRACTICAL

ACTIONS

IMPORTANT: Get expert advice and guidance when implementing tier two and three adaptations.



C4

FIELDS FOR
THE FUTURE

ENGAGING YOUR COMMUNITY

Player safety & matchday protocols

Safeguarding the wellbeing of players, officials, and volunteers is a core responsibility at every level of the game. Clear, well-understood protocols are essential for managing extreme weather conditions and ensuring that activities take place only when it is safe to do so.

U.S. Soccer's Recognize to Recover program provides trusted guidance for players, parents, coaches, and referees to support consistent, informed decision-making. It helps ensure that safety and welfare are always prioritised when assessing environmental conditions, even when there is strong pressure to play.

The website also has guidance for coaches and parents on how they can contribute to the safety of participants.

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Where
Football
Lives

DEFEND



OUR



FIELDS

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FIELDS FOR
THE FUTURE

CLEAR, EARLY
COMMUNICATION
BUILDS TRUST.
SHARING
DECISIONS
PROMPTLY HELPS
COMMUNITIES PLAN
AND REINFORCES
THAT SAFETY
COMES BEFORE
SCHEDULES OR
RESULTS.



COMMUNICATING WITH COMMUNITIES

Here is a template for how to communicate changes:

Due to current weather conditions, we are [modifying / postponing / cancelling] today's activities to keep everyone safe. [Explain changes clearly]

We will continue to monitor conditions and share updates as soon as possible.

Thank you for your understanding.

It can be useful to send a message of reassurance too:

We know cancellations are frustrating. These decisions are made to protect players' health and wellbeing, especially when [insert weather condition] poses a risk.

Communicating the WHY
It is also helpful to outline why these changes are occurring, for example:

Poor air quality can make physical activity unsafe, especially for children and those with asthma.

Lightning and strong storms create immediate safety risks. We will not resume play until conditions are safe.





BECAUSE ADAPTATION
IS NOT JUST
INFRASTRUCTURE
— IT'S BEHAVIOR,
CULTURE, AND STORY.



COMMUNITY ENGAGEMENT & EDUCATION

Building a culture and understanding amongst the community about climate change and its relationship with sport gets everyone on the same team and pushing in the right direction.

Players

- Through climate education workshops, players' attitudes towards environmental issues improve and they will feel more motivated to live sustainably.
- Consider setting up a young "Pitch Guardians" club and get groundskeepers to share their knowledge about pitch maintenance with younger generations.
- Listen to your players – what do they care about and how do they think issues can be resolved?

Coaches

- Arrange climate education workshops
- Use role models like Hector Bellerin, Jesse Fleming, and Juan Mata to show how players are using their voices for positive social change
- Utilise this handbook and other resources to create climate and resilience policies for your club

Communities

- Connect with one another to pool knowledge and resources and help your club become more resilient



EVERYONE HAS A ROLE TO PLAY



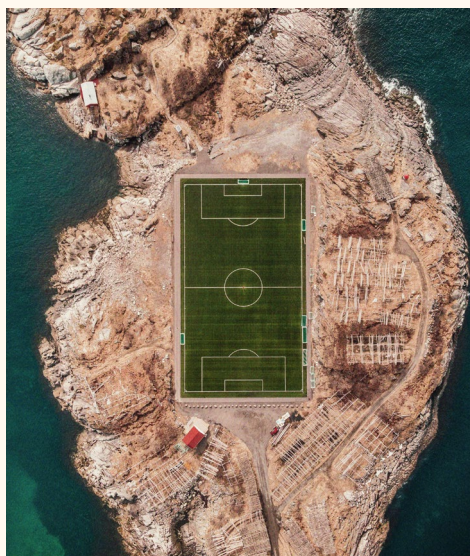


FUNDING YOUR ADAPTATION PROJECT

Funding sources

Many successful projects use multiple sources of income for adaptation projects. Public bodies often offer money (local government through city grants, parks and recreation budgets, or broader state-level funding) and these can be combined with help from local businesses or sport-for-development donors.

Start with what's cheap or free and then don't be afraid to ask for help. By combining multiple sources (eg. a city grant for drainage, business sponsor for shade, parks budget for maintenance), adaptation projects become much more realistic and your place of play can be transformed.



THE GAME

Writing a strong application

When applying for funding for climate adaptation projects, funders want to understand what is happening to your pitch, who it affects, and what happens if nothing changes.

Using clear, easy to measure impact metrics can boost your application. For example, your adaptation project could:

- Increase the number of safe playing days
- Reduce weather-related cancellations
- Increase access for youth and underrepresented groups

Funders like projects that are shaped by the people who use them:

- Ask coaches and parents when heat and storms cause the most disruption
- Coordinate with schools or parks and recreation departments for shared use
- Community co-design is strongly encouraged, but avoid token consultation or over-complicated projects with too many spinning plates.

Funders like to know how much a project will cost. It is advisable to:

- Have transparent cost breakdowns
- Link costs to outcomes
- Show readiness, not perfection

Exact figures often aren't expected, reasonable estimates tied to a clear plan are normally enough.

Overly technical climate projections, complex modelling, long policy justifications, and dense jargon are discouraged. Remember, strong funding applications clearly describe the local problem, who it affects, and how proposed actions will deliver measurable benefits to the community.





CASE STUDIES:

LOCAL SOLUTIONS, REAL IMPACT

Use these examples as evidence and inspiration for your adaptation project



CLIMATE-RESILIENT MINI-PITCHES GARDENA, CALIFORNIA



- Adidas and Common Goal teamed up and helped make community mini-pitches in Gardena climate-adapted to make them safer in extreme heat.
- Installation of shade structures, benches, LED lighting, storage, ADA-accessible access, and resilient surface materials to improve comfort and safety during hot weather.
- By providing shade and improved infrastructure, the project extends usable hours and reduces heat risk for youth and families. It also includes educational elements via QR codes to teach about sustainability through sport.

Read more [here](#)





AMANDLA

SOUTH AFRICA

AMANDLA
IS A HOME
FOR SOCIAL
BRANDS THAT
PROVE IT'S
POSSIBLE
TO DO WELL
WHILE DOING
GOOD.



At the core of AMANDLA's work is the Safe-Hub model that empowers youths and drives social change, fostering communities where young people can thrive and build sustainable futures. AMANDLA's Safe-Hub project in Greater Marikana combines sustainable sports infrastructure with community engagement, creating a lasting positive impact. Key elements of the project include:

- **Water-capturing field construction by GreenSource:** The 5-a-side soccer pitch includes an innovative GreenSource-developed water capture and purification system. This technology channels and purifies rainwater collected through the grass and underlying drainage layers, providing up to 17 million litres of clean drinking water annually and reducing reliance on municipal water
- **Eco-friendly field design with recycled plastics:** The artificial grass and sub-layers are built with recycled plastics wherever possible, incorporating shockpads and drainage systems that reduce runoff and ensure durability. This eco-conscious design makes the field low-maintenance and resilient for extensive community use
- **Youth-led recycling initiatives:** Local youth participate in recycling programmes that repurpose waste to support Safe-Hub operations, promoting environmental stewardship and providing resources for ongoing Safe-Hub programming.

From Pitches in Peril





EURO 2024 CLIMATE FUND

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THE FUTURE



As part of UEFA's commitment to embed sustainability at the heart of EURO 2024 in Germany, a climate fund was created. This resulted in a total of €7.925 million invested in sustainable initiatives across Germany's grassroots soccer landscape. A few examples of how this money was used by clubs include:



- FC Augsburg installed an LED floodlight system which both improved their ability to light their pitch but also made the club more sustainable. LED floodlights are much more energy efficient than traditional lighting options and combined with an exceptionally long lifespan, they reduce waste from frequent replacements. Because of this adaptation, FC Augsburg cut their power use and carbon footprint.
- FC Dettighoven used the money to install their own solar energy system, vastly improving their energy efficiency and reducing the club's carbon footprint.

Info from [DFB](#)



RESOURCE LIBRARY



FIELDS FOR
THE FUTURE

- [Football For Future reports:](#)
[Pitches in Peril](#)
[Fields of Change](#)
- [US Soccer Forward](#)
- [Where Football Lives](#)
- [Other handbooks/resources:](#)
U.S. Climate Resilience [Toolkit](#)
U.S. Soccer Player Health and Safety: [Recognize to Recover](#)
Sports for Nature [Handbook](#)
UNFCCC [Sports for Climate Action](#)
[FIFA Soccer Stadium Guidelines](#)
[U.S. National Adaptation and Resilience Planning Strategy \(2025\)](#)
- [FIFA World Cup 2026:](#)
[Sustainability & Human Rights Strategy](#)
[Environmental Pillar](#)
- [Weather tools:](#)
National Weather Service website: www.weather.gov
American Red Cross [Thunderstorm Preparedness Checklist](#)
[WBGT Calculator](#) (only requires temperature and relative humidity)
[EPA Interactive Air Quality Monitor](#)
[Interactive flood, earthquake, hail, and freeze map](#)
[National Integrated Drought Information System](#)



BUILDING THE MOVEMENT: WHAT HAPPENS NEXT?

Across the country, coaches, clubs and communities are already adapting and protecting the places where soccer lives. Now it's time to make those stories visible and connect them.

USE YOUR VOICE

If your field, your players or your community are being impacted, share it. The more we speak up, the more awareness we build and the harder it becomes to ignore.

SHOW WHAT'S POSSIBLE

Tried something that worked? Adapted your sessions, your pitch, your approach? Tell us directly:

@_earthfc @ussoccer @ftblforfuture

GIVE FEEDBACK ON THIS TOOLKIT

Let U.S. Soccer Forward and Where Football Lives know you've used it and what could be improved - we'd love to hear from you.

STAY CONNECTED

We're continuing to build support for grassroots soccer, including future adaptation funding opportunities.

STAY UP TO DATE:

www.wherefootballlives.com
www.footballforfuture.org

SHARE YOUR STORY

Show us where football lives for you - and why it matters. Post a photo or video on Instagram and tag: @_earthfc @ussoccer @ftblforfuture

Every story helps show that our fields and pitches matter and that they're worth protecting.

THIS IS
JUST THE
BEGINNING...

FIELDS FOR
THE FUTURE



TOGETHER, WE
CAN PROTECT THE
PLACES WHERE
SOCCER LIVES
AND ENSURE THE
GAME CONTINUES
TO THRIVE FOR
GENERATIONS
TO COME.



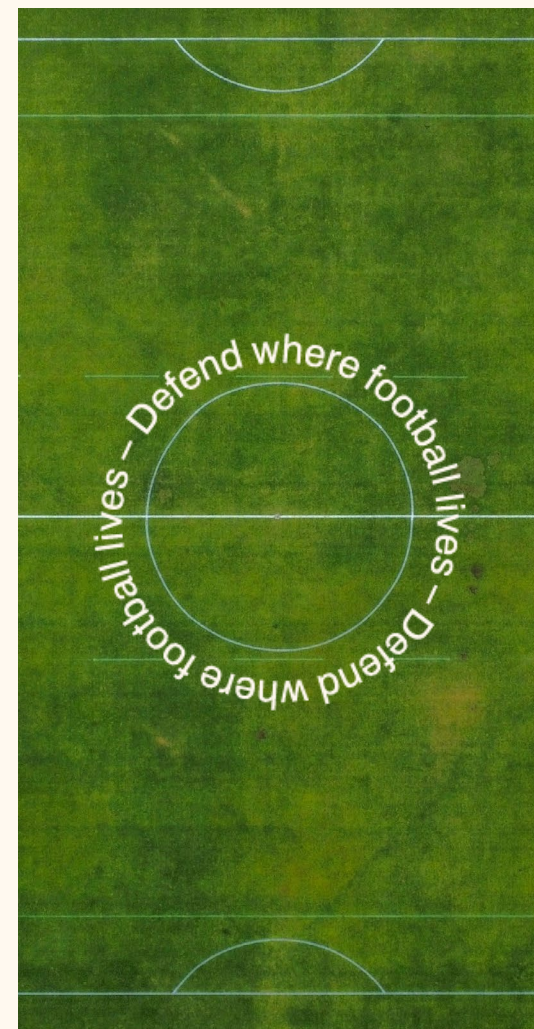
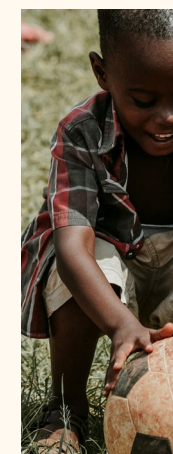
VISION FOR 2030



Anyone working in sport understands that the road is rarely smooth. There are wins and losses along the way, setbacks as well as breakthroughs. Yet with a shared vision and a strong game plan, sport has the power to achieve things that once felt out of reach.

Your next steps could include:

- Commit to the Sport for Climate Action Framework and Race to Zero targets.
- Cut consumption, eliminate single-use plastics, and reduce waste to landfill.
- Monitor air quality and clearly communicate health risks to participants and fans.
- Use sport's platform to advocate for clean air policies.
- Protect and restore local ecosystems through conservation partnerships.
- Educate fans, participants, partners, and suppliers on the climate crisis and solutions. (Sport For Nature)



Where
Football
Lives

FIELDS FOR
THE FUTURE



ABOUT



FIELDS FOR
THE FUTURE



Football holds communities together. But the places where the game lives — the parks and pitches, beaches and backyards — are under threat, and so is everything the game gives us. Earth FC brings fans, players, clubs and the wider football community together to defend where football lives.

Join the squad by following @_earthfc and show your support for protecting the game we love.

FOOTBALL ★ FOR FUTURE

Football For Future is a non-profit mobilising global climate action through the power of football. We bridge climate expertise with the cultural influence of the game, supporting clubs, players, and governing bodies to understand risks, inspire audiences, and deliver meaningful change. Our work spans player mobilisation, sector leadership, and the creation of high-impact initiatives that shape the future of football in a changing climate.

Learn more: www.footballforfuture.org

The content of this toolkit was developed by Football For Future.



PROTECTING COMMUNITY FIELDS. SAFEGUARDING THE GAME. EMPOWERING LOCAL LEADERS.

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Acknowledgements:

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