



# Environmental assessment in mine action & disarmament

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**24th International Meeting of Mine Action  
National Directors and United Nations Advisers**

# Today's speakers

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Joint PERAC Project  
(Protection of the environment in relation to armed conflict)  
- mainstreaming environmental safeguarding in mine action and disarmament



# Agenda

1. Introduction
2. Poll
3. Status
4. Tool
5. Available data sources
6. Other tools and resources
7. Q&A and wrap up



# Environmental assessment

- What is environmental assessment?
- When and why do we do environmental assessment?
- What are standards and expectations for environmental assessment in mine action and disarmament?
- Who should do an environmental assessment?
- How do we do an environmental assessment? What are the steps?
- How do we use the information generated in an environmental assessment in mine action and disarmament activities and programs?



# What is environmental assessment?

*“A process to identify, predict, and evaluate the potential environmental effects of a proposed project”*

*(Canadian government)*

*“A structured approach to predicting the impacts of a proposed action before it is implemented”*

*(UNHCR)*

**Systematic**

**Implement  
early**

**Identify change or  
impact**

**Mitigate or prevent**



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# What is environmental assessment?

## Baseline – existing conditions

Establishes the existing environmental setting and their value – e.g. urban, rural, protected or areas of important biodiversity, nearby water resources, cultural heritage assets

## Activity and any mitigation

Examines the nature of the activity and any existing mitigation which may be already in place

## Significance of residual effects

Depends on the sensitivity of the baseline, mitigation in place and the scale of the impact



**Activity and any mitigation**

enhancement



Improve the environment over its existing state

Mitigation - adverse effects can be **avoided or reduced**

either

or

by design / adaptation



E.g. water jet cutting, with wastewater treatment

by other measures where impacts cannot be avoided





E.g. optimisation of environmental conditions



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Example of a simplified environmental assessment matrix to determine the significance of an environmental effect



Likelihood of impact / occurrence	Severity / magnitude of impact		
	Large	Moderate	Minor
Highly likely	HIGH	HIGH	MEDIUM
Likely	HIGH	MEDIUM	LOW
Low/unlikely	MEDIUM	LOW	LOW



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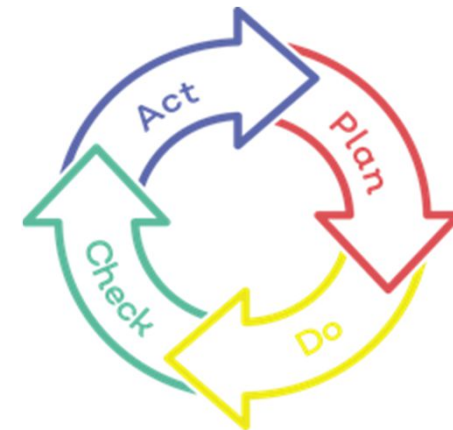
# Why is it important?

- Mine action and disarmament activities can negatively impact the environment
  - air, water, soil contamination; vegetation removal, etc....
- Legal requirements in some countries or areas
- Humanitarian do no harm principle
- Duty to make life better for people and ecosystems in affected areas
- Minimize our contribution to climate change
- Compliance with good practice – IMAS 07.13
- Reputation
- Added value – doing more than the minimum required
- Supports environmental reporting requirements



## Keys steps

1. Understand the baseline / existing environment
2. Establish the local and national regulatory policy
3. Review activities (aspects) and their impacts
4. Identify measures to mitigate adverse effects
5. Predict whether any residual effects –  
can any more be done?
6. Register of commitments / actions



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## Systematic assessments

- ✓ Straightforward to use
- ✓ Informs and supports decision making
- ✓ Easy to adapt
- ✓ Facilitates behavioural change

- × Not just a one-off process
- × Will not be perfect
- × May have data gaps
- × Not all aspects will be relevant



# Poll

1. Does your organization do any kind of environmental assessment before, during, or after mine action operations?
2. If so, why is this being carried out? Internal policy, donor, NMAA, in-country environmental authorities, other
3. Does your organization have an environmental management SOP?
4. Does your organization refer to the IMAS environmental management standard in its operations?
5. Do you report environmental assessment findings externally?



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# Standard & expectations in mine action

- IMAS 07.13:
  - Mine action authorities (NMAA) shall identify and assess environmental aspects, and identify measures to mitigate adverse impacts
  - NMAA can determine if an EIA is necessary, and determine mitigation measures
  - Mine action operators shall conduct operations according to the requirements and goals determined by the EIA
- IMAS 07.13 Annex D provides guidelines for EIA
  - An environmental impact assessment refers to “the process of identifying, predicting, evaluating, and mitigating the biophysical, social, and other relevant environmental impacts of activities prior to and during operations”



## When to assess?

- If there is a legal obligation to do so (IMAS 07.13 section 5.5)
- Whenever mine action operations will take place in protected or sensitive environmental areas (IMAS 07.13 section 5.5)
- When there is uncertainty about the scale or significance of impact ((IMAS 07.13 section 5.5)
- Prior to commencing operations
- Monitor environmental impacts as well as effects of mitigation measures during and after operations
- After a major change in operational methodology, staff, weather event, seasonal change, change in regulations, stakeholders, new major risks (refugee camp or business)



# Who should do an environmental assessment?

- According to IMAS standard 07.13, national mine action authorities shall identify, assess and document environmental aspects of mine action activities, and those that give rise to an adverse impact
  - NMAA may require an EIA (environmental impact assessment), and ensure its implementation
- Mine action operators must ensure that the protection of the environment is a factor in the planning and conduct of all mine action operations. They shall conduct operations according to the requirements and goals determined by the EIA



## Steps and processes

- Identify and understand the policy/regulatory context
- Identify and understand relevant stakeholders
- Identify internal procedures, policies, and processes
- Identify the environmental profile of the area
- Identify potential environmental impacts
- Determine which of the identified impacts are likely to be negative
- Identify mitigation measures for negative impacts
- Monitor and report on implementation & progress





# Policy and regulatory context

- Relevant and current national and/or sub-national environment and climate change regulations
- National mine action standards that pertain to environmental management
  - Waste management
  - Siting of temporary facilities; site preparation
  - Data collection on environmental variables
  - Vegetation removal
  - Transportation of explosives materials



# Stakeholders

- Mine action operators should take all reasonable measures to understand the environmental needs and expectations of mine action stakeholders (IMAS 07.13 section 5.2)
- Who are relevant stakeholders for environmental issues?
  - Local communities, government authorities, other NGOs or companies
- What are their needs and expectations regarding environmental management of mine action and disarmament operations?



## Internal procedures, policies, processes

- Environmental policy (IMAS 07.13 requires for NMAA and operators)
- Standard operating procedure on environmental management or incorporation of environmental management aspects into SOPs (IMAS 07.13 requires for NMAA and operators)
- Environmental management system (IMAS 07.13 requires for NMAA and operators)
- Other relevant internal documents



## Environmental profile of the area

- Location: environmentally sensitive or protected?
- Wildlife in the location
- Vegetation type and density
- Soil conditions
- Water sources and drainage
- Significant historical and cultural sites and artefacts
- Recent severe weather and extreme environmental events



## Areas of potential environmental impact

- Emissions to air
- Releases to water
- Releases to land
- Soil degradation
- Vegetation
- Wildlife
- Cultural heritage and history
- Generation of waste



## Mitigation measures for negative impacts

- IMAS 07.13 Annex C provides guidance on protection and mitigation measures against adverse environmental impacts
- Annex E: environmental management checklist
- Mitigation measures must be tailored to the local context and obviously should not cause harm
- Prioritization of mitigation measures should be based on a risk management approach
  - Probability that the impact will occur
  - Likely severity of the impact



# Available data sources

Example of open source environmental data

<https://earthmap.org/?layers=%7B%7D>

- Gives primary source – e.g. surface water features, forest data, areas in decline
- Enables complex analysis of data
- Earth observation, environmental and climate data



## E.g. Vietnam, Quang Tri

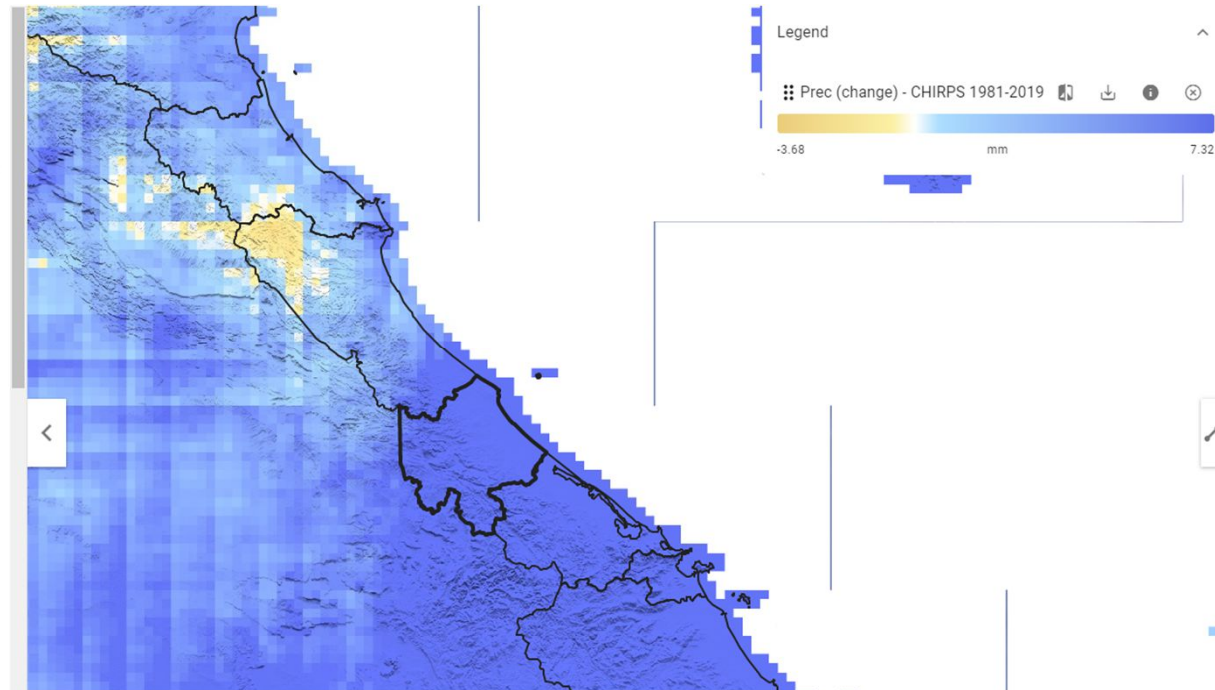
<https://earthmap.org/?layers=%7B%7D>

Select an area of interest  
Vietnam

Boundaries  
Provinces

Climate

- Temp max (change) - ECMWF
- Temp max (average) - ECMWF
- Temp min (change) - ECMWF
- Temp min (average) - ECMWF
- Temp mean (change) - ECMWF
- Temp mean (average) - ECMWF
- Prec (change) - CHIRPS
- Prec (average) - CHIRPS

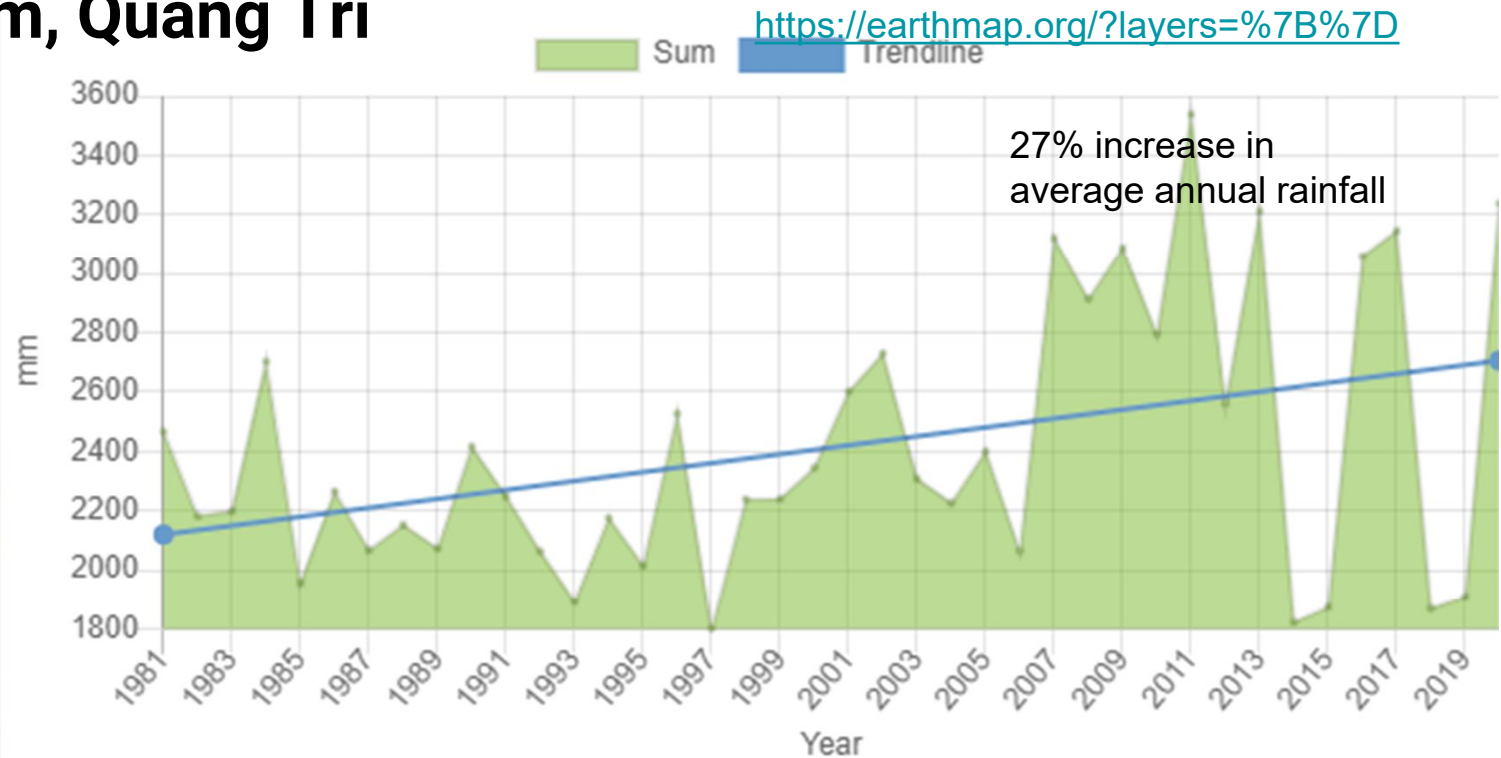
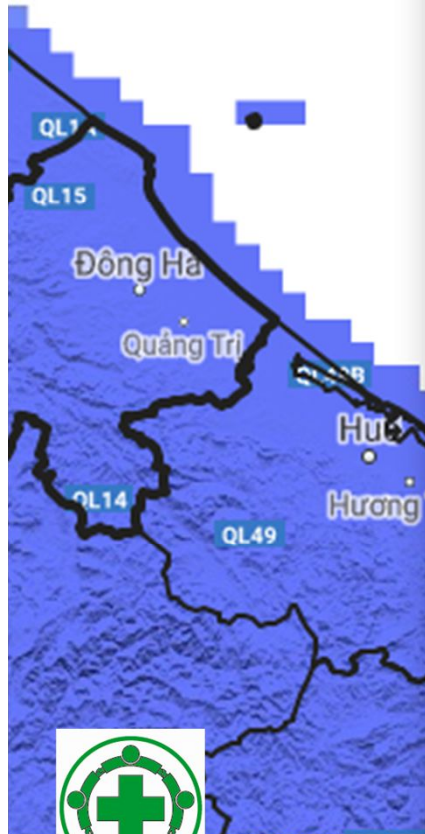


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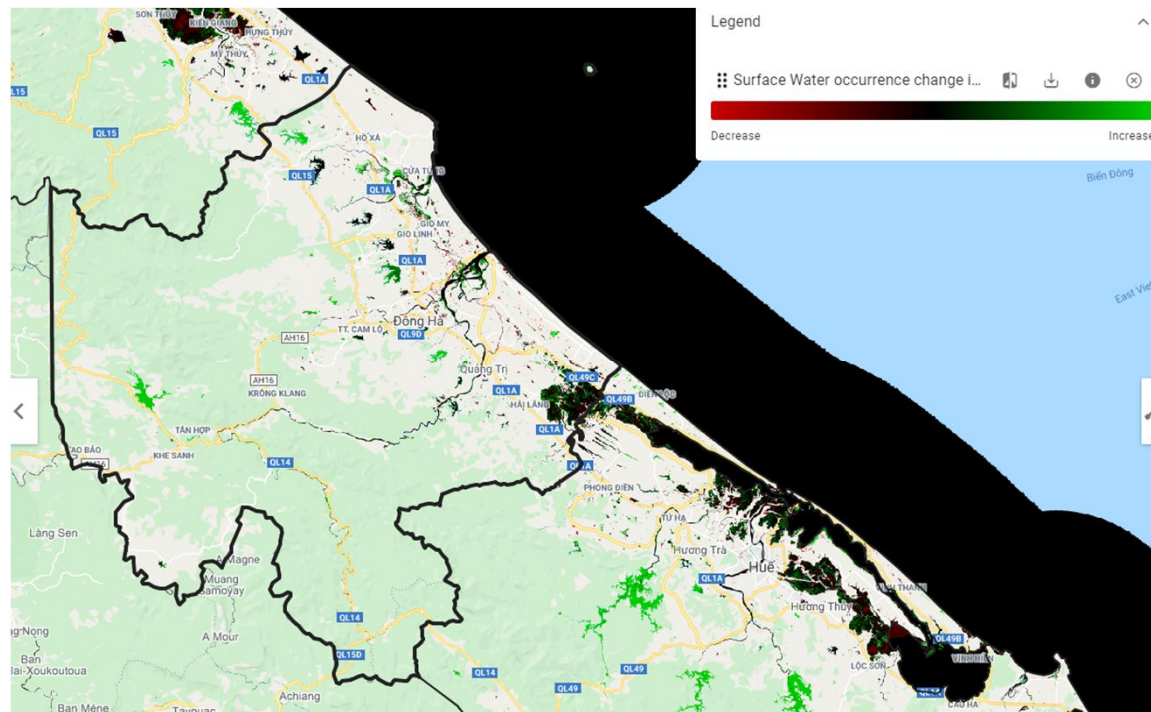


## E.g. Vietnam, Quang Tri



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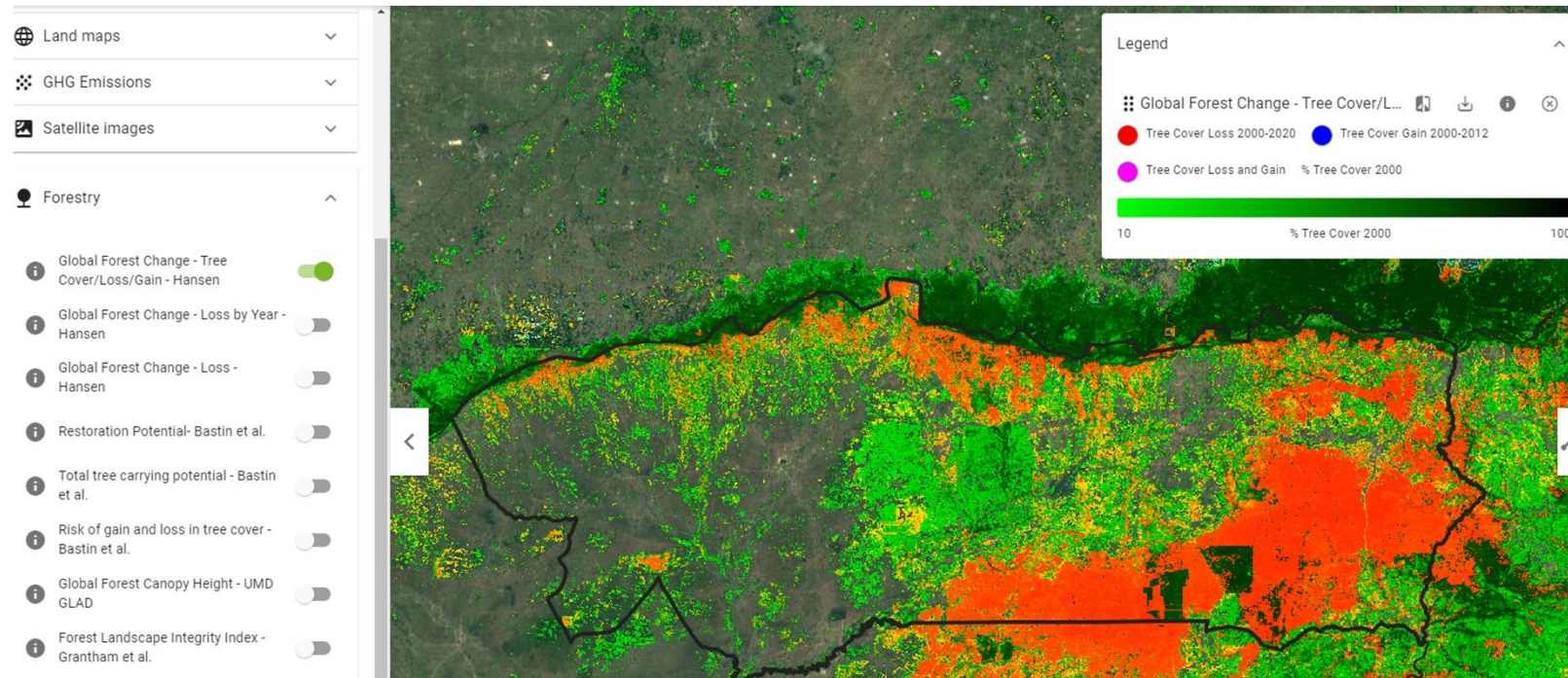


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## E.g. Cambodia, Otdar Meancheay

<https://earthmap.org/?layers=%7B%7D>



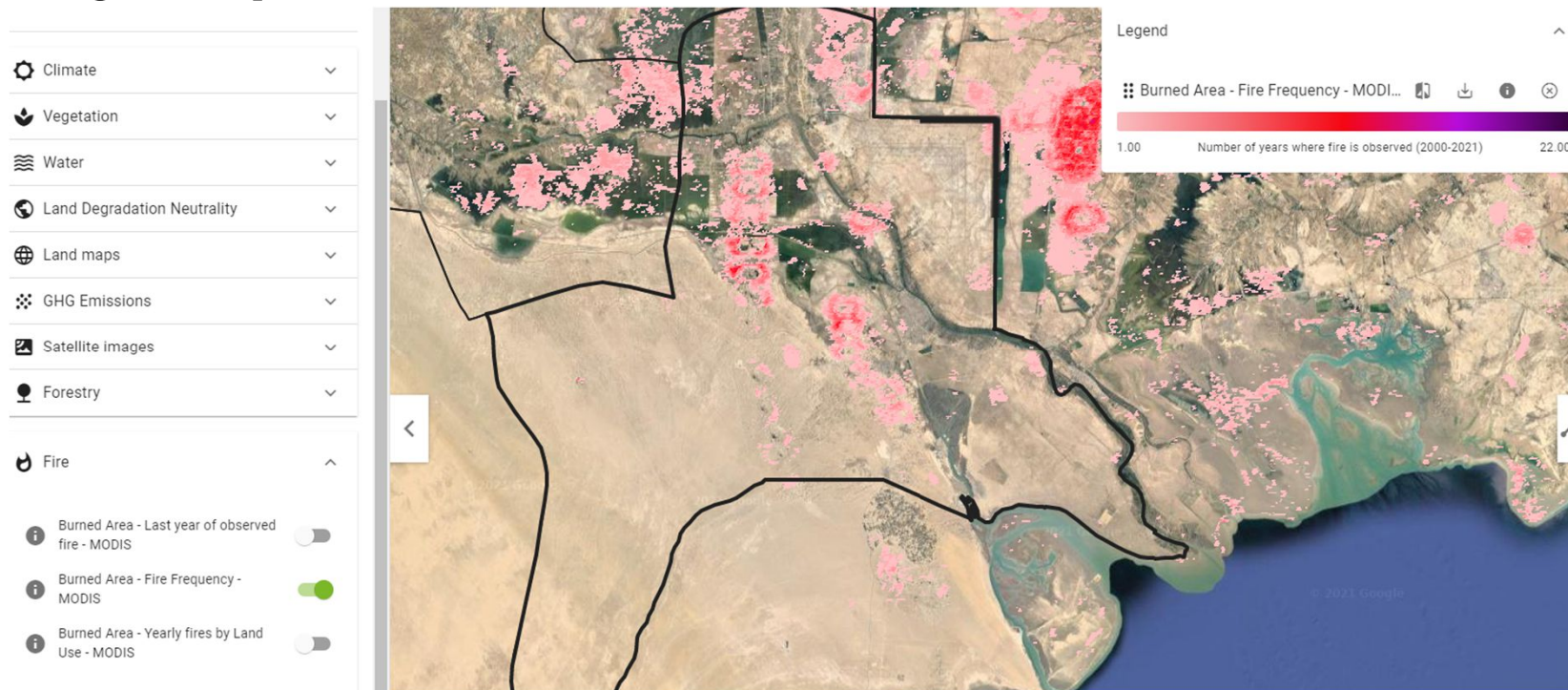
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## E.g. Iraq, Basrah

<https://earthmap.org/?layers=%7B%7D>



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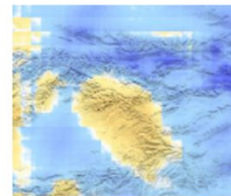
# Available data sources

<https://help.earthmap.org/tutorials-guided-use-cases>

## Tutorials / Guided use cases

In this section, tutorials in the format of stories are presented as a demonstration on how to use Earth Map and take advantage of all its possibilities through the combination of earth observation, environmental and climate data for comprehensive assessments.

Climate change in Kyrgyzstan



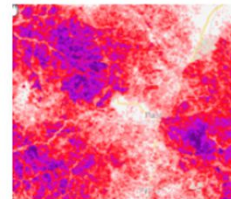
Lake Chad ecosystem restoration



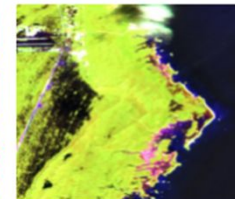
Bagré Dam in Burkina Faso



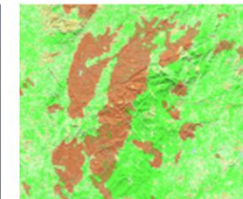
Changes in land cover Tanzania



Floods in Bahamas Islands



Fires in Portugal



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# Forest data

[www.globalforestwatch.org/map](http://www.globalforestwatch.org/map)

- Protected areas
- Forest integrity
- Indigenous lands (only for selected countries)
- Extractive concessions
- Deforestation

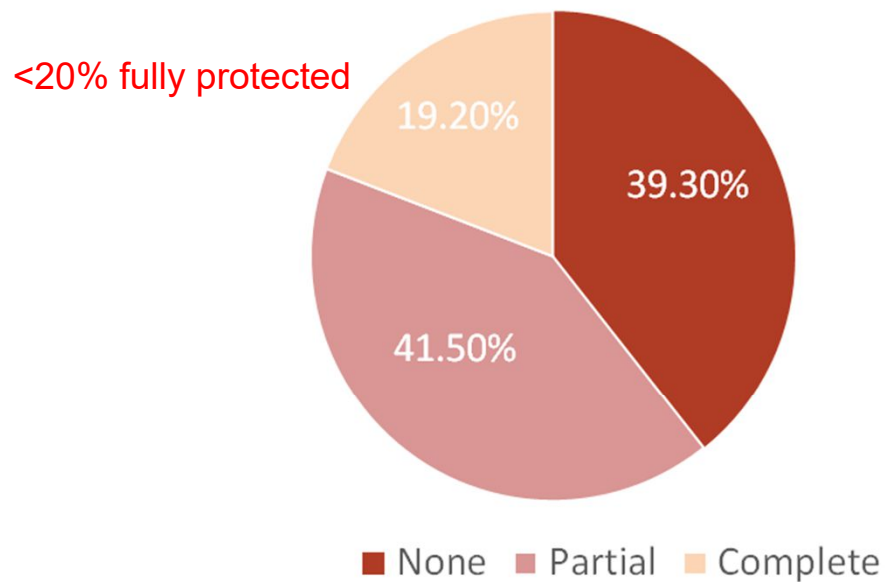


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# Protected areas

Percentage of Key Biodiversity Areas which are protected



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# Protected areas

<https://www.ibat-alliance.org/>

- Integrated Biodiversity Tool - IBAT
- Caution - some appear in Global Forest Watch and not in IBAT (vice versa)
- IBAT - critical habitats, designated areas, national/regional, Natura 2000, marine, World Heritage, Ramsar and MAB.

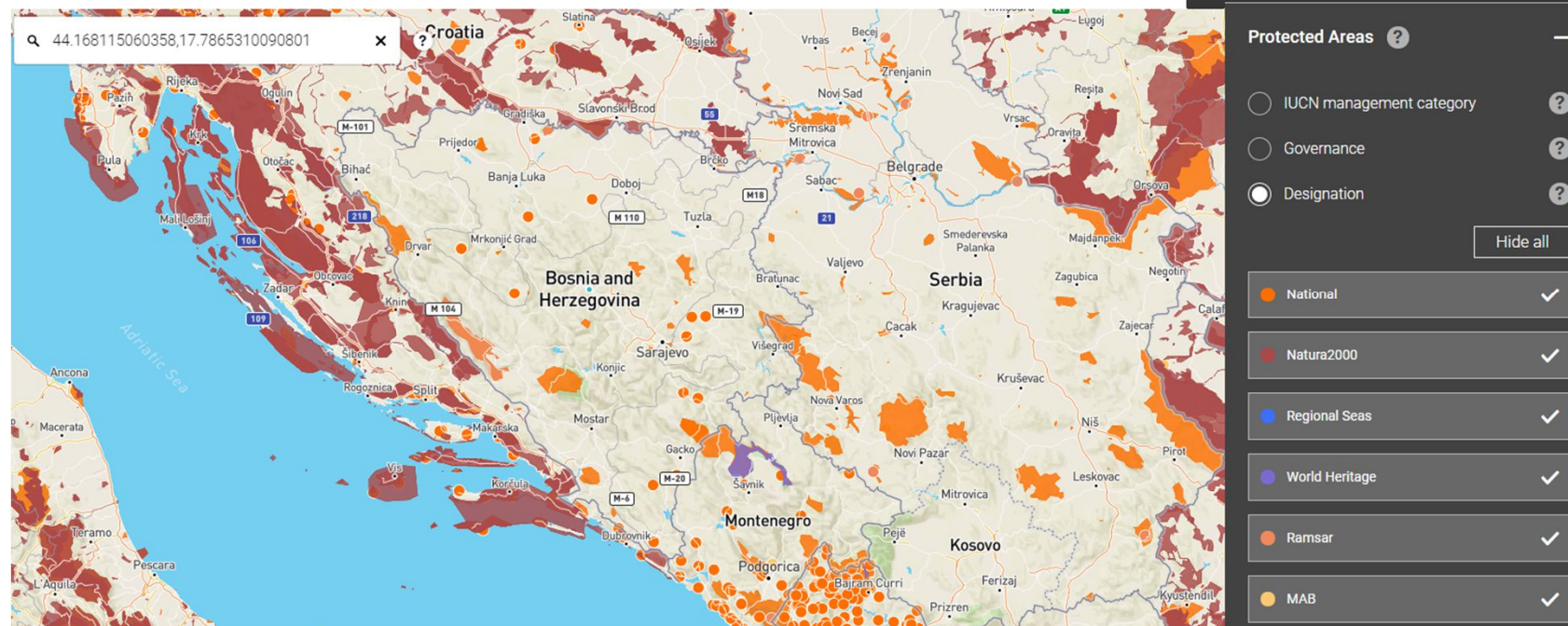




# Protected areas

<https://www.ibat-alliance.org/>

DATA MAP



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# Environmental assessment tools

- New NPA developed tool for mine action sector - June launch

For the broader humanitarian sector:

- NEAT
- CRS stewardship tool
- Flash Environmental Assessment Tool
- FAO EIA guidance for field projects
- USAID guidance
- And many more!



## Other resources

Guidance on environmental assessment and reporting, with relevance to HMA:

- Sweden – Sida
- FCDO (reporting)
- Finalised 2019,  
8+3 harmonized reporting

**6. Environment:** Write about how environmental issues were addressed and the impact of the project or program on the environment.

**Instructions for partners (please delete these below before you submit your report):**

- Describe how environmental or climate issues were addressed. What did you do to ensure that the environment was protected and to manage risks to the environment? What environmental guidelines or policies did you follow?
- If the project produced positive outcomes for the environment, for climate sustainability, or better future resilience against natural disasters, write about them here.

**THE 8+3  
TEMPLATE**  
**A NEW WAY OF  
STANDARDIZING,  
SIMPLIFYING AND  
HARMONIZING  
HUMANITARIAN  
REPORTING**



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## Using the information generated

- We did the assessment - now what?!?
- Keep your assessments updated
- Monitor and report on implemented measures - did you successfully mitigate the identified negative impacts?
- Record new/emerging issues as well as incidents & accidents (and responses to them)
- Learn “what works” and adopt those measures
- Evidence of impact for stakeholders of reduced environmental footprint and upholding responsibilities



## Ten key summary points

1. Systematic approach – demonstrate to donors and other stakeholders
2. Importance to focus attention on key environmental issues
3. Check environmental data sources
4. Risk management approach
5. Not just applicable to survey, clearance and disposal - also to offices, field camps, etc.
6. Undertake early in the HMA programme
7. Iterative process – revisit
8. Focus on improvement over time
9. Feed into environmental reporting
10. Collective responsibility and stewardship



# Thank you

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