



AI for Natural Disaster Management

ITU Focus Group

Onboarding Guide

Management and Operations



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- Mythili Menon, Advisor
- Hiba Tahawi, Secretariat

Scientific guidance and operational support

- Ivanka Pelivan (*Fraunhofer HHI, Germany*)
- Jackie Ma (*Fraunhofer HHI, Germany*)

Objectives

To learn about the objectives of FG-AI4NDM, please consult our [Terms of Reference](#).



UtahAvalancheCenter @UA... · Feb 6 ···

High Danger. Large natural avalanches overnight. Dangerous avalanche conditions. Keep it low angle. #utavy pcStetson



9

56

138



1 Context and scope

Natural disasters are generally defined as a “potentially damaging physical event”¹ of a predominantly natural origin (e.g., atmospheric, hydrologic, geophysical, oceanographic, or biologic).² Adverse effects of these events include injury, mortality, displacements, damage to property (including cultural heritage) and infrastructure, and disturbance to nature and natural resources.

Between 2005 and 2015, natural disasters impacted 1.5 billion people in various ways (700,000 lives were lost, 1.4 million injuries were suffered, and 23 million were left homeless),³ and it has been shown that these natural disasters were predominantly hydrometeorological in origin. The situation is particularly acute in small island developing states (SIDS) and least developed countries (LDC).⁴ Furthermore, women, children, and individuals in vulnerable situations, in particular, are disproportionately affected.⁵

Unfortunately, the effects of natural disasters are anticipated to grow through the combination of population growth, rapid urban development (often in otherwise vulnerable regions), and the growing frequency and intensity of certain types of natural disasters, in particular, those related to atmospheric, hydrologic, and oceanographic processes.⁶

As a result of these widespread and diverse impacts, natural disasters are targeted in the activities of multiple United Nations offices (e.g., United Nations Office for Disaster Risk Reduction), programs (e.g., United Nations Environment Programme), and organizations (e.g., World Meteorological Organization; United Nations Educational, Scientific, and Cultural Organization). Furthermore, natural disasters feature prominently in reports including the *Hyogo Framework for Action 2005*⁷ and *Sendai Framework for Disaster Risk Reduction 2015-2030*,⁸ are the subject of a previous Study Group 2 focus group,⁹ and are explored in a 2019 ITU-D report.¹⁰

To minimize the costs (including the adverse effects listed above) and enhance the preparedness for (and response to) natural disasters,¹¹ FG-AI4NDM explores the potential of AI to support data collection and handling, improve modelling across spatiotemporal scales through extracting complex patterns (and gaining insights) from a growing volume of geospatial data, and provide effective

¹ https://www.unisdr.org/files/1037_hyogoframeworkforactionenglish.pdf

² We acknowledge that there is some controversy surrounding the use of the expression “natural disasters” to describe such events (<https://link.springer.com/article/10.1007/s11069-016-2726-x> and <https://www.preventionweb.net/experts/oped/view/72768>). However, many natural scientists (and other stakeholders) still recognize and utilize the term.

³ <https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>

⁴ https://library.wmo.int/doc_num.php?explnum_id=10385

⁵ <https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>

⁶ https://www.ipcc.ch/site/assets/uploads/2018/03/SREX_Full_Report-1.pdf

⁷ https://www.unisdr.org/files/1037_hyogoframeworkforactionenglish.pdf

⁸ <https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>

⁹ <https://www.itu.int/en/ITU-T/focusgroups/dnrr/Pages/default.aspx>

¹⁰ https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Documents/2019/GET_2019/Disruptive-Technologies.pdf

¹¹ FG-AI4NDM will also consider inclusion of events of non-natural origins, provided that they are deemed to be clearly influenced by (or of influence to) atmospheric, hydrologic, geophysical, oceanographic, or biologic processes.

Website and contact info

Our website (<https://itu.int/go/fgai4ndm>) is a one-stop-shop for up-to-date information about FG-AI4NDM.

Any questions about the content can be sent to the secretariat (tsbfgai4ndm@itu.int).

Focus Group on AI for Natural Disaster Management (FG-AI4NDM)

YOU ARE HERE [HOME](#) > [ITU-T](#) > [FOCUS GROUPS](#) > AI FOR NATURAL DISASTER MANAGEMENT

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Focus Group on AI for Natural Disaster Management

Focus Group on AI for autonomous and assisted driving

Focus Group on Quantum Information Technology for Networks

Focus Group on Environmental Efficiency for Artificial Intelligence and other Emerging Technologies

Focus Group on Artificial Intelligence for Health

Focus Group on Vehicular Multimedia

Concluded Focus Groups

Quick steps - subscribe to FG AI4NDM mailing lists

Automatic Translation: [English](#) [العربية](#) [中文](#) [Español](#) [Français](#) [Русский](#)



WORLD METEOROLOGICAL ORGANIZATION

FG-AI4NDM

Natural disasters are responsible for countless injuries, mortalities, displacements, damages to property (including cultural heritage) and infrastructure, and disturbances to nature and natural resources. Between 2005 and 2015, natural disasters impacted 1.5 billion people in various ways (700,000 lives were lost, 1.4 million injuries were suffered, and 23 million were left homeless), and it has been shown that these natural disasters were predominantly hydrometeorological in origin. The situation is particularly acute in small island developing states (SIDS) and least developed countries (LDC), and for vulnerable populations.

Artificial Intelligence (AI) can enhance our understanding of natural disasters and support disaster relief/early warning. However, AI is not yet part of the modus operandi in natural disaster management. Therefore, the Focus Group on AI for Natural Disaster Management (FG-AI4NDM) capitalizes on the growing interest and novelty of AI in the field of natural disaster management to help lay the groundwork for best practices in the use of AI for: assisting with data collection and handling, improving modelling across spatiotemporal scales, and providing effective communication.

To achieve these objectives, FG-AI4NDM will develop a community of engaged stakeholders and experts and build on past progress made by ITU in this domain.

Participation in the Focus Group is open to all interested stakeholders — to sign up, please join our [mailing-list](#) to receive regular updates.

[Meetings and Related Events](#) [Focus Group News](#) [Past meetings](#)

1st FG-AI4NDM Virtual Meeting and Workshop (15-17 March 2021)

1st FG-AI4NDM Virtual Meeting
16 - 17 March 2021, 10:00-14:00 CET

- [Announcement](#)
- [Registration](#) **[Note: Registration is essential to attend the meeting and workshop]**
- [Meeting Agenda](#) *(to come)*
- [Remote Participation Platform](#) *[User-guide]*
- [Documents](#) *[free ITU USER Account required]*
- [Press Release](#)

Virtual Workshop on AI for Natural Disaster Management

15 March 2021, 10:00-14:00 CET

- [Workshop Programme](#) **new!**

Contribute

- [Contribution Deadline: 2 March 2021](#)
- [Use the input document template.](#)
- [Submit written contributions to tsbfgai4ndm@itu.int.](#)

Get involved: create an ITU user account

To participate in FG-AI4NDM, please create an ITU user account:

1. Visit <https://itu.int/en/ties-services/Pages/login.aspx>.
2. Select "I am a new user" (next to "Login").
3. Under "Create your user account as," select one of the listed options. *(If you do not know the ITU status of your organization, simply select "Non-ITU-Members-Media and Other Organizations.")*
4. Select "Create," enter the details, and complete the ITU user account registration.

Once your **ITU user account** is activated, you can:

- ↓ subscribe to our mailing list!
- ↓ register for upcoming workshops/meetings!
- ↓ access our collaboration site!



Get involved: mailing list

Once a free ITU user account (see slide 5) is created, please open the FG-AI4NDM service directory. Select the fgai4ndm mailing list and click **Subscribe**.

TIES ACCESS

[Login >](#)

Create your account:

- ▶ [Online application](#)
- ▶ [Am I eligible?](#)

How to:

- ▶ [Create and Activate User account \(video | PDF\)](#)

Select/Unselect all **Subscribe / Request subscription** **2** Service Type: All services Search:

...	Type	Name	Description
<input checked="" type="checkbox"/> 1	Mailing List	fgai4ndm	[ITU-T Focus Group on AI for Natural Disaster Management (FG-AI4NDM)]

Showing 1 to 1 of 1 entries

Get involved: workshops/meetings

Please visit our website to learn about upcoming workshops/ meetings: <https://itu.int/go/fgai4ndm>.

Registration is **mandatory** to attend workshops/meetings and requires a free ITU user account (see slide 5).

Participation is **free of charge** and **open** to all interested stakeholders from ITU member countries.

Information about **travel grants** for priority regions and about remote participation is also provided.

Meetings and
Related Events

Focus Group
News

Past meetings

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Virtual Workshop on AI for Natural Disaster Management

15 March 2021, 10:00-14:00 CET

- [Workshop Programme](#) **new!**

Contribute

- Submit written contributions to tsbfgai4ndm@itu.int.

How to use the remote participation platforms to join meetings and workshops

Workshops are held via [Zoom](#). Instructions on how to join are found in your confirmation email sent from “ITU TSB” after you have registered for the event.

Meetings are held via the “[MyMeetings](#)” platform. Access to the platform is granted after an [ITU user account](#) has been created.

Please refer to the [user guide](#) for more information. The virtual workshop/meeting room opens 30 min before the official start time.

How to use the remote participation platforms to join meetings and workshops

Zoom

Thank you for registering for Third Workshop on Artificial Intelligence for Natural Disaster Management. You can find information about this webinar below

Third Workshop on Artificial Intelligence for Natural Disaster Management

Date & Time	Aug 30, 2021 10:00 AM Amsterdam, Berlin, Rome, Stockholm, Vienna
Webinar ID	953 5605 5653

Please submit any questions to: tsbevents@itu.int.
You can [cancel](#) your registration at any time.

WAYS TO JOIN ZOOM

1. Join from PC, Mac, iPad, or Android

Join Webinar

My Meetings

13:30

Third Meeting of the Focus Group on Artificial Intelligence for Natural Disaster Management (Day 2)

• Upcoming

🕒 13:30 - 16:00 (Geneva Time)

📍 Virtual

📄 **my**

👤 FG-AI4NDM

👤 registration

🔔 Join

How to submit written contributions

Have an interesting **use case** that explores how AI can support data, modeling, or communication of atmospheric, hydrologic, geophysical, oceanographic, or biologic natural disasters? Consider submitting it as a **written contribution** to FG-AI4NDM! To do so, please follow the [proposed template](#) for use cases.

To submit other (i.e., non use case) written contributions, please follow the [general template](#).

All written contributions must be sent to tsbfgai4ndm@itu.int **before** the submission deadline (indicated on the FG-AI4NDM website) to be considered during the FG-AI4NDM meeting.



How to access collaboration documents

All relevant documentation related to FG-AI4NDM meeting will be posted on the related [Sharepoint site](#). Access to the documents requires an [ITU user account](#).



The screenshot shows the ITU website navigation for the FG-AI4NDM group. The top navigation bar includes the ITU logo, "ITU-T", "WTSA-20", "Study Period 2017-2020", "Rapporteur Group Meetings", "Initiatives", "Focus Groups", and "Join". The main heading is "FG-AI4NDM". A left sidebar contains a menu with "FG-AI4NDM Home" (highlighted), "Input Documents", "Output documents", "Management", "Calendar", "Support-FAQs", and "EDIT LINKS". The main content area features the title "FG-AI4NDM" and subtitle "Focus Group on AI for Natural Disaster Management" with "Established: December 2020". Below this are two columns: "First Meeting" with a bullet point for an "E-meeting, 15-17 March 2021", and "Management and Contacts" with a bullet point for the "Chairman: Monique Kuglitsch (Fraunhofer HHI, Germany)".

ITU-T WTSA-20 Study Period 2017-2020 Rapporteur Group Meetings Initiatives Focus Groups Join

ITU FG-AI4NDM

FG-AI4NDM Home

Input Documents

Output documents

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Support-FAQs

EDIT LINKS

FG-AI4NDM

Focus Group on AI for Natural Disaster Management

Established: December 2020

First Meeting

- **E-meeting, 15-17 March 2021**

Management and Contacts

- Chairman: Monique Kuglitsch (Fraunhofer HHI, Germany)

We look forward to your participation!