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**International Inaugural Symposium for
UNESCO WENDI Chair, Kyoto University, Japan
30 July 2018, Symposium Hall, International Science Innovation
Building (WEST) 5F**

More-Room-For-Water Initiative

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Presentation Overview

- ❑ Activities of UNESCO WRDRR Chair at University of Ljubljana, Slovenia
- ❑ Sustainable Development Goals Index and Dashboard Report 2018
- ❑ Sendai Framework on DRR and Disaster Science
- ❑ More-Room-for-Water (MR4W) Initiative
- ❑ Perspectives for Collaboration WRDRR - WENDI



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UNESCO Chair Activities I

Since 2016, WRDRR is targeting capacity development and society resilience for water-related disaster risk reduction by focusing on:

(1) Improving the understanding and encouraging the approach to controlling flood risk, based on the idea of “living with floods”, rather than on “implementing flood measures”;

(2) Furthering research and developing early warning systems, including strengthened monitoring of capacities and hydrological modelling of socio-ecological systems, consisting of natural and anthropogenic water cycles for operational support of Integrated Water Resources Management;

(3) Translating, comparing and analysing data on socio-economic damages due to water-related hazards, while taking into account the scope of hydrological hazard and social vulnerability;

(4) Supporting member states to increase the resistance to water-related disasters and promote risk management;

(5) Developing the knowledge on past natural disasters, with insight into the changing nature of hazards and vulnerability;



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UNESCO Chair Activities II

- (6) Developing adjustment measures related to climate change;
- (7) Adjusting hydrological models with remote sensing data for various water management uses;
- (8) Supporting actions for increasing the availability of hydrological data in nearly real time obtained in remote sensing and field monitoring, allowing for an integrated approach and continuous calibration and upgrading of the models;
- (9) Studying how different environments understand the uncertainty of flood maps and other water-related risks;
- (10) Developing and performing systematic checks of existing natural systems with satisfactory performance in the urban environment, and finding new approaches, particularly those leading to the use of eco-hydrological concepts;
- (11) Developing platforms for cooperation of several interested parties and the public related to the effective use of eco-hydrological achievements, and
- (12) Developing new solutions suitable for local natural and cultural conditions through an integrated approach to research and doctoral study programmes.



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UNESCO Chair Activities III

4th World Landslide Forum (May 29 - June 2, 2017, Ljubljana)



600 participants from 50 countries
many international bodies

www.wlf4.org

World Construction Forum (April 8 – 11, 2019, Ljubljana)



- Energy in 21st Century
- Engineering Capacity Building
- Construction 4.0
- Cultural Heritage in Digital World
- Disaster Risk Management & Governance for Resilient Communities
- Facility & Asset Management & BIM Lifecycle

www.wcf2019.org



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UNESCO Chair Activities IV



TU Dresden, Germany
IHE Delft, Netherlands
TU Catalonia, Spain
University of Ljubljana, Slovenia



This 2-year Master Programme (2011-2017 over 100 masters; new for 2019-2024) follows the holistic approach and is explicitly designed to cover a wide range of topics – from drivers and natural processes to models, decisions and socio-economic consequences and institutional environment, and is therefore an important advance in water education for Europe.



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UNESCO Chair Activities V

Slovenian Research Agency (ARRS) research programme P2-0180
„Water Science and Technology, and Geotechnical Engineering“ – 2017-2021

ARRS & IPL-225 research project „Recognition of potentially hazardous torrential fans using geomorphometric methods and simulating fan formation“ – 2017-2020

ARRS & IPL-226 research project „Studying landslide movements from source areas to zone of deposition using a deterministic approach “ – 2017-2020

World Centre on Excellence (WCoE) on Landslide Risk Reduction
„Landslides in Weathered Flysch: from activation to deposition“ – 2017-2020

ARRS Targeted research project „Development of a unified method for estimation of benefits of constructional and non-constructional measures for flood risk reduction“ – 2018-2019



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SDG Index and Dashboard Report 2018

On track for the global goals:

Which country performs best to achieve the Sustainable Development Goals by 2030?



The Scores represent the overall rankings from the SDG-Index (157 country's) for individual countries. 100 is the maximum score.



BertelsmannStiftung

SDG INDEX AND DASHBOARDS REPORT 2018

GLOBAL RESPONSIBILITIES

IMPLEMENTING THE GOALS





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SDG Index and Dashboard Report 2018

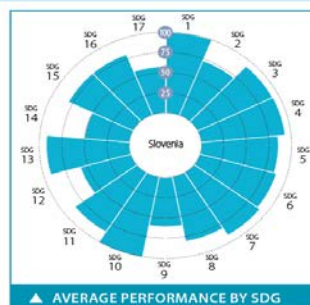
SLOVENIA OECD Countries

OVERALL PERFORMANCE



SDG Global rank

8 (OF 156)



AVERAGE PERFORMANCE BY SDG

CURRENT ASSESSMENT - SDG DASHBOARD



SDG TRENDS



Notes: The full title of goal 2 "Zero Hunger" is "End hunger, achieve food security and improved nutrition and promote sustainable agriculture".
The full title of each SDG is available here: <https://sustainabledevelopment.un.org/topics/sustainabledevelopmentgoals>

SLOVENIA

Performance by Indicator

Indicator	Value	Rating	Trend	Indicator	Value	Rating	Trend
SDG1 - End Poverty				Quality of overall infrastructure (1 = extremely underdeveloped; 7 = extensive and efficient by international standards)	4.6	●	→
Poverty headcount ratio at \$1.90/day (% population)	0.2	●	→	Logistics performance index: Quality of trade and transport-related infrastructure (1 = low to 5 = high)	3.2	●	→
Projected poverty headcount ratio at \$1.90/day in 2030 (% population)	0.2	●	→	The Times Higher Education Universities Ranking, Average score of top 3 universities (0-100)	26.1	●	→
Poverty rate after taxes and transfers, poverty line 50% (% population)	9.2	●	→	Number of scientific and technical journal articles (per 1,000 population)	1.6	●	→
SDG2 - Zero Hunger				Research and development expenditure (% GDP)	2.2	●	→
Prevalence of undernourishment (% population)	3.5	●	→	Research and development researchers (per 1,000 employed)	8.4	●	→
Prevalence of stunting (low height for age) in children under 5 years of age (%)	0.7	●	→	Triadic patent families filed (per million population)	4.9	●	→
Prevalence of wasting in children under 5 years of age (%)	20.2	●	→	Gap in internet access by income (%)	60.4	●	→
Cereal yield (t/ha)	6.5	●	→	Women in science and engineering (%)	31.1	●	→
Sustainable Nitrogen Management Index	0.8	●	→	SDG10 - Reduced Inequalities			
SDG3 - Good Health and Well-being				Gini Coefficient adjusted for top income (1-100)	27.5	●	→
Maternal mortality rate (per 100,000 live births)	9.0	●	→	Palma ratio	0.8	●	→
Neonatal mortality rate (per 1,000 live births)	1.3	●	→	Elderly Poverty Rate (%)	13.5	●	→
Mortality rate, under-5 (per 1,000 live births)	2.3	●	→	SDG11 - Sustainable Cities and Communities			
Incidence of tuberculosis (per 100,000 population)	6.5	●	→	Annual mean concentration of particulate matter of less than 2.5 microns of diameter (PM2.5) in urban areas (µg/m³)	20.3	●	→
HIV prevalence (per 1,000)	0.0	●	→	Improved water sources, piped (% urban population with access)	99.3	●	→
Age-standardised death rate due to cardiovascular disease, cancer, diabetes, and chronic respiratory disease in populations age 30-70 years (per 100,000 population)	13.2	●	→	Satisfaction with public transport (%)	67.0	●	→
Age-standardised death rate attributable to household air pollution and ambient air pollution (per 100,000 population)	20.4	●	→	Rent overburden rate (%)	5.9	●	→
Traffic deaths rate (per 100,000 population)	6.5	●	→	SDG12 - Responsible Consumption and Production			
Healthy Life Expectancy at birth (years)	80.8	●	→	E-waste generated (kg/capita)	15.0	●	→
Adolescent fertility rate (births per 1,000 women ages 15-19)	4.3	●	→	Anthropogenic wastewater that receives treatment (%)	34.7	●	→
Births attended by skilled health personnel (%)	99.8	●	→	Production-based SO ₂ emissions (kg/capita)	8.1	●	→
Surviving infants who received 2 WHO-recommended vaccines (%)	92.0	●	→	Net imported SO ₂ emissions (kg/capita)	17.4	●	→
Universal Health Coverage Tracer Index (0-100)	80.5	●	→	Reactive nitrogen production footprint (kg/capita)	34.7	●	→
Subjective wellbeing (average ladder score, 0-10)	6.2	●	→	Net imported emissions of reactive nitrogen (kg/capita)	125.0	●	→
Gap in life expectancy at birth among regions (years)	2.2	●	→	Non-recycled Municipal Solid Waste (MSW in kg/person/day)	6.7	●	→
Gap in self-reported health by income (0-100)	20.8	●	→	SDG13 - Climate Action			
Daily smokers (% population age 15+)	18.9	●	→	Energy-related CO ₂ emissions per capita (tCO ₂ /capita)	6.2	●	→
SDG4 - Quality Education				Imported CO ₂ emissions, technology-adjusted (tCO ₂ /capita)	-1.4	●	→
Net primary enrolment rate (%)	97.8	●	→	Climate Change Vulnerability Monitor (best 0-1 worst)	0.0	●	→
Mean years of schooling	12.1	●	→	CO ₂ emissions embodied in fossil fuel exports (kg/capita)	498.5	●	→
Literacy rate of 15-24 year olds, both sexes (%)	30.7	●	→	Effective Carbon Rate from all non-road energy, excluding emissions from biomass (tCO ₂ /t)	23.3	●	→
Population age 25-64 with tertiary education (%)	509.3	●	→	SDG14 - Life Below Water			
RISEA score (0-600)	13.5	●	→	Mean area that is protected by marine sites important to biodiversity (%)	99.9	●	→
Variation in science performance explained by students' socio-economic status (%)	15.0	●	→	Ocean Health Index Goal-Biodiversity (0-100)	95.4	●	→
Students performing below level 2 in science (%)	34.6	●	→	Ocean Health Index Goal-Clean Water (0-100)	28.4	●	→
Resilient students (%)	10.0	●	→	Ocean Health Index Goal-Fisheries (0-100)	75.3	●	→
SDG5 - Gender Equality				High Stocks overexploited or collapsed by EEZ (%)	NA	●	→
Unmet demand for contraception, estimated (% women married or in union, ages 15-49)	90.0	●	→	Fish Caught by Trawling (%)	89.7	●	→
Female to male mean years of schooling, population age 25+ (%)	97.5	●	→	SDG15 - Life on Land			
Female to male labour force participation rate (%)	85.0	●	→	Mean area that is protected in terrestrial sites important to biodiversity (%)	85.6	●	→
Seats held by women in national parliaments (%)	36.7	●	→	Mean area that is protected in freshwater sites important to biodiversity (%)	93.1	●	→
Gender wage gap (total, % male median wage)	5.0	●	→	Red List Index of species survival (0-1)	0.9	●	→
SDG6 - Clean Water and Sanitation				Annual change in forest area (%)	2.2	●	→
High-income countries: population using safely managed water services (%)	98.0	●	→	Imported biodiversity threats (threats per million population)	14.0	●	→
Other countries: population using at least basic drinking water services (%)	75.7	●	→	SDG16 - Peace, Justice and Strong Institutions			
High-income countries: population using safely managed sanitation services (%)	NA	●	→	Homicides (per 100,000 population)	1.2	●	→
Other countries: population using at least basic sanitation services (%)	NA	●	→	Prison population (per 100,000 population)	67.7	●	→
Freshwater withdrawal as % total renewable water resources	6.1	●	→	Population who feel safe walking alone at night in city or area where they live (%)	88.0	●	→
Imported groundwater depletion (m³/year/capita)	91	●	→	Government Efficiency (1-7)	3.0	●	→
SDG7 - Affordable and Clean Energy				Property Rights (1-7)	4.5	●	→
Access to electricity (% population)	100.0	●	→	Birth registrations with civil authority, children under 5 years of age (%)	100.0	●	→
Access to clean fuels & technology for cooking (% population)	98.2	●	→	Corruption Perception Index (0-100)	61.0	●	→
CO ₂ emissions from fuel combustion / electricity output (MtCO ₂ /MWh)	0.9	●	→	Children 5-14 years old involved in child labour (%)	0.0	●	→
Share of renewable energy in total final energy consumption (%)	28.9	●	→	Transfers of major conventional weapons (exports)	0.0	●	→
SDG8 - Decent Work and Economic Growth				(constant 1990 US\$ million per 100,000 population)	0.0	●	→
Adjusted Growth (%)	-1.2	●	→	SDG17 - Partnerships for the Goals			
Adults (15 years+) with an account at a bank or other financial institution or with a mobile-money-service provider (%)	80.0	●	→	Government Health and Education spending (% GDP)	14.8	●	→
Employment-to-population ratio (%)	69.3	●	→	High-income and all OECD DAC countries: International concessional public finance, including official development assistance (% GNI)	0.2	●	→
Youth not in employment, education or training (NEET) (%)	11.6	●	→	Other countries: Tax revenue (% GDP)	NA	●	→
SDG9 - Industry, Innovation and Infrastructure				Tax Haven Score (best 0-5 worst)	0.0	●	→
Proportion of the population using the internet (%)	75.5	●	→	Financial Secrecy Score (best 0-100 worst)	41.8	●	→
Mobile broadband subscriptions (per 100 inhabitants)	62.3	●	→				

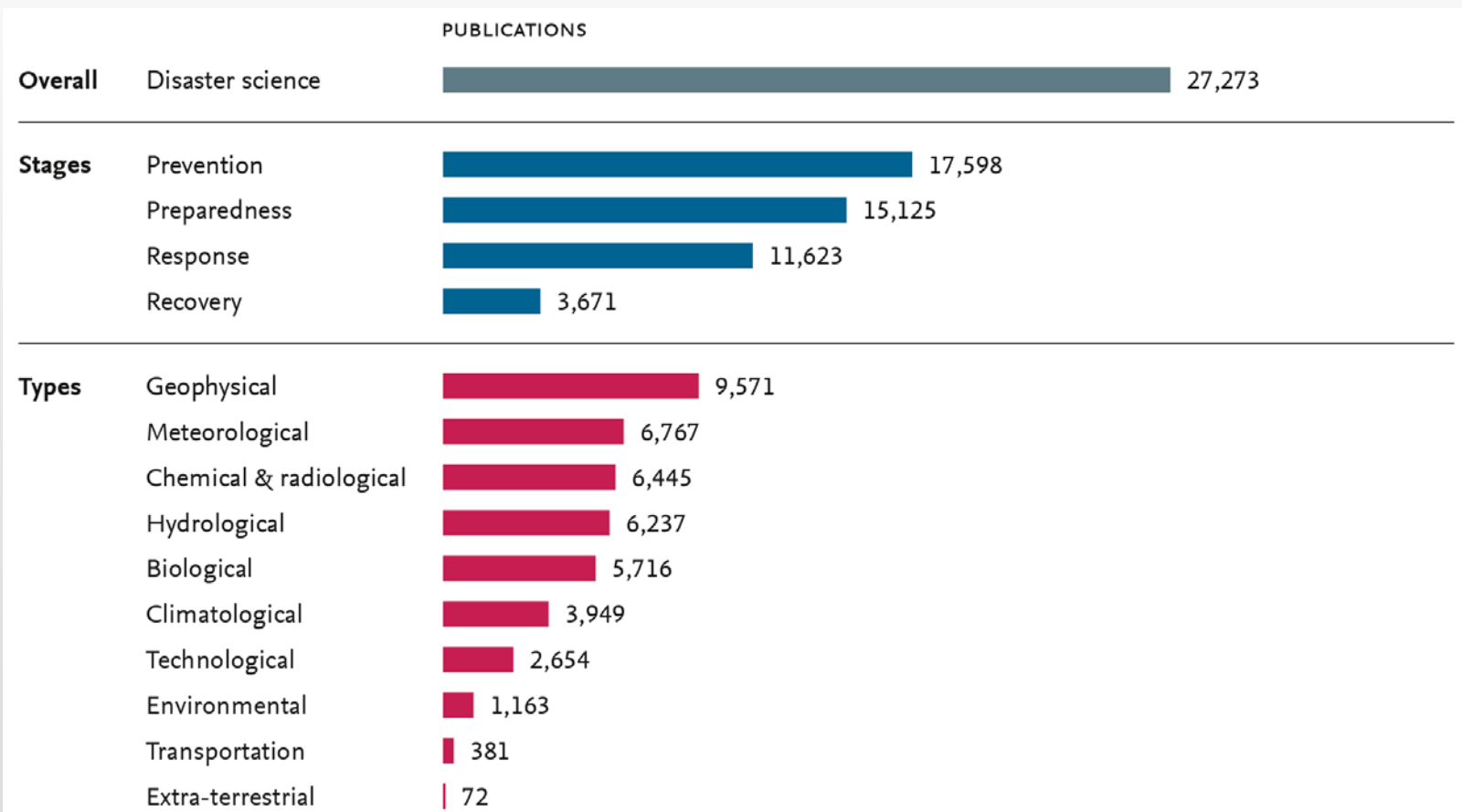


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Sendai Framework on DRR and Disaster Science

Disaster science scholarly output overall, by disaster management cycle stage, and by disaster type according to the Sendai Framework; 2012-2016; source: Scopus®.



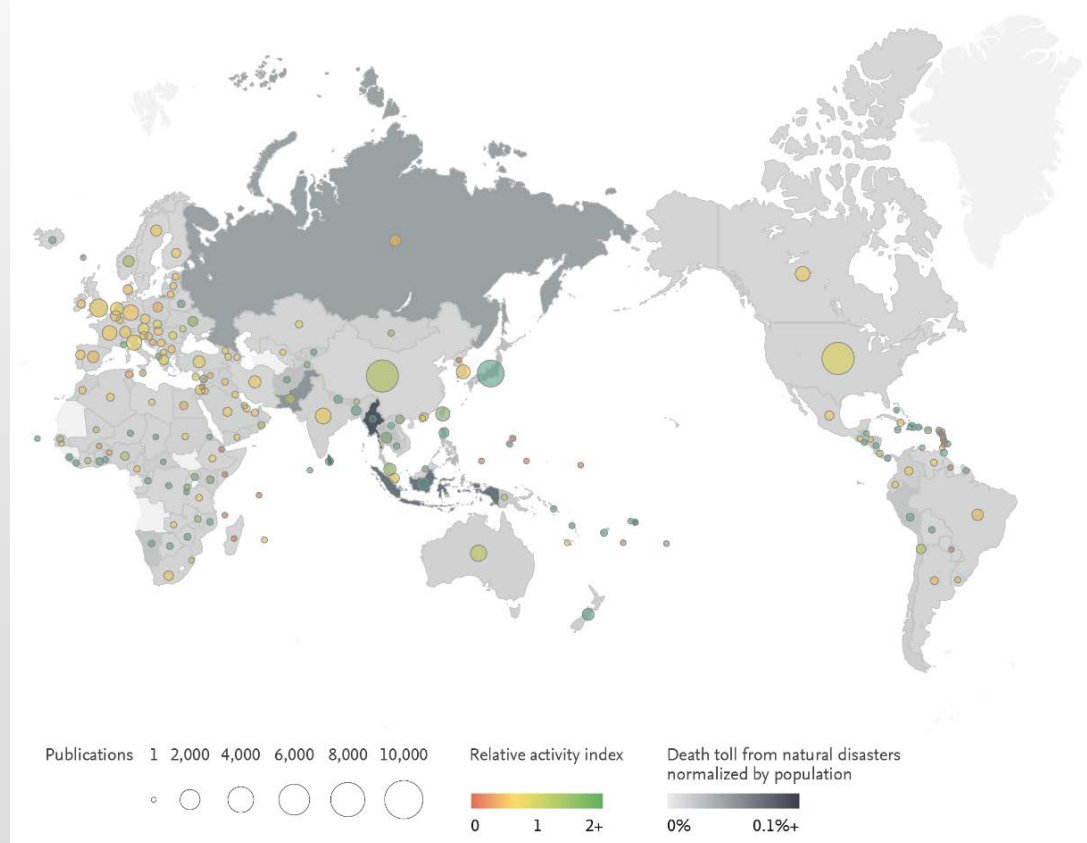


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Sendai Framework on DRR and Disaster Science

2004-2013 natural disasters death toll as a share of population (shade of country), disaster science 2012-2016 scholarly output (size of circle), disaster science 2012-2016 relative activity index (RAI, color of circle); sources: Scopus, IFRC 2015 Disaster Report, World Bank, and Taiwan Statistical Data book.



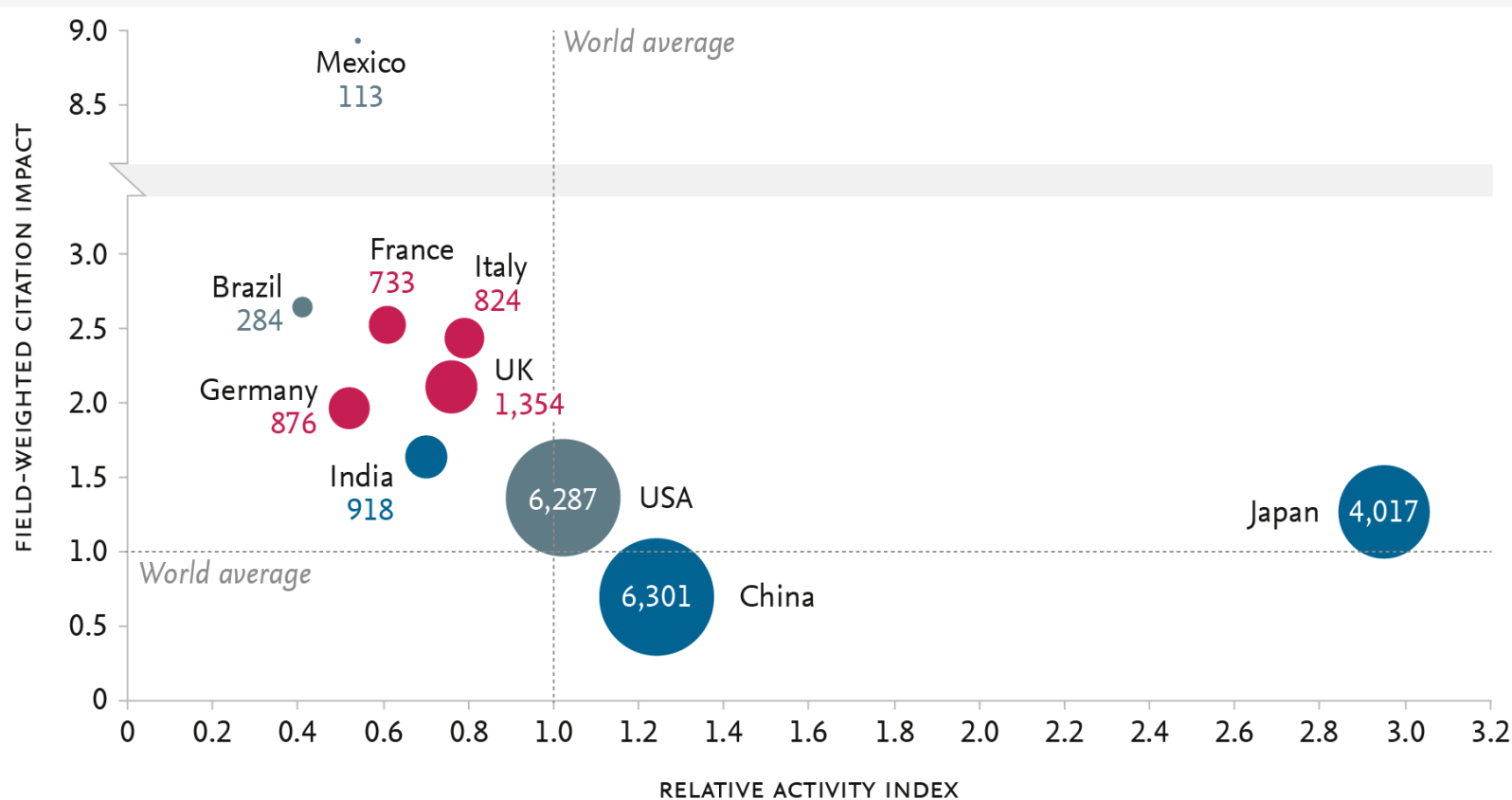


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Sendai Framework on DRR and Disaster Science

Disaster science scholarly output (circle size), relative activity index, and field-weighted citation impact per comparator country; 2012-2016; source: Scopus.





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MR4W Initiative's Starting Points

International Vision 2050 for Achieving Zero Traffic Deaths by 2050.

The Netherlands Programme „Room for the River“ for a safer and more attractive river landscape – 2006/2016 Dutch flood mitigation projects not to confine rivers any more but to give water more space to move on floodplains (<https://www.ruimtevoorderivier.nl/english/>).

Sendai Framework for Disaster Risk Reduction 2015-2030.

The UN 2030 Agenda for Sustainable Development & 17 Sustainable Development Goals.

Our own experiences with field experiments and measurements in Experimental River Basins (ERB).

Our contributions to the international cooperation in the Sava & Danube River Basins (<http://www.savacommission.org/> & <https://www.icpdr.org/>).



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MR4W Initiative & SDGs

WRDRR Chair is targeting:

#4 Quality Education

#6 Clean Water and Sanitation

#13 Climate Change

#17 Partnerships for the Goals.

Therefore, we are networking with other UNESCO Chairs in related fields.

MR4Water Initiative is in line with the world-wide efforts to reach the above mentioned four Sustainable Development Goals till 2030.

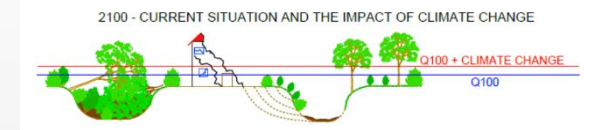




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MR4W Initiative Rationale



WRDRR Chair's firm orientation to interrelate natural and technical sciences with social sciences, lead in the last year to a formal initiative called More-Room-for-Water Initiative (MR4Water Initiative).

MR4W Initiative was prepared for the **23rd Session of the UNESCO IHP Intergovernmental Council** (Paris, 11-15 June 2018) where it got informal support.

The ratio behind the Initiative is to promote **adaptive & integrated water resources management** (IWRM) and **bottom-up governance** in the field of water management, including water-related disasters: floods, droughts, rainfall-induced shallow and deep-seated landslides & fast flowing mudflows and debris flows.

Especially in the preparedness phase, MR4Water Initiative should raise the awareness of water-related disasters and stimulate orientation towards **adaptive process-oriented water resources management** that would less interfere with natural processes instead of trying to technically solve all problems.

The first step planned: preparation of a monograph of selected case studies & best practices around the world prepared by invited contributors.



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WRDRR – WENDI Collaboration

WRDRR (UL FGG & UL) and WENDI can cooperate in the following higher education and research fields:

- ☐ Raising landslide risk awareness and social resilience through research and education for landslide risk reduction.
- ☐ Raising knowledge, expertise and awareness of transboundary water issues related to climate change: pollution, floods, sediments, droughts.
- ☐ More-Room-for-Water Initiative (MR4Water Initiative).
- ☐ Drinking water issues and water reuse related to circular economy and smart cities.
- ☐ Earthquake engineering and disaster risk reduction (building codes).
- ☐ Digitalization of cultural heritage.
- ☐ Introducing ICT to education curricula in Water, Energy and DRR.



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WRDRR – WENDI Collaboration

WRDRR (UL FGG & UL) and WENDI cooperation can take the following forms:

- ❖ International Consortium on Landslides (ICL).
- ❖ Summer schools for doctoral (PhD) students.
- ❖ Bilateral research projects Japan – Slovenia.
- ❖ Working in Experimental Rivers Basins (ERB) in Slovenia.
- ❖ Working in GGN – Idrija Geopark (mercury pollution) & Karavanke Geopark (torrents & debris flows).
- ❖ Supporting international publications in co-authorship, preparing interdisciplinary papers for knowledge dissemination.
- ❖ Developing of Open Education Resources (OER).



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UNESCO Chair WRDRR – <http://www.unesco-floods.eu/>

My sincere condolences for the
July 2018 Floods, Landslides & Heat
Wave & Typhoon victims in Japan.

Thank You for Your attention Arigato gozaimasu