

# Figure 2.10: Top SDG-related topics based on specialization and growth in selected regions and countries, 2011–2019

### For topics with at least 100 publications over 2011–2019

The growth rate and specialization index are given within brackets

#### 1157

### Top five topics by growth rate

- Floating plastic debris in the ocean (3.62)
- Help for smallholder food producers (2.12)
- Sustainably manage marine tourism (1.84)
- Local impact of climate-related hazards & disasters (1.71)
- Local disaster risk reduction strategies (1.67)

### Top five topics by specialization

- Human immunodeficiency virus (HIV) [1.92]
- Tackle invasive alien species (1.61)
- Ocean acidification (1.50)
- New or re-emerging viruses that can infect humans (1.46)
- Extent of water-related ecosystems (1.39)

### **EUROPEAN UNION**

### Top five topics by growth rate

- Floating plastic debris in the ocean (5.29)
- New tech to protect from climate-related hazards (1.90)
- Greater battery efficiency (1.76)
- Minimize poaching & trafficking of protected species (1.75)
- Local impact of climate-related hazards & disasters (1.75)

### Top five topics by specialization

- Floating plastic debris in the ocean (1.74)
- Ecosystem-based approaches in marine environments\* (1.58)
- Eco-construction materials (1.56)
- Nuclear fusion (1.41)
- New tech to protect from climate-related hazards (1.30)

### **EUROPEAN FREE TRADE ASSOC.**

### Top five topics by growth rate

- Climate-ready crops (2.19)
- Precision agriculture (1.93)
- Greater battery efficiency (1.87)
- Local impact of climate-related hazards & disasters (1.86)
- Eco-construction materials (1.72)

### Top five topics by specialization

- Carbon capture & storage (3.70)
- Sustainably manage fisheries & aquaculture (3.25)
- Geothermal energy (2.72)
- Hydropower (2.10)
- Cleaner fossil fuel technology (1.98)

### BRAZIL

### Top five topics by growth rate

- Floating plastic debris in the ocean (3.21)
- New or re-emerging viruses that can infect humans (2.50)
- Eco-construction materials (2.02)
- Carbon capture & storage (2.01)
- Sustainable withdrawal & supply of freshwater (2.00)

### Top five topics by specialization

- Agro-ecology (4.48)
- Tropical communicable diseases (4.16)
- Traditional knowledge (3.52)
- Help for smallholder food producers (3.08)
- Sustainable use of terrestrial ecosystems (2.60)

### SUB-SAHARAN AFRICA

### Top five topics by growth rate

- Climate-ready crops (2.85)
- Greater battery efficiency (2.85)
- Eco-construction materials (2.85)
- Smart-grid technologies (2.61)
- Carbon capture & storage (2.48)

### Top five topics by specialization

- Help for smallholder food producers (27.35)
- Traditional knowledge (11.75)
- Minimize poaching & trafficking of protected species (11.66)
- Human immunodeficiency virus (HIV) [11.46]
- Tropical communicable diseases (9.04)

### **ARAB STATES**

### Top five topics by growth rate

- Sustainable transportation (2.80)
- Climate-ready crops (2.76)
- Smart-grid technologies (2.73)
- Precision agriculture (2.57)
- Eco-construction materials (2.41)

# Top five topics by specialization

- Desalination (3.75)
- Wind turbine technologies (2.63)
- Water harvesting (2.36)
- Photovoltaics (2.22)
- Wastewater treatment, recycling & re-use (2.00)

# LATIN AMERICA

# Top five topics by growth rate

- Floating plastic debris in the ocean (3.62)
- National & urban greenhouse gas emissions (2.58)
- New tech to protect from climate-related hazards (2.45)
- Extent of water-related ecosystems (2.28)
- Eco-construction materials (2.20)

### Top five topics by specialization

- Agro-ecology (3.95)
- Tropical communicable diseases (3.77)
- Traditional knowledge (3.34)
- Help for smallholder food producers (2.86)
- Sustainable use of terrestrial ecosystems (2.78)

# CARIBBEAN

# Top five topics by growth rate

- Human resistance to antibiotics (2.16)
- New or re-emerging viruses that can infect humans (1.78)
- Wastewater treatment, recycling & re-use (1.56)
- Traditional knowledge (1.45)
- Impact on health of soil, freshwater & air pollution (1.38)

# Top five topics by specialization

- Tropical communicable diseases (5.40)
- Human immunodeficiency virus (HIV)
- Medicines & vaccines for tuberculosis
- Reproductive health & neonatology (2.92)
- Traditional knowledge (2.89)

# **SOUTH AFRICA**

### Top five topics by growth rate

- Local impact of climate-related hazards & disasters (4.75)
- Climate-ready crops (4.19)
- Human resistance to antibiotics (2.93)
- Eco-industrial waste management (2.77)
- Photovoltaics (2.73)

# Top five topics by specialization

- Help for smallholder food producers (10.78)
- Minimize poaching & trafficking of protected species (10.45)
- Human immunodeficiency virus (HIV) [10.23]
- Medicines & vaccines for tuberculosis
- Traditional knowledge (8.18)

### **RUSSIAN FEDERATION**

### Top five topics by growth rate

- Sustainable transportation (7.31)
- Eco-construction materials (6.95)
- Precision agriculture (6.11)
- Wind turbine technologies (4.95)
- Wastewater treatment, recycling & re-use (4.92)

### Top five topics by specialization

- Radioactive waste management (2.58)
- Nuclear fusion (2.11)
- Geothermal energy (1.04)
- Medicines & vaccines for tuberculosis (0.87)
- Hydropower (0.80)

# THAILAND

### Top five topics by growth rate

- Eco-construction materials (3.86)
- Eco-industrial waste management (2.51)
- Sustainable transportation (2.44)
- Greater battery efficiency (2.44)
- Help for smallholder food producers (2.39)

### Top five topics by specialization

- Eco-alternatives to plastics (9.12)
- Sustainably manage fisheries & aquaculture (4.00)
- Tropical communicable diseases (3.96)
- Biofuels & biomass (3.67)
- Help for smallholder food producers (3.10)

### **REPUBLIC OF KOREA**

### Top five topics by growth rate

- Impact on health of soil, freshwater & air pollution (2.02)
- Agro-ecology (1.84)
- Tackle invasive alien species (1.77)
- National integrated water resource management (1.67)
- Eco-industrial waste management (1.65)

### Top five topics by specialization

- Photovoltaics (2.50)
- Greater battery efficiency (2.34)
- Hydrogen energy (1.91)
- Sustainable transportation (1.63)
- Radioactive waste management (1.59)

### VIET NAM

### Top five topics by growth rate

- Eco-construction materials (12.00)
- Hydrogen energy (7.09)
- Smart-grid technologies (5.54)
- Biofuels & biomass (5.22)
- Eco-industrial waste management (5.17)

### Top five topics by specialization

- Sustainably manage fisheries & aquaculture (4.42)
- Help for smallholder food producers (3.60)
- New or re-emerging viruses that can infect humans (2.17)
- Maintain genetic diversity of food crops (1.93)
- Hydropower (1.91)

### JAPAN

CHINA

### Top five topics by growth rate

Top five topics by growth rate

Transboundary water resource

Top five topics by specialization

Greater battery efficiency (2.12)

Coastal eutrophication (1.72)

National & urban greenhouse gas

Cleaner fossil fuel technology (1.52)

management (2.85)

Water harvesting (2.74)

Ocean acidification (2.69)

emissions (1.73)

Hydropower (1.53)

Floating plastic debris in the ocean (40.86)

Help for smallholder food producers (2.78)

- Impact on health of soil, freshwater & air pollution (1.63)
- Eco-industrial waste management (1.60)
- Geothermal energy (1.48)
- National & urban greenhouse gas emissions (1.46)
- Eco-construction materials (1.43)

### Top five topics by specialization

- Nuclear fusion (1.88)
- Radioactive waste management (1.60)
- Regenerative medicine (1.31)
- Hydrogen energy (1.21)
- Photovoltaics (1.21)

### INDIA

### Top five topics by growth rate

- Sustainable transportation (3.96)
- Smart-grid technologies (3.19)
- Greater battery efficiency (2.92)
- Eco-construction materials (2.70)Geothermal energy (2.47)

# Top five topics by specialization

- Climate-ready crops (3.07)
- Medicines & vaccines for tuberculosis (2.95)
- Traditional knowledge (2.83)
- Water harvesting (2.74)Pest-resistant crops (2.12)

# MALAYSIA

# Top five topics by growth rate

- Carbon pricing (2.65)
- Sustainable withdrawal & supply of freshwater (2.52)
- Hydropower (2.27)
- Greater battery efficiency (2.24)
- Carbon capture & storage (2.21)

### Top five topics by specialization

- Eco-alternatives to plastics (6.11)
- Eco-industrial waste management (3.99)
- Biofuels & biomass (3.71)
- Eco-construction materials (3.24)
- Traditional knowledge (2.99)

### **AUSTRALIA**

### Top five topics by growth rate

- Floating plastic debris in the ocean (3.94)
- Minimize poaching & trafficking of protected species (2.18)
- Greater battery efficiency (2.09)
- Help for smallholder food producers (1.98)
- Climate-ready crops (1.94)

# Top five topics by specialization

- Ocean acidification (5.63)
- Local disaster risk reduction strategies (5.45)
- Sustainably manage marine tourism (5.38)
- Local impact of climate-related hazards & disasters (4.62)
- Socio-ecological impact of terrestrial protected areas (3.93)

# INDONESIA

# Top five topics by growth rate

- Eco-alternatives to plastics (25.83)
- Sustainably manage marine tourism (16.83)
- Eco-construction materials (8.52)
- Water harvesting (8.00)
- Traditional knowledge (6.73)

## Top five topics by specialization

- Sustainably manage marine tourism (10.50)
- Geothermal energy (6.34)
- Help for smallholder food producers (6.25)
- Eco-alternatives to plastics (5.44)
- Minimize poaching & trafficking of protected species (4.73)

# **NEW ZEALAND**

# Top five topics by growth rate

- Greater battery efficiency (3.26)
- Local impact of climate-related hazards & disasters (2.29)
- Hydrogen energy (1.77)
- Human resistance to antibiotics (1.65)
- Agro-ecology (1.63)

## Top five topics by specialization

- Tackle invasive alien species (6.52)
- Geothermal energy (6.44)Ocean acidification (6.41)
- Status of terrestrial biodiversity (3.04)
  Sustainable use of terrestrial ecosystems

\*The topic of ecosystem-based approaches in marine environments covers environments within national exclusive economic zones.

Note: Topics with at least 100 publications were considered, with exceptions for the Caribbean, Indonesia, Malaysia, New Zealand, the Russian Federation, Singapore, Thailand and Viet Nam (50 publications).

Source: Scopus (Elsevier), including Arts, Humanities and Social Sciences; data treatment by Science-Metrix