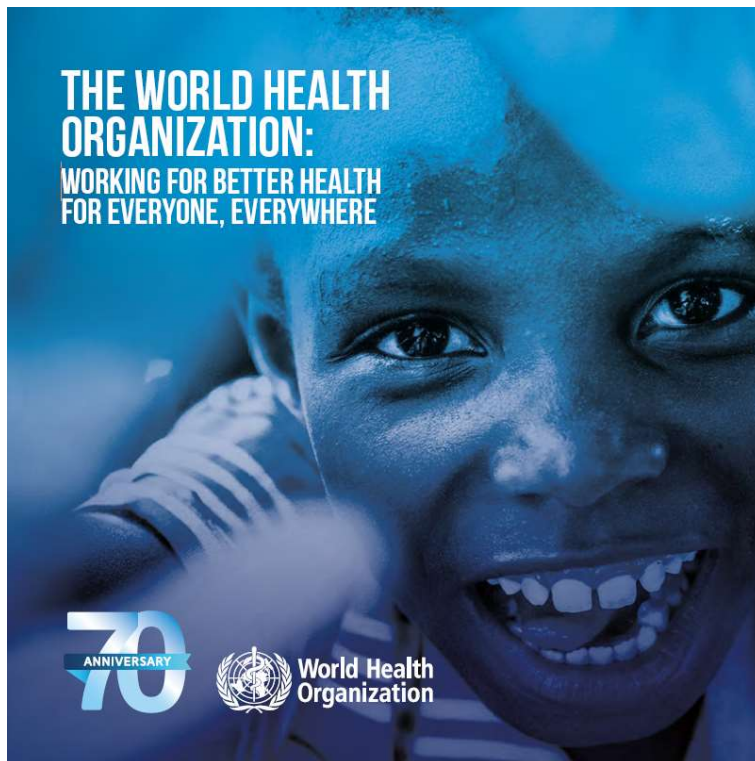


# The World Health Organization



The Global Guardian of Public Health



- Established on **7 April 1948**
- **Function:** act as the UN directing and coordinating authority on international health work
- **Objective:** attainment by all peoples of the highest possible level of health

 **SUSTAINABLE DEVELOPMENT GOALS**  
17 GOALS TO TRANSFORM OUR WORLD



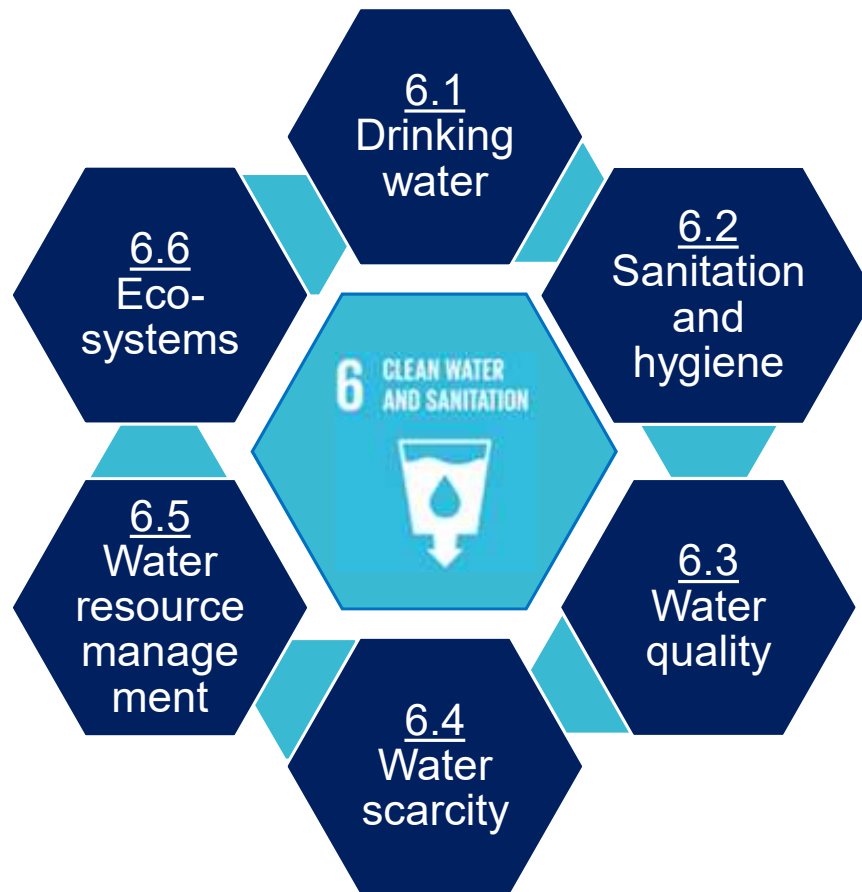
# HEALTH IN THE SDG ERA

Healthization

Health in all policies



# Goal 6: Ensure availability and sustainable management of water and sanitation for all



# Burden of disease from environmental risks

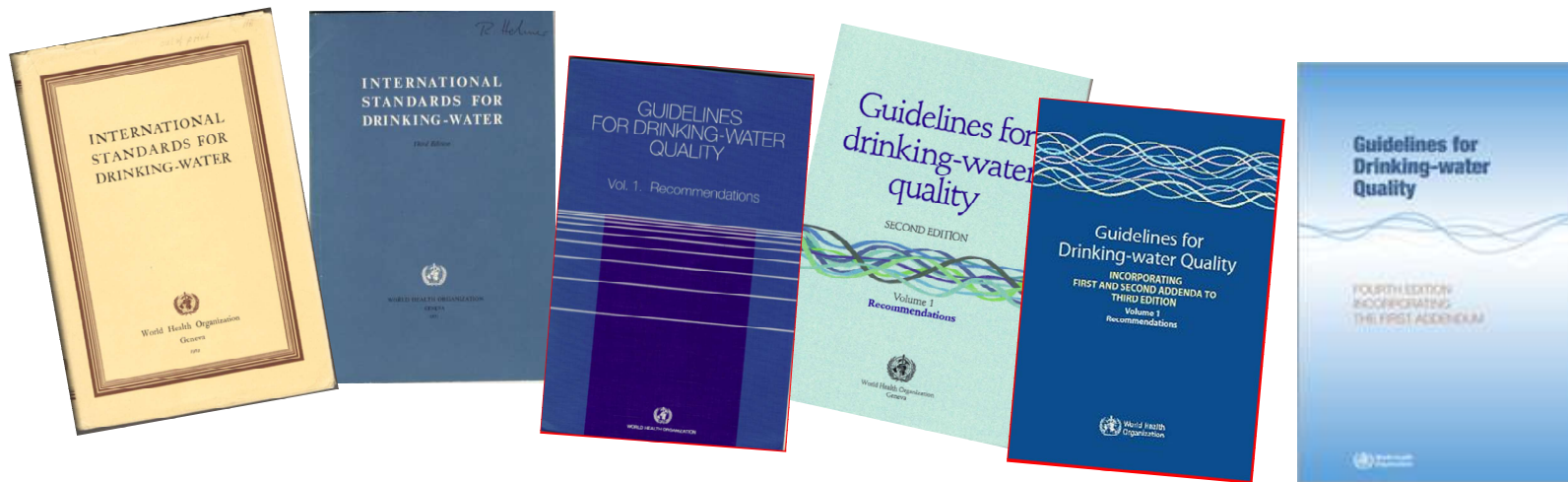
**23%**  
of all global deaths are linked to the environment.  
That's roughly **12.6 million deaths** a year.

## HOW THE ENVIRONMENT IMPACTS OUR HEALTH

People are exposed to risk factors in their homes, work places and communities through:



# A flagship normative publication of WHO



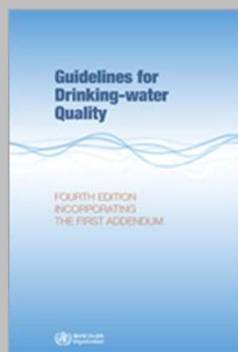
## **WHO International Standards for Drinking-water, 1st Edition, 1958**

*“Immediate and wide recognition as essential aids to the improvement of water quality and treatment”*

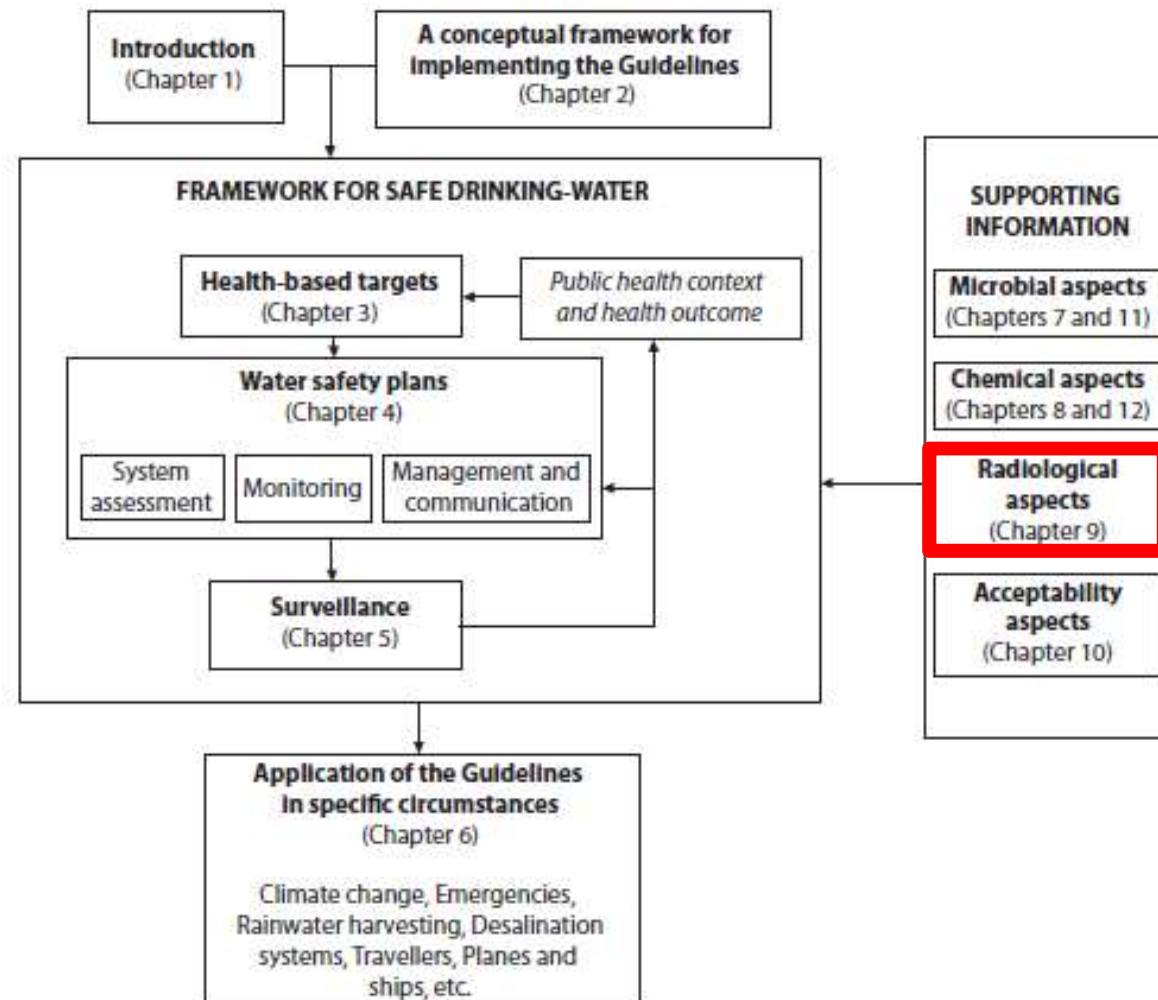
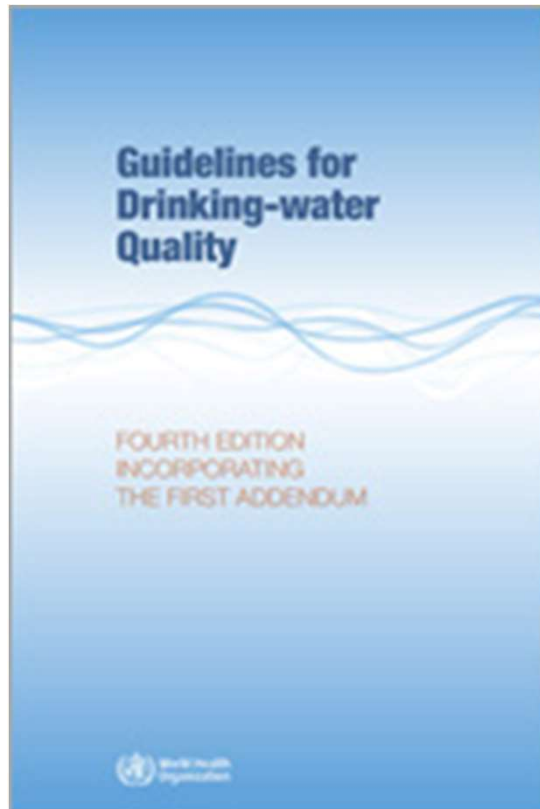
## **Guidelines for Drinking-water Quality, 4<sup>th</sup> Edition, inc. Addendum, 2017**

*Demand for the document is among the highest and most sustained of all WHO publications*

# WHO Guidelines for Drinking-water Quality



<b>Aim</b>	<ul style="list-style-type: none"><li>• Protection of human health<ul style="list-style-type: none"><li>• Support setting of national standards and regulations</li></ul></li></ul>
<b>Target Audience</b>	<ul style="list-style-type: none"><li>• Regulators + (water suppliers, practitioners . . .)</li></ul>
<b>Approach</b>	<ul style="list-style-type: none"><li>• Best available evidence - science and practice</li><li>• Risk-benefit philosophy (advisory in nature)</li><li>• Local adaptation considering overall health protection strategies (social, cultural, economic and environmental context)</li><li>• Preventive incorporating multiple barriers</li><li>• Incremental improvement</li></ul>





# Chapter 9: Radioactivity



- Criteria with which to assess safety of drinking-water with respect to radionuclide content
- Methodology to assess potential health risks (*screening approach based on individual dose criterion of 0.1 mSv/year*)
- Guidance on actions to reduce radionuclides in drinking-water and monitoring considerations (***separate guidance for radon***)
- Information on analytical methods

For situations where there could be ingestion of radionuclides in drinking-water over extended periods of time (years – lifetime)

# Chapter 9: Radioactivity

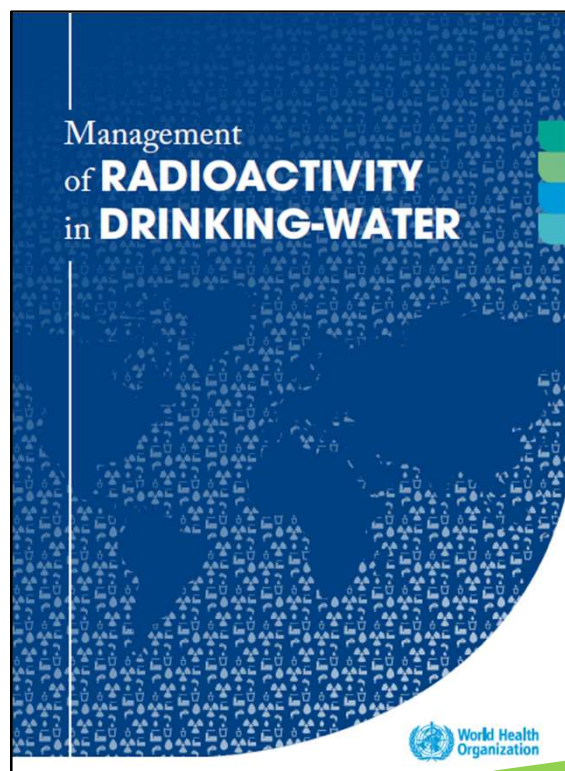
## Radon



- Radon dissolved in water can be released and increase radon concentration in indoor air: inhalation is the main route of entry into the body
- The WHO GDWQ do not provide a guidance level for radon and recommend to manage radon concentration in **indoor air** rather than in **drinking-water**
- Where remedial measures are in place to manage radon levels in indoor air, it is advisable to measure radon in drinking-water if the drinking-water supply comes from a nearby groundwater source



# Guidance to support implementation of Chapter 9 of the GDWQ



2018

## PURPOSE

Provide practical guidance to support interpretation and implementation of the GDWQ in order to take appropriate action

## AUDIENCE

Organizations that set or enforce standards related to, or manage risks from, radioactivity in drinking-water

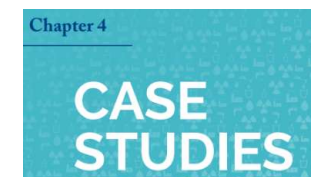
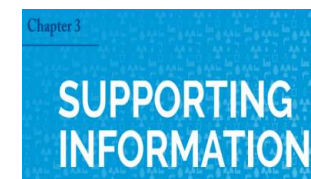
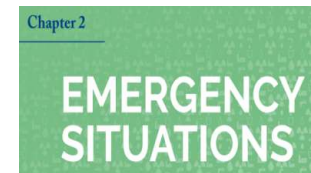
## Format

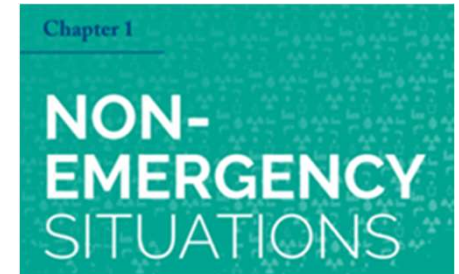
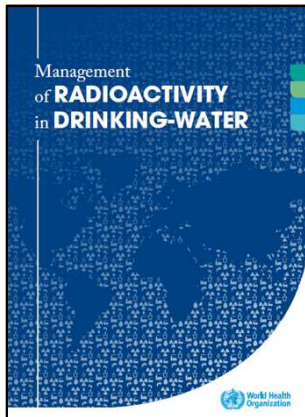
Written in the style of Q&As to enable easier reading of the issues of interest

# Content overview



- **Chapter 1**: background information, information on management of radionuclides in non-emergency situations.
- **Chapter 2**: information on management of radionuclides in emergency situations.
- **Chapter 3**: supporting information common to both non-emergency and emergency situations, including information on water treatment and analytical methods.
- **Chapter 4**: case studies
- **Annex**: information to support calculation of doses and guidance levels for specific non-emergency situations.





## 1.6 Radon in drinking-water

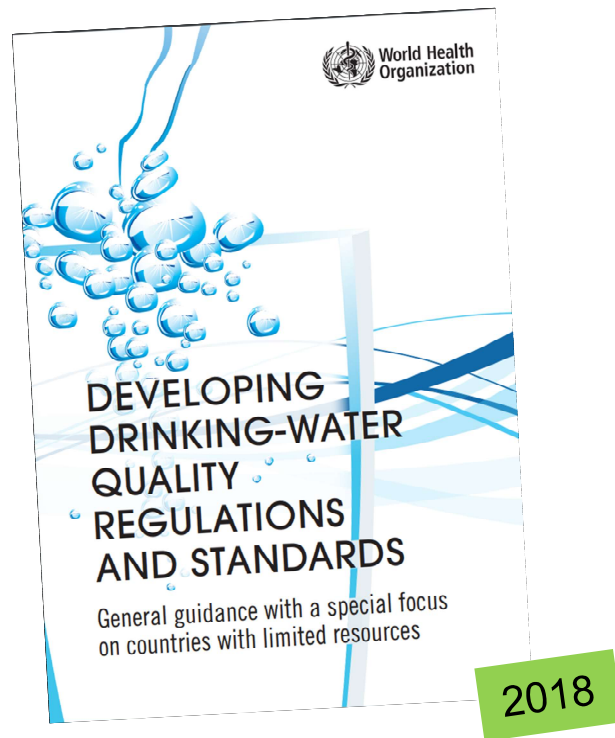
- 16.1 How does radon get into drinking-water ?.....
- 16.2 Do national standards for radon in drinking-water need to be established ?.....
- 16.3 At what points in the water supply chain should measurements of radon in drinking-water be made ?.....
- 16.4 What methods can be used for sampling and measuring radon in drinking-water supplies ?.....
- 16.5 How can radon in drinking-water be managed when radon concentrations in the source water are high ?..

# Occupational exposures



[http://www.arrad.ch/modules/ck/ckfinder/userfiles/files/manifestation/2018/JT\\_ARRAD\\_2018\\_radon\\_SUVA\\_travailleurs.pdf](http://www.arrad.ch/modules/ck/ckfinder/userfiles/files/manifestation/2018/JT_ARRAD_2018_radon_SUVA_travailleurs.pdf)

# Other related new WHO publications



# The Global Guardian of Public Health



**E. van Deventer**

[vandeventere@who.int](mailto:vandeventere@who.int)

**Radiation Programme**

Department of Public Health,  
Environmental and Social  
Determinants of Health  
Geneva, Switzerland