

Contents

<i>Preface</i>	xvii
<i>Abbreviations and conventions</i>	xix
<i>SIPRI Yearbook online</i>	xxiii

Introduction

1. Introduction: International stability and human security in 2018	3
DAN SMITH	
I. <i>The crisis of nuclear arms control</i>	4
II. <i>Nuclear non-proliferation concerns</i>	9
III. <i>The use of chemical weapons</i>	14
IV. <i>International tensions and the dynamics of power</i>	17
V. <i>Human security and international cooperation</i>	22
VI. <i>In conclusion: The 50th edition of the Yearbook</i>	26

Part I. Armed conflict and conflict management, 2018

2. Armed conflict and peace processes	31
Overview	
IAN DAVIS	
I. <i>Tracking armed conflicts and peace processes in 2018</i>	33
IAN DAVIS	
Defining armed conflict—Significant features of armed conflict in 2018—Consequences of armed conflict in 2018—Peace processes	
Box 2.1. Definitions of armed conflict used in this chapter	36
Table 2.1. Forms of armed violence and their coverage in two key data sets	34
II. <i>Armed conflict and peace processes in the Americas</i>	43
MARINA CAPARINI AND JOSÉ ALVARADO CÓBAR	
Key general developments—Armed conflict in Colombia	
III. <i>Armed conflict and peace processes in Asia and Oceania</i>	51
IAN DAVIS	
Key general developments—Armed conflict in Afghanistan—Armed conflict in Myanmar—Armed conflict in the Philippines	
Table 2.2. Key international peace processes in support of Afghanistan, 2010–18	62

IV. <i>Armed conflict and peace processes in Europe</i>	71
IAN DAVIS	
Key general developments—Armed conflict in Ukraine	
Figure 2.1. Contested territory in the post-Soviet space, 2018	72
Table 2.3. Multilateral and bilateral military exercises hosted or co-hosted by Ukraine, 2018	78
V. <i>Armed conflict and peace processes in the Middle East and North Africa</i>	81
IAN DAVIS	
Key general developments—Armed conflict in Egypt—Armed conflict in Iraq—The Israeli–Palestinian conflict—Armed conflict in Libya—Armed conflict in Syria—Armed conflict between Turkey and the Kurds—Armed conflict in Yemen	
Figure 2.2. Territory lost by the Islamic State between 2015 and 2018	86
Figure 2.3. Territory controlled by rival forces in Libya, 2018	96
Figure 2.4. Control of territory in Syria, 31 December 2018	104
Table 2.4. Civilian deaths in Iraq from terrorism and conflict-related violence, 2009–2018	90
VI. <i>Armed conflict and peace processes in sub-Saharan Africa</i>	115
IAN DAVIS AND NEIL MELVIN	
Key general developments—Armed conflict in the Lake Chad region—Armed conflict in the Sahel—Armed conflict in the Central African Republic—Armed conflict in the Democratic Republic of the Congo—Armed conflict in Ethiopia and the Ethiopia–Eritrea peace agreement—Armed conflict in Somalia—Armed conflict in South Sudan and the September 2018 peace agreement—Armed conflict in Sudan	
Figure 2.5. Conflict- and Ebola-affected areas of the Democratic Republic of the Congo, 2018	132
Table 2.5. National elections in sub-Saharan Africa, 2018	118
Table 2.6. Cholera, measles and Ebola cases in the Democratic Republic of the Congo, 2018	133
3. Peace operations and conflict management	145
Overview	
JAÏR VAN DER LIJN	
I. <i>Global trends and developments in peace operations</i>	147
TIMO SMIT	
Multilateral peace operations in 2018—Trends in personnel deployment, 2009–18—Fatalities in UN peace operations—The Action for Peacekeeping Initiative	

Figure 3.1. Number of multilateral peace operations by type of conducting organization, 2009–18	148
Figure 3.2. Number of personnel in multilateral peace operations, 2009–18	149
Figure 3.3. Largest multilateral peace operations, 31 Dec. 2018	150
Figure 3.4. Largest military contributors to peace operations as of 31 Dec. 2018	152
Figure 3.5. Largest police contributors to peace operations as of 31 Dec. 2018	153
Figure 3.6. Fatalities in UN peace operations, 1990–2018	154
Figure 3.7. Fatality ratios for uniformed personnel in UN peace operations, 1990–2018	156
II. <i>Regional trends and developments in peace operations</i>	159
TIMO SMIT	
Africa—The Americas—Asia and Oceania—Europe—The Middle East	
Figure 3.8. Number of multilateral peace operations by region, 2009–18	160
Figure 3.9. Number of personnel in multilateral peace operations by region, 2009–18	160
Table 3.1. Number of peace operations and personnel deployed, by region and type of organization, 2018	161
III. <i>Table of multilateral peace operations, 2018</i>	178
TIMO SMIT	
Table 3.2. Multilateral peace operations, 2018	179
Part II. Military spending and armaments, 2018	
4. Military expenditure	185
Overview	
NAN TIAN	
I. <i>Global developments in military expenditure</i>	187
NAN TIAN, AUDE FLEURANT, ALEXANDRA KUIMOVA, PIETER D. WEZEMAN AND SIEMON T. WEZEMAN	
Trends in military expenditure, 2009–18—The largest military spenders in 2018—Regional trends	
Figure 4.1. Military expenditure by region, 2009–18	190
Figure 4.2. Military expenditure as a share of gross domestic product (GDP), by region, 2009–18	191
Figure 4.3. Changes in military expenditure by subregion, 2009–18 and 2017–18	200
Table 4.1. Military expenditure and military burden by region, 2009–18	188

Table 4.2. Key military expenditure statistics by region and subregion, 2018	192
Table 4.3. The 15 countries with the highest military expenditure in 2018	194
Table 4.4. Military expenditure by China and selected countries, 1989–2018	198
II. <i>Transparency in military expenditure</i>	214
NAN TIAN, DIEGO LOPES DA SILVA AND PIETER D. WEZEMAN	
Reporting to the United Nations—National transparency in military spending—Brazil's spending on police tasks performed by the military—Conclusions: Improving military expenditure transparency	
Box 4.1. Definitions, sources and methods	216
Table 4.5. Brazil's allocations to the military for law and order guarantee operations, 2009–18	220
5. International arms transfers and developments in arms production	223
Overview	
SIEMON T. WEZEMAN AND AUDE FLEURANT	
I. <i>Global trends in arms transfers, 2018</i>	225
SIEMON T. WEZEMAN, AUDE FLEURANT, ALEXANDRA KUIMOVA, NAN TIAN AND PIETER D. WEZEMAN	
Box 5.1. Methodology	228
Figure 5.1. The trend in international transfers of major arms, 1950–2018	227
Table 5.1. Imports of major arms, percentage of global share, by region and subregion, 1979–2018	226
II. <i>Supplier developments, 2018</i>	230
SIEMON T. WEZEMAN, AUDE FLEURANT, ALEXANDRA KUIMOVA, NAN TIAN AND PIETER D. WEZEMAN	
The United States—Russia—West European countries and the European Union—China—Other arms suppliers	
Table 5.2. The 50 largest suppliers of major arms, 2014–18	232
Table 5.3. The 10 largest suppliers of major arms and their destinations, by region and selected subregions, 2014–18	234
Table 5.4. The 25 largest suppliers of major arms and their three main clients, 2014–18	236
Table 5.5. The six largest suppliers of major arms, deliveries by arms category, 2014–18	238

III. <i>Recipient developments, 2018</i>	246
SIEMON T. WEZEMAN, AUDE FLEURANT, ALEXANDRA KUIMOVA, NAN TIAN AND PIETER D. WEZEMAN	
Africa—The Americas—Asia and Oceania—Europe—The Middle East	
Table 5.6. The 50 largest recipients of major arms, 2014–18	248
Table 5.7. The 10 largest recipients of major arms and their suppliers, 2014–18	250
Table 5.8. The 40 largest importers of major arms and their three main suppliers, 2014–18	252
IV. <i>Transparency in arms transfers</i>	261
MARK BROMLEY AND SIEMON T. WEZEMAN	
The United Nations Register of Conventional Arms—The Arms Trade Treaty report on arms transfers	
Figure 5.2. Number of submissions to the United Nations Register of Conventional Arms (UNROCA), 1992–2017	262
Figure 5.3. Number of submissions to the United Nations Register of Conventional Arms (UNROCA), 2001–17	264
Figure 5.4. Number of Arms Trade Treaty (ATT) states parties and Organization for Security and Co-operation in Europe (OSCE) participating states that have submitted annual reports, 2015–17	265
Table 5.9. Number of submissions to the United Nations Register of Conventional Arms (UNROCA) by region, 2013–17	263
V. <i>The financial value of states' arms exports</i>	267
MARK BROMLEY, QUITTERIE DE LABBEY AND PIETER D. WEZEMAN	
Table 5.10. The financial value of states' arms exports according to national government and industry sources, 2008–17	268
VI. <i>Arms production and military services</i>	272
AUDE FLEURANT AND NAN TIAN	
Overview of developments in the arms industry, 2017—Major arms producers—Other established arms producers—Emerging arms producers—Tracing the arms sales of internationalized companies—A comparison of the Top 100 with the Fortune Global 500	
Box 5.2. SIPRI's categories of arms producers	275
Table 5.11. Trends in arms sales of companies in the SIPRI Top 100, 2008–17	273
Table 5.12. Regional and national shares of arms sales for companies in the SIPRI Top 100, 2016–17	274
Table 5.13. The top 15 manufacturing companies in the Fortune Global 500 compared with the top 15 arms producers in the SIPRI Top 100, 2017	284

6. World nuclear forces	287
Overview	
SHANNON N. KILE AND HANS M. KRISTENSEN	
Table 6.1. World nuclear forces, January 2019	288
I. <i>US nuclear forces</i>	289
HANS M. KRISTENSEN	
The Nuclear Posture Review—Nuclear modernization— Bombers—Land-based ballistic missiles—Ballistic missile submarines—Non-strategic nuclear weapons	
Table 6.2. US nuclear forces, January 2019	290
II. <i>Russian nuclear forces</i>	301
HANS M. KRISTENSEN	
Strategic bombers—Land-based ballistic missiles—Ballistic missile submarines and sea-launched ballistic missiles— Non-strategic nuclear weapons	
Table 6.3. Russian nuclear forces, January 2019	302
III. <i>British nuclear forces</i>	310
SHANNON N. KILE AND HANS M. KRISTENSEN	
The Trident submarine successor programme	
Table 6.4. British nuclear forces, January 2019	312
IV. <i>French nuclear forces</i>	314
SHANNON N. KILE AND HANS M. KRISTENSEN	
Table 6.5. French nuclear forces, January 2019	316
V. <i>Chinese nuclear forces</i>	318
SHANNON N. KILE AND HANS M. KRISTENSEN	
Land-based ballistic missiles—Ballistic missile submarines— Aircraft and cruise missiles	
Table 6.6. Chinese nuclear forces, January 2019	320
VI. <i>Indian nuclear forces</i>	325
SHANNON N. KILE AND HANS M. KRISTENSEN	
Military fissile material production—Aircraft—Land-based missiles—Sea-based missiles—Cruise missiles	
Table 6.7. Indian nuclear forces, January 2019	326
VII. <i>Pakistani nuclear forces</i>	332
SHANNON N. KILE AND HANS M. KRISTENSEN	
Aircraft—Land-based missiles—Sea-based missiles— Ground- and air-launched cruise missiles	
Table 6.8. Pakistani nuclear forces, January 2019	334

VIII. <i>Israeli nuclear forces</i>	338
SHANNON N. KILE AND HANS M. KRISTENSEN	
Table 6.9. Israeli nuclear forces, January 2019	339
IX. <i>North Korea's military nuclear capabilities</i>	341
SHANNON N. KILE AND HANS M. KRISTENSEN	
Fissile material production—Nuclear warheads—Ballistic missiles	
Table 6.10. North Korean forces with potential nuclear capability, January 2019	342
X. <i>Global stocks and production of fissile materials, 2018</i>	349
MORITZ KÜTT, ZIA MIAN AND PAVEL PODVIG INTERNATIONAL PANEL ON FISSILE MATERIALS	
Table 6.11. Global stocks of highly enriched uranium, 2018	350
Table 6.12. Global stocks of separated plutonium, 2018	352
Table 6.13. Significant uranium enrichment facilities and capacity worldwide, 2018	354
Table 6.14. Significant reprocessing facilities worldwide, as of 2018	356

Part III. Non-proliferation, arms control and disarmament, 2018

7. Nuclear disarmament, arms control and non-proliferation	359
Overview	
TYTTI ERÄSTÖ, SHANNON N. KILE AND PETR TOPYCHKANOV	
I. <i>North Korean–US nuclear diplomacy</i>	361
SHANNON N. KILE	
Renewed dialogue and engagement with North Korea—US–North Korean summit meeting—Developments following the Singapore summit meeting—Towards a second summit meeting	
II. <i>US–Russian nuclear arms control and disarmament</i>	369
PETR TOPYCHKANOV, SHANNON KILE AND IAN DAVIS	
Implementation of New START final limits—The INF Treaty: Towards the endgame?	
Table 7.1. Russian and US aggregate numbers of strategic offensive arms under New START, as of 5 February 2011 and 1 September 2018	370
III. <i>Implementation of the Joint Comprehensive Plan of Action</i>	378
TYTTI ERÄSTÖ	
Iran's compliance with its JCPOA commitments—The USA's decision to withdraw from the JCPOA—The reimposed US sanctions and their stated objectives—The economic impact of sanctions and perceptions in Iran—European Union efforts to keep the JCPOA intact—Conclusions	

IV. <i>Treaty on the Prohibition of Nuclear Weapons</i>	387
TYTTI ERÄSTÖ	
Continuing controversy over the TPNW—National debates and civil society contributions	
V. <i>Other developments related to multilateral treaties and initiatives on nuclear arms control, disarmament and non-proliferation</i>	391
TYTTI ERÄSTÖ, SHANNON N. KILE, PETR TOPYCHKANOV AND UGNĚ KOMŽAITĚ	
Preparatory Committee for the 2020 Non-Proliferation Treaty Review Conference—The nuclear dimension of the United Nations Secretary-General's new disarmament agenda—High-level fissile material cut-off treaty expert preparatory group	
Box 7.1. Nuclear disarmament-related action points in 'Securing our common future', the United Nations Secretary-General's new disarmament agenda	394
8. Chemical and biological security threats	397
Overview	
CAITRÍONA MCLEISH AND FILIPPA LENTZOS	
I. <i>Allegations of use of chemical weapons in Syria</i>	399
CAITRÍONA MCLEISH	
The chemical weapon attack on Douma—The OPCW Fact-finding Mission related to Douma—Towards the attribution of responsibility for chemical weapon attacks	
II. <i>The Skripal case: Assassination attempt in the United Kingdom using a toxic chemical</i>	408
CAITRÍONA MCLEISH	
Details of the attempted assassination in Salisbury—National, international and institutional responses—Competing narratives and the role of information warfare in the attribution of responsibility	
III. <i>Chemical weapons: Arms control and disarmament</i>	418
CAITRÍONA MCLEISH	
OPCW developments—Other developments in 2018—The UN agenda for disarmament and chemical weapons	
Table 8.1. Votes for and against the revised draft decision 'addressing the threat from chemical weapons' at the Fourth Special Session of the Conference of the States Parties, 27 June 2018	420

IV. <i>Biological weapon disarmament and non-proliferation</i>	434
FILIPPA LENTZOS	
The 2018 Meetings of Experts—The First Committee of the UN General Assembly—The 2018 Meeting of States Parties— Workshops in 2018—Major developments in 2018	
9. Global instruments for conventional arms control	447
Overview	
IAN DAVIS	
I. <i>The Convention on Certain Conventional Weapons and lethal autonomous weapon systems</i>	449
VINCENT BOULANIN, IAN DAVIS AND MAAIKE VERBRUGGEN	
Meetings of states parties—The Group of Governmental Experts on lethal autonomous weapon systems—Other key discussions: Explosive weapons in populated areas, incendiary weapons and mines other than anti-personnel mines	
Box 9.1. The 1981 Certain Conventional Weapons (CCW) Convention	450
Figure 9.1. ‘Sunrise chart’ conceptualizing the human-machine touchpoints in the context of emerging technologies in the area of lethal autonomous weapons systems	454
Table 9.1. CCW Convention meetings in 2018	451
II. <i>Anti-Personnel Mines and Cluster Munitions</i>	462
IAN DAVIS	
The Anti-Personnel Mines Convention—The Convention on Cluster Munitions	
III. <i>Control measures on small arms and light weapons</i>	471
MARK BROMLEY	
United Nations Programme of Action on Small Arms and Light Weapons	
Table 9.2. Number of national reports submitted on POA implementation	472
IV. <i>The UN Secretary-General’s launch of a new disarmament agenda</i>	476
SIBYLLE BAUER	
V. <i>Cyber arms control and resilience</i>	479
ENEKEN TIKK	
Introduction—International dialogue within United Nations frameworks—Regional, national and corporate processes— Conclusions	

Figure 9.2. The international cybersecurity dialogue processes	484
Table 9.3. Groups of governmental experts on developments in the field of information and telecommunications in the context of international security, 2004–17	482
10. Dual-use and arms trade controls	501
Overview	
MARK BROMLEY	
I. <i>The Arms Trade Treaty</i>	503
MARK BROMLEY, KOLJA BROCKMANN AND GIOVANNA MALETTA	
Treaty implementation—Treaty mechanics—Treaty universalization and international assistance	
Figure 10.1. Number of Arms Trade Treaty states parties submitting annual reports, 2015–17	506
Table 10.1. Arms Trade Treaty ratifications, accessions and signatories, by region, as of 31 December 2018	508
II. <i>Multilateral embargoes on arms and dual-use items</i>	511
MARK BROMLEY AND PIETER D. WEZEMAN	
United Nations arms embargoes—Implementation of United Nations arms embargoes—European Union arms embargoes	
Table 10.2. Multilateral arms embargoes in force during 2018	512
III. <i>The export control regimes</i>	521
GIOVANNA MALETTA, SIBYLLE BAUER, KOLJA BROCKMANN AND MARK BROMLEY	
The Australia Group—The Missile Technology Control Regime—The Nuclear Suppliers Group—The Wassenaar Arrangement	
Table 10.3. The four multilateral export control regimes	522
IV. <i>Developments in the European Union’s dual-use and arms trade controls</i>	532
MARK BROMLEY AND GIOVANNA MALETTA	
The EU Dual-use Regulation—The EU Common Position on Arms Exports	
V. <i>Controlling technology transfers and foreign direct investment: The limits of export controls</i>	538
MARK BROMLEY AND KOLJA BROCKMANN	
US controls on foreign direct investment and emerging technologies—The European Union’s proposed rules on the screening of foreign direct investment—Conclusions	

Annexes

Annex A. Arms control and disarmament agreements	549
I. <i>Universal treaties</i>	550
II. <i>Regional treaties</i>	572
III. <i>Bilateral treaties</i>	583
Annex B. International security cooperation bodies	587
I. <i>Bodies with a global focus or membership</i>	587
II. <i>Bodies with a regional focus or membership</i>	595
III. <i>Strategic trade control regimes</i>	609
Annex C. Chronology 2018	613
<i>About the authors</i>	629
<i>Index</i>	637