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TO THE ASSEMBLY
OF THE
INTERNATIONAL CIVIL AVIATION ORGANIZATION

I have the honour to transmit, at the direction of the Council, its Report for the year 1999 prepared in compliance with Article 54(a) of the Convention on International Civil Aviation. It constitutes documentation for the next ordinary Session of the Assembly, which will be convened in 2001, but it is being circulated to Contracting States now for their information. It will also be sent to the Economic and Social Council of the United Nations in pursuance of Article VI, paragraph 2 (a) of the Agreement between the United Nations and ICAO.

The Report was prepared by the Secretariat and circulated in draft form to the Representatives of Council Member States for their suggestions. The Council, as a body, did not formally examine or adopt it but, as in the past, delegated to its President authority to approve the final text after considering all the suggestions received.

Chapter I summarizes the principal trends and developments in civil aviation and the work of the Organization during the year; the activities of ICAO itself are described in Chapters II to X.

The Council held three sessions in 1999. These were the One hundred and fifty-sixth Session from 5 February to 19 March, with a total of sixteen meetings, one of which was held outside the Council phase; the One hundred and fifty-seventh Session from 31 May to 25 June, with a total of thirteen meetings; and the One hundred and fifty-eighth Session from 28 October to 9 December, with a total of fourteen meetings, two of which were held outside the Council phase. Authority was delegated to the President to act on a number of matters, as necessary, when the Council was not in session.

Assad Kotaite
President of the Council

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Glossary

AACO. Arab Air Carriers Organization
ACAC. Arab Civil Aviation Commission
ACAS. Airborne collision avoidance systems
ACC. Area control centre
ACI. Airports Council International
ADREP. Accident and incident reporting data
ADS. Automatic dependent surveillance
ADSP. Automatic Dependent Surveillance Panel
AEA. Association of European Airlines
AECI. The Spanish Agency for International Co-operations
AFCAC. African Civil Aviation Commission
AFRAA. African Airlines Association
AFTN. Aeronautical fixed telecommunication network
AIG. Accident Investigation and Prevention
AIPs. Aeronautical Information Publications
AIS. Aeronautical information service
AIS/MAP. Aeronautical Information Services/Aeronautical Charts
AMBEX. AFI bulletins exchange
AMCP. Aeronautical Mobile Communications Panel
AMHS. Aeronautical message handling system
AMSS. Aeronautical mobile satellite service
ANC. Air Navigation Commission
AOSCF. Administrative and operational services cost fund
APANPIRG. ASIA/PAC Planning and Implementation Regional Group
APEC. Asia Pacific Economic Cooperation
APIRG. AFI Planning and Implementation Group
APT. Asia-Pacific Telecommunity
ASAS. Airborne separation assurance system
ASECNA. Agency for the Security of Aerial Navigation in Africa and Madagascar
AsMA. Aerospace Medical Association
ATC. Air traffic control
ATM. Air traffic management
ATN. Aeronautical telecommunication network
ATS. Air traffic services
AVSEC. Aviation Security
CAA. Civil Aviation Authority
CAEP. Committee on Aviation Environmental Protection
CAMP. Civil Aviation Master Plan
CAPS. Civil aviation purchasing service
CAR. Caribbean Region
CFIT. Controlled flight into terrain
CNS/ATM. Communications, navigation, surveillance and air traffic management
COCESNA. Central American Corporation for Air Navigation Services
COM. Communication
COMESA. Common market for Eastern and Southern Africa
COSCAP. The Cooperative Development of Operational Safety and Continuing Airworthiness
COSPAS. Space system for search of vessels in distress
CPDLC. Controller-pilot data link communications
CVR. Cockpit voice recorder
DCA. Department of Civil Aviation
DGCA. Directorate General of Civil Aviation
DME. Distance measuring equipment
DOT. Department of Transportation
EANPG. EUR Air Navigation Planning Group
EATCHIP. European ATC Harmonization and Integration Programme
ECA. Economic Commission for Africa
ECAC. European Civil Aviation Conference
ESCAP. Economic and Social Commission for Asia and the Pacific
EU. European Union
EUROCONTROL. European Organization for the Safety of Air Navigation
FAA. Federal Aviation Administration
FAI. Fédération aéronautique internationale
FASID. Facilities and Services Implementation Document
FIR. Flight information region
FMS. Flight management systems
GASP. Global aviation safety plan
GATS. General Agreement on Trade in Services
GDP. Gross domestic product
GLONASS. Global orbiting navigation satellite system
GNSS. Global navigation satellite systems
GPS. Global position system

GPWS. Ground proximity warning system
GREPECAS. CAR/SAM Regional Planning and Implementation Group
HF. High frequency
IAOPA. International Council of Aircraft Owner and Pilot Associations
IATA. International Air Transport Association
IAVW. International airways volcano watch
IBAC. International Business Aviation Council
IBIS. ICAO bird strike information system
ICC. International Chamber of Commerce
ICPO/INTERPOL. International Criminal Police Organization
IETC. International Explosives Technical Commission
IFALPA. International Federation of Air Line Pilots' Associations
IFATCA. International Federation of Air Traffic Controllers' Associations
IFL. International frequency list
ILS. Instrument landing systems
IMO. International Maritime Organization
IPCC. Intergovernmental Panel on Climate Change
ISCC. Information Systems Coordination Committee
ISCS. International Satellite Communications System
ISO. International Organization for Standardization
ITU. International Telecommunication Union
JIU. Joint Inspection Unit
LACAC. Latin American Civil Aviation Commission
LUT. Local user terminal
MCC. Mission control centre
MET. Meteorology
MIDANPIRG. MID Air Navigation Planning and Implementation Regional Group
MLS. Microwave landing system
MOTNEG. Meteorological Operational Telecommunications Network Europe — Regional Planning Group
MoU. Memorandum of Understanding
MSA. Management service agreement
MSAW. Minimum safe altitude warning
NAT SPG. NAT Systems Planning Group
NOTAM. Notice to airmen
OCR. Optical character recognition
OECD. Organization for Economic Co-operation and Development
OFZ. Obstacle free zone
OPAS. Operational assignment
OPMET. Operational meteorological information
OPS. Operations
PANS. Procedures for Air Navigation Services
PIRGs. Planning and implementation regional groups
RAC. Rules of the air and air traffic services
RNAV. Area navigation
RNP. Required navigation performance
RVSM. Reduced vertical separation minima
SADC. Southern African Development Community
SADIS. Satellite distribution system
SAM. South American Region
SARPs. Standards and Recommended Practices
SARSAT. Search and rescue satellite-aided tracking
SFOR. Stabilization Forces
SIDS. Small island developing States
SIP. Special implementation project
SPPD. Support Services for Policy and Programme Development
SSR. Secondary surveillance radar
STP. Standardized Training Package
TCB. Technical Co-operation Bureau
TCCA. Transatlantic Common Aviation Area
TF. Trust Funds
UNCTAD. United Nations Conference on Trade and Development
UNDP. United Nations Development Programme
UNEP. United Nations Environment Programme
UNFCCC. United Nations Framework Convention on Climate Change
UNIDROIT. International Institute for the Unification of Private Law
UPU. Universal Postal Union
USOAP. Universal Safety Oversight Audit Programme
VAAC. Volcanic ash advisory centre
VDL. VHF digital link
VHF. Very high frequency
VMC. Visual meteorological conditions
VNAV. Vertical navigation
VOR. VHF omnidirectional radio range
VSAT. Very small aperture terminal
WAFC. World area forecast centre
WAFS. World area forecast system
WCO. World Customs Organization
WGS-84. World Geodetic System — 1984
WHO. World Health Organization
WMO. World Meteorological Organization
WRC-2000. World Radiocommunication Conference (2000)
WTO. World Tourism Organization.
Y2K. Year 2000 problem

Chapter I
The Year in Summary

This chapter summarizes the principal trends and developments in civil aviation and the work of ICAO in 1999. Tables in Appendix 12 provide detailed statistics on the data presented in this chapter.

In 1999, world gross domestic product (GDP) grew approximately 3.0 per cent in real terms (Figure 1). For the industrialized countries, GDP grew almost in line with the global average, supported by continued robust GDP growth in North America (4.2 per cent). GDP growth for developing countries amounted to about 3.8 per cent, a lower level than throughout most of the 1990s.

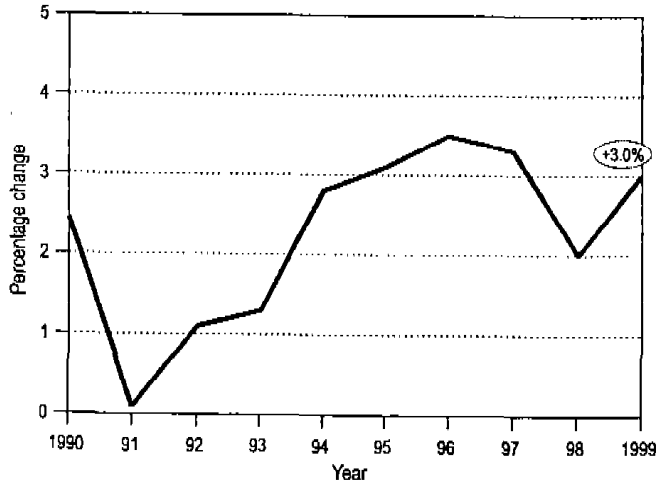


Figure 1. Development in world GDP in constant prices
year-on-year changes, 1990-1999

Africa's economic growth softened slightly with a 2.7 per cent GDP increase. The region with the largest share in the world economy, Asia/Pacific, regained some of its economic strength with approximately 3.5 per cent GDP growth in 1999. Developing economies in the Asia/Pacific Region, accounting for almost two-thirds of the region's output, made a significant contribution as their average GDP grew at 6.0 per cent, but this result masks vast differences between countries. China's GDP growth led again at over 7.1 per cent. Several South-East Asian economies gradually recovered from recession in 1998, and so did Japan which saw its GDP slowly stabilizing around 0.3 per cent growth in 1999. Asia's four newly industrialized economies regained momentum, averaging a 7.7 per cent GDP growth. Australia's economy grew more slowly at around 4.4 per cent, while New Zealand's 5.6 per cent growth represented a strong recovery.

Europe achieved an average GDP growth of 2.3 per cent, a rate also achieved within the European Union. The economies of Central and Eastern European countries grew in the aggregate around 2.5 per cent. Most countries of the Commonwealth of Independent States experienced GDP growth, averaging 2.9 per cent, following a period of economic decline. In other regions the trend of a softened economic development prevailed. Latin America and the Caribbean as a region was faced with stagnation (0.2 per cent GDP growth) and experienced the weakest economic performance of the decade. The Middle East (2.5 per cent GDP growth) remained basically stable compared to the previous year.

The world trade volume in goods and services is estimated to have grown at about 4.6 per cent in 1999, similar to growth in 1998. These developments reflect the somewhat reduced growth among the major trading partners and the volatility of highly export-oriented economies in both advanced and developing economies.

International tourism continued to prosper in 1999, when an estimated 657 million tourists travelled to foreign countries, spending almost $455 billion*, according to preliminary results of the World Tourism Organization. Global tourism development achieved a robust growth of 3.2 per cent for both international arrivals and receipts (Figure 2).

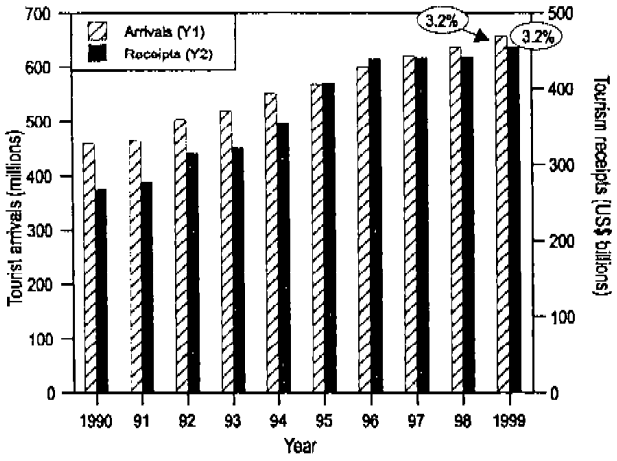


Figure 2. International tourism receipts and arrivals
U.S. dollars, 1990-1999

Scheduled Operations

In 1999, the total scheduled traffic carried by the airlines of the 185 Contracting States of ICAO amounted to a total of about 1 560 million passengers and some 28 million tonnes of freight. Both the overall and the international passenger/freight/mail tonne-kilometres performed increased by some 6 per cent over 1998 (Tables 1 and 2). Figure 3 shows the trend from 1990 to 1999.

In 1999, the overall capacity increased at a slightly lower rate than traffic (Figure 4). Hence the average passenger load factor on total scheduled services (domestic plus international)

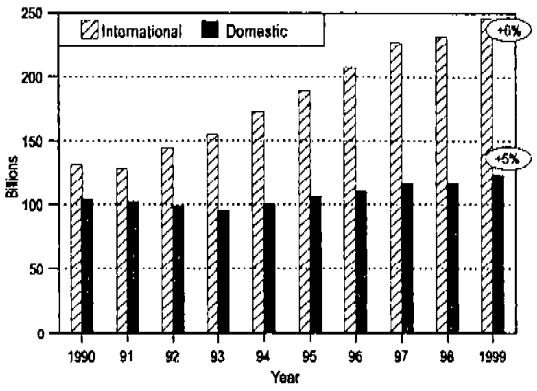


Figure 3. Scheduled traffic
tonne-kilometres performed, 1990-1999

shows a slight increase to 69 per cent in 1999; however, there was little change in the average weight load factor, which remained at 60 per cent (Table 3).

On a regional basis, some 36 per cent of the total traffic volume (passengers/freight/mail) was carried by North American airlines. European airlines carried 28 per cent, Asia/Pacific airlines 27 per cent, Latin American and the Caribbean airlines 4 per cent, Middle East airlines 3 per cent and African airlines 2 per cent (Table 4).

Data for individual countries (Tables 5 and 6) show that in 1999 approximately 46 per cent of the total volume of scheduled passenger, freight and mail traffic was accounted for by the airlines of the United States, Japan and the United Kingdom (34, 6 and 6 per cent respectively). On international services, about 40 per cent of all traffic was carried by the airlines of the United States, the United Kingdom, Germany and Japan (18, 8, 7 and 7 per cent respectively).

Non-scheduled Commercial Operations

It is estimated that in 1999 total international non-scheduled passenger-kilometres increased by some 11 per cent, with the non-scheduled share of overall international air passenger traffic remaining at about 14 per cent (Figure 5 and Table 7). Domestic non-scheduled passenger

* All amounts in this chapter are in U.S. dollars.

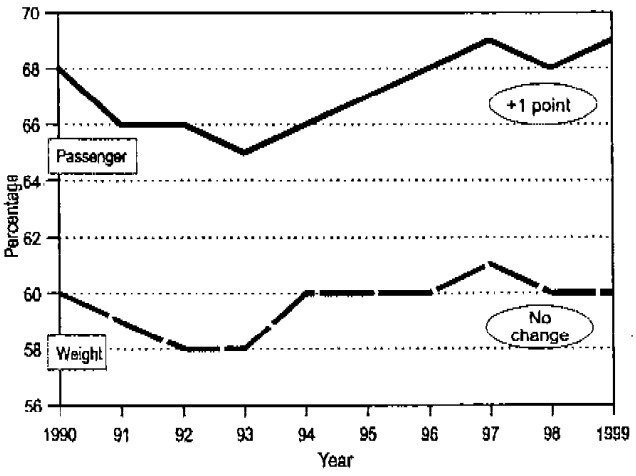


Figure 4. Scheduled traffic
achieved load factors, 1990-1999

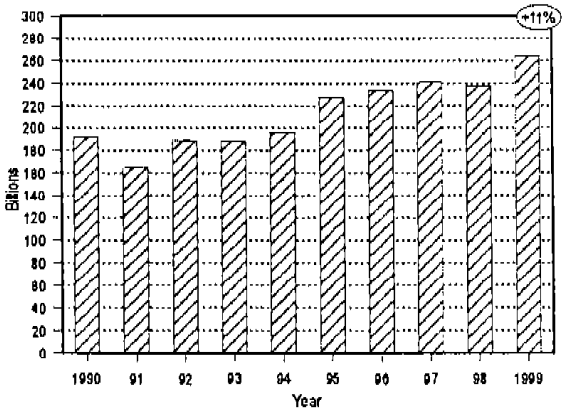


Figure 5. International non-scheduled traffic
passenger-kilometres performed, 1990-1999

traffic represents only about 8 per cent of total non-scheduled passenger traffic and some 2 per cent of total domestic passenger traffic worldwide.

Airport Operations

In 1999, the 25 largest airports in the world handled some 1 045 million passengers, according to preliminary estimates (Table 8). During the same period, the airports concerned (17 of which are located in North America, 5 in Europe and 3 in Asia) also handled some 11 million commercial air transport movements.

Preliminary estimates for 1999 indicate that the world's scheduled airlines as a whole experienced an operating profit for the sixth year in succession (Table 9 and Figure 6).

The operating revenues of scheduled airlines of ICAO Contracting States are tentatively estimated at $306 500 million in 1999 and operating expenses for the same airlines at $294 000 million, giving an operating profit of 4.1 per cent of operating revenues. This follows an operating profit of 5.4 per cent in 1998.

Per tonne-kilometre, operating revenues decreased from 80.6 cents in 1998 to an estimated 78.9 cents in 1999, while operating expenses decreased from 76.2 cents to an estimated 75.6 cents.

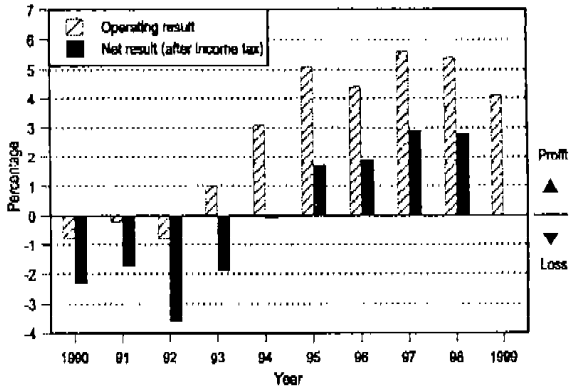


Figure 6. Scheduled airlines
operating and net, 1990-1999

COMMERCIAL DEVELOPMENTS

Carriers

On the basis of schedules published in multilateral airline schedule guides, it is estimated that at the end of 1999 there were some 721 air carriers worldwide providing scheduled passenger services (international and/or domestic) and about 86 operating scheduled all-freight services. Compared with the same period in 1998, this represents a net overall increase of about 22 air carriers.

The trend to partial or full privatization of government-owned airlines continued in 1999. Seven airlines successfully achieved privatization and privatization objectives were made known for another two airlines. Preparations for privatization continued during the year for some 30 government-owned carriers that had been targeted in previous years. However, the privatization of several airlines had to be deferred or postponed due to economic conditions or the financial state of the airlines concerned, or local circumstances.

Airlines continued to expand cooperative ties, including development of global alliances, code-sharing, joint services and joint participation in frequent-flyer programmes.

Aircraft

Between 1990 and 1999, the reported number of commercial air transport aircraft in service increased by about 49 per cent from 12 238 to 18 204 (excluding aircraft with a maximum take-off mass of less than 9 000 kg). Within these totals, turbo-jet aircraft numbers increased by about 53 per cent, from 9 407 to 14 406, over the same period (Figure 7 and Table 10).

In 1999, 987 jet aircraft were ordered (compared with 1 463 in 1998) and 1 074 aircraft were delivered (compared with 929 in 1998). The backlog of unfilled orders at the end of 1999 was 3 306 aircraft compared with 3 565 at the end of 1998.

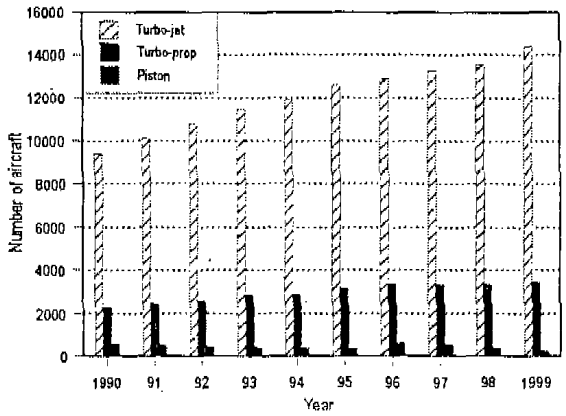


Figure 7. Total commercial air transport fleet
1990-1999

The financial commitment in terms of jet aircraft orders placed with the major aircraft manufacturers in 1999 is estimated to be about $51 billion.

The number of turboprop aircraft ordered in 1999 was 86, and 79 turboprop aircraft were delivered during the year.

Most active aircraft type transactions, 1999

Aircraft	*Orders*	*Deliveries*	*Backlog*
Airbus A 319/ 320/321	273	217	991
Boeing 737	213	296	847
Canadair RJ	166	73	355
Embraer EMB-145	102	79	163
De Havilland Canada DHC-8	57	25	76

Airports and Air Navigation Services

The finances of airports and air navigation services continued to improve in 1999, buoyed by the increase in the number of financially autonomous bodies that have been specifically established to take over the operation of these infrastructure components from the government (be that at the national, regional or local level). The increased involvement of private interests in the operation of airports accelerated during the year, primarily through long-term concessional or

lease-type arrangements rather than outright purchase or transfer of ownership. This trend in private participation in infrastructure provision is expected to continue, primarily with regard to airports rather than air navigation services, where the process of transferring operations to autonomous bodies commenced more recently.

★ *The Secretariat commenced work on a Study on Privatization in the Provision of Airports and Air Navigation Services which, in the first instance, will be presented to a Conference on the Economics of Airports and Air Navigation Services to be convened in Montreal from 19 to 28 June 2000. ICAO also conducted a Seminar on the Privatization of Airports which was held in Guatemala City from 13 to 16 December 1999 for States in the Americas.*

The number of bilateral air service agreements reported in 1999 showed a reduction for the fourth year in a row, possibly reflecting an increasing reliance by States on existing bilateral and regional air service agreements. States reportedly concluded 44 bilateral air service agreements in 1999 (of which 32 were first-time agreements and 12 were replacements) in comparison to 54 agreements signed in 1998 (42 new, 12 replacements). The number of amendments to existing agreements also showed a decrease, with 21 reported in 1999 compared to 31 in 1998. There were two bilateral Memoranda of Understanding (MOUs) reported in 1999.

In terms of the regions involved, only 6 new agreements, 3 replacements, 6 amendments and one MOU were between States within the same ICAO Region while 26 new agreements, 9 replacements, 15 amendments and one MOU involved States in different ICAO Regions. Continuing a trend, over 60 per cent of the 67 bilateral agreements and amendments reported in 1999 liberalized the respective regulatory framework in varying degrees. For example, 6 provided for full-market access and 5 provided for the "open skies" concept, while another 30 contained one or more features such as increased capacity, multiple designation, unrestricted pricing and cargo provisions and codesharing arrangements. Two open skies agreements expanded their coverage to include provisions on intermodal transportation involving the selling of services to passengers on combined air and surface travel such as railroads and buses.

★ *In November, the Council adopted a Resolution defining the position of the Organization on air transport in the General Agreement on Trade in Services (GATS). The Resolution requested the World Trade Organization (WTO) to take into account the progressive liberalization that has been taking place in international air transport in recent years at the bilateral and regional levels as well as ICAO's constitutional responsibility for international air transport, particularly as regards safety and security.*

★ *The Secretariat attended the Third Ministerial Conference of the WTO in Seattle, United States, from 30 November to 3 December as well as the preparatory meetings prior to the Conference. Although the Conference failed to set the agenda for a comprehensive new round of multilateral trade negotiations, the review of the Air Transport Annex of the General Agreement on Trade in Services (GATS) by the WTO will proceed in 2000 as part of a built-in agenda by an earlier ministerial decision.*

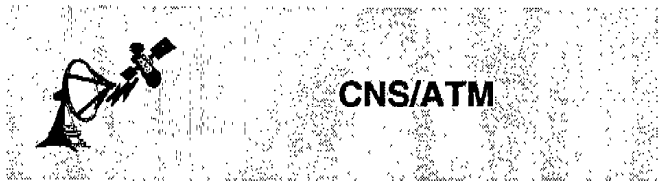
An important development in 1999 was the progress of air transport liberalization at the regional level. The Council of Arab Transport Ministers of the Arab Civil Aviation Commission (ACAC) reached an agreement to liberalize intra-Arab air services over a period of five years, gradually ending restrictions on third, fourth and fifth traffic freedoms for carriers of ACAC member States. In Latin America, the Air Transport Working Group set up by the Conference of Ministers of Transport, Communications and Public Works of South America adopted a resolution to continue its work with a view to developing a common commercial air policy for the region to be presented to the Ministers of Transport in a meeting scheduled for November 2000.

In Africa, the 21 States that form the Common Market for Eastern and Southern Africa (COMESA) reached an agreement to phase in liberalization in air transport within the sub-region. The first phase would allow free movement of intra-COMESA air cargo and non-scheduled passenger services, two daily scheduled passenger services between any city pairs with no capacity restrictions, and multiple airline designation. Full liberalization of air transport services within COMESA is targeted for October 2000. Also, the Council of Ministers of the Central African Economic Union adopted, in Bangui, an agreement on liberalizing air transport between its six member States. Finally, at a meeting of the Economic Commission for Africa (ECA) in Yamoussoukro (November 1999), which was attended and addressed by the Secretary General, African Transport Ministers adopted a region-wide provisional aviation agreement to liberalize the African skies with the aim of reaching full integration by 2002. The agreement would become effective thirty days after ratification, which is scheduled to take place at the next meeting of the African Ministers of the Organization of African Unity (OAU) in Togo in June 2000.

Elsewhere, the leaders of the Asia Pacific Economic Cooperation forum (APEC) endorsed a proposal by its Transportation Working Group aimed at increasing competitive air services within the region. The proposal would reduce restrictions on market access for both passenger and air freight services, and would allow for multiple airline designation and cooperative arrangements. The European Union (EU) and Switzerland signed an air transport agreement on the basis of the "Community acquis" rules on air transport within the EU. The agreement, subject to national ratification procedures and the assent of the European Parliament, would apply to all routes between any point in the EU and any point in Swiss territory as well as to all carriers registered in Switzerland or in an EU member State. A draft agreement between the EU and 10 Central and Eastern European States for the extension of a European Common Aviation Area has been drawn up for review by the Transport Ministers. The Association of European Airlines (AEA) released a Policy Statement on a Transatlantic Common Aviation Area (TCAA) intended to give impetus to negotiations between the EU and the United States to develop a single regulatory framework. The TCAA proposal identifies core areas for liberalization including the freedom to provide services, airline ownership and the right of establishment, competition policy and leasing of aircraft. It advocates liberalization between the EU and United States markets on an incremental, regional basis, with provisions for other like-minded States to join subsequently.

At the national level, the Government of Australia announced a more liberal aviation policy providing for negotiation of reciprocal open skies arrangements with like-minded States when it is in Australia's national interest. This policy calls for multiple airline designation and unrestricted market access, pricing, freight and codesharing. In December, the Government of the United States sponsored a multilateral ministerial conference in Chicago on the theme "Aviation in the 21st Century — Beyond Open Skies" to "deepen understanding of critical aviation issues of the next century"; the President of the ICAO Council attended and addressed this meeting. Discussions focused on the need for greater liberalization and adequate infrastructure, the primacy of safety and security and the nature and means of liberalization.

Competition in air transport continued to receive regulatory attention in 1999. The European Commission launched formal investigations into alleged anti-competitive practices concerning the use of computer reservation systems (CRS) by Air France, which partly owns CRS vendor Amadeus. The Commission also imposed a fine on British Airways (BA) for abusing its dominant position as a buyer of travel agent services following an investigation into the discount scheme implemented by BA. In the United States, the Department of Justice opened an anti-trust action against American Airlines for monopolizing and attempting to monopolize passenger services to and from its hub at Dallas/Fort Worth Airport. In October, the Department of Transportation (DOT) issued a report on the impact of airport business practices on airline competition, including recommendations on the means to enhance competitive access to airports. The DOT also outlined ways to further reduce barriers to entry into the airline industry in its response to a study of airline competition by the Transportation Research Board. American Airlines and BA withdrew their request to United States authorities for regulatory approval of their proposed alliance after the DOT announced it would refuse anti-trust immunity to the alliance between the two.



Planning for the implementation of communications, navigation, surveillance/air traffic management (CNS/ATM) systems continued in 1999 through the individual and combined efforts of Contracting States and the work of several Planning and Implementation Regional Groups (PIRGs). Specific CNS/ATM system elements and implementation plans are being integrated into regional air navigation plans and the Global Air Navigation Plan for CNS/ATM Systems (Global Plan). Additionally, significant efforts are being made to conduct cost-benefit analyses in order to facilitate the implementation of new systems.

Substantial progress was made in all regions toward implementation of reduced separation minima based on CNS/ATM systems and concepts. In the Pacific Region, the concept of required navigation performance (RNP) formed the basis for a reduction of separation to 50 NM both longitudinally and laterally. Initial steps continued to be taken to implement similar reductions in the African, Latin America and the Caribbean, Middle East and South American Regions. RNP5 airspace is being planned for implementation in parts of the Middle East Region. RNP5, in conjunction with area navigation (RNAV), allowed States and aircraft operators to take advantage of airborne RNAV capabilities within the coverage of existing VOR based systems. Work continued on the introduction of RVSM in portions of the European and Pacific Regions.

Controller-pilot data link communications (CPDLC), automatic dependent surveillance (ADS) and aeronautical message handling system (AMHS) trials have taken place in most ICAO Regions. The ADS trials, together with extensive work on development of ADS procedures aimed at using ADS for separation purposes, should lead to the application of ADS in oceanic airspace for conformance monitoring and separation purposes. These developments should eventually lead to a more efficient utilization of the airspace while increasing capacity.

★ *ICAO, through the Planning and Implementation Regional Groups (PIRGs), continued to monitor the progress of implementation by States of the provisions of Annexes 4 and 15, which require publication of aeronautical coordinates referenced to the World Geodetic System — 1984 (WGS-84). Implementation is expected to improve in 2000, and ICAO will continue to monitor progress and assist States, as required.*

Communications

★ *SARPs for the HF data link (HFDL), developed at the fifth meeting of the Aeronautical Mobile Communications Panel (AMCP), were adopted by the Council and became applicable (as part of Amendment 74 to Annex 10) on 4 November.*

Work was completed on the development of an amendment to the Annex 10 SARPs to extend the provision of AMSS to a greater range of aircraft and to provide for improved utilization of the RF spectrum; adoption of the amendment by the Council is expected in March 2000. In addition, work on VDL Mode 3 (TDMA integrated voice/data) and VDL Mode 4 (data link for surveillance applications) continued. The application of next-generation satellite systems for air navigation was investigated through the definition of acceptability criteria for these systems.

Navigation

Progress continued in a number of States and international organizations in global navigation satellite systems (GNSS) development and implementation. The ICAO GNSS Panel continued development of SARPs for GNSS and, at its third meeting in April, recommended the first package of SARPs for inclusion in Annex 10, Volume I.

Development of satellite-based augmentation systems continued. This form of augmentation is expected to support the use of GNSS for all phases of flight down to Category I precision approach. Several architectures for ground-based augmentation systems with the potential to support Category II/III precision approach

applications also continued to be developed and tested. This type of augmentation may be used by some States as an alternative in support of Category I operations. A number of States have approved the global positioning system (GPS) for supplemental or primary use for some operations and types of airspace.

Surveillance

Considerable progress continued to be reported during the year in improving surveillance capabilities. This included development of the airborne separation assurance system (ASAS) and automatic dependent surveillance-broadcast (ADS-B) concepts, based on SSR Mode S extended squitter technique. Aeronautical surveillance plans (ASP) aimed at coherent implementation of surveillance facilities, including Mode S, airborne collision avoidance system (ACAS) and automatic dependent surveillance, are under development in the regions.

Aeronautical Spectrum

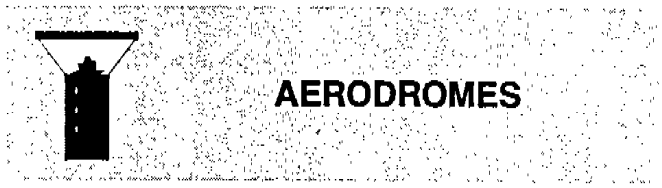
ICAO has actively worked with the International Telecommunication Union (ITU), globally and regionally, to ensure that decisions related to spectrum management will secure the long-term availability of radio frequency spectrum for air navigation, communication and surveillance (radar) services. The ICAO position was formulated in concert with Contracting States. A personal letter from the President of the ICAO Council was sent to the Ministers in charge of civil aviation to solicit their involvement and support of the ICAO position at the ITU World Radiocommunication Conference (2000) (WRC-2000).

Air Traffic Management

As part of the evolutionary process leading to the implementation of a seamless global air traffic management (ATM) system, air traffic control (ATC) systems around the world continued to be updated with modern equipment capable of supporting advanced ATM concepts.

Progress was made in the development of airspace planning and ATM infrastructure requirements in line with the ICAO Global Plan. Several PIRGs developed ATM implementation plans with associated timelines and evolution tables.

Several concepts for operation of ATM systems were advanced. The United States progressed work on implementation of its Free Flight concept, while in Europe, the ATM Strategy for 2000+ was further developed. The Air Traffic Management Operational Concept Panel (ATMCP) met twice as a working group of the whole and began its work toward describing a gate-to-gate ATM operational concept that will facilitate the evolutionary implementation of a seamless, global ATM system.



Large aeroplanes with wing spans greater than 65 m (larger than the B747-400) and capable of carrying more than 550 passengers may enter into service by 2005, which would have an impact on the airport infrastructure. To accommodate such aeroplanes, some States have undertaken airport development projects using current ICAO guidance material. The recent amendment to Annex 14, Volume I, which includes new specifications related to this issue, should facilitate States' activities in this regard.

States are required to evaluate and publish the strength of airport pavements using ICAO's ACN/PCN system. As the current procedures for pavement design and evaluation indicated some limitations when used for analysing the complex loading of new larger aeroplanes equipped with six or more wheels per strut (e.g. Boeing 777), more mature and globally acceptable procedures continue to be examined. In this context, full-scale pavement testing research projects have progressed in two States. The results of these tests are expected to be available around mid-2000.

As a result of the *Montreal Protocol on Substances that Deplete the Ozone Layer*, the production of halons, one of the three complementary fire extinguishing agents recommended in Annex 14,

Volume I, for aerodrome rescue and fire fighting, ceased on 31 December 1993. Only remaining stocks of halons and recycled halons have since been permitted for essential uses and the search for a suitable alternative is still in progress. ICAO continues to monitor research in the industry in order to keep the related specifications current.

The continuous growth of air traffic places increasing demands on airport infrastructure development. Partly to access funds for investment to meet these demands, there is a growing trend towards private involvement in airports. As this also has safety implications, States need to ensure that appropriate legislation and safety regulations are in place. In this context, ICAO's work on the licensing/certification of aerodromes, currently in an advanced stage of progress, should be useful to States to ensure safety and to meet their obligations under the Convention.

AERONAUTICAL METEOROLOGY

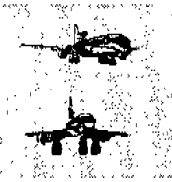
The centralization and commercialization of meteorological forecast services around the world continued in 1999. An increasing use of improved automatic weather observing systems for general meteorological observations in States has prompted requests for a review by ICAO of the role of these systems in the provision of observations for aviation. Progress continued in the computer preparation of global forecasts of significant weather (SIGWX) by the world area forecast centres (WAFCs). As a result, SIGWX charts for Africa, Europe, the Middle East, the North Atlantic, and Southern and Western Asia, prepared by means of interactive computer workstations, are being issued by the WAFC, London. Overall, global coverage by 3 ICAO satellite broadcasts was achieved, and very small aperture terminals were installed in more than 130 States. These broadcasts provide global WAFS products and operational meteorological (OPMET) information, such as METARs, TAFs and SIGMETs, directly to States. The implementation of the satellite broadcasts and the provision of SIGWX forecasts by the WAFCs have permitted the closure of 5 of the 15 regional area forecast centres (RAFCs), and transition plans for the phased transfer of responsibilities from the remaining RAFCs to the WAFCs have been developed in the regions concerned.

Work continued in States responsible for Volcanic Ash Advisory Centres to develop and issue graphical volcanic ash advisories for provision to area control centres and meteorological watch offices.

SEARCH AND RESCUE

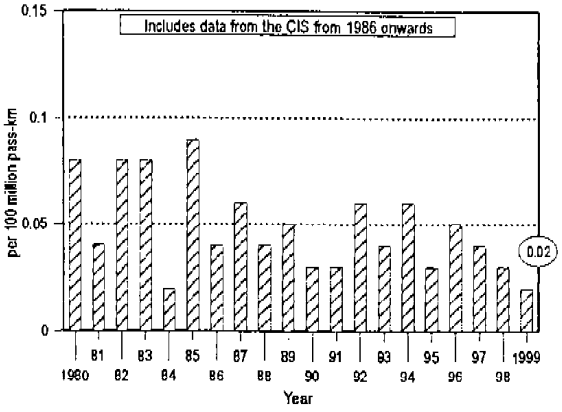
The satellite-based COSPAS-SARSAT system continued to play an important role in detecting emergency locator transmitters and in locating aviation distress sites.

The system also continued to expand its capability. There were 7 low-altitude earth orbit and 3 geostationary satellites in operation, and several replacement satellites incorporating technical enhancements were being built. At year's end, 35 local user terminals (LUTs) and 20 mission control centres (MCCs) were in operation. Although global coverage was already provided on 406 MHz, additional LUTs and MCCs were planned to increase the real-time coverage of the system and to reduce overall response time. A geostationary component of the system has been developed, which will provide for almost instantaneous alert. Since it began trial operations in September 1982, the COSPAS-SARSAT system has contributed to the rescue of more than 10 000 persons in aeronautical, maritime and terrestrial incidents.

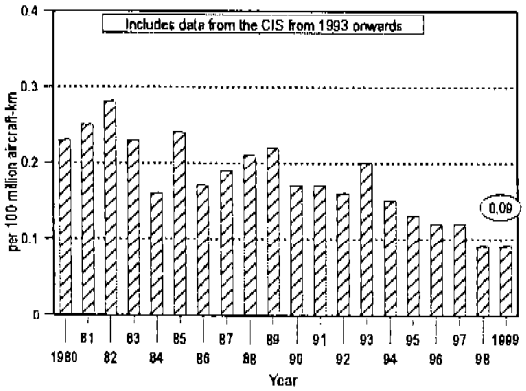


CONGESTION

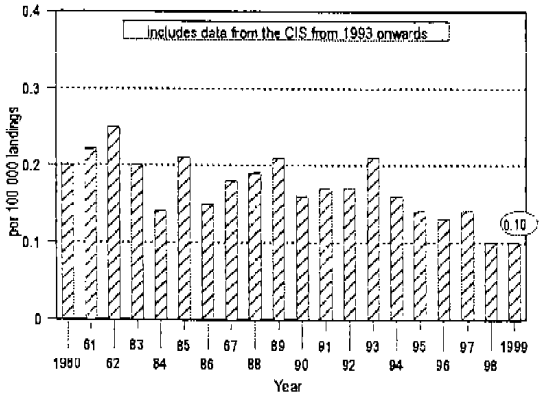
Increasing airport and airspace congestion continued to affect operations in many areas of the world. Air travel has been increasing more rapidly



Number of passengers killed
per 100 million passenger-kilometres
on scheduled services



Number of fatal accidents
per 100 million aircraft-kilometres
flown on scheduled services



Number of fatal accidents
per 100 000 million landings
by aircraft on scheduled services

Figure 8. Aircraft accident statistics
1980-1999

than current airport and airspace capacity. The expected implementation of CNS/ATM systems should contribute substantially to lessening airport and airspace congestion on a worldwide basis.

★ *In order to help alleviate groundside congestion at airports, ICAO completed the development of new technical specifications for "advanced technology" travel cards, e.g. the passport card and other "smart cards" designed to implement systems for the automated border inspection of passengers. Such systems will enable frequent travellers to bypass the queues at immigration booths, particularly at airports with high-traffic volumes at peak periods.*

Scheduled Operations

Preliminary information on aircraft accidents involving passenger fatalities in scheduled air services worldwide shows that in 1999 there were 20 aircraft accidents with passenger fatalities involving aircraft with a certificated maximum take-off mass of more than 2 250 kg. The number of passenger fatalities involved was 489. This compares with 20 fatal accidents and 905 passenger fatalities in 1998 (Table 11). Relating passenger fatalities to the volume of traffic, the number of passenger fatalities per 100 million passenger-kilometres decreased to 0.02 from 0.035 in 1998. However, there was little change in the number of fatal aircraft accidents per 100 million aircraft-kilometres flown and the number of fatal aircraft accidents per 100 000 landings which remained at the 1998 rate levels of 0.9 and 0.10 respectively (Figure 8).

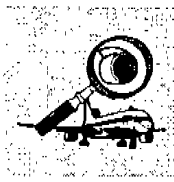
The safety levels are significantly different for the various types of aircraft operated on scheduled passenger services. For instance, in turbo-jet aircraft operations, which account for about 95 per cent of the total volume of scheduled traffic (in terms of passenger-kilometres performed), there were

8 accidents in 1999 with 347 passenger fatalities; in turboprop and piston-engined aircraft operations, which account for about 5 per cent of the scheduled traffic volume, there were 12 accidents with 142 passenger fatalities. The fatality rate for turbo-jet aircraft operations was, therefore, far lower than for propeller-driven aircraft.

Non-scheduled Commercial Operations

Non-scheduled commercial operations include both the non-scheduled flights of scheduled airlines and all air transport flights of non-scheduled commercial operators. Data available to ICAO on the safety of non-scheduled passenger operations show that in 1999 there were 22 fatal accidents involving aircraft with a certificated maximum take-off mass of more than 2 250 kg with passenger fatalities (including 6 involving aircraft operating all-cargo services with passengers on board) with 129 passenger fatalities compared to 20 fatal accidents (including a mid-air collision counted as one accident) with 191 passenger fatalities in 1998.

In non-scheduled operations performed with aircraft of more than 9 000 kg take-off mass, whether by scheduled airlines or non-scheduled operators, there were 8 fatal accidents (5 of which involved aircraft operating all-cargo services with passengers on board) with 53 passenger fatalities in 1999.



SAFETY OVERSIGHT

★ *In accordance with Assembly Resolution A32-11, the ICAO Universal Safety Oversight Audit Programme was launched on 1 January, with audit activities commencing in March. The programme calls for the conduct of mandatory and regular safety oversight audits of all Contracting States and for greater transparency in the disclosure of audit results. It supersedes the voluntary ICAO Safety Oversight Assessment Programme established in March of 1996.*

★ *By 31 December, 49 Contracting States had been audited by ICAO teams in the three areas presently covered by the programme: personnel licensing and training, operation of aircraft and airworthiness of aircraft. In addition, States have been audited to determine evidence of a sound civil aviation regulatory system and organization.*

Summary reports containing an abstract of the findings and corrective actions proposed by the audited States are made available to all Contracting States.

YEAR 2000 (Y2K) CONTINGENCY PLANNING

★ *A status report was presented in June to the United Nations National Y2K Coordinators Meeting in New York, reaffirming that safety remained the top priority of the world aviation community in preparing for the date change to the year 2000. The report highlighted the ICAO Y2K Action Plan which focused on disseminating information about the Y2K problem, raising the level of awareness within the international civil aviation industry about its consequences, assessing the progress of States in addressing the problem and supplementing their efforts as well as those of air transport organizations, and encouraging the development of national contingency plans while working through the regional planning groups toward the development of regional contingency plans.*

★ *ICAO's efforts toward effective contingency planning for Y2K focused on all three levels of planning: national, regional and global. At the national level, States were provided with advice and information to assist them in their preparations. At the same time, they were urged to develop national ATS contingency plans where these did not already exist. The ICAO Regional Offices, working through the Planning and Implementation Regional Groups (PIRGs), developed regional contingency plans. At the global level, two ICAO/IATA Global Year 2000 Contingency Planning Group Meetings were*

held with the principal objectives of harmonizing contingency plans at the regional interfaces and establishing the framework for regional and global Y2K coordination units. All ICAO Regions had finalized their contingency plans prior to the Y2K date change. The unprecedented level of cooperation between ICAO, its Contracting States, the Airports Council International (ACI), the International Air Transport Association (IATA), different aviation agencies and industries culminated in a seamless and uneventful changeover.

Most of the Y2K contingency plans were aimed at ensuring that shutdown of major facilities across a region would not have the effect of closing the airspace completely. This ensured that strategic international routes would remain open. Additionally, regional coordination was established to facilitate flight safety and continuity of international ATS through collection and analysis of information and effective coordination. A global Y2K coordination unit was also established at ICAO Headquarters. The establishment of this unit was made possible due to a significant contribution by the Government of Canada, and the unit is now available as a permanent crisis management infrastructure which can be activated on short notice.

HUMAN FACTORS

During 1999, the industry increased its attention to Human Factors issues in aviation security. The International Aviation Security Human Factors Technical Advisory Group held a conference in Amsterdam, Netherlands, which focused on standardizing screener selection, training, and performance monitoring. The Federal Aviation Administration (FAA) published a document entitled "Test and Evaluation Plan for Measuring Checkpoint Effectiveness and Efficiency", a first depiction of the critical issues for airport security checkpoints and their associated measures of performance.

The Human Error Reduction in Air Traffic Management (HERA) Project was initiated by EUROCONTROL. This multi-national project aims at developing an incident analysis tool to improve human reliability within a high-reliability system. Validation of the project is expected to take place during 2000.

The Fourth Global Flight Safety and Human Factors Symposium was held in Santiago, Chile, from 12 to 15 April 1999. The Symposium was attended by more than 500 participants from 58 Contracting States and 6 international organizations. The recommendations of the Symposium provided ICAO with a basis for formulating a follow-up, five-year plan of action on Flight Safety and Human Factors for the period 2000-2004. An opening address to the Symposium was given by the President of the Council of ICAO.

TRAINING

It was determined that high-quality, standardized training packages for government safety oversight inspectors need to be prepared and disseminated to States which are experiencing difficulties with the implementation of ICAO safety oversight Standards due to a shortage of properly qualified Government Safety Inspectors.

★ *The United States Federal Aviation Administration's Academy and ICAO began a collaborative effort to prepare Standardized Training Packages (STPs) for Government Safety Inspectors. The first of four STPs was completed in 1999. The remaining courses will be completed during the first half of 2000.*

WARSAW SYSTEM

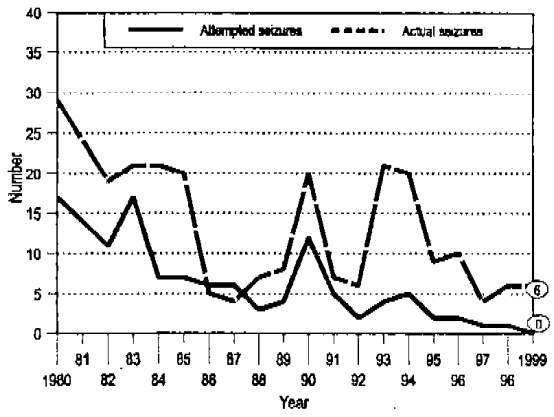
★ *An International Conference on Air Law was convened in Montreal from 10 to 28 May for the purpose of adopting a new international*

legal instrument to modernize and consolidate the "Warsaw System" of air carrier liability. The Conference adopted the Convention for the Unification of Certain Rules for International Carriage by Air, *done at Montreal on 28 May 1999. By the end of 1999, the Convention had been signed by 61 States and one Regional Economic Integration Organization (the European Community), and had been ratified by one State.*

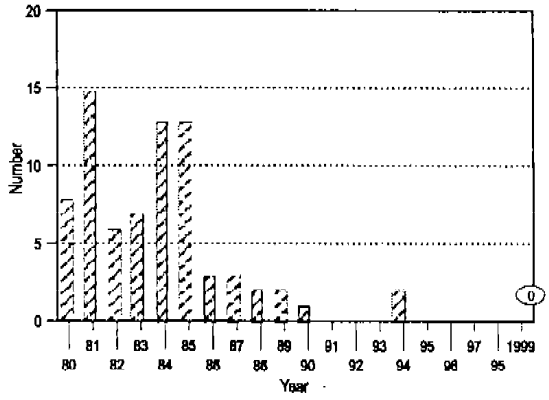
During the reporting period, 6 acts of unlawful interference were officially reported or confirmed by concerned States. These included 3 unlawful seizures involving international flights and 3 seizures of domestic aircraft (Table 12). These acts have been included in the annual statistics to assist in the analysis of trends and developments (Figure 9).

★ *Since the commencement of the Mechanism for financial, technical and material assistance to States with regard to aviation security in 1989, 137 States have requested assistance; of these, 110 have received technical evaluation missions, 34 have been visited during follow-up missions and 139 training events have been staged in which 3 046 trainees have participated. In 1999, these activities have been financed through voluntary contributions by 4 donor States totalling $454 924 and through the funding of 4 posts by 3 donor States.*

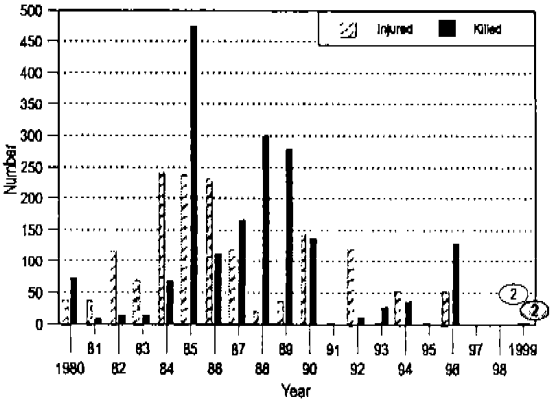
★ *The Council adopted in March a declaration urging all States to refrain from the use of weapons against civil aircraft in flight and to be guided by the principles, rules, Standards and Recommended Practices (SARPs) of the Convention on International Civil Aviation and its Annexes, and related aviation security*



Act of unlawful seizure



Incidents of sabotage



Number of persons killed or injured

Figure 9. Aviation security statistics
1980-1999

conventions, for the safe and efficient development of civil aviation. The declaration also calls upon States which have not yet done so, to ratify Article 3 bis of the Convention on International Civil Aviation, a provision which calls for States to refrain from using weapons against civil aircraft in flight.

★ *Pursuant to the entry into force of the* Convention on the Marking of Plastic Explosives for the Purpose of Detection *on 21 June 1998, the Council examined a list of experts nominated for membership in the International Explosives Technical Commission (IETC). In accordance with the Council decision, the President of the Council appointed members to the Commission from the following States: Argentina, Austria, Canada, the Czech Republic, Egypt, France, Germany, Japan, Kuwait, Mexico, Saudi Arabia, Switzerland, the United Kingdom, the United States and Zambia. The first session of the IETC was held at ICAO Headquarters from 13 to 15 December. During the session the Commission adopted its Rules of Procedure, examined its mandate and work methodology, reviewed the status of the Technical Annex to the Convention, considered the functions of the Ad Hoc Group of Specialists on the Detection of Explosives and identified its future work programme.*

In April, the Council of the European Union adopted Council Regulation (EC) No. 925/1999 on the registration and operation within the Community of certain types of civil subsonic jet aeroplanes that have been modified and recertificated as meeting the noise Standards in Chapter 3 of Annex 16. However, in adopting the Regulation, it decided to postpone the date of its application by one year to 4 May 2000, referring to ongoing consultations with the United States and developments within ICAO. The aircraft noise developments in Europe were brought to the attention of the Council and in March were the subject of correspondence between the President of the Council of ICAO and the President of the Council of the European Union calling for further consideration of these matters within ICAO.

Also in April, the Intergovernmental Panel on Climate Change (IPCC) completed a special report on *Aviation and the Global Atmosphere* which was prepared in collaboration with the Scientific Assessment Panel of the Montreal Protocol at ICAO's request. This report gives States, ICAO and other UN policy-making bodies an authoritative common base of information for addressing the impact of aircraft engine emissions.

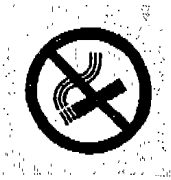
Following the adoption in December 1997 of the Kyoto Protocol to the UN Framework Convention on Climate Change, negotiations continued on developing the rules governing the new mechanisms provided for in the Protocol with a view to their completion in late 2000. These include emissions trading, which could be of relevance to aviation.

★ *In February, on the basis of recommendations by the fourth meeting of ICAO's Committee on Aviation Environmental Protection (CAEP/4, April 1998), the Council adopted new Standards and Recommended Practices reducing, by an average of 16 per cent (applicable to new engine designs after 2003), the levels of nitrogen oxides that aircraft engines will be allowed to emit and increasing the stringency of noise Standards for single-engined light propeller-driven aeroplanes.*

★ *Concerning noise, in June the Council expanded CAEP's mandate to enable the Committee, in addition to the work already under way regarding a noise Standard more stringent than Chapter 3, to explore worldwide the issue of operating restrictions on Chapter 3 aircraft. CAEP has since given this task a high priority.*

★ *Concerning engine emissions, as requested by the Assembly in 1998 CAEP is placing particular emphasis on developing policy*

options to limit or reduce greenhouse gas emissions from civil aviation. In doing so, it is taking into account the IPCC's special report and the requirements of the Kyoto Protocol. This work includes monitoring advances in technology and exploring the further development of Annex 16 to specifically address emissions of global concern; and developing guidance material on operational measures to reduce emissions as well as a methodology for assessing the environmental benefits of the implementation of CNS/ATM systems. This work also includes analysing the potential role of market-based options, such as emissions-related levies (charges or taxes), emissions trading and voluntary agreements, with a view to reporting on this subject to the Assembly in 2001.



SMOKING RESTRICTIONS

By the end of the year, further progress had been made in achieving a smoke-free environment on board passenger flights worldwide, in many cases based on voluntary changes in airline policies. All carriers in Australia, New Zealand, the Nordic countries and North America have implemented complete smoking bans system-wide. In Asia, Europe and the Middle East, a large majority of all flights are now smoke-free. In South America, it is still a minority of flights that are smoke-free. In the African Region, the airlines of some 15 States have banned smoking on board passenger flights.

SUBSTANCE ABUSE

During the year, the *Manual on Prevention of Problematic Use of Psychoactive Substances in the Aviation Workplace* (Doc 9654) was promoted at international civil aviation medicine conferences and meetings in China, Denmark, Hungary, the Republic of Korea, Sri Lanka, and the United States.

TECHNICAL CO-OPERATION

The ICAO Technical Co-operation Programme for 1999 was valued at $60.5 million, of which $54.3 million (or 90 per cent) was implemented.

During the year, the Technical Co-operation Bureau executed 126 projects in 72 developing countries and a total of 12 new and revised *large-scale projects were approved. The TCB* employed 366 experts from 41 countries to work in its field projects. A total of 581 fellowships were awarded and procurement expenditures for field projects totalled $21.23 million.

In 1999, ICAO, through its European and North Atlantic Office and its Technical Co-operation Programme, played an important role in the normalization of the air navigation services in the Balkan area. In Bosnia and Herzegovina, through the execution of a technical cooperation project funded by the European Commission, ICAO is assisting the Department of Civil Aviation to implement measures and execute day-to-day tasks for a safe and efficient civil aviation infrastructure in accordance with ICAO SARPs. ICAO's activities in Bosnia and Herzegovina have far-reaching effects on the population of the country as well as benefiting national and international air carriers serving or overflying the country. A major achievement of the project is the return to Bosnia and Herzegovina of its upper airspace and the preparation of a comprehensive plan for airspace and air-traffic-services route structure to be implemented in coordination with the Stabilization Forces. In response to a request from the United Nations Special Representative for Civil Administration in Kosovo to provide assistance in the opening of Pristina Airport, ICAO fielded a mission to Pristina Airport in November 1999. The mission, which consisted of experts in

the fields of aerodrome engineering, mechanical and electrical engineering, facilitation and security, communication/navigation/surveillance, meteorology equipment and air traffic management, reviewed and evaluated the airport facilities and produced its report, covering the issues of safety, security, installation, management and administration. As a result of the ICAO mission, Pristina Airport was opened for daylight civilian operations only under visual meteorological conditions and following visual flight rules, provided the aeronautical information regarding the operating conditions and procedures were disseminated in accordance with ICAO provisions (Annex 15).

In Somalia, ICAO's Civil Aviation Caretaker Authority for Somalia continued its activities in 1999 for the operation of a Flight Information Centre, Aerocom and Aeromet facilities, as well as training, capacity building and rehabilitation of the airport infrastructure and aviation services at airports in Somalia. The flight information services are provided from remote facilities stationed in Nairobi.

THE ORGANIZATION

★ *In January, the Safety Oversight Audit Unit was established bringing into effect a Universal Safety Oversight Programme including a systematic reporting and monitoring system on the implementation of safety-related Standards and Recommended Practices (SARPs). Under the programme, which was established in accordance with Assembly Resolution A32-11, the auditing of States commenced in March, and by the end of the year, 49 States had been audited. It is expected that all Contracting States will be audited by the end of 2001.*

★ *The Air Navigation Commission marked its 50th Anniversary in February. The Commission is composed of 15 technical experts appointed by the Council on the basis of their experience and individual expertise. The Commission recommends to the Council the most appropriate course of action in the process of developing and amending the Standards and Recommended Practices (SARPs) contained in 16 of the 18 Annexes to the Convention and their related procedures.*

★ *In May, the* Convention for the Unification of Certain Rules for International Carriage by Air *was adopted and signed in Montreal at an International Air Law Conference called by ICAO to consolidate and modernize the Warsaw Convention system which had been amended and supplemented over the years.*

★ *On 28 May, the Supplementary Agreement between the International Civil Aviation Organization and the Government of Canada regarding the Headquarters of the International Civil Aviation Organization was signed in Montreal, with effect from 1 November 1996. This Agreement supersedes the Supplementary Agreement signed on 12 and 16 September 1980. The parties agreed that the Government of Canada rent from the owner, and that the Organization occupy, the entire building for a period of 20 years and one month. On a yearly basis, the Government of Canada assumes 75 per cent of the rent and of operating costs and of all the property taxes; the Organization assumes 25 per cent of the rent and of operating costs to be paid to the Government of Canada.*

★ *On 17 August 1999, the* Protocol relating to an amendment to the Convention on International Civil Aviation [Final Clause, Russian Text], *signed at Montreal on 30 September 1977, entered into force for those States which have ratified it. Thirty days thereafter, on 16 September 1999, the* Protocol on the Authentic Quadrilingual Text of the Convention on International Civil Aviation (Chicago, 1944), *signed at Montreal on 30 September 1977, entered into force for those States which have accepted it and ratified the Protocol relating to the Final Clause (Russian Text). Both Protocols being in force, the Convention is now equally authentic in the English, French, Russian and Spanish languages.*

★ *In September, the Council awarded the 33rd Edward Warner Award, the highest honour in the world of civil aviation, to Mr. Jerome F. Lederer (United States of America) in recognition of his eminent contributions to the improvement of all aspects of safety in international aviation.*

★ *In September, 252 world aviation experts representing 84 Contracting States and 11 international organizations participated in the 1999 Accident Investigation and Prevention (AIG) Divisional Meeting. They agreed on a series of recommendations designed to strengthen accident prevention through enhanced reporting systems and more efficient sharing of safety-related information, as well as to enhance the technical specifications for accident and incident investigation.*

★ *On 3 October 1999, the* Protocol to Amend the Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface, signed at Rome on 7 October 1952, *signed at Montreal on 23 September 1978, entered into force.*

★ *International Civil Aviation day was celebrated on 7 December with the theme "Promoting Global Friendship and Understanding".*

★ *During 1999, ICAO played a major role through the European and North Atlantic Office in the normalization of air navigation services for Bosnia and Herzegovina. A project funded by the European Commission (EC) was finalized, assisting the Department of Civil Aviation to execute day-to-day tasks and ensure safe and efficient air transportation in accordance with ICAO SARPs. Furthermore, management of upper airspace was returned to the authorities of Bosnia and Herzegovina.*

★ *A full year of intensive activity went into preparing for the date change to the year 2000. Concerted efforts of the ICAO/IATA Global Year 2000 Contingency Planning Group, the ICAO Regional Offices and Regional Planning Groups and national planning, together with the establishment of a global Y2K coordination unit at ICAO Headquarters over the transition period, led to a successful transition of international civil aviation to the year 2000 and substantial and long-lasting benefits for the safety and effectiveness of flight operations worldwide. This was the result of an unprecedented level of cooperation between ICAO, its Contracting States, ACI, IATA, various aviation agencies and civil aviation industries.*

★ *In keeping with Assembly Resolution A32-1, Increasing the effectiveness of ICAO, Council continued its efforts to streamline the working methods and procedure of the Council and the Assembly without weakening the Organization or adversely affecting its function. The Council in its work programme placed greater emphasis on policy matters and devoted more time to air navigation matters. It delegated to the Air Navigation Commission and to the President of the Council authority to deal with various aviation matters. To improve communication with States, the Organization made greater use of the World Wide Web. Cost savings were realized in document production, recruitment and building management. Measures to introduce a wider variety of staff awards and incentives were approved by Council.*