

List of space-related initiatives and programmes carried out by member States of the Committee on the Peaceful Uses of Outer Space and within the United Nations system that respond to specific recommendations contained in the Johannesburg Plan of Implementation related to water resources management

Action items in the Plan of Implementation (A/CONF.199/20, Resolution 2)		Relevant space applications	Space-related initiatives and programmes that could support the implementation of the action		Web-site(s) for further information
Para.	Action item		Agencies / institution(s) involved	Initiatives/Programmes	
	<i>II. Poverty eradication</i>				
7(l)	Combat desertification and mitigate the effects of drought and floods through measures such as improved use of climate and weather information and forecasts, early warning systems, land and natural resource management, agricultural practices and ecosystem conservation in order to reverse current trends and minimize degradation of land and water resources, including through the provision of adequate and predictable financial resources to implement the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa, as one of the tools for poverty eradication;	RS and GIS, meteorological satellites for mitigation of the effects of drought and floods	<p>ELTE Geophysics Department (Hungary)</p> <p>Hungarian Meteorological Service</p> <p>CNES and the Belgian, Swedish and Italian space agencies and the European Commission</p> <p>Ministry of Research and New Technologies (France), Alcatel Space, Astrium, Cemagref, MétéoFrance, BRGM, IMFT, MSI, SCOT, SPOT Image, Adage (France)</p> <p>FAO</p> <p>ESCAP</p>	<p>Satellite data processing (HRPT)</p> <p>Flood forecasting and management</p> <p>SPOT vegetation instrument for observation of crops and continental biosphere</p> <p>PACTES project: flood prediction and prevention using space technology</p> <p>Global Information and Early Warning System (GIEWS), which uses the Advanced Real Time Environmental Monitoring Information System (ARTEMIS)</p> <p>Southern African Development Community (SADC) Regional Remote Sensing Unit with the use of ARTEMIS</p> <p>Regional Space Applications Programme for Sustainable Development in Asia and the Pacific (RESAP)</p> <p>Study on the framework of regional cooperative mechanisms supporting disaster management using space technology</p>	<p>www.fao.org/giews, http://geoweb.fao.org</p> <p>www.sadc-fanr.org.zw, http://metart.fao.org</p> <p>http://www.unescap.org/icstd/SPACE/resap/resap_main.asp</p>

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			UNESCO	Cross-cutting project “Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa”	http://portal.unesco.org/ci/ev.php?URL_ID=2174&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1023781263
				IOC’s “Regional Ocean Observing and Forecasting Systems for Integrated Management of Ocean and Coastal Environment and Natural Disasters in Africa” (ROOFS-AFRICA) project	http://ioc.unesco.org/goos/Africa/ROOFS-AFRICA.htm
			WMO	Hydrology and Water Resources Programme	http://www.wmo.ch/web/homs/1stpage.html
				World Climate Programme	http://www.wmo.ch/web/wcp/wcp_prog.htm
8	... we agree to halve, by the year 2015, the proportion of people who are unable to reach or to afford safe drinking water (as outlined in the Millennium Declaration)...	RS and GIS for water resources management	BRGM, CLS, AETS, Ministry of Research and New Technology (France)	RESSOURCE: Project to use space telecommunications for water data collection	
			ESCAP	Regional Space Applications Programme for Sustainable Development in Asia and the Pacific (RESAP)	(http://www.unescap.org/icstd/SPACE/resap/resap_main.asp)
			UNESCO	Cross-cutting project “Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa”	(http://portal.unesco.org/ci/ev.php?URL_ID=2174&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1023781263)
				IOC’s “Regional Ocean Observing and Forecasting Systems for Integrated Management of Ocean and Coastal Environment and Natural Disasters in Africa” (ROOFS-AFRICA) project	http://ioc.unesco.org/goos/Africa/ROOFS-AFRICA.htm

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	IV. Protecting and managing the natural resource base of economic and social development				
	<i>- Water management -</i>				
25(c)	Promote priority action by Governments, with the support of all stakeholders, in water management and capacity-building at the national level and, where appropriate, at the regional level, and promote and provide new and additional financial resources and innovative technologies to implement chapter 18 of Agenda 21	RS and GIS for water resources assessment and water management	<p>ESA Funded projects by Verbundplan GmbH, Austrian Research Centers and IMG I – Innsbruck (Austria)</p> <p>BRGM, CLS, AETS, Ministry of Research and New Technologies (France)</p> <p>FAO</p> <p>FAO, UNEP</p> <p>ESCAP</p> <p>WMO</p> <p>UNESCO</p>	<p>Study Report on “International treaties, agreements and programmes relevant to non-scientific application of satellite based hydrological data”</p> <p>RESSOURCE: Project to use space telecommunications for water data collection</p> <p>Global Information and Early Warning System (GIEWS), which uses the Advanced Real Time Environmental Monitoring Information System (ARTEMIS)</p> <p>Southern African Development Community (SADC) Regional Remote Sensing Unit with the use of ARTEMIS</p> <p>AFRICOVER/Land Cover Mapping; Global Land Cover Network (GLCN) Initiative</p> <p>Regional Space Applications Programme for Sustainable Development in Asia and the Pacific (RESAP)</p> <p>Hydrology and Water Resources Programme</p> <p>Space Hydrology International Partnership (SHIP) in cooperation with European Space Agency’s TIGER project</p>	<p>www.fao.org/giews, http://geoweb.fao.org</p> <p>http://metart.fao.org, www.sadc-fanr.org.zw</p> <p>www.africover.org</p> <p>http://www.unescap.org/icstd/SPACE/resap/resap_main.asp</p> <p>http://www.wmo.ch/web/homs/1stpage.html</p> <p>http://www.unesco.org/water</p>

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25(d)	Intensify water pollution prevention to reduce health hazards and protect ecosystems by introducing technologies for affordable sanitation and industrial and domestic wastewater treatment, by mitigating the effects of groundwater contamination and by establishing, at the national level, monitoring systems and effective legal frameworks	RS and GIS for water pollution monitoring systems	FAO, UNEP	AFRICOVER/Land Cover Mapping; Global Land Cover Network (GLCN) Initiative	www.africover.org
			UNESCO	Cross-cutting project "Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa"	http://portal.unesco.org/ci/ev.php?URL_ID=2174&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1023781263
				IOC's "Regional Ocean Observing and Forecasting Systems for Integrated Management of Ocean and Coastal Environment and Natural Disasters in Africa" (ROOFS-AFRICA) project	http://ioc.unesco.org/goos/Africa/ROOFS-AFRICA.htm
26.	Develop integrated water resources management and water efficiency plans by 2005, with support to developing countries.	RS/GIS and GNSS for evaluation of water resources and data collection	DESA	Satellite imagery and GPS are used to evaluate water resources potential and carry out data collection	
			UNESCO	Cross-cutting project "Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa"	http://portal.unesco.org/ci/ev.php?URL_ID=2174&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1023781263
26(a)	Develop and implement national/regional strategies, plans and programmes with regard to integrated river basin, watershed and groundwater management and introduce measures to improve the efficiency of water infrastructure to reduce losses and increase recycling of water	RS and GIS for integrated river basin watershed and groundwater management	BRGM, CLS, AETS, Ministry of Research and New Technologies (France)	RESSOURCE: Project to use space telecommunications for water data collection	
			ELTE Geophysics Department (Hungary)	Research of river-basin Tisza	
			FAO, UNEP	AFRICOVER/Land Cover Mapping; Global Land Cover Network (GLCN) Initiative	www.africover.org

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			UNESCO	Space Hydrology International Partnership (SHIP) in cooperation with European Space Agency's TIGER project	http://www.unesco.org/water
				Cross-cutting project "Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa"	http://portal.unesco.org/ci/ev.php?URL_ID=2174&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1023781263
26(b)	Employ the full range of policy instruments, including regulation, monitoring, voluntary measures, market and information-based tools, land-use management and cost recovery of water services, without cost recovery objectives becoming a barrier to access to safe water by poor people, and adopt an integrated water basin approach	RS and GIS for monitoring and information gathering for decision-making	BRGM, CLS, AETS, Ministry of Research and New Technologies (France)	RESSOURCE: Project to use space telecommunications for water data collection	
			FAO, UNEP	AFRICOVER/Land Cover Mapping; Global Land Cover Network (GLCN) Initiative	www.africover.org
			UNESCO	Space Hydrology International Partnership (SHIP) in cooperation with European Space Agency's TIGER project	http://www.unesco.org/water
				Cross-cutting project "Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa"	http://portal.unesco.org/ci/ev.php?URL_ID=2174&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1023781263
26(d)	Develop programmes for mitigating the effects of extreme water-related events	RS and GIS for preventing and mitigating effects of extreme water-related events	EADS, Astrium, Alcatel Space, MétéoFrance, Cemagref, BRGM, SPOT Image, SCOT, MSI, Sertit Irit, IMFT, Ministry of Research and New Technologies (France)	PACTES project: flood prediction and prevention using space technology	
			FAO	Global Information and Early Warning System (GIEWS), which uses the Advanced Real Time Environmental Monitoring Information System (ARTEMIS)	www.fao.org/giews , http://geoweb.fao.org

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				Southern African Development Community (SADC) Regional Remote Sensing Unit with the use of ARTEMIS	http://metart.fao.org , www.sadc-fanr.org.zw
			FAO, UNEP	AFRICOVER/Land Cover Mapping; Global Land Cover Network (GLCN) Initiative	www.africover.org
			ESCAP	Regional Space Applications Programme for Sustainable Development in Asia and the Pacific (RESAP)	http://www.unescap.org/icstd/SPACE/resap/resap_main.asp
			WMO	Hydrology and Water Resources Programme	http://www.wmo.ch/web/homs/1stpage.html
				Natural Disaster Prevention and Mitigation Programme	
			OOSA, UNOPS	Serving the UN with satellite imagery and value adding products through International Charter "Space and Major Disasters"	www.unosat.org , www.disasterscharter.org
			UNOPS	Global Mapping Grant Facility	www.unosat.org
		RS and GIS information as decision making tools for policy makers and managers	UNESCO	Cross-cutting project "Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa"	http://portal.unesco.org/ci/ev.php?URL_ID=2174&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1023781263

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		RS and GIS information as decision making tools for policy makers and managers; development of forecasting and management models; training and research as a key to poverty alleviation	UNESCO	IOC's "Regional Ocean Observing and Forecasting Systems for Integrated Management of Ocean and Coastal Environment and Natural Disasters in Africa" (ROOFS-AFRICA) project	http://ioc.unesco.org/goos/Africa/ROOFS-AFRICA.htm
27	Support developing countries and countries with economies in transition in their efforts to monitor and assess the quantity and quality of water resources, including through the establishment and/or further development of national monitoring networks and water resources databases and the development of relevant national indicators.	RS and GIS for water resources monitoring and assessment	National Agency for Water Resources (ANRH) (Algeria)	Study of soil resources by remote sensing	
			ESA and Geoville (Austria)	Technical study analyzing the progress in EO from Rio Earth Conference to the WSSD in Johannesburg.	
			FAO	Global Information and Early Warning System (GIEWS), which uses the Advanced Real Time Environmental Monitoring Information System (ARTEMIS)	www.fao.org/giews , http://geoweb.fao.org
				Southern African Development Community (SADC) Regional Remote Sensing Unit with the use of ARTEMIS	http://metart.fao.org , www.sadc-fanr.org.zw
			FAO, UNEP	AFRICOVER/Land Cover Mapping; Global Land Cover Network (GLCN) Initiative	www.africover.org
			WMO	Hydrology and Water Resources Programme	http://www.wmo.ch/web/homs/1stpage.html
			UNESCO	Space Hydrology International Partnership (SHIP) in cooperation with European Space Agency's TIGER project	http://www.unesco.org/water

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				IOC's "Regional Ocean Observing and Forecasting Systems for Integrated Management of Ocean and Coastal Environment and Natural Disasters in Africa" (ROOFS-AFRICA) project	http://ioc.unesco.org/goos/Africa/ROOFS-AFRICA.htm
28.	Improve water resource management and scientific understanding of the water cycle through cooperation in joint observation and research, and for this purpose encourage and promote knowledge-sharing and provide capacity-building and the transfer of technology, as mutually agreed, including remote-sensing and satellite technologies , particularly to developing countries and countries with economies in transition.	RS and GIS for water resource management and scientific understanding of the water cycle	CNES - ISRO	Mégha-Tropique project for water studies	
			CNES – ESA – CDPI (France)	Surface Meteorological Observation System (SMOS) for global observation of land surface humidity and ocean salinity. Climate forecasting	
			FAO	Global Information and Early Warning System (GIEWS), which uses the Advanced Real Time Environmental Monitoring Information System (ARTEMIS)	www.fao.org/giews , http://geoweb.fao.org
				Southern African Development Community (SADC) Regional Remote Sensing Unit with the use of ARTEMIS	http://metart.fao.org , www.sadc-fanr.org.zw
			FAO, UNEP	AFRICOVER/Land Cover Mapping; Global Land Cover Network (GLCN) Initiative	www.africover.org
			ESCAP	Regional Space Applications Programme for Sustainable Development in Asia and the Pacific (RESAP)	http://www.unescap.org/icstd/SPACE/resap/resap_main.asp
			WMO	Hydrology and Water Resources Programme	http://www.wmo.ch/web/homs/1stpage.html
				WMO Space Programme	http://www.wmo.ch/hinsman/satsun.html

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				IOC's "Regional Ocean Observing and Forecasting Systems for Integrated Management of Ocean and Coastal Environment and Natural Disasters in Africa" (ROOFS-AFRICA) project	http://ioc.unesco.org/goos/Africa/ROOFS-AFRICA.htm
	- Coastal area management -				
30(b)	Promote the implementation of chapter 17 of Agenda 21, which provides the programme of action for achieving the sustainable development of oceans, coastal areas and seas through its programme areas of integrated management and sustainable development of coastal areas, including exclusive economic zones	RS and GIS for integrated management of coastal areas and marine resources	Ministry for Regional Planning and the Environment (Algeria)	Mapping of development indicators by remote sensing. Blue Plan	
			CLS, IRD, Thales, SODENA, Ministry of Research and New Technologies (France)	Integrated fish stock resource management aid service (SEAGERH)	
			CLS (France)	Argos beacon applications	
			ESCAP	Regional Space Applications Programme for Sustainable Development in Asia and the Pacific (RESAP)	http://www.unescap.org/icstd/SPACE/resap/resap_main.asp
			WMO	World Weather Watch Programme	http://www.wmo.ch/web/www/www.html

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		RS and GIS information as decision making tools for policy makers and managers; development of forecasting and management models; training and research as a key to poverty alleviation	UNESCO	IOC's "Regional Ocean Observing and Forecasting Systems for Integrated Management of Ocean and Coastal Environment and Natural Disasters in Africa" (ROOFS-AFRICA) project	http://ioc.unesco.org/goos/Africa/ROOFS-AFRICA.htm
30(e)	Promote integrated, multidisciplinary and multisectoral coastal and ocean management at the national level and encourage and assist coastal States in developing ocean policies and mechanisms on integrated coastal management	RS and GIS for integrated coastal management	BRGM, BRLI, CNES, CIRAD, Ifremer, SCOT, Ministry of Research and New Technologies (France)	AGIL project for integrated coastal management. Development of services	
			ESCAP	Regional Space Application Programme for Sustainable Development in Asia and the Pacific (RESAP)	http://www.unescap.org/icstd/SPACE/resap/resap_main.asp
		RS and GIS information as decision making tools for policy makers and managers; development of forecasting and management models; training and research as a key to poverty alleviation	UNESCO	IOC's "Regional Ocean Observing and Forecasting Systems for Integrated Management of Ocean and Coastal Environment and Natural Disasters in Africa" (ROOFS-AFRICA) project	http://ioc.unesco.org/goos/Africa/ROOFS-AFRICA.htm

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36(a)	Increase scientific and technical collaboration, including integrated assessment at the global and regional levels, including the appropriate transfer of marine science and marine technologies and techniques for the conservation and management of living and non-living marine resources and expanding ocean-observing capabilities for the timely prediction...	RS to monitor ocean	CNES - NASA	TOPEX-Poseidon for altimetric measurements (ocean circulation, etc.)	
			CNES - NASA	Jason-1 for global altimetric measurements of the oceans, following TOPEX-Poseidon. General meteorology and climate understanding	
			CNES – MétéoFrance - IRD - SHOM) (France)	MERCATOR for ocean simulation on the basis of satellite observation; for climate forecasting	
			CNES-ESA-CDPI (France)	Surface Meteorological Observation System (SMOS) for global observation of land surface humidity and ocean salinity; climate forecasting	
			CNES – CNRS – IRD – IPEV – Ifremer – MétéoFrance - SHOM (France)	French participation in the Global Ocean Observing System (GOOS) using CORIOLIS and MERCATOR	
			ESCAP	Regional Space Application Programme for Sustainable Development in Asia and the Pacific (RESAP)	http://www.unescap.org/icstd/SPACE/resap/resap_main.asp
			WMO	Applications of Meteorology Programme	http://www.wmo.ch/web/aom/aom.html
			UNESCO	IOC's Global Ocean Observing System (GOOS) Regional Alliances	http://ioc.unesco.org/iocweb/index.php
			UNESCO, WMO, UNEP	Intergovernmental Oceanographic Commission's (IOC) Global Ocean Observing System (GOOS) Regional Alliances including those for Africa, Black Sea, Mediterranean, Caribbean, Indian Ocean, Pacific Islands, North-East and South-East Asia, South-East Pacific	
36(c)	Build capacity in marine science, information and management, through, inter alia, promoting the use of environmental impact assessments and environmental evaluation ...	RS for marine management	Thales, SODENA, IRD, CLS, Ministry of Research and New Technologies (France)	SEAGERH project	
			CLS	Data collection using Argos beacons	

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			BRGM – BRLI – CNES – CIRAD – Ifremer - SCOT (France)	AGIL project for integrated coastal management	
			ESCAP	Regional Space Applications Programme for Sustainable Development (RESAP)	http://www.unescap.org/icstd/SPACE/resap/resap_main.asp
			UNESCO	Intergovernmental Oceanographic Commission's (IOC) Ocean Data and Information (ODIN) for Africa, the Caribbean and South America	http://ioc.unesco.org/iocweb/index.php
				IOC's "Regional Ocean Observing and Forecasting Systems for Integrated Management of Ocean and Coastal Environment and Natural Disasters in Africa" (ROOFS-AFRICA) project	http://ioc.unesco.org/goos/Africa/ROOFS-AFRICA.htm
36(d)	Strengthen the ability of the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, the Food and Agriculture Organization of the United Nations and other relevant international and regional and subregional organizations to build national and local capacity in marine science and the sustainable management of oceans and their resources	RS for marine science and sustainable management of oceans and their resources	CNES-CNRS-IRD-IPEV-Ifremer-MétéoFrance-SHOM	French participation in the GOOS project with CORIOLIS and MERCATOR	
			WMO	Applications of Meteorology Programme	http://www.wmo.ch/web/aom/aom.html
			UNESCO	All Intergovernmental Oceanographic Commission's (IOC) programmes, including the Integrated Coastal Area Management (ICAM), Global Observing System (GOS) and International Oceanographic Data and Information Exchange (IODE) programmes, with the use RS data	http://ioc.unesco.org/iocweb/index.php
37(d)	Reduce the risks of flooding and drought in vulnerable countries by, inter alia, promoting wetland and watershed protection and restoration, improved land-use planning, improving and applying more widely techniques and methodologies for assessing the potential adverse effects of climate change ...	RS and GIS for improved land use planning	Alcatel Space Industries (ASPI), Astrium, MétéoFrance, Cemagref, BRGM, SPOT Image, SCOT, MSI, Sertit Irit, IMFT, Ministry of Research and New Technologies (France)	PACTES	

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			ELTE Geophysics Department (Hungary)	Research of river-basin Tisza	
			OOSA	Space Technology and Disaster Management (STDM) Regional Centres for Space Science and Technology Education	http://www.oosa.unvienna.org/sapidx.html oosa@unvienna.org
			ESCAP	Regional Space Applications Programme for Sustainable Development (RESAP)	http://www.unescap.org/icstd/SPACE/resap/resap_main.asp
			WMO	Hydrology and Water Resources Programme	http://www.wmo.ch/web/homs/1stpage.html
				Natural Disaster Prevention and Mitigation Programme	
			UNOPS, UNITAR	Activities in support to disaster preparedness, capacity building and sustainable development	www.unosat.org
	- Agriculture -				
40(b)	Develop and implement integrated land management and water-use plans that are based on sustainable use of renewable resources and on integrated assessments of socio-economic and environmental potentials and strengthen the capacity of Governments, local authorities and communities to monitor and manage the quantity and quality of land and water resources	RS and GIS for management of land and water resources	MétéoFrance – CETP – GEOSYS - AFEID	CITRAM irrigation advisory project. Irrigation management, soil water determination	
			INRA – CNRM – MétéoFrance – Astrium - SCOT	APOGEE project for land use planning assistance at regional level	
			CIRAD-Institut Géographique National (IGN)-ministries of the environment of the relevant countries, Ministry of Research and New Technologies (France)	SHERPA hydrological and environmental monitoring project for Central America	
			ITCF-GEOSYS. Ministry of Research and New Technologies (France)	SADAISI project, access by farmers to satellite images direct from the Internet	
			CIRAD - AMIS-Spot Image	SUCRETTE project: sugar cane teledetection monitoring system	

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			Animation and graphic portfolio manager (AGPM) Technique-INRA-GEOSYS-Vivadour, Ministry of Research and New Technologies (France)	AGROCOM project for optimum maize cultivation	
			ESA-EU	Applications of the Galileo European satellite navigation system for precision agriculture	
			ESCAP	Regional Space Applications Programme for Sustainable Development (RESAP)	http://www.unescap.org/icstd/SPACE/resap/resap_main.asp
			FAO, UNEP	AFRICOVER/Land Cover Mapping; Global Land Cover Network (GLCN) Initiative	www.africover.org
			FAO	AsiaCover	www.asiacover.org
				AgrometShell (AMS)	
			FAO, WFP, UNEP	GeoNetwork	www.fao.org/geonetwork
			WMO	Applications of Meteorology Programme	http://www.wmo.ch/web/aom/aom.html
			FAO, UNESCO, UNEP, WMO	Global Terrestrial Observing System (GTOS)	www.fao.org/gtos
			UNOPS, UNITAR	Activities in support to land and water management, capacity building and sustainable development	www.unosat.org
		GIS for integrated information management	16 UN organs, coordinated by WHO	Second Administrative Level Boundaries data set (SALB)	http://www3.who.int/whosis/gis/salb/salb_home.htm

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		RS and GIS information as decision making tools for policy makers and managers; development of forecasting and management models; training and research as a key to poverty alleviation	UNESCO	Cross-cutting project "Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa"	http://portal.unesco.org/ci/ev.php?URL_ID=2174&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1023781263
40(c)	Increase understanding of the sustainable use, protection and management of water resources to advance long-term sustainability of freshwater, coastal and marine environments	RS and GIS for water resources management	BRGM, CLS, AETS, Ministry of Research and New Technologies (France)	RESSOURCE: Project to provide space telecommunications support for water data collection	
			ESCAP	Regional Space Applications Programme for Sustainable Development in Asia and the Pacific (RESAP)	http://www.unescap.org/icstd/SPACE/resap/resap_main.asp
			FAO, UNEP	AFRICOVER/Land Cover Mapping; Global Land Cover Network (GLCN) Initiative	www.africover.org
			FAO	AsiaCover	www.asiacover.org
			FAO, WFP, UNEP	Geonetwork	www.fao.org/geonetwork
			FAO, UNESCO, UNEP, WMO	Global Terrestrial Observing System (GTOS)	www.fao.org/gtos
			UNESCO	IOC's uses of ocean based RS data to improve forecasts of rainfall in coastal areas; World Water Assessment Programme (WWAP)	http://ioc.unesco.org/iocweb/index.php
			Cross-cutting project "Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa"	http://portal.unesco.org/ci/ev.php?URL_ID=2174&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1023781263	

Action items in the Plan of Implementation (A/CONF.199/20, Resolution 2)		Relevant space applications	Space-related initiatives and programmes that could support the implementation of the action		Web-site(s) for further information
Para.	Action item		Agencies / institution(s) involved	Initiatives/Programmes	
				World Water Assessment Programme (WWAP)	http://www.unesco.org/water/wwap/index.shtml
40(d)	Promote programmes to enhance in a sustainable manner the productivity of land and the efficient use of water resources in agriculture, forestry, wetlands, artisanal fisheries and aquaculture, especially through indigenous and local community-based approaches	RS and GIS to manage the use of water resources	BRGM, CLS, AETS, Ministry of Research and New Technologies (France)	RESSOURCE: Project to provide space telecommunications support for water data collection	
			ESCAP	Regional Space Applications Programme for Sustainable Development (RESAP)	http://www.unescap.org/icstd/SPACE/resap/resap_main.asp
			FAO, UNEP	AFRICOVER/Land Cover Mapping; Global Land Cover Network (GLCN) Initiative	www.africover.org
			FAO	AsiaCover	www.asiacover.org
				AgrometShell (AMS)	
			FAO, WFP, UNEP	GeoNetwork	www.fao.org/geonetwork
			FAO, UNESCO, UNEP, WMO	Global Terrestrial Observing System (GTOS)	www.fao.org/gtos
				IOC's uses of ocean based RS data to improve forecasts of rainfall in coastal areas; World Water Assessment Programme (WWAP)	http://ioc.unesco.org/iocweb/ index.php
		UNESCO	World Water Assessment Programme (WWAP)	http://www.unesco.org/water/wwap/index.shtml	
	GIS for integrated information management	16 UN organs, coordinated by WHO	Second Administrative Level Boundaries data set (SALB)	http://www3.who.int/whosis/gis/salb/salb_home.htm	

Action items in the Plan of Implementation (A/CONF.199/20, Resolution 2)		Relevant space applications	Space-related initiatives and programmes that could support the implementation of the action		Web-site(s) for further information
Para.	Action item		Agencies / institution(s) involved	Initiatives/Programmes	
	- Desertification -				
41(d)	Integrate measures to prevent and combat desertification as well as to mitigate the effects of drought through relevant policies and programmes, such as land, water and forest management, agriculture, rural development, early warning systems, environment, energy, natural resources, health and education, and poverty eradication and sustainable development strategies	RS and GIS for land, water and forest management, early warning systems, environment monitoring and assessment	EADS-Geomatics-Cemagref-Centre d'Études Spatiales de la Biosphère (CESBIO)-Office National des Forêts (ONF)-Media France, Ministry of Research and New Technologies (France)	METIS project on forest management and control	
			Hungarian Meteorological Service	Surface parameters – climate change modeling (ALADIN – HU)	
			ESCAP	Regional Space Applications Programme for Sustainable Development (RESAP)	http://www.unescap.org/icstd/SPACE/resap/resap_main.asp
			WMO	Hydrology and Water Resources Management Programme	http://www.wmo.ch/web/homs/1stpage.html
				WMO Space Programme	http://www.wmo.ch/hinsman/satsun.html
			FAO, WFP, UNEP	GeoNetwork	www.fao.org/geonetwork
UNESCO	World Water Assessment Programme (WWAP)	http://www.unesco.org/water/wwap/index.shtml			

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Para.	Action item		Agencies / institution(s) involved	Initiatives/Programmes	
		RS and GIS information as decision making tools for policy makers and managers; development of forecasting and management models; training and research as a key to poverty alleviation	UNESCO	Cross-cutting project “Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa”	http://portal.unesco.org/ci/ev.php?URL_ID=2174&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1023781263
	- Mountain ecosystems -				
42(b)	Implement programmes to address, where appropriate, deforestation, erosion, land degradation, loss of biodiversity, disruption of water flows and retreat of glaciers	RS for monitoring deforestation, erosion, land degradation, loss of biodiversity, etc.	Austrian Space Agency (ASA) and Austrian Federal Ministry for Transport, Innovation and Technology funded projects: JR, GEOSPACE, ENVEO (Austria)	“Management of Natural Resources in Alpine Regions by Advanced Remote Sensing Techniques”, Project in the framework of the Austrian Space Application Programme	
			ESCAP	Regional Space Applications Programme for Sustainable Development in Asia and the Pacific (RESAP)	http://www.unescap.org/icstd/SPACE/resap/resap_main.asp
			WMO	WMO Space Programme	http://www.wmo.ch/hinsman/satsun.html
			UNESCO	Man and Biosphere (MAB) programme and its Biosphere Reserve Integrated Monitoring (BRIM) initiative	http://www.unesco.org/mab/index.htm

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Para.	Action item		Agencies / institution(s) involved	Initiatives/Programmes	
				Programme for Community Multimedia Centre	http://portal.unesco.org/ci/ev.php?URL_ID=1263&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1075742490
				Cross-cutting project “Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa”	http://portal.unesco.org/ci/ev.php?URL_ID=2174&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1023781263
	VIII. Sustainable development for Africa				
63	Provide financial and technical support for Africa’s efforts to implement the Convention to Combat Desertification at the national level and integrate indigenous knowledge systems into land and natural resources management practices, as appropriate, and improve extension services to rural communities and promote better land and watershed management practices, including through improved agricultural practices that address land degradation, in order to develop capacity for the implementation of national programmes	RS and GIS for land and watershed management	UNESCO	World Water Assessment Programme (WWAP)	http://www.unesco.org/water/wwap/
66(b)	Develop and implement integrated river basin and watershed management strategies and plans for all major water bodies,...	RS and GIS for river basin and watershed management	WMO	Hydrology and Water Resources Programme	http://www.wmo.ch/web/homs/1stpage.html
			UNESCO	World Water Assessment Programme (WWAP)	http://www.unesco.org/water/wwap/index.shtml

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		RS and GIS information as decision making tools for policy makers and managers; development of forecasting and management models; training and research as a key to poverty alleviation	UNESCO	Cross-cutting project “Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa”	http://portal.unesco.org/ci/ev.php?URL_ID=2174&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1023781263
66(c)	Strengthen regional, subregional and national capacities for data collection and processing and for planning, research, monitoring, assessment and enforcement, as well as arrangements for water resource management	RS and GIS for water resources management	WMO	Hydrology and Water Resources Programme	http://www.wmo.ch/web/homs/1stpage.html
			UNESCO	World Water Assessment Programme (WWAP)	http://www.unesco.org/water/wwap/index.shtml

List of acronyms used in the WSSD Table

AETS	-	European Application of Technology and Services
AFEID	-	French National Committee of the International Commission on Irrigation and Drainage
AMIS	-	Advanced Methods for Innovation in Science (CIRAD, France)
ANRH	-	National Agency for Water Resources (Algeria)
ASA	-	Austrian Space Agency
ASI	-	Italian Space Agency
BRLI	-	Bio-Reference Laboratories (USA)
CEA	-	French Atomic Energy Agency
Cemagref	-	Agricultural and Environmental Engineering Research (France)
CERFACS	-	European Centre for Research and Advanced Training in Scientific Computation (France)
CEREN	-	Centre d'essais et de recherche de l'Entente interdépartementale en vue de la protection de la forêt contre les feux (France)
CERN	-	European Organization for Nuclear Research
CESBIO	-	Centre d'Etudes Spatiales de la Biosphere (France)
CETP	-	Centre des Environnements Terrestre et Planétaires (France)
CIRAD	-	Centre de coopération internationale en recherche agronomique pour le développement/Agricultural Research for Developing Countries (France)
CLS	-	Collecte Localisation Satellites (France)
CONAE	-	ComisiOn Nacional de Actividades Espaciales (Argentina)
CNDP	-	Centre National de Documentation Pédagogique (France)
CNES	-	Centre National d'Etudes Spatiales (France)

CNRM	-	Centre National de Recherches Météorologiques (France)
CNRS	-	Centre National de la Recherche Scientifique
CSA	-	Canadian Space Agency
CS-SI	-	CS Systèmes d'Information
EADS	-	European Aeronautic Defence and Space Company
ESA	-	European Space Agency
EU	-	European Union
EUMETSAT	-	European Organization for the Exploitation of Meteorological Satellites
FDC	-	France Développement Conseil
GDTA	-	Groupement pour le Développement de la Télédétection Aérospatiale (France) French Research Institute for Exploitation of the Sea
Ifremer	-	