

AREP PROGRAMME MANAGEMENT**Secretariat Operating Plan 2008 – 2011
Atmospheric Research and Environment Branch**

Table of planned programme implementation based on zero-nominal growth (ZNG) budget

ER	TLO	Deliverables	
1	I	1.	CAS Management Group and OPAGs on WWRP and EPAC activities are supported in their coordination of activities to improve understanding and predictability of atmospheric processes within the broader Earth system.
1	I	2.	Real-time interactive global to regional ensemble prediction systems are developed; accuracy and skill of weather forecasts are improved in all time scales (including weather forecasts from one day to a season and beyond) with useful skill and quantifiable levels of uncertainty), with emphasis on high impact weather.
1	I	3.	Data assimilation systems are advanced, and use of observations, including atmospheric chemistry data, is improved.
1	I	4.	Focused international research efforts are made on high-impact weather prediction in the tropical and sub-tropical regions, and on interaction between tropical and extratropical weather systems.
1	I	5.	Advanced skills in the use of numerical weather prediction products are acquired, and improved forecast systems are put in place in a number of countries.
4	II	6.	Implement the atmospheric chemistry component of the WMO Integrated Global Observing System (WIGOS) through the Global Atmosphere Watch (GAW) Programme according to the GAW Strategic Implementation Plan. This entails: effective management through Scientific Advisory Groups, quality assurance/training facilities, a network tracking system, data analysis integration centres (World Data Centres). Support focuses on global monitoring networks for ozone, UV, greenhouse gases, aerosols, selected reactive gases and precipitation chemistry, as well as ancillary variables critical to data applications. Attention is paid to defining clear links in the hierarchy of observing systems/strategies including GCOS, IGOS, GEOSS. This activity includes implementation of the Integrated Global Atmospheric Chemistry Observations (IGACO) Strategy as recommended by CAS XIV (Recommendation 1).
4	II	7.	To ensure linkage of AREP observational activities to other components of WIGOS and the global observation community through active leadership and participation in cross-cutting activities between programmes, commissions and partner organizations; pay attention to the seamless transfer of research forecast services and products to operational use through long-term planning that involves other WMO programmes.
4	I	8.	To support CAS OPAGs on EPAC and WWRP advisory group activities related to observations and WIGOS.

ER	TLO		Deliverables
6	I	9.	Research efforts result in improvement of accuracy and skill of high-impact weather forecasts (including severe weather forecasts, air quality forecasts, wildfires, sand and dust storms, tropical cyclones, heat waves, storms and a variety of other phenomena).
6	II	10.	Improvement of probabilistic weather forecasts and decision-making tools for low- probability/high-risk weather events considerably increases usefulness of weather information for risk managers. County-specific demonstration projects are implemented in key societal and economic areas. WMO participates in relevant events.
7	I	11.	Development of new research weather forecast services and products with the potential to improve the accuracy of operational weather prediction as well as yielding a range of products related to reduction of risk: these include user-relevant forecast verification methods, quantitative estimates of benefits and costs of existing and improved weather forecasts, methods for utilization of probabilistic forecast information in socio-economic decision-making and county-specific demonstration projects implemented in key societal and economic areas to demonstrate quantifiable improvements in decision-making skills.
7	II	12.	Incorporating chemical observations into atmospheric forecast and chemical transport models using data assimilation; linking with user communities to yield better air pollution management capabilities, products and tools on all scales from urban to regional to global
7	II	13.	Observational and research activities to promote the development of next-generation weather forecasting model products related to aerosols (suspended particles), ozone and other atmospheric variables as weather-active constituents.
7	III	14.	Support of science related to weather modification and development of expert guidance on weather modification.
8	III	15.	Further support to the GAW programme, the Vienna Convention on Protection of the Ozone Layer, the Montreal Protocol and its amendments. Delivery of key products includes the quadrennial WMO/UNEP Scientific Assessment of Ozone Depletion (2010) and two triennial reports of the Ozone Research Managers (2008, 2011) and the annual WMO Ozone Bulletins. Responses to WMO-relevant requests made by the Parties at annual Conferences of Parties and allocation of trust funds contributed by the Parties for the maintenance of the global ozone and UV network in developing countries.
8	III	16.	Implementation and continued oversight of Actions 27, 30 and 31 in the Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC (GCOS-92) related to global networks for greenhouse gases, ozone and aerosols.
8	III	17.	Further support of the UNECE Convention on Long Range Trans-boundary Transport of Air Pollution; including co-chairing the Task Force for Measurements and Modelling of the European Monitoring and Evaluation Programme (EMEP) and participation in other Task Forces relevant to WMO activities and goals.
8	III	18.	WMO representation and leadership of atmospheric scientific aspects in cross-cutting activities related to UN assessments, agreements and other initiatives related to atmospheric environmental issues such as the UN Environmental Management Group; advocacy and support activities and facilities.