**REGIONAL ASSOCIATION I (Africa)**

**WMO RA I Task Team on WIGOS, Second Session**

**(TT-WIGOS-2)**

25-27 November 2014, Harare, Zimbabwe

**Final Report**

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**TT-WIGOS-2**

**Final Report**

**I. Opening of the workshop**

At the kind invitation of the Government of Zimbabwe, the Second Session of the RA-I Task Team on WIGOS (TT-WIGOS-2) was held in Harare, Zimbabwe from 25 to 27 November 2014. The Session was formally opened on 25 November 2014 at 09:00.

On behalf of the WMO Secretary General, Mr. Elijah Mukhala from the WMO Regional Office in Nairobi, Kenya thanked the authorities of Zimbabwe for hosting the workshop. He explained that this workshop is an important opportunity to define a clear vision for what we would like to accomplish through WIGOS in the sub-region and encourage all the participants to participate actively.

Mr. Elliott Bungare welcomed the participants to Harare on behalf of the Permanent Representative with WMO, Dr. Amos Makarau, and explained that due to an urgent government meeting, Dr. Makarau would not be able to join the meeting until later in the morning.

Dr. Lars Peter Riishojgaard, Chief of the WIGOS Project Office in the WMO Secretariat, also thanked the government of Zimbabwe for hosting the meeting, and explained to the participants that there were two main goals of the meeting:

1. to consolidate and finalize the RA-I WIGOS Implementation Plan (R-WIP-I) ahead of the 16th Session of Regional Association I in Cabo Verde, February 2015. This would be done primarily by consolidating the tables of Activities developed in the five RA-I Sub-regional Workshops on WIGOS into one joint table.
2. to review existing WIGOS implementation activities in Region I and to brainstorm and encourage further activities along these lines.

**II. Adoption of the agenda and working arrangements**

The agenda of the meeting and working arrangements were adopted.

**III. Consolidation and Refinement of the RA-I WIGOS Implementation Plan**

In order to frame the discussion on this agenda item and for the benefit of those participants who had not attended Session 1 or any of the previous RA-I Sub-Regional Workshops on WIGOS, Dr. Riishojgaard provided an overview of WIGOS, focusing in particular on those activities that had been taking place during the last few months.

Next, the results from the work of the five Sub-Reigonal RA-I Workshops on WIGOS were presented by members of the RA-I WIGOS Task Team. The purpose of these Workshops was to develop Sub-Regional WIGOS Implementation Plans, recognizing that the geographic and cultural diversity of Africa would render a single unified R-WIP impractical and undesirable. One of the main tasks of the Workshops was to develop a Sub-Region specific version of the action list included in the R-WIP-I as Table 2, and the presentations were in fact centred around this table.

The presentation for Southern Africa was given by Mr. Francis Mosethlo from South Africa. He highlighted the need for an integrated design approach to the observational network in the sub-region and the need to re-establish functionality of the Regional Instrument Center in Botswana.

The presentations for West Africa and North Africa were given by Mr. Hama Kontongomde from WMO. The representative from North Africa was unable to attend the meeting, and the representative for West Africa asked Mr. Kontongomde to make the presentation on his behalf due to the lack of interpretation at the meeting. For North Africa, the establishment of the sub-regional radar network was a priority, and for the West Africa, the establishment of a RIC was highlighted. The R-WIP for Central Africa was presented by Mr. Alphonse Kanga from the Republic of the Congo. The East Africa presentation was given by Ms.Hanan M. Rabah from Sudan.

In addition to the specifics listed above, some common denominators for all sub-regions could be identified: Support for migration to TDCF, calibration of instruments was needed; rehabilitation of networks, in particular upper air stations was needed; support for development of AWS networks (specification, procurement, installation, calibration, operation) was needed. Guidance on how to develop and exploit partnership agreements was also requested, and several examples of potential pitfalls regarding data policy issues and potential conflicts of interest were discussed. Several of the issues emerging in the discussion were found to affect WIS, or in some cases both WIS and WIGOS (e.g. regarding telecommunications failures), and the point was made that WIS and WIGOS needed to collaborate even more closely in the Region in order for both to be successful.

Following the presentations from the sub-regions and the subsequent discussion, a consolidated table, eliminating redundant entries and drawing on the common elements was developed. This consolidated Table 2, to be included in the draft R-WIP-I submitted to RA-I-16, is included here as Annex III.

**IV. Regional WIGOS implementation (WIGOS Regional Centers)**

Dr. Riishojgaard from the WMO Secretariat provided a presentation of a draft WIGOS Working Structure as proposed by the Secretariat and discussed at the WIGOS TT-PWPP meeting in Asuncion, September 2014 (<http://www.wmo.int/pages/prog/www/WIGOS-WIS/reports/TT-PWPP-Final-Report_2014.docx>). The proposed Working Structure includes both volunteer-based elements (Task Teams and Expert Teams), and dedicated full-time elements, known as WIGOS Centers. Central to this new Working Structure is the concept of WIGOS Regional Centers (WRCs). The WRCs are intended to help bridge the gap between the WIGOS Project Office at the WMO Secretariat and the individual WMO Members, recognizing that many Members are requesting support from WMO for the implementation efforts and that it is unrealistic for the WIGOS PO to do this on a country by country basis.

The general area of responsibility of the WIGOS Regional Centers would be to support the national implementation efforts, and among specific activities for which the Centers could provide such support, the following were highlighted: Observational network design, procurement of new systems (specifications, tendering, evaluation,…), installation, calibration and maintenance of new systems, data processing and training. It was recognized that there might be areas of overlap with existing WMO Centers, in particular the Regional Instrument Centers (RICs) and Regional Training Centers (RTCs), and that this relationship will need to be clarified during the further development of the concept. Finally it was noted that a critical element of the WIGOS Regional Centers will be a rigorous auditing and review process, not only for initial approval of a WRC, but also for revoking the credentials in case a Center does not fulfil its agreed and approved responsibilities.

The meeting recommended that TT-WIGOS be re-established for the next Inter-Sessional period, with revised Terms of Reference to should include the responsibility to “guide, oversee and review” the implementation of WIGOS at the Regional, Sub-Regional and National level. The meeting further voiced very strong support for the concept of WIGOS Regional Centers, and some of the countries represented at the meeting expressed interest in hosting or co-hosting such Centers. The WMO Secretariat was requested to showcase the concept at the upcoming 16th Session of Regional Association I in Cabo Verde - including at the preceding Regional Conference and at side events where possible - with the aim of soliciting further support as well as indications of interesting in hosting or co-hosting the WRCs.

**V. National WIGOS Implementation (WIGOS National Focal Points)**

The status of the nomination of WIGOS National Focal Points (NFPs) was reviewed, and some members voiced concerns that many countries in Africa still did not nominate their NFP. Dr. Riishojgaard explained that the process of requesting NFPs would be restarted, with a solicitation letter accompanied by clear Terms of Reference for the NFP going out the Presidents of Regional Associations (PRAs) shortly in all official languages of WMO.

The PRAs would send this letter to all Members within their Region, and it was hoped that this approach would help clarify to the Members the nature and level of expertise that would be expected from a WIGOS NFP.

**VI. Specific Examples of National WIGOS Implementations (Tanzania and Côte d’Ivoire)**

Mr Emmanuel Tumaini presented the national WIGOS implementation activities undertaken by the Tanzania Meteorological Agency. An inventory of meteorological stations operated by other government agencies had been established, and Mr Tumaini showed how this could supplement the existing WMO network operated by TMA. Formal contacts had been established to these potential partners, and the possibility of establishing written agreements under the WIGOS umbrella was being explored at the both the political and administrative level.

Mr. Aristide Aguia presented the national WIGOS implementation activities of the Direction de la Météorologie of Côte d’Ivoire. A WIGOS/WIS implementation working team had been created within the DMC, consisting of a hydrologist, an agro-meteorologist, a data base manager, a telecom system administrator, an instrument technician, a rainfall network manager, and a synoptic meteorologist. Eight potential key national partner agencies had been identified within the areas of hydrology, aeronautical meteorology, environmental pollution, and oceanography and had received invitation letters to integrate their network in WIGOS. Six had responded positively and during subsequent meetings they had agreed in principle to collaborate with DMC toward such and integration. The next steps would be taken during a National WIGOS Workshop in Cote d’Ivoire to be held on 16-17 December 2014 during which working and governance groups would be established and a National WIGOS Implementation Plan would be developed.

The meeting commended the activities presented by Côte d’Ivoire and Tanzania as very useful models to follow, and recommended that all Members in RA-III undertake similar activities within their territories. In particular the establishment in Côte d’Ivoire of a multidisciplinary national WIGOS Implementation Team was seen as a very useful model to follow for other Members in the their national implementation efforts.

During the discussion, it became clear that substantial guidance would be required from WMO in order for the Members to develop and exploit national partnerships. In particular, the following issues were highlighted:

1. Formalities of partner arrangements,
2. Data policy issues - one-way or two-way data transfer,
3. Common requirements analysis and network design,
4. Common inventories of observing stations (where and how),
5. Data access - how to make partner observations available through WIS.

The meeting requested that the WMO Secretariat takes steps to develop guidance material on these issues and recommended that regional training workshops be arranged.

**VII. Terms of Reference of the WIGOS Regional Task Team.**

It was decided to leave the drafting of specific Terms of Reference for the next inter-sessional period following RA-I-16 to the Secretariat, with the understanding that those would be finalized during the Session in Praia in February 2015. It was decided that the ToRs should have as their main focus areas guiding, overseeing and reviewing the regional and national WIGOS implementation efforts.

**VIII. Recommendations for RA-I-16**.

The meeting provided a number of recommendations to the RA-I Session in Cabo Verde, 4-10 February 2015 and requested the Chair of TT-WIGOS and the WIGOS/PM to bring these to the attention of the Session. The recommendations are included in this report as Annex V.

**IX. Recommendations for AMCOMET-3.**

The meeting did not provide any direct recommendations to AMCOMET-3. It was decided that some of the recommendations to RA-I-16 listed in Annex V might be forwarded to or would result in recommendations to AMCOMET-3. The meeting tasked the Chair of TT‑WIGOS, Dr. Amos Makarau with ensuring that AMCOMET-3 would be kept informed about the WIGOS developments in the Region.

**X. Closure of the Session**

The session was closed on 27 November 2014 at 10:00, and was followed by a signing ceremony between the Meteorological Services Department of Zimbabwe and wireless services provider Econet on data exchange under the WIGOS umbrella. In the afternoon of November 27, the meeting participants made a visit to the Headquarters of the Meteorological Services Department, and visited the climate monitoring, the forecast office, the training facility and the upper air station.

**Annexes**

1. Meeting agenda
2. List of participants
3. Consolidated list of RA-I Activities (Table 2 of R-WIP-I)
4. Recommendations for RA-I-16

**Second meeting of the RA I Task Team on WIGOS 25 - 27 November 2014, Harare, Zimbabwe**

***Programme***

*Day 1 (25 November 2014)*

1. ORGANIZATION OF THE SESSION *(Chaired by A. Makarau)*
   1. Opening of the meeting *(E. Mukhala, L. P. Riishojgaard, A. Makarau)*
   2. Adoption of the agenda *(Chair)*
   3. Working arrangements *(Chair)*
2. REVIEW OF THE PRIORITIES AND CONSOLIDATION OF EACH SUB-REGIONAL WIGOS PLAN*(Members of the TaskTeam of each sub-region)*

**2.1** Southern Africa *(A. Makarau)*

**2.2** West Africa (*O. Onguyemi*)

**2.3** North Africa (*R. Merrouchi)*

**2.4** Central Africa (*A. Kanga*)

**2.5** East Africa (*Ms Hanan M. Rabah*)

**2.6** Presentation of ASECNA contribution in ASECNA Members countries

**2.7** Review of the enablers for a successful implementation of WIGOS in the sub-regions (Discussions)

*Day 2 (26 November 2014)*

1. (CONSOLIDATION)/ REFINEMENT OF THE WIGOS REGIONAL PLAN
2. DISCUSSION ON WIGOS REGIONAL CENTRES (Lars Peter)
3. UPDATE ON WIGOS FOCAL POINTS (Hama or Lars Peter)
4. NATIONAL WIGOS IMPLEMENTATION (Example of Tanzania
   1. Presentation of Tanzania Meteorological Agency activities to implement WIGOS *(Emmanuel Tumaini*)
   2. Presentation of the activities of the Direction de la Météorologie of Côte d’Ivoire to implement WIGOS *(Aristide Aguia*)
   3. Other possible pilot/ demonstration projects
5. REVIEW OF THE ToRs OF THE WIGOS REGIONAL AND NATIONAL TASK TEAMS

*Day 3 (27 November 2014)*

1. RECOMMENDATIONS FOR THE 16th SESSION OF RA- I
2. RECOMMENDATIONS FOR AMCOMET
3. Closure of the Meeting

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#### ***Table 2 WIGOS Implementation Activities***

Depending on the implementation scale, planned activities are specified as follows:

R = Regional activity; SR = Sub-regional activity and N = National activity.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No | Activity | Deliverables | Timeline | Responsibility | Estimated Costs (2012-2015) K CHF | | | ***Potential Risks*** |
| ***Total*** | ***ARB*** | Shortfall |  |
| 1. Management of WIGOS Implementation in RA I | | | | | | | | |
| 1.1  R  SR  N | Establish the Regional WIGOS Governance structure, including sub-regional responsible economic bodies (SADC, IGAD, ECOWAS, CEMAC/ECCAS, UMA etc..), and technical groups (ACMAD, ASECNA, ICPAC, AGRHYMET, etc..) for each sub region | RA-I WIGOS Governance structure, incl. WGs established with TOR (see ANNEX 1, Figure 1) | 2012 | RA-I MG, Sub-regional WIGOS Working Body;  Governance |  | | | Low |
| 1.2  R  SR  N | Provide an effective RA-I focal points at regional, sub-regional and national levels, to liaise with CBS, CIMO and other relevant TCs, WIGOS-PO on the implementation of WIGOS and EGOS-IP in the Region | National and sub-regional Focal points at all levels are identified with special interest for CBS, CIMO | 2012 | PRs |  | | | Low |
| 1.3  R  SR | Develop and update the Regional WIGOS Implementation Plan for Region I (R-WIP-I), reflecting sub-regional priorities | 1) Up-to-date RA-WIP-I, including:  a) actions sheets from all subregions,  b) actions specified at WIP for regional level,  c) actions specified at EGOS-IP relevant to RA I | 2012-2013 | RA-I TT on WIGOS (TT-WIGOS);  RA-I MG;  Sub-regional representatives in TT-WIGOS | RB from relevant departments | | | Low |
| 1.4  R  N | Mobilize needed resources for supporting the WIGOS implementation in the Region and all subregions | Appropriate resources are identified and available from Secretariat, subregions, partners, stakeholders and Members for supporting actions | 2012-2015 | RA-I MG;  PRs |  | | | High |
| 1.5  R  SR  N | Monitor and evaluate (M&E) WIGOS implementation activities | Annual M&E reports;  Problems are identified and sorted out timely | 2012-2015 | RA-I WIGOS Governance body defined at 1.1 with the support of WMO Secretariat |  | | | Low |
| 2. Collaboration with WMO and co-sponsored observing systems | | | | | | | | |
| 2.1  R  SR  N | Identify and engage key partner organizations (water, marine, agriculture, environment and research institutes, private sector, etc.) in implementation of WIGOS at regional, sub-regional and national levels | MoUs and Agreements signed with regional, sub-regional and national partner organizations | 2012-2015 | RA-I President with the support of RA-I MG responsible for the MoU/Agreements at the regional and sub-regional levels;  PRs responsible for the MoU/Agreements with National Partners, with the support and guidance of RA I MG |  | | | High |
| 2.2  R  SR  N | Establish working mechanisms with clear targets (such as data policies, MoUs, agreements) for collaboration in WIGOS implementation in the Region | Established collaboration mechanisms;  Increased number and amount of exchanged observations, with the partners at regional, sub-regional and national levels, based on MoUs and agreements. | 2012-15 | RA-I President with the support of RA-I MG responsible for the MoU/Agreements at the regional and sub-regional levels;  PRs responsible for the MoU/Agreements with National Partners, with the support and guidance of RA I MG |  | | | High |
| 3. Design, planning and optimized evolution of WIGOS and its regional, sub-regional and national observing components | | | | | | | | |
| 3.1  R | Design and plan observing systems in the Region taking into account:  a) The technical guidance as represented in the EGOS-IP and other relevant observing systems IP;  b) Recommendations by XV-RA-I session (2010);  c) Observational Requirements expressed in GFCS-IP;  d) Up-to-date users requirements for data, including international river basin authorities | Optimized regional integrated observing system design plan taking into account partners requirements | 2012-2015 | TT- WIGOS |  | | | High |
| 3.2  R | Develop a design of new RBN, in close collaboration with CBS | Design of a new RBN | 2012-2015 | TT-WIGOS |  | | | High |
| 3.3  SR | Based on the design of a new RBN, design and plan observing systems in the sub regions taking into account their priorities and requirements | Optimized sub-regional observing systems design plans | 2013-2015 | Sub-regional representatives in TT-WIGOS |  | | | Medium |
| 3.4 | Design and establish a Radar network for North Africa | A trans-national radar data display sharing platform operational in North Africa | 2013-2015 | PRs of North Africa |  | | |  |
| 3.5 | Establish//Rehabilitate Automatic Weather Stations (AWSs), especially in data sparse regions, especially in the Indian Ocean, Central Africa and inland lakes | An enhanced meteorological observing network integrated into the GTS | 2014-2016 | PRs , GCOS, |  | | |  |
| 3.6 | Establish new/revive silent stations providing rainfall and climate observations at national level |  |  |  |  | | |  |
|  | Expand surface observation network(Synoptic stations) including those over the Indian Ocean and inland lakes |  |  |  |  | | |  |
| 3.8 | Increase the number of the AMDAR aircraft reports, including humidity observations |  |  |  |  | | |  |
| 3 |  |  |  |  |  | | |  |
| 3.10 | New/revive instruments / equipment for marine meteorological and oceanographic observations | A catalogue of recommended marine and oceanographic instruments available  A guide on specifications marine instruments and how to make observations developed and operational |  |  |  | | |  |
| 3.12 | Develop specifications for Automatic Weather Stations (AWSs) to conform with WMO standards | Reference guides on installation and operations of AWSs in all WMO languages available. | 2014-2015 | WMO, WIGOS Project Office |  | | |  |
| 3.13 | Establish lightning detection networks for early warning of severe weather events | National and/ or sub-regional networks and associated infrastructure in place  Lightning detection systems in place nationally and at sub-regional levels | 2015 |  |  | | |  |
| 4. Integrated Observing System Operation and Maintenance | | | | | | | | |
| 4.1 R | Collect and compile examples of best practices and technical documentation | Availability of technical documents and best practices | 2012-2013 | TT-WIGOS;  WMO Secretariat |  | | | Low |
| 4.2  R  SR | Establish a regional/sub-regional repository of guidance and technical documentation | Repository available to Members | 2012-2015 | TT-WIGOS;  WMO Secretariat |  | | | Medium |
| 4.3 | Revive silent and upgrade outdated upper-air stations at various locations |  |  |  |  | | |  |
|  |  |  |  |  |  | | |  |
| 5. Integrated Quality Management | | | | | | | | |
| 5.1  R | Examine current quality management practices being used in the Region, including calibration of instruments for surface-based observations | Availability of status report on the current quality of management practices | 2012-2013 | TT-WIGOS;  WMO Secretariat |  | | | Low |
| 5.2  R | Establish mechanisms and systems to improve, monitor and document the quality of observations from the WIGOS Regional observing components at all stages of data processing | Established mechanisms for improved quality of observations at all levels | 2012-2015 | TT-WIGOS;  Members;  WMO Secretariat |  | | | High |
| 5.3  R | Ensure, where possible, traceability of observations to the international standards (such as International System of Units (SI)), focusing initially on surface pressure, temperature, precipitation and humidity | Traceable observations | 2012-2015 | Members;  RICs;  WMO Secretariat |  | | | High |
|  |  |  |  |  |  | | |  |
| 5.4  R | Progressively achieve compliance of all RICs with international standards | Compliance of RICs | 2012-2015 | Respective Members (RICs) |  | | | High |
| 5.5  R | Achieve the functionality of RICs and RRCs in the sub-regions and in particular the full functionality of the RIC in Botswana through collaborative effort of Members | RICs and RRCs fulfill their mandates | 2012-2015 | Respective Members |  | | | High |
| 5.6  R | Enhance support by RICs to Members and encourage Members to work with RICs and RRCs | Established mechanisms for collaboration between RICs, RRCs and Members | 2012-2015 | RICs;  Members |  | | | Medium |
| 5.7  R | Achieve, through collaborative effort of Kenya, Morocco and South Africa full functionality of the RMIC | Operational RMIC | 2012-2015 | South Africa, Kenya and Morocco |  | | | Medium |
| 5.8  SR | Achieve compliance of the RRC in Dem. Rep. of the Congo with WMO agreed specifications defined in the CIMO Guide, Annex 7C | Compliance of RRC achieved | 2013-2016 | Dem. Rep. of the Congo;  With support from Members |  | | |  |
|  | Identify the needs for new Regional Centres of Excellence (RICs, RRCs, RMICs, RTCs, Sub-Regional WIGOS Centres) | At least one centre of each type in each sub region approved by RA I |  | Members with the support of WMO and in collaboration with ASECNA (RICs) |  | | |  |
| 5.8  R | Ensure that surface-based sites that are needed for calibration/validation of satellite data are specified | List of surface-based sites for calibration/validation of satellite data | 2012-2015 | TT-WIGOS |  | | | Medium |
| 6. Standardization, System Interoperability and Data Compatibility | | | | | | | | |
| 6.1  R | Implement the siting classification throughout the Region | Siting classification implemented | 2012-2015 | Members |  | | | High |
| 6.2  R  SR | Establish mechanisms for monitoring of compliance with WMO standards at regional and sub-regional level | Operational mechanisms for monitoring of compliance with WMO standard;  More WMO standards are implemented at the national level | 2012-2015 | TT-WIGOS;  WMO Secretariat; Members |  | | | High |
| 6.3  R  SR | Encourage Members to generate and provide metadata (to WIR-OSCAR) | Metadata generated | 2012-2015 | Members;  TT-WIGOS;  WMO Secretariat |  | | | High |
| 6.4  N | Achieve migration to TDCF in the Region | Migration completed | 2012-2014 | Members |  | | | High |
| 7. The WIGOS Operational Information Resource | | | | | | | | |
| 7.1  R | Develop and maintain a regional metadata database and a web portal to contribute to the WIR-OSCAR | Operational regional/sub regional WIR | 2012-2015 | TT-WIGOS;  WMO Secretariat |  | | | High |
| 7.2  R | Encourage Members to provide and share up-to-date communication and outreach information through the WIR | Up-to-date information available | 2012-2015 | Members;  WMO Secretariat |  | | | Medium |
| 8. Data discovery, delivery and archival | | | | | | | | |
| 8.1  R  N | Encourage Members to be designated as WIS DCPCs or GISCs;  Ensure Members to establish WIS NCs | Members designated as DCPCs / GISCs;  NCs established | 2012-2015 | Members;  WMO Secretariat |  | | | High |
| 8.2  N | Encourage Members to share data and metadata via WIS, including from institutions other than NHMSs | Enhanced availability of data and products | 2012-2015 | Members;  WMO Secretariat |  | | | High |
| 8.3  SR  N | Data transmission to be modernized using new telecommunication systems (Internet) and mobile phone telephony, if available |  |  |  |  | | |  |
| 8.4  R | Enable the operational functioning of the GISCs (Casablanca, Pretoria) |  |  |  |  | | |  |
| 9. Capacity development | | | | | | | | |
| 9.1  R  SR | Define TORs of these Centres for strengthening the regional capacity on WIGOS | Operational RICs | 2012-2015 | TT-WIGOS;  PRs  with support of WMO Secretariat |  | | | Mod |
| 9.2  R  N | Prove assistance to Members to establish/enhance institutional mandates and policies that enable effective implementation, operation and management of observing systems by Members | Established/enhanced institutional mandates and policies for effective implementation, operation and management of observing systems by Members | 2012-15 | WMO Secretariat;  RA-I MG;  PRs |  | | | Mod |
| 93  R  N | Prove assistance to Members to fill the existing gaps in the design, operation and maintenance of WIGOS observing systems, including both the infrastructure and human capacities development | Gaps in the WIGOS observing systems of Member countries are identified and filled | 2012-15 | RA-I MG;  TT-WIGOS;  RA-I WGs;  WMO Secretariat  Members, in collaboration with regional partners and TCs |  | | | Mod |
| 9.4 | Data rescue - Continue the identification of data records and their digitization and storage in electronic archive | A digital archive of historical observation records as a part of the GFCS. | 2014 onwards | Members – PR and WIGOS FP |  | | |  |
| 9.5 | Training in Automatic weather Stations calibration and maintenance |  |  |  |  | | |  |
| 10. Communication and outreach | | | | | | | | |
| 10.1  R  SR  N | Utilise communication strategies developed by ICG-WIGOS and material provided by WIGOS-PO to raise awareness and commitment to WIGOS in the Region | Effective communication and outreach for WIGOS across the Region by presentations and side events at regional high level events. | 2012-15 | RA-I Vice president;  RA-I MG;  WMO Secretariat |  | | | Low |
| 10.2  R  SR  N | Develop communication and outreach material of RA I with a special focus on policy-makers | Communication and outreach material of RA I is available through appropriate means (WIR, RANET, forums, etc.) | 2013 | WMO Secretariat;  Regional Offices;  Members |  | | | Low |
| 10.3  R  SR  N | Communicate WIGOS benefits using all possibilities, such as COFs, AMCOMET | Workshops & side events at regional, sub-regional and national levels for promoting WIGOS | 2012-15 | RA-I MG;  Members  with support of WMO Secretariat |  | | | Low |
| 10.4  R  SR  N | Convene WIGOS implementation awareness meetings for PRs at sub-regional level | PRs have clear understanding of WIGOS and are aware of their roles in implementation of WIGOS | 2013 | RA-I MG;  WMO Secretariat |  | | | Low |

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* Guidance, including templates if possible, to implementing WIGOS at the national level is requested. Guidance to developing national partnerships, including how to deal with data policy issues, is particularly requested.
* Guidance is requested on how to deal with the proliferation of AWS networks deployed by multiple entities within the Region. TT-WIGOS strongly supports the planned WMO Workshops on AWS Networks (covering entire life-cycle from network design to demolition), one for anglophone, one for the francophone countries in Africa.
* The implementations of WIGOS and WIS depend on each other, and this should be reflected also within the respective Working Structures: Strive to have WIS represented at regional WIGOS meetings and vice versa.
* A new entity is needed to support WIGOS implementation at national and regional levels within Region I; it is suggested to form one or more WIGOS Centers, to guide, oversee and support implementation activities, e.g. in the areas of network design, rehabilitation of networks, procurement approaches, installation, operation, data processing, dissemination, maintenance and calibration. The centres should be hosted by an NMHS, or by a small group of NMHSs, or other technical organizations within the Region.
* Partnering with existing technical and economic groupings in the Region (e.g. ASECNA, SADC, CEMAC, ECOWAS, IGAD and MAGREB) is important for the success of WIGOS.
* Important to have strong RA-I representation on WIGOS Task Teams and TC Expert Teams. It is also important to have national WIGOS Focal Points (and alternates) in each country. This will greatly facilitate the flow of information in both directions.
* Resourcing (finance, personnel) the implementation of WIGOS is primarily a national responsibility, so NMHSs need to make the necessary resources available, also for training.
* It is important to educate the PRs on the benefits brought by WIGOS in terms of national visibility, improved service delivery and economic efficiencies to secure their full support of this activity.