CREWS PROJECT PROGRESS REPORT

(July - December 2023)

1. Project title	DR Congo - Strengthening Hydro-Meteorological and Early Warning Services	**2. Project reference**	CREWS/CProj/01/DRC
3. Implementing Partners involved in the project	World Bank (Lead) World Meteorological Organization	**4. Regional/National Partners involved in the project**	Agence Nationale de Météorologie et de Télédétection par Satellite (Mettelsat)
5. Project Duration/Timeframe (from year – to year)	December 2017 – June 2025 (extension granted in June 2023)	6. Total Funding Approved by Steering Committee (in US dollars), including fees	3,090,000
7. Reporting focal point(s) from Implementing Partners	Christian Vang Eghoff – ceghoff@worldbank.org Tania Gascon – taniagascon@wmo.int Laurent Corroyer: lcorroyer@worldbank.org Eric Kipasa – ekipasa@worldbank.org - in cc Bernard Gomez – begomez@wmo.int & Jean-Baptiste Migraine - jbmigraine@wmo.int - in cc		

8. Project overview	**Please include objectives, key project deliverables, leveraging, contextual information/statistics, significant events during the reporting period in bullet points. (max 250 words)**
	• The development objective is to improve the quality of the Government of the DRC's hydro-meteorological and climate services in selected sectors.
	• The CREWS funding seeks to improve the country's hydromet services through:
	  ○ Strengthening institutional, partnerships and regulatory frameworks and capacity building for early warning
	  ○ Provision of technical assistance to Mettelsat at national level for early warning procedures and at local level for early warning systems in selected watersheds
	  ○ Development of QMS for aviation meteorology and institutional support on cost recovery from aviation
	  ○ Supporting Mettelsat development strategy		

	• The CREWS financing is implemented by the World Bank (US$2,790,000) and WMO (US$300,000). Subdivided into two components:
	  ○ Component A: Institutional and regulatory strengthening, capacity building and implementation support (cost US$0.95M): (i) strengthening the partnerships between MettelSat, civil protection, RVF and RVA relevant to early warning systems (severe weather, flash flooding); (ii) institutional strengthening; (iii) capacity building
	  ○ Component B: Improvement of hydromet information service delivery (cost US$2.14M) in line with the global framework for climate services. This component supports (i) identification of requirements by decision-makers and the population at-risk; and (ii) support the design and production of more accurate, timely and relevant warnings and information. Thus, the component strengthens the capacity of specific users for optimal use of products and services relevant to early warning systems.
	  ○ It leverages the Strengthening Hydro-Meteorological and Climate Services Project, US$8M (US$5.3 GEF, US$2.7M GFDRR)
	
	Key Deliverables:
	• **Formulation of the masterplans for the hydrological and meteorological networks has reached an advanced stage and consultants are expected to provide the final versions in the first quarter of 2024.**
	• **Twinning arrangements between WMO RTC-EAMAC (WMO Regional Training Centre in Niamey, Niger) have reached an advanced stage of preparedness with the final review of the concept note and signature of Implemeting arrangement between WMO and RTC-EAMAC scheduled for the first quarter of 2024. This support will be continued throuhg CREWS Central Africa.**
	• **Financial support to fund the connectivity via a Local Area Network between METTELSAT headquarters and the Central Forecast Office at Ndjili Airport, to enhance data sharing has been sent to the DRC in September but local challenges have delayed access to funds by METTELSAT.**
	
	Significant events during the reporting period:

	•
9. Progress summary	**What has been achieved <u>during this reporting period</u>? – Please list <u>in bullet points</u> the most significant and tangible outcomes? (max 250 words)**

10.Project Performance

Interpretation of color coding		
	High	Good progress; on track in most or all aspects of delivery
	Medium	Moderate progress or on track in some aspects of delivery
	Low	Less than moderate or poor progress. Not on track in critical areas of its delivery. Requires remedial attention

	Rate of expenditure	Rate of delivery	Alignment of Objectives
Coding			

Narrative	Disbursement as of December 2023 **From WB side:** Disbursed: 1,981,871.56 Committed: 0.00 Available balance: 529,400.44 **From WMO side:** Disbursed: Committed:		Project remains aligned to CREWS objectives.

11. Risk Status

Risk Status	What is the current risk status as compared to what was identified in the project proposal? The current risk status of the project is medium, largely linked to the fluctuating commitment of the sector ministry to assure cost-sharing of meteorological revenue from civil aviation. In addition, the risk is linked to a lack of capacity of MettelSat staff to work with the installed system and the lack of MettelSat experience in warning and forecasting floods on the N'Djili and Kalamu rivers.

Measures to address	What mitigation measures have been developed to address the risk status? **In bullet points** Closer monitoring and technical support has already contributed to mitigating risk and advancing activities. The World Bank, WMO mobilized and a number of international and local experts to support the development of a business plan and support the financial sustainability of MettelSat. Continued advocacy with national authorities for sustainability of the project's investments as well as strengthened dialogue through the World Bank's Country Management Unit. Mobilization of RSMC-Dakar to provide weather forecast guidance products to the DRC will certainly boost the capabilities for detection and tracking of severe weather phenomena and providing warnings accordingly.

12. Contributions to CREWS Output(s)s

(use number for activities and products and % for project component completion)

12.1 National Output(s)s

CREWS Output(s) 1: National Meteorological and Hydrological Services service delivery improved, including the development of long-term service delivery strategies and development plans				
State Project Output(s) in this section	**Overall Project Target**	**Progress by June 2023**	**Target for reporting period**	**Progress by December 2023**
Assessment of capacity for early warning of drought, heavy precipitation, river flooding, flash flooding, wind storm and recommendations for improvement	100%	95%		
Assessment of user needs (3 stakeholders/users workshops organized)	100%	100%	100%	100%

Development and/or review of memorandums of understanding (MoUs) with users	100%	100%	100%	100%
Implement a capacity development and training program for staff (including operational training for technicians and engineers, meteorologists, and hydrologists)	100%	95%		
Development of the MettelSat Strategy, Action Plan, and Business Plan	100%	100%	100%	100%

Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). Please list in bullet points.

Completion of most activities or at least good progress. The assessment of capacity will continue under CREWS funding. This has a multiplier effect, as the project is expected to generate a wider range of benefits to different users, impacting a considerable number of people over its lifecycle, including better hydromet information to specific user groups and the general population.
For example in case of people-centered approach, the area around the N'djili watershed is mostly inhabited by poor communities and highly exposed to the risk of flooding. These communities are disproportionally vulnerable to floods compared to the average population. While the project did not specifically target poor communities, the modernized equipment installed in the N'djili and Kalamu watersheds has allowed to produce early warnings to the exposed population.

The soon-to-start twinning arrangement between ISTA and EAMAC for strengthening the capacity of resource persons at ISTA in state-of-the-art forecasting skills will result in better forecast products.

CREWS Output(s) 2: Risk Information to guide early warning systems and climate and weather service developed and accessible				
State Project Output(s) in this section	**Overall Project Target**	**Progress by June 2023**	**Target for reporting period**	**Progress by December 2023**
Development of a national risk geoportal and development of hazard, exposure, and vulnerability information for flood risk assessment and impact forecasting	100%	100%	100%	100%
Establishment of the National Framework for Climate Services	100%	100%	100%	100%
Technical support to developing community based EWS in Kananga and Kinshasa	100%	0%	N/A	0%

Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). Please list in bullet points.

- **Gender-responsive**: The NFCS ensures a continuation of DRC efforts to improve the capacities of rural women to reduce the vulnerability of communities affected by climate change. In fact, women are particularly vulnerable to climate change, especially in poor communities where livelihoods are largely dependent on local natural resources.
- **People-centered:** The NFCS promotes continuous and effective updating of products and services through two-way communication between users and producers as well as easy access to meteorological, hydrological, and climate services data/information.
- **Coherence**: The NFCS provides a framework putting together all actors involved in the national value chain for climate services as well as their existing databases to build multi-sectoral EWS.
- **Integrated and inclusive programming**: The NFCS operationalizes the multi-stakeholder and multi-thematic platform established in accordance with the decree governing the NFCS.
- **Solution-oriented**: The NFCS is intended to provide widespread social, economic, and environmental benefits through more effective climate and disaster risk management. It will support the implementation of climate change adaptation measures. A key objective of the

Framework is to bridge the gap between climate information developed by service providers and the practical needs of users. This will be achieved through the introduction of national and regional frameworks for climate services.

The publication of hazard forecasts was integrated into the MettelSat website (https://meteordc.cd) and is thus available to the public.

CREWS Output(s) 3: Information and Communication Technology, including common alerting protocol, strengthened

State Project Output(s) in this section	Overall Project Target	Progress by June 2023	Target for reporting period	Progress by December 2023
Development of operational procedures to convert extreme weather forecasts (rains, floods, winds, heat waves) into potential impacts	100%	80%		
Elaboration of Quality Management Systems for air navigation meteorological services and the recovery of meteorological services rendered to RVA	100%	57%		

Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). Please list in bullet points.

The development of operational procedures advanced, although not to the point of completion. The implementation of the QMS has stalled while MettelSat's access to equipment at the Ndili airport (currently used by RVA) is assured. The operational procedures contribute to bringing life-saving and people-centered early warnings to the communities that need them by making early warnings on extreme weather events to populations at risk and enabling Civil Protection to act on the information in collaboration with communities.

CREWS Output(s) 4: Preparedness and response plans with operational procedures that outline early warning dissemination processes developed and accessible

State Project Output(s) in this section	Overall Project Target	Progress by June 2023	Target for reporting period	Progress by December 2023
Risk mapping and emergency response plans for municipalities including training of operational and decision-making civil servants	100%	20%		
Ready to respond: Gap analysis and operational capacity of the Civil Protection at national and provincial level	100%	0%	N/A	0%
Strengthening of the operational capacity of the Directorate General of Civil Protection.	100%	0%	N/A	0%

Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). Please list in bullet points.

This activity has stalled while focus was on support to equipment installation. This activity will eventually aim to allow access to early warning on extreme weather events to population at risk and enabling Civil Protection to act on the information in collaboration with communities.

CREWS Output(s) 5: Knowledge products and awareness programmes on early warnings developed

State Project Output(s) in this section	Overall Project Target	Progress by June 2023	Target for reporting period	Progress by December 2023
Community focus groups for flood risk mapping and awareness	100%	50%		

Study tour for the 4 institutions contributing to early warning (MettelSat, DPC, RVF, CVM)	100%	100%	100%	100%
Awareness campaign and visibility of the Project	100%	0%	N/A	0%

Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). Please list in bullet points.

Implementation of community focus groups was stalled while focus was on equipment installation and working on sustainability of project outputs (business plan)
The study tour was converted into a study tour just for Mettelsat, to Niger to learn from the experience of the implementation of a NFCS there. The objective of the study tour was to share experiences on the best approaches to adopt in establishing and operationalizing the NFCS in DRC.
Specifically, it was about:

- Participating in the elaboration of the National Framework for Climate Services report card with the different sectors involved in Niger.
- Analyze with the actors of Niger the constraints and lessons learned in the implementation of the NFCS.

Identify good approaches for the implementation of the NFCS in DRC.

- Strengthen the capacity of participants in the organizational and managerial management of the NFCS.

This resulted in specific recommendations for operationalizing the NFCS in the DRC in terms of institutional organization, flow of information, and the role of MettelSat in the process of delivering early warnings to communities.

CREWS Output(s) 6: Gender-sensitive training, capacity building programmes provided

State Project Output(s) in this section	Overall Project Target	Progress by June 2023	Target for reporting period	Progress by December 2023

Women participation in training and decision-making venues sponsored by CREWS	30%	10%		

Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). Please list in bullet points.
Maybe good to elaborate here contributions to gender-responsive value proposition?

12.2 Regional Output(s)s (for Regional Projects)

CREWS Regional Output(s): Institutional and human capacities at Regional WMO and Intergovernmental organizations to provide regional climate and weather services to LDCs and SIDS increased

State Project Output(s) in this section	Overall Project Target	Progress by June 2023	Target for reporting period	Progress by December 2023
Common Alerting Protocol implementation	100%	100%	100%	100%

Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). Please list in bullet points.

Training on CAP implementation has been successfully completed and METTELSAT has commenced issuing alerts. Meanwhile the low skills in forecasting severe weather events are currently offset through support from RSMC-Dakar (Senegal), which provides guidance products for anticipated severe weather phenomena in the DRC and elsewhere in the Central Africa region. Challenges limiting full CAP implementation include internet access as well as training of the user-community on the interpretation of alerts.

13.Certification on Use of Resources

This needs to be provided at the end of the year as part of the submission of the 2nd semester report. Each Implementing Partner to provide a certification of the use of resources signed by their authorized representative.

14. Visibility products

a. ***Insert or copy any links to press releases, videos or communication items and/or social media links produced during the reporting period only***

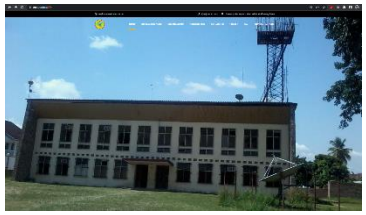
15. Supporting documents

a. ***List and annex to the report any documents providing details on project activities conducted during the reporting period such as reports of training sessions, assessment reports, online solutions and tools, manuals, summaries of high-level discussions etc.***

16. Project History

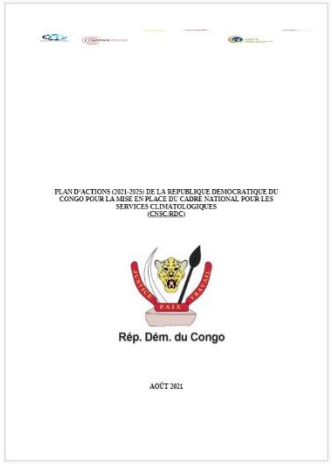
a. ***Highlight key achievements since project started in bullet points, include all visibility and supporting documents other than those from the last 12 months***

17. Site Internet

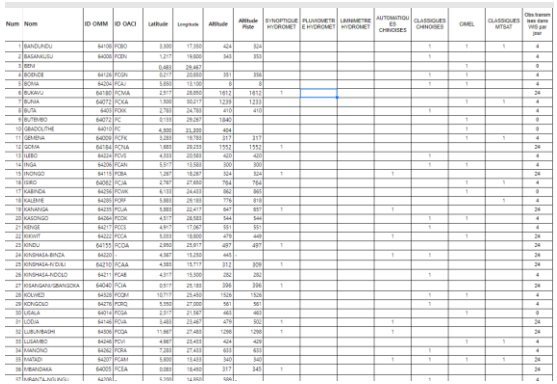


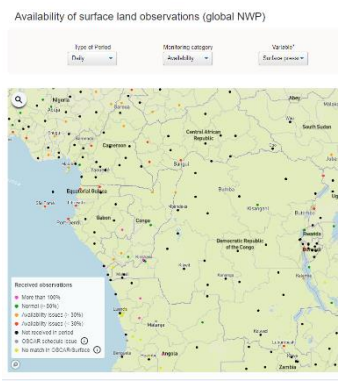
18. Plan de formation (développé par EAMAC)

19. Cadre national pour les services climatologiques (+Décret)



20. Liste des stations nouvelles ou réhabilitées (voir WDQMS)





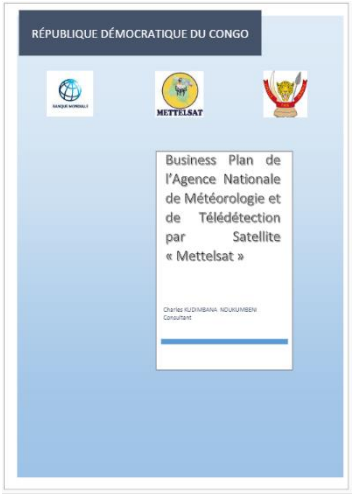
21. Sauvetage des données (MCH + ClimSoft + Excel)

Les données des stations ont toutes été numérisées dans la base de données MCH (125 stations). Les données de surveillance des précipitations et du niveau d'eau doivent encore être numérisées.

22. Projet de Stratégie de la METTELSAT (2021)

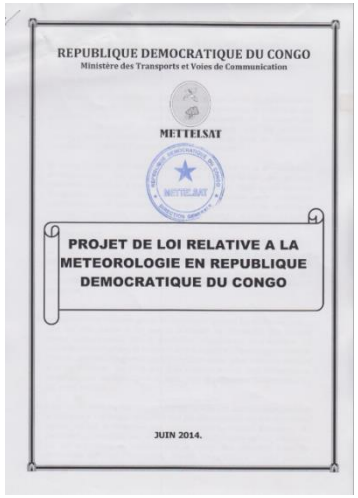
Ce document de stratégie n’a pas été adopté, ni mis en œuvre.

23. Projet de plan d'affaires (2022)



Ce document a été adopté, mais pas mis en œuvre.

24. Projet de loi (2014 & 2023)


REPUBLIQUE DEMOCRATIQUE DU CONGO
Ministère des Transports et Voies de Communication

METTELSAT

PROJET DE LOI RELATIVE A LA METEOROLOGIE EN REPUBLIQUE DEMOCRATIQUE DU CONGO

JUIN 2014.


PROJET DE LOI PORTANT ORGANISATION DES SERVICES DE LA METEOROLOGIE ET DE L'HYDROLOGIE OPERATIONNELLE

Exposé des motifs

Membre de l'Organisation Météorologique Mondiale et de l'Organisation de l'Aviation Civile Internationale, la République Démocratique du Congo subit, dans son écosystème, les effets du changement climatique touchant plusieurs secteurs de la vie, notamment l'agriculture, le secteur alimentaire, les ressources en eau et en énergie, le tourisme, les transports et voies de communication ainsi que la santé. Elle ne dispose pas, à ce jour, d'une loi sur les services de la météorologie et de l'hydrologie opérationnelle.

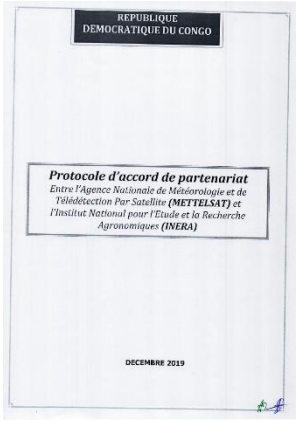
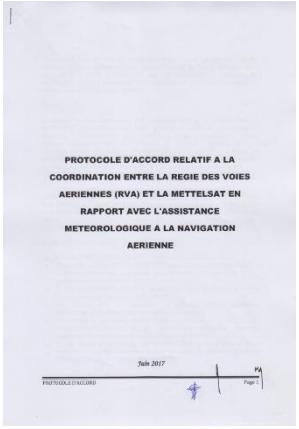
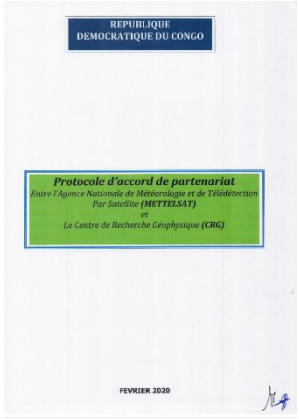
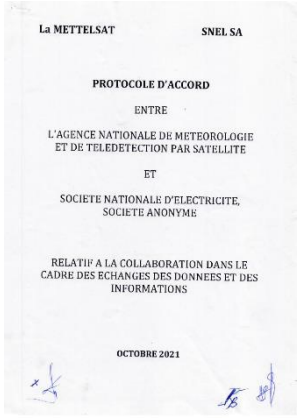
Pour profiter des retombées positives de substance durable, dans un contexte de changement climatique de plus en plus accru, l'administration météorologique a besoin de renforcer ses capacités d'adaptation et de résilience, à travers un cadre juridique de coordination et d'harmonisation de ses services conduisant au recouvrement des coûts dûs à l'assistance météorologique aux transports multimodal, agrométéorologique ainsi qu'aux activités agricoles , pêche et élevage.

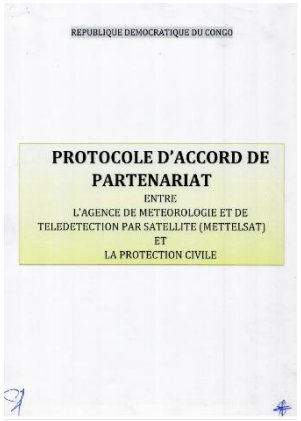
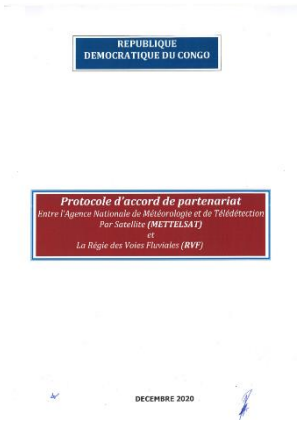
C'est dans ce cadre que le Gouvernement de la République a bénéficié, par le biais du Ministère des Transports, Voies de Communication et de Désenclavement, avec l'Agence Nationale de Météorologie et de Télédétection par Satellite METTELSAT, en sigle, comme agence d'exécution, de l'appui financier de la Banque mondiale destiné à la mise à jour et à la finalisation du projet de loi sur la météorologie et l'hydrologie opérationnelle afin de les conformer aux pratiques normalisées et recommandations des conventions internationales pertinentes auxquelles la République Démocratique du Congo a adhéré.

Élaborée en vertu de l'article 202, point 29 de la Constitution, la présente loi vient combler un vide législatif, longtemps observé dans le secteur. Elle organise le Service de la météorologie et de l'hydrologie national et encadre la gestion des eaux, l'assistance météorologique à la navigation aérienne, l'hydrologie opérationnelle, la protection du patrimoine du Service de la météorologie et de l'hydrologie national ainsi que les principes relatifs à l'exploitation des informations météorologiques.
Les innovations qu'elle apporte concernent :

Le projet de 2023 a été remis au Ministère de tutelle mais est remis en question par le Conseil constitutionnel.

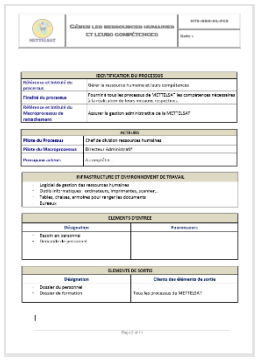
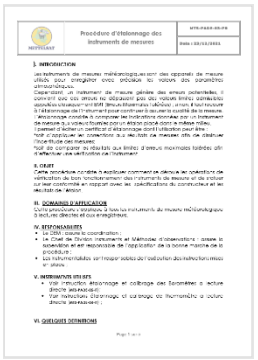
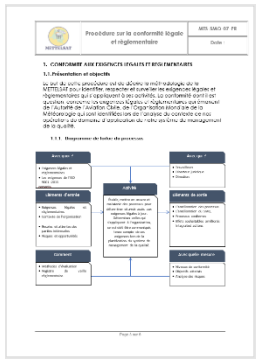
25. Protocoles d’accord avec les institutions

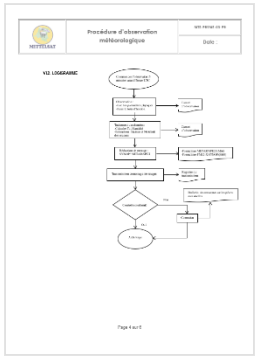
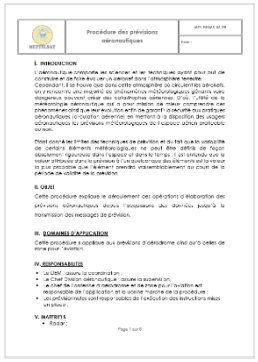
 Institut national pour l'Etude et la Recherche Agronomiques (INERA)	 Ministère de l’Agriculture	 Congolaise des Voies Maritimes (CVM)	 Direction des Ressources en Eau (DRE)
 Régie des Voies Aériennes (RVA)	 Centre de Recherches Géophysiques (CRG)		 Société Nationale d’Electricité (SNEL)

		Bureau d'Etude d'Aménagement et d'Urbanisme (BEAU)	
 Régie de Distribution d'Eau (REGIDESO)	 Direction de la Protection Civile (DPC)	 Office des Voiries et Drainage (OVD)	 Régie des Voies Fluviales (RVF)
			

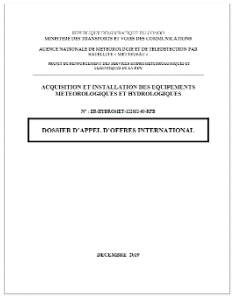
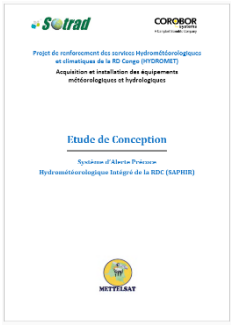
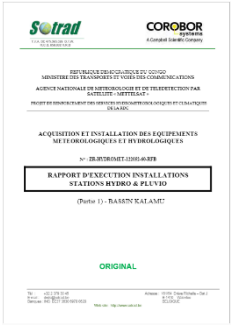
Institut Supérieur de Techniques Appliquées (ISTA)			

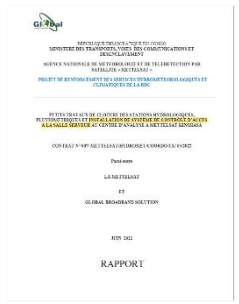
26. Projet de manuel qualité + feuille de route + description des processus (octobre 2022)

Projet du Manuel Qualité			
	Ressources humaines	Instruments et méthodes d'observation	Conformité légale et réglementaire

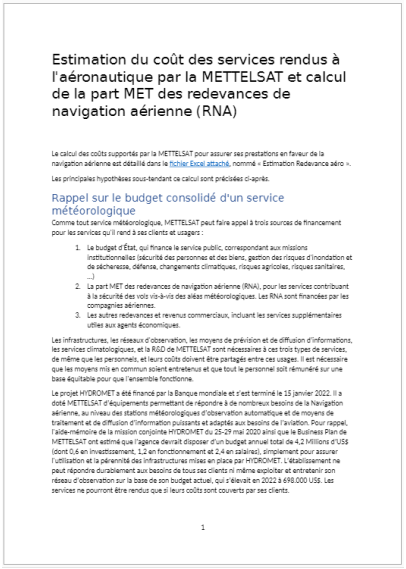
		
[Observation météorologique]	[Prévisions aéronautique]	

27. Livrables du groupement COROBOR / SOTRAD / BRLi

				
[Dossier d'appel d'offres]	[Étude de conception]	[Installation stations synop.]	[Installation échelles & socles]	[Installations bassin Kalamu]

				
[Installations bassin N'Djili]	[Rapport de formations]	[Centre de Maintenance]	[Listes présence formations]	[Sécurisation installations]

28. [Estimation du coût des services rendus à l'aéronautique]



Estimation du coût des services rendus à l'aéronautique par la METTELSAT et calcul de la part MET des redevances de navigation aérienne (RNA)

Le calcul des coûts supportés par la METTELSAT pour assurer ses prestations en faveur de la navigation aérienne est détaillé dans le fichier Excel attaché, nommé « Estimation Redevance aéro ».

Les principales hypothèses sous-tendant ce calcul sont précisées ci-après.

Rappel sur le budget consolidé d'un service météorologique

Comme tout service météorologique, METTELSAT peut faire appel à trois sources de financement pour les services qu'il rend à ses clients et usagers :

1. Le budget d'Etat, qui finance le service public, correspondant aux missions institutionnelles (sécurité des personnes et des biens, gestion des risques d'inondation et de sécheresse, défense, changements climatiques, risques agricoles, risques sanitaires, […])
2. La part MET des redevances de navigation aérienne (RNA), pour les services contribuant à la sécurité des vols vis-à-vis des aléas météorologiques. Les RNA sont financées par les compagnies aériennes.
3. Les autres redevances et revenus commerciaux, incluant les services supplémentaires utiles aux agents économiques.

Les infrastructures, les réseaux d'observation, les moyens de prévision et de diffusion d'informations, les services climatologiques, et la R&D de METTELSAT sont nécessaires à ces trois types de services, de même que les personnels, et leurs coûts doivent être partagés entre ces usages. Il est nécessaire que les moyens mis en commun soient entretenus et que tout le personnel soit rémunéré sur une base équitable pour que l'ensemble fonctionne.

Le projet HYDROMET a été financé par la Banque mondiale et s'est terminé le 15 janvier 2022. Il a doté METTELSAT d'équipements permettant de répondre à de nombreux besoins de la Navigation aérienne, au niveau des stations météorologiques d'observation automatique et de moyens de traitement et de diffusion d'information puissants et adaptés aux besoins de l'aviation. Pour rappel, l'aide-mémoire de la mission conjointe HYDROMET du 25-29 mai 2020 ainsi que le Business Plan de METTELSAT ont estimé que l'agence devrait disposer d'un budget annuel total de 4,2 Millions d'US$ (dont 0,6 en investissement, 1,2 en fonctionnement et 2,4 en salaires), simplement pour assurer l'utilisation et la pérennité des infrastructures mises en place par HYDROMET. L'établissement ne peut répondre durablement aux besoins de tous ses clients ni même exploiter et entretenir son réseau d'observation sur la base de son budget actuel, qui s'élevait en 2022 à 698.000 US$. Les services ne pourront être rendus que si leurs coûts sont couverts par ses clients.

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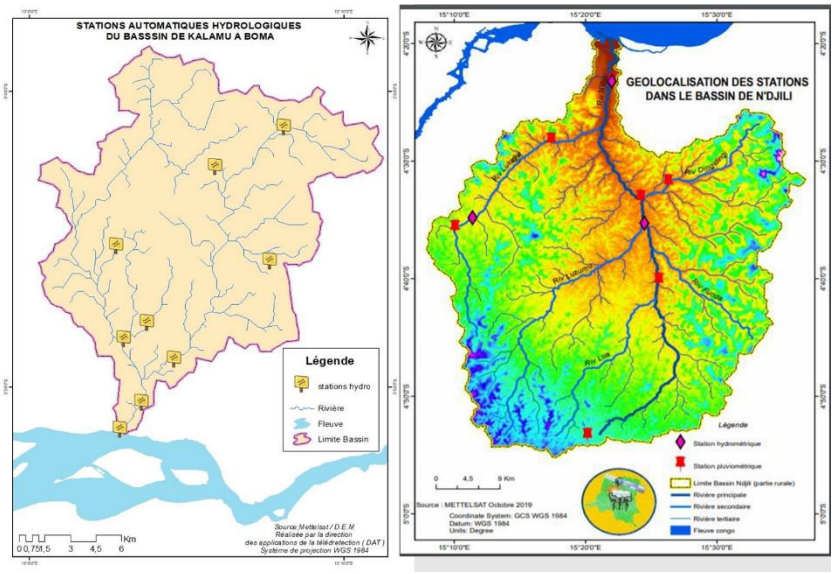
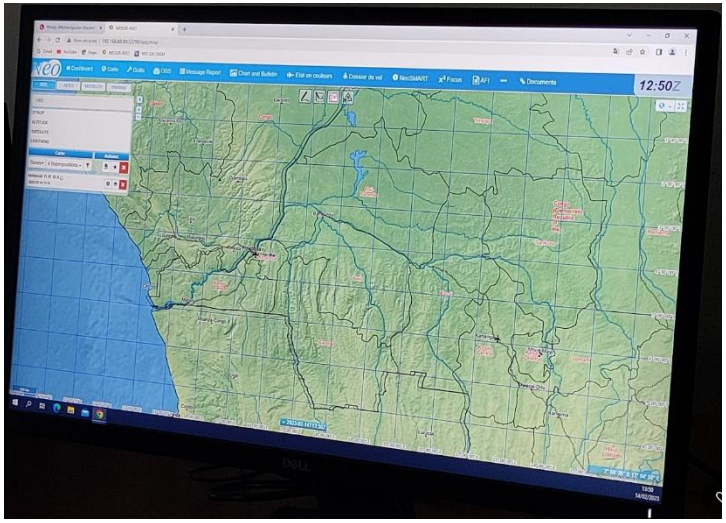
29. Systèmes d'alerte aux crues à N'Djili et Kalamu (SAPHIR)



Chaque bassin est équipé de 3 limnimètres + 5-7 pluviomètres, le modèle GR4H développé par BRLi fournit des prévisions des zones inondées.

30. Système MESSIR de gestion des données climatologiques, de prévision et d'aide à la production de services



31. Présentation de la METTELSAT à la clôture du projet

32. IMPLEMENTATION COMPLETION AND RESULTS REPORT : Strengthening Hydro-Meteorological and Climate Services Project (P159217)

P159217_DRC Hydromet ICR_Offical document.pdf