Olivier DELAIGUE
1 rue Pierre-Gilles de Gennes, CS 10030
92761 Antony CEDEX, France
+33 (0)1 40 96 60 55
olivier.delaigue@inrae.fr
webgr.inrae.fr

Update: September 27, 2024
HAL ID: olivier-delaigue
ORCID ID: 0000-0002-7668-8468
Scopus ID: 55650039500
gitlab.irstea.fr/olivier.delaigue

Data Scientist

Work experience and internships

Since Feb. 2013 — **Permanent position at INRAE – HYCAR Research Unit (Antony)**
IRSTEA & INRA became INRAE in 2020
- Hydrological modelling
- Software development
- Database management for the ORACLE hydrological and biogeochemical observatory
- Cartography and spatial analysis
- Statistics and data analysis

Sep. 2012 to Jan. 2013 — **Fixed term contract at ONEMA – Research & Development Department (Vincennes)**
Assessing the impact of new bioindicators (study for French Ministry of Environment)
ONEMA & ONCFS became OFB in 2020
- Relationship with scientists to identify possibilities for adjusting the quality class limits of indicators in relation with the results of the European WFD intercalibration exercise
- Aggregation of the different bioindicators and development of the national summary of results

Supervision: Yorick Reyjol

Oct. 2008 to Aug. 2012 — **Fixed term contract at CEMAGREF – Hydrosystems and Bioprocesses Research Unit (Antony)**
IPR+ programme (study for ONEMA)
CEMAGREF became IRSTEA in 2012
- Developing the new French fish-based index to assess river ecological quality: modelling metric responses to the environment, analysing the sensitivity of metrics and index responses to human pressures, ratification of results in interaction with users

Supervision: Didier Pont & Jérôme Belliard

European WFD intercalibration exercise (study for the JRC of the European Commission)
- *Co-leader of the ECOSTAT group in charge of European fish-based methods to assess river ecological quality*
- *Establishing the official European database of the group*
- *Developing methods and computing programs in order to harmonize the European indices*

Supervision: Didier Pont

May 2008 to Sep. 2008 — **Fixed term contract at CEMAGREF – Hydrobiology Research Unit (Aix-en-Provence)**
IPR+ programme (study for ONEMA)
- Establishment of the national database for the development of the new French fish-based index to assess river ecological quality

Supervision: Didier Pont

Apr. 2007 to Apr. 2008 — **Fixed term contract at CEMAGREF – Hydrobiology Research Unit (Aix-en-Provence)**
CYPREF project
- Computing cyprinids habitat preferences and developing fish–habitat models on the 5M7 software

Supervision: Yann Le Coarer

Oct. 2006 to Mar. 2007 — **Fixed term contract at CEMAGREF – Hydrobiology Research Unit (Aix-en-Provence)**
Therm and Hydrobiology programme (study for Electricity of France [EDF])
- Analysis of the influence of temperature on growth of juvenile cyprinid fish on the Lower Rhône river

Supervision: Georges Carrel

Feb. 2006 to Aug. 2006 — **Internship at ONCFS – Predatory Animals Research Unit (Gières)**
Master's 2nd year in Biomathematics and Biocomputing
ONEMA & ONCFS became OFB in 2020
- Analysis of grey wolf (*Canis lupus*) diet and analysis of results sensitivity to determination bias

Supervision: Christophe Duchamp

Nov. 2004 to May 2005 — **Internship at Claude Bernard University, Lyon 1 – Biometry and Evolutionary Biology Laboratory (Villeurbanne)**
Master's 1st year in Biomathematics and Biocomputing
- Analysis of the effects of heavy metals on life history traits of chironomids (*Chironomus riparius*)

Supervision: Sandrine Charles

Academic education

Sep. 2006 — **Master's 2nd year** in **Biomathematics & Biocomputing**
Claude Bernard University, Lyon 1 [UCBL] (Villeurbanne)

Jun. 2005 — **Master's 1st year** in **Biomathematics & Biocomputing**, UCBL (Villeurbanne)

Jun. 2004 — **Maîtrise [4th year post-graduate degree]** in **Population & Ecosystem Biology**, UCBL (Villeurbanne)

Jun. 2003 — **Bachelor's** in **Biology of Organisms**, UCBL (Villeurbanne)

Jun. 2002 — **DEUG [General University Studies Diploma]** in **Life Sciences**, UCBL (Villeurbanne)

Teachings provided

2023 **Hydrological modelling – Master 2 EESM - École Polytechnique (Palaiseau, 91)**
in English
- Lecture course/Tutorial works [1 × 4 hours]
- Oral exam [1 × 4 hours]

2023 **Hydrological modelling – Master 2 Hydrology et Hydrogeology - Paris-Saclay University (Gif-sur-Yvette)**
- Tutorial works [1 × 6 hours]

2020 **GIS/Remote Sensing – Master 2 Fundamentals of Remote Sensing (IPGP), Master 2 TGAE (univ. Paris-Cité) & Master 2 IGAST (univ. Gustave-Eiffel)**
- Seminar about the Use of DTMs and GIS for hydrological modelling (online) [2 hours]

Since 2017 **Hydrological modelling – VET engineers & Master 2 SAGE - École des Ponts ParisTech (Marne-la-Vallée)**
- Tutorial works [1 × 2.5 hours & 6 × 5 hours]

Since 2016 **Hydrological modelling – Master 2 SDUEE-HHGE - Sorbonne University (Paris)**
- Lecture course [2 × 9 hours, 6 × 6 hours & 1 × 3 hours]
- Tutorial works [3 × 6 hours & 7 × 3 hours]

2016 **Statistical hydrology – 1st year engineers in Water engineering - Polytech Nice–Sophia (Antibes)**
- Lecture course [1 × 2 hours]
- Tutorial works [2 × 2 hours]

Training courses provided

Since 2018 **Trainings in hydrological modelling using the airGR & the airGRteaching software**
- 2023: GR hydrological modeling [for Hydrostadium] (Annecy, France)
  Presentation of the models and the softwares [15 hours / 6 attendees]
  With: Charles Perrin (INRAE Antony)
- 2022: IAHS-2022 conference workshop. Rainfall-runoff modelling with the open-source airGR and airGRteaching R packages (Montpellier, France)
  Organisation of the workshop. Presentation and familiarization with the software [14 hours / 15 attendees]
  With: Guillaume Thirel (INRAE Antony), Charles Perrin (INRAE Antony) & David Dorchies (INRAE Montpellier)
- 2021: Using the GR hydrological models with the airGR and airGRteaching R packages (Cotonou, Bénin)
  Presentation of the models and the softwares [4 hours / 40 attendees]
  With: Guillaume Thirel (INRAE Antony)
- 2019: Flood forecasting workshops: familiarisation with tools and methods (Rabat, Morocco)
  Presentation and familiarization with the software [12 hours / 15 attendees]
  Cooperation: Pierre Rigaudiere (Suez) & Sébastien Jeannelle (Suez)
- 2019: 2nd HydroGR days meetings for academic researchers (Antony)
  Organisation of the meetings. Presentation and familiarization with the software [18 hours / 25 attendees]
  With: Guillaume Thirel (INRAE Antony) & Charles Perrin (INRAE Antony)
- 2018: 1st HydroGR days meetings for operational departments and design offices (Antony)
  Organisation of the meetings. Presentation and familiarization with the software [13 hours / 20 attendees]
  With: Guillaume Thirel (INRAE Antony) & Charles Perrin (INRAE Antony)

Since 2014 **R trainings (Antony & Strasbourg) for researchers and students from INRAE, UMR 7619 METIS, UMR 7063 ITES and the GRNE 398 Doctoral School** [5 to 10 attendees]
in French or in English
- Beginners' course (programming and statistics) [1 × 14 hours & 3 × 21 hours]
- Language basics (programming) [4 × 14 hours & 23 × 21 hours]
- Geomatics basics (programming and geomatics) [6 × 14 hours]

2014 **IPR+ training for the engineers from ONEMA and the French water agencies (Vincennes)**
- Presentation and familiarization with of the fish-based index [28 hours / 15 attendees]

Seminar organization

Since 2018 **HydroGR Days** : Exchange on methods and tools developed by INRAE Hydrology team in Antony
- 2023: HydroGR Days #5 (Antony, 92)
  Hydrological forecasting using GR models [8 hours / 70 attendees]
  With: François Tilmant (INRAE Antony) & Charles Perrin (INRAE Antony)
- 2021: HydroGR Days #4 (Antony, 92)
  Utilisation des modèles hydrologiques GR [8 hours / 70 attendees]
  With: Guillaume Thirel (INRAE Antony) & Charles Perrin (INRAE Antony)
- 2019: HydroGR Days #3 (Antony, 92)
  The GRP flood forecasting model [14 hours / 10 attendees]
  With: Julie Viatgé (INRAE Antony) & Charles Perrin (INRAE Antony)
- 2019: HydroGR Days #2 (Antony, 92)
  Learn about GR hydrological modeling using the R packages airGR and airGRteaching [18 hours / 25 attendees]
  With: Guillaume Thirel (INRAE Antony) & Charles Perrin (INRAE Antony)
- 2018: HydroGR Days #1 (Antony, 92)
  Learn about GR hydrological modeling using the R packages airGR and airGRteaching [13 hours / 20 attendees]
  With: Guillaume Thirel (INRAE Antony) & Charles Perrin (INRAE Antony)

Supervisory responsibilities

Since 2024 — **A. Bluche – Data scientist - INRAE, HYCAR Research Unit (Antony)**
12 months / ongoing — Hydro-climatic database management

2023-2024 — **C. Tixier – Data scientist - INRAE, HYCAR Research Unit (Antony)**
11 months — Hydro-climatic database management

2023-2024 — **R. Schalck – Environmental engineer (gap year between 2nd and 3rd year) - AgroParisTech (Nancy)**
6 months — Does changing forest cover have an impact on river runoff in France?
Co-supervision: Vazken Andréassian (INRAE Antony)
Cooperation: Étienne Dambrine (INRAE Grenoble), Naïma Dambrine (INRAE Marcy-L'Étoile), Jean-Luc Dupouey (INRAE Nancy), Bruno Lemaire (INRAE Antony & AgroParisTech)

2022-2023 — **G. M. Guimarães – Data scientist - INRAE, HYCAR Research Unit (Antony)**
17 months — Hydro-climatic database management

2021-2022 — **L. Carriba Demange, A. Chanoual & A. Gazull – 3rd year engineers in Water engineering - Polytech Nice (Antibes)**
4 months — Assessment of available software for teaching hydrological modeling
Co-supervision: Pierre Brigode (Polytech Nice–Sophia)

2021 — **L. Nunez Torres – Master 2 of engineering in Geoscience - Polytech Sorbonne (Paris)**
6 months — Simulation of a regulated basin using a semi-distributed hydrological model: the Seine River basin (France) and its reservoirs
Co-supervision: David Dorchies (INRAE Montpellier) & Guillaume Thirel (INRAE Antony)

2020-2021 — **J.-B. Boissonnat – Data scientist - INRAE, HYCAR Research Unit (Antony)**
12 months — Hydro-climatic database management

2019-2020 — **V. Mansanarez – Postdoc - University of Pau and Pays de l'Adour (Anglet)**
15 months — Statistical hydrological modelling of the Adour basin (BIGCEES project)
Co-supervision: Guillaume Thirel (INRAE Antony)
Cooperation: Benoît Liquet (University of Pau and Pays de l'Adour)

2019-2020 — **R. Bertrand & L. Coquemont – Master 2 of engineering in Geoscience - Polytech Sorbonne (Paris)**
20 days — Establishment of a reference sample of watersheds in France
Co-supervision: Benoît Génot

2019 — **P. Astagneau – Master 2 of engineering in Geoscience - Polytech Sorbonne (Paris)**
6 months — Comparison of hydrological modelling R packages
Co-supervision: Guillaume Thirel (INRAE Antony)
Cooperation: Juraj Parajka (Technische Universität Wien) & Alberto Viglione (Politecnico di Torino)

2018-2020 — **B. Génot – Data scientist - INRAE, HYCAR Research Unit (Antony)**
26 months — Hydro-climatic database management & software development

2017 — **S. V. Mata Espinoza – Master 2 SDUEE-HHGE - Pierre and Marie Curie University (Paris)**
6 months — airGR, a hydrological modelling package to improve? Assessment on a large sample of watersheds
Co-supervision: Guillaume Thirel (INRAE Antony)

2016 — **I. Haddadi – Master 1 Applied mathematics, statistics - Blaise Pascal University (Clermont-Ferrand)**
3 months — Statistical tests of significance applied to hydrology
Co-supervision: Guillaume Thirel (INRAE Antony)

Social and cultural life

Music — Graduate of the conservatory (trumpet, musical theory, musical analysis, chamber music). Member of the *Brassage Brass Band* (1st prizes in the 1st division at the French national contests in 2009, 2011-2017, 2019-2020, 2022, 2024), of the *Brassage Wind Ensemble*, and various symphony orchestras as *Les Ondes plurielles*, *Ut cinquième*, *Note & Bien*, and *Ensemble musical Furiante*. Additional musician in several orchestras (*Les Clés d'Euphonia*, *Hélios*, *Association symphonique de Paris*, etc.)

Entertainment — Instructor and trumpet teacher at the musical summer camp of the Dauphiné Musical Federation (FSMD) at Estrablin during the months of July from 2000 to 2003

Reading — Essays on the theory of evolution, ethology, history of science or epistemology

Sport — Hiking, ultimate frisbee, badminton, cross-country skiing

Misc — Driving license, first aid rescuer at work (since 2015)

Publications

Scientific papers

A17. **Delaigue, O.**, Guimarães, G.M., Brigode, P., Génot, B., Perrin, C., Soubeyroux, J.M., Janet, B., Addor, N. & Andréassian, V. (submitted). CAMELS-FR dataset: A large-sample hydroclimatic dataset for france to explore hydrological diversity and support model benchmarking. *Earth System Science Data*.

A16. Thirel, G., Santos, L., **Delaigue, O.** & Perrin, C. (accepted). On the use of streamflow transformations for hydrological model calibration. *EGUsphere* 2023, 1–26, doi: 10.5194/egusphere-2023-775.

A15. Thébault, C., Perrin, C., Andréassian, V., Thirel, G., Legrand, S. & **Delaigue, O.** (2024). Multi-model approach in a variable spatial framework for streamflow simulation. *Hydrology and Earth System Sciences* 28, 1539–1566, doi: 10.5194/hess-28-1539-2024. hal-04532313

A14. **Delaigue, O.**, Brigode P., Thirel G. & Coron L. (2023). airGRteaching: an open-source tool for teaching hydrological modeling with R. *Hydrology and Earth System Sciences*, 27, 3293–3327, doi: 10.5194/hess-27-3293-2023. hal-04208050

A13. Strohmenger, L., Sauquet, E., Bernard, C., Bonneau, J., Branger, F., Bresson, A., Brigode, P., Buzier, R., **Delaigue, O.**, Devers, A.,

Evin, G., Fournier, M., Hsu, S.C., Lanini, S., de Lavenne, A., Lemaitre-Basset, T., Magand, C., Mendoza Guimarães, G., Mentha, M., Munier, S., Perrin, C., Podechard, T., Rouchy, L., Sadki, M., Soutif-Bellenger, M., Tilmant, F., Tramblay, Y., Véron, A.L., Vidal, J.P. & Thirel, G. (2023). On the visual detection of non-natural records in streamflow time series: challenges and impacts. *Hydrology and Earth System Sciences* 27, 3375–3391, doi: 10.5194/hess-27-3375-2023. hal-04214908

A12. Thébault, C., Perrin, C., Andréassian, V., Thirel, G., Legrand, S. & **Delaigue, O.** (2023). Impact of suspicious streamflow data on the efficiency and parameter estimates of rainfall–runoff models. *Hydrological Sciences Journal* 68, 1627–1647. doi: 10.1080/02626667.2023.2234893. hal-04206286

A11. Astagneau, P.C., Thirel, G., **Delaigue, O.**, Guillaume, J.H.A., Parajka, J., Brauer, C.C., Viglione, A., Buytaert, W. & Beven, K.J. (2021). Technical note: Hydrology modelling R packages – a unified analysis of models and practicalities from a user perspective. *Hydrology and Earth System Sciences* 25, 3937–3973, doi: 10.5194/hess-25-3937-2021. hal-03282187

A10. Piazzi, G., Thirel, G., Perrin, C. & **Delaigue, O.** (2021). Sequential data assimilation for streamflow forecasting: assessing the sensitivity to uncertainties and to updated variables of a conceptual hydrological model at basin scale. *Water Resources Research* 57, e2020WR028390, doi: 10.1029/2020WR028390. hal-03154766

A9. Pont, D., Valentini, A., Rocle, M., Maire, A., **Delaigue, O.**, Jean, P. & Dejean, T. (2021). The future of fish-based ecological assessment of european rivers: from traditional EU Water Framework Directive compliant methods to eDNA metabarcoding-based approaches. *Journal of Fish Biology* 98, 354–366. doi: 10.1111/jfb.14176. hal-03163451

A8. Tilmant, F., Nicolle, P., Besson, F., Bourgin, F., **Delaigue, O.**, Etchevers, P., Francois, D., Le Lay, M., Perrin, C., Rousset, F., Thiéry, D., Magand, C., Leurent, T. & Jacob, E. (2020). PREMHYCE: An operational tool for low-flow forecasting. *La Houille Blanche* 5, 37–44, doi: 10.1051/lhb/2020043. hal-03042989

A7. Slater, L., Thirel, G., Harrigan, S., **Delaigue, O.**, Hurley, A., Khouakhi, A., Prodoscimi, I., Vitolo, C. & Smith, K. (2019). Using R in hydrology: a review of recent developments and future directions. *Hydrology and Earth System Sciences* 23, 2939–2963. doi: 10.5194/hess-23-2939-2019. hal-02609896

A6. Belliard, J., Beslagic, S., **Delaigue, O.** & Tales, E. (2018). Reconstructing long-term trajectories of fish assemblages using historical data: the Seine River basin (France) during the last two centuries. *Environmental Science and Pollution Research* 25, 23430–23450. doi: 10.1007/s11356-016-7095-1. hal-02604585

A5. Uher, E., Besse, J., **Delaigue, O.**, Husson, F. & Lebrun, J. (2018). Comparison of the metal contamination in water measured by diffusive gradient in thin film (DGT), biomonitoring and total metal dissolved concentration at a national scale. *Applied Geochemistry* 88, 247–257. doi: 10.1016/j.apgeochem.2017.05.003. hal-02607865

A4. Beslagic, S. & **Delaigue, O.** (2017). The otter in Belgium: an unpopular and maltreated species (19th-early 20th centuries). *Anthropozoologica* 52, 155–170. doi: 10.5252/az2017n2a2. hal-02606819

A3. Coron, L., Thirel, G., **Delaigue, O.**, Perrin, C. & Andréassian, V. (2017). The suite of lumped GR hydrological models in an R package. *Environmental Modelling & Software* 94, 166–171. doi: 10.1016/j.envsoft.2017.05.002. hal-02606302

A2. Marzin, A., **Delaigue, O.**, Logez, M., Belliard, J. & Pont, D. (2014). Uncertainty associated with river health assessment in a varying environment: the case of a predictive fish-based index in France. *Ecological Indicators* 43, 195–204. doi: 10.1016/j.ecolind.2014.02.011. hal-02600662

A1. Segurado, P., Caiola, N., Pont, D., Oliveira, J., **Delaigue, O.** & Ferreira, T. (2014). Comparability of fish-based ecological quality assessment for geographically distinct Iberian regions. *Science of the Total Environment* 476–477, 785–794. doi: 10.1016/j.scitotenv.2013.09.004. hal-02600095

Inproceedings

IN3. Riffard-Chenet, M., Lebecherel, L., Andréassian, V. & **Delaigue, O.** (submitted). Using historical ground rainfall data to adjust a global rainfall reanalysis data-base over Africa. Africa 2019 Conference & Exhibition, Windhoek, 2-4 Apr. 2019. hal-02609371

IN2. Nicolle, P., Besson, F., **Delaigue, O.**, Etchevers, P., François, D., Le Lay, M., Perrin, C., Rousset, F., Thiéry, D., Tilmant, F., Magand, C., Leurent, T. & Jacob, E. (2020). PREMHYCE: An operational tool for low-flow forecasting. *Proceedings of the International Association of Hydrological Sciences* 383, 381–389, doi: 10.5194/piahs-383-381-2020.

IN1. **Delaigue, O.**, Thirel, G., Coron, L. & Brigode, P. (2018). airGR and airGRteaching: Two open-source tools for rainfall-runoff modeling and teaching hydrology. *HIC 2018. 13th International Conference on Hydroinformatics* (eds. G.L. Loggia, G. Freni, V. Puleo & M.D. Marchis), vol. 3 of *EPiC Series in Engineering*, p. 541–548, EasyChair. doi: 10.29007/qsqj.

Scientific popularization

AP3. **Delaigue, O.**, Andréassian, V., Génot, B., Brigode, P. & Magand, C. (2023). Les cours d'eau sous leur meilleur ProfHyl. *Sciences, Eaux & Territoires*, 42, p. 13–15, doi: 10.20870/Revue-SET.2023.42.7291. hal-03963765

AP2. **Delaigue, O.**, Eveillé, F., Le Fur, S., Pont, D. & Usseglio-Polatera, P. (2013). Milieux Aquatiques. De nouveaux bioindicateurs, plus sensibles, plus précis. *Techniques sciences méthodes*, 3, p. 14–16, Association scientifique et technique pour l'eau et l'environnement. hal-03367486

AP1. **Delaigue, O.** (2006). Analyse du régime alimentaire du loup et sensibilité des résultats au biais de détermination. *Quoi de neuf ? Bulletin d'information du réseau loup* (eds. E. Marboutin & C. Duchamp), 16, p. 12–13, ONCFS, Réseau Grands Carnivores Loup-Lynx, Gap. `http://www.loupfrance.fr/pdf/Bulletin-Reseau-Loup-2007-N16.pdf`. hal-03379840

Scientific book

BK1. **Delaigue, O.** (2016). *Géomatique avec R. Manipuler, analyser et représenter des données géographiques.* IRSTEA. 229 p. hal-03094949

Collective book chapter

BC1. Tallec, G., Ansart, P., Guérin, A., Derlet, N., Pourette, N., Guenne, A., **Delaigue, O.**, Boudhraa, H. & Loumagne, C. (2013). L'Orgeval, un observatoire long-terme pour l'environnement : caractéristiques du bassin et variables mesurées. *L'Observation long therme en environnement. Exemple du bassin versant de l'Orgeval* (eds. G. Tallec & C. Loumagne), p. 11–33, Quae. ISBN: 978-2-7592-2073-1. hal-02599373

Scientific and technical reports

R27. Bourgin, F., Royer-Gaspard, P., Piazzi, G., Astagneau, P.C., Thirel, G., de Lavenne, A., **Delaigue, O.**, Tilmant, F., Andréassian, V. & Perrin, C. (2023). Rapport d'analyse des performances des outils de prévision. Rapport final du projet de recherche ReNovRisk-Transferts, Action 2 Aléas hydrologiques. OSU Réunion, INRAE, Antony, 37 p. hal-04311180

R26. Bourgin, F., Tilmant, F., Astagneau, P.C., Thirel, G., de Lavenne, A., **Delaigue, O.**, Andréassian, V. & Perrin, C. (2023). Rapport sur la mise au point des modèles et l'analyse de leur sensibilité à différents aspects. Rapport final du projet de recherche ReNovRisk-Transferts, Action 2 Aléas hydrologiques. OSU Réunion, INRAE, Antony, 26 p. hal-04311173

R25. Le Coz, J., Camenen, B., Lang, M., Bourgin, F., Andréassian, V., **Delaigue, O.** & Astagneau, P.C. (2023) Analyse des crues de juillet 2021. Programme MTE (DGPR/SRNH) – INRAE 2021. Connaissance et prévention des risques naturels et hydrauliques, INRAE, 147 p. hal-04495131

R24. Le Coz, J., Camenen, B., Lang, M.

R23. Mendoza Guimarães, G. & **Delaigue, O.** (2022). Data checking in Hydroportail database. INRAE, Antony, 27 p. hal-03831690

R22. Nunez Torres, L., **Delaigue, O.**, Dorchies, D. & Thirel, G. (2021). Simulation d'un bassin versant anthropisé à l'aide d'un modèle hydrologique semi-distribué : le bassin de la Seine et ses réservoirs. PIREN-Seine phase 8, INRAE, Antony, 43 p. hal-04357949

R21. Thirel, G., Collet, L., Rousset, F., **Delaigue, O.**, François, D., Gailhard, J., Le Lay, M., Perrin, C., Samacoits, R., Terrier, M., Vidal, J.P. & Wagner, J.P. (2021). Projet CHIMERE 21. Chiers–Meuse. Évolution du régime hydrologie au 21e siècle. Agence de l'eau Rhin–Meuse. Convention 17C08004, 152 p. hal-03206168

R20. Tilmant, F., Bourgin, F. & **Delaigue, O.** (2020). Évolution de l'outil de prévision des étiages PREMHYCE. INRAE-OFB. Partenariat 2019-263. Projet PREMHYCE, Antony, 20 p. hal-03367101

R19. **Delaigue, O.** & Perrin, C. (2019). Expertise sur le calcul du module au droit de la centrale hydroélectrique Cabillon (Pyrénées-Atlantiques). IRSTEA, Antony, 41 p. hal-02609949

R18. Lebecherel, L., Andréassian, V. & **Delaigue, O.** (2019). Base de données spatiale de pluie en Afrique. IRSTEA, Antony, 37 p. hal-02609962

R17. Ramos, M.H., Perrin, C., Andréassian, A., **Delaigue, O.** & Viatgé, J. (2017). Assessment report on the 2016 flood event on the Seine and Loire basins (France). European Flood Awareness System (EFAS dissemination centre, Rijkswaterstaat (NL), SCHAPI (France), IRSTEA (France), Antony, 43 p. hal-03367563

R16. Nicolle, P., Lebecherel, L., Perrin, C. & **Delaigue, O.** (2016). Détermination de valeurs seuils sécheresse pour les eaux de surface du département de Mayotte. IRSTEA, Antony, 95 p. hal-02606202

R15. Talès, E., Le Pichon, C., Mathieu, A., Zahm, A., Slawson, D., Albert, M.B., Girondin, M., Roy, M., Chevalier, R., Beslagic, S., **Delaigue, O.** & Belliard, J. (2015). Influence des aménagements sur les peuplements de poissons. Programme PIREN-Seine. Phase 6, 2011-2015. Axe 4 : Écologie & Écotoxicologie : Les Déterminants de la qualité écologique du milieu aquatique, p. 9–62, CNRS. hal-02604920

R14. Vincent, B. & **Delaigue, O.** (2015). État du drainage en France : évolution et impact de réserves de substitution à partir des eaux drainées. IRSTEA-MAAF (DGPAAT/S DIR B&E BSE). Partenariat 2012-2014, Antony, 20 p. hal-02606289

R13. Lobligeois, F., **Delaigue, O.** & Furusho, C. (2015). Développement de modèles hydrologiques semi-distribués GRP et TGR sur les bassins du Rhin, Sarre, Bruche, Ill et Zorn. SCHAPI-IRSTEA. Partenariat 2014/MRN/SPC, Antony, 86 p. hal-03303400

R12. Tallec, G., Blanchouin, A., Ansart, P., **Delaigue, O.** & Guérin, A. (2014). Changement d'échelle des processus biogéochimiques. PIREN-Seine. Phase 6. Rapports d'activité 2014, Antony, 121-124. hal-04357453

R11. Marzin, A., Logez, M., **Delaigue, O.** & Pont, D. (2013). Programme IPR+. Révision de l'indice poisson rivière pour l'application de la DCE. Variabilité temporelle de l'indicateur et incertitudes associées à l'évaluation de la qualité écologique. ONEMA-IRSTEA. Partenariat 2012. Domaine Qualité des eaux. Action 37, Antony, 14 p. hal-03303383

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