To explore the potential of coastal and marine nature to improve the quality of life

Week calendar 2018





Cover photo Christiaan de Leeuw As 2018 only has 52 weeks, we unfortunately could only include a selection of all the interesting work and photos sent to us by our Wageningen University & Research (WUR) colleagues. More information about the 'study of the week' plus some of the not included work can be found via the calendar website below. Tinka Murk (editor) and Pepijn de Vries (assistant editor)

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Foreword

The European commission has developed a long term strategy, called Blue Growth, to support sustainable growth in the marine and maritime sectors. Seas and oceans are promoted as drivers for innovation and growth of the European economy. The current 'blue' economy roughly represents 5.4 million jobs and generates a gross added value of almost 500 billion Euros a year. Further growth is going to be stimulated in 5 areas: aquaculture, coastal tourism, marine biotechnology, ocean energy, and seabed mining. Of course it is great to make use of a 'sea of opportunities'. The seas, however, already are quite intensively used, and for further sustainable and inclusive use better care should be taken of the health, resilience and biodiversity of the marine ecosystems.

As the world is expected to have almost 10 billion inhabitants in 2050, a huge challenge lies ahead of us: how to feed this population without degrading the environments that provide the resources for food production. Using marine resources for the benefit of society in a responsible way requires innovative approaches that smartly integrates technical, environmental and socio-economic knowledge.

Such transdisciplinary approaches are a major strength of Wageningen University & Research (WUR). Together we cover expertise from fisheries ecology to adaptive governance of sea level rise; from aquaculture to sustainable tourism; in temperate, Arctic and Tropical areas. In 2012 the innovation program TripleP@Sea was initiated. This program, led by prof. Tinka Murk, clearly demonstrates how transdisciplinary collaboration forms the basis for new discoveries and innovations, creating successful research, education and societal and economic value.

This calendar illustrates the versatility and beauty of the work of many, but certainly not all, Wageningen University & Research colleagues, exploring the potential of coastal and marine nature to improve the quality of life.

Enjoy!

Prof.dr Arthur Mol Rector Magnificus/vice-president Wageningen University & Research





Scientists from WUR trace sources of marine plastic litter in the Arctic and support stakeholders in developing action plans to prevent marine plastic pollution.

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January

neek
1
2018







Scientists from WUR share experiences and collaborate in the International Eel Reproduction Innovation Centre in an effort to close the eel life cycle in aquaculture.

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January

Neek
2







Habitat use and migration routes of spinner dolphins and other cetaceans are studied to improve marine mammal protection in marine spatial planning, in this case in Wakatobi - Indonesia.

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January







By collaborating with fishermen, WUR scientists can obtain a wealth of data as well as important insights on fishers' decision making.

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January







Flamingos avoided a salt lake after a petrochemical fire. WUR examines the risks posed to the birds as they return to the polluted lake.

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January | February







Scientist of WUR study the effectiveness for eel of the upcoming Fish Migration River in the Afsluitdijk.

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February







WUR uses participatory approaches and simulations to improve understanding of emerging ecological and social vulnerabilities in the coastal tourism sector.

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February

| 12 | TUESDAY 13 | wednesday 14 | \/ | rsday 5 |
|--------------|-------------|---------------|------|---------|
| friday 16 | SATURDAY 17 | sunday 18 | 1 Mo | NDAY 9 |





On the Afsluitdijk, separating the large fresh water Lake IJssel from the North Sea, the world's first salinity gradient power plant will capture renewable energy based on technology from WUR scientists.

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February



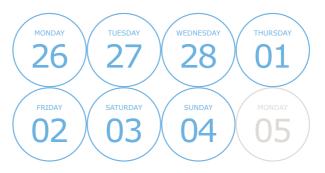


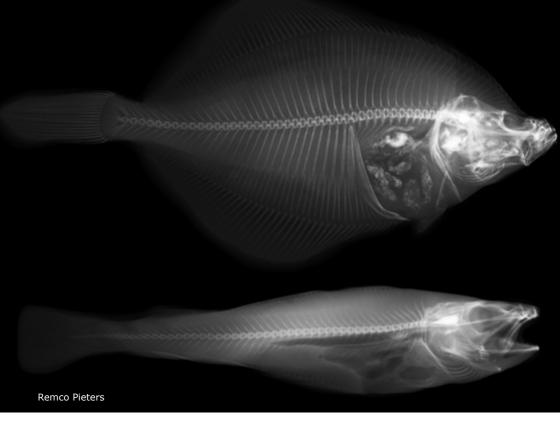


Scientists from WUR place shelters to attract herbivorous animals to coral reef restoration sites. Their grazing facilitates coral reef development.

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February | March







Scientists from WUR use radiography, an X-ray imaging technique, to study the internal structure of marine fishes caught by electric pulse fisheries in the North Sea.

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March







Scientists of WUR are unveiling what native and exotic species can be found in the Dutch part of the North Sea. This is an important basis for nature policy.

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March

| MONDAY 12 | TUESDAY 13 | wednesday 14 | \/ | rsday 5 |
|--------------|-------------|---------------|----|-------------|
| 16 | saturday 17 | sunday 18 | 1 | ONDAY ONDAY |





The GASDRIVE project aims to develop a revolutionary energy efficient ship. As spin-off, WUR researchers develop innovative methods to reduce fouling of ship hulls.

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March

| MONDAY 19 | TUESDAY 20 | wednesday 21 | THURSDAY 22 |
|--------------|-------------|--------------|-------------|
| FRIDAY 23 | saturday 24 | sunday 25 | MONDAY 26 |





Researchers of WUR develop innovative fishing nets based on better understanding of fish behaviour. This will increase selectivity and thus reduce bycatches.

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March | April







With local Asian partners, WUR aims to create incentives for governments and the private sector to manage Pacific Tuna fisheries innovatively and equitably.

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April

week 14

02 03 04 05

FRIDAY 06 07 08 09





In an effort to reduce the losses from the Japanese oyster drill, a predatory snail, methods are tested to culture oysters off-bottom. WUR studies the ecological effects.

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April

| MONDAY 09 | TUESDAY 10 | wednesd/ | AY | ursday L2 |
|-----------|-------------|-----------|----|-----------|
| 13 | saturday 14 | sunday 15 | \/ | onday L6 |





WUR combines available knowledge in seaweed biotechnology with reliable eco-friendly tools to scale op seaweed operations and boost the blue biobased economy.

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April







WUR scientist of multiple disciplines, involved in the EU HORIZON2020 project SponGES, study the roles of sponges in the deep North Atlantic Ocean.

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April







WUR supports Indonesian shrimp farmers by training them in Coastal Field Schools to make aquaculture sustainable and to support mangrove restoration.

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April | May







In the project 'Pumping iron' scientists from WUR study the effect of iron availability on reef community shifts from coral to sponge domination.

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May

| MONDAY 07 | TUESDAY 08 | wednesd/ | \/ | HURSDAY 10 |
|-----------|-------------|-----------|----|------------|
| FRIDAY 11 | saturday 12 | sunday 13 | | MONDAY 14 |





With innovative DNA techniques scientists of WUR assess the presence of marine alien species in the Arctic.

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May

| MONDAY 14 | TUESDAY 15 | wednesday 16 | THURSDAY 17 |
|-----------|----------------|---------------|-------------|
| 18 | saturday 19 | sunday 20 | MONDAY 21 |





WUR scientists study how exotic species, such as this Brush-clawed shore crab, are introduced and establishing themselves in (changing) marine environments.

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May

| 21 | TUESDAY 22 | wednesday 23 | THURSDAY 24 |
|-----------|----------------|--------------|-------------|
| FRIDAY 25 | saturday 26 | sunday 27 | MONDAY 28 |





Researchers of WUR study the unique species communities in marine lakes in Indonesia. The absence of predators can lead to very high densities of species like this vivid shrimp.

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May | June

22 2018 28 29 30 31 THURSDAY 31 SATURDAY 01 02 03 04

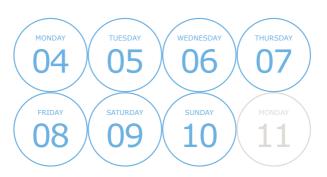




Traditional mussel bottom cultures depend on the environment for seed and feed. WUR works together with mussel growers to improve understanding of culture-environment relations.

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June







Ready for take-off! WUR Scientists follow sandwich terns on their local and Atlantic journeys, using colour rings, together with Natuurmonumenten and Vogelinformatiecentrum Texel.

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June







Since 2015 the neurotoxin Tetrodotoxin, known from pufferfish and other warm water animals, is found in the Eastern Scheldt. Scientists from WUR search for the bacterial sources.

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June







Maritime shipping transports 90% of all global trade. WUR studies how different policy instruments, e.g. law and environmental indexes, drive corporate social responsibility within this industry.

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June | July

26

25 26 27 28

FRIDAY SATURDAY 01 02





The European networking Action FITFISH unites scientists from 28 countries to study fish swimming in the wild and in aquaculture under a multidisciplinary perspective.

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July







In the Water Nexus program scientists from WUR aim to close the industrial water cycle by using saline water and reusing wastewater treated in green infrastructure.

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July

28

09 10 11 12

FRIDAY SATURDAY 15 16





In marine mesocosms, WUR studies the consequences of factors such as nano- and microplastics or rubble beds on community development over several months.

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July

| MONDAY 16 | TUESDAY 17 | wednesday 18 | THURSDAY 19 |
|--------------|-------------|--------------|-------------|
| PRIDAY 20 | SATURDAY 21 | sunday 22 | MONDAY 23 |





WUR and Van Lang Univrsity study waste water reuse, by industry and agriculture, sustaining economic growth in the Mekong delta suffering from climate change and sea water intrusion.

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July







Researchers of WUR study how seaweed can be safely produced and sustainably combined with other types of use of marine space such as offshore wind farming.

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July | August







In the MERCES project researchers of WUR investigate the governance, the costs, and the benefits of restoring marine ecosystems such as seagrass beds and kelp forests.

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August







Flat oysters, a reef-building keystone species, were absent in the North Sea for decades. WUR contributes to reintroduction efforts.

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August







To be able to improve the management of the Queen conch (Lobatus gigas) in the Caribbean region, their biology and ecology is studied by scientists from WUR.

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August

week 34

20 21 22 23

FRIDAY 24 25 26 27





Scientists from WUR and fishing businesses are searching for more sustainable methods to catch flatfish and shrimp, including experimenting with pulse trawling.

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August | September



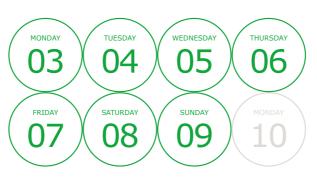




Bioturbation of marine sediments is the basis for a healthy marine ecosystem. Within the C-IMAGE project scientists from WUR study the impact of oil pollution on bioturbation.

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September







Scientists of WUR study the role of offshore structures in the North Sea in the distribution of species and inter-connectivity of reef communities.

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September







WUR researchers explore the potential of using drones in mussel bed monitoring and other field research to enhance effectiveness and reduce costs.

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September

| 17 | TUESDAY 18 | wednesday 19 | THURSDAY 20 |
|-----------|-------------|-----------------|-------------|
| FRIDAY 21 | saturday 22 | sunday 23 | MONDAY 24 |





Scientists from WUR collaborate in the EU MedAID project (Mediterranean Aquaculture Integrated Development) addressing key factors to improve aquaculture production in the Mediterranean.

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September | October







Scientists of WUR study the effects of dredge sediment disposal - a Mud Motor - on salt marsh expansion and nature based coastal defense in the Dutch Wadden Sea.

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October







Scientists of WUR study fish from the pelagic fishing fleet for age, weight and sex. This information is used to provide ICES advice on maximum sustainable catches.

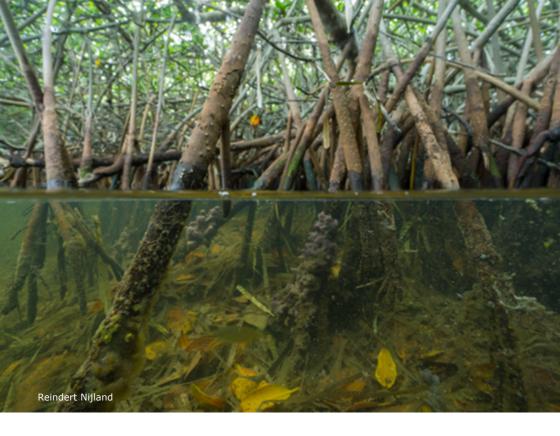
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October

week 41

08 09 10 11

FRIDAY 12 13 14 15





In a Dutch consortium together with the Indonesian government and partners researchers of WUR developed an innovative approach for mangrove restoration.

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October







Together with local partners, WUR designs breeding programs for aquaculture that increase the productivity and profitability of smallholder farms.

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October

week 43





Scientists from WUR explore opportunities and limits of marine spatial planning processes in the Tropical Atlantic, together with researchers and practitioners from Africa, Brazil and Europe.

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October | November







Alternatives are being sought to compensate for important mangrove loss by bridge building. WUR is involved by training local stakeholders in participative management planning.

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November







WUR coordinates the EU project TargetFish in which European fish immunology expert groups aim to commercialize fish vaccines to prevent fish diseases in European aquaculture.

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November

week 46 2018







WUR studies possible solutions for sustainable biodiversity-related economic development In the Caribbean Netherlands, which could reduce the current negative pressures on coral reefs.

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November







Scientists from WUR study symbiosis of deep-sea sponges with microorganisms and in this case with tube snails living inside a Caribbean sponge (seen from the bottom).

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November | December







WUR scientists study how the socio-economic activities of marine communities transform due to new opportunities following climate change.

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December







African ports develop innovative collaborative arrangements to enhance their environmental performance. These trends are explored by WUR scholars and partners.

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December

week **50** 2018







WUR studies the risks to health and environmental posed by contaminants in Chinese marine sediments that accumulate in marine animals, including this popular edible portunid crab.

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December

| MONDAY 17 | TUESDAY 18 | wednesday 19 | THURSDAY 20 |
|-----------|-------------|--------------|-------------|
| FRIDAY 21 | saturday 22 | sunday 23 | Monday 24 |





WUR participates in the European training network MARmaED, in which 15 PhD students work on the socio-economic consequences of rapid marine environmental change.

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December







Scientists from WUR study the effects of sunscreen on coral health and try to develop less harmful bio-inspired sunscreen, made from natural sources.

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January

