

## Gallai iaith fyd-eang newydd ar gyfer newidiadau tir esbonio colled ecosystemau

Mae gwyddonwyr ym Mhrifysgol Aberystwyth wedi cyd-ddatblygu iaith gyffredinol i ddisgrifio byd sy'n newid, a allai helpu i ddatgelu'r hyn sy'n achosi colli ecosystemau a difrod amgylcheddol.

Mae'r Tacsonomeg Newid Byd-eang, prosiect sy'n cynnwys ymchwilyr o wledydd Awstralia, yr Eidal a Groeg yn ogystal â Chymru, yn ceisio uno'r gwahanol ffyrdd o ddisgrifio newid gorchudd tir o ardaloedd lleol i fyd-eang, a thros gyfnodau amrywiol o amser.

Mae'r cynnydd torethiol yn nifer y lloerennau monitro byd-eang yn y degawdau diwethaf wedi helpu i arwain at fwy o ymwybyddiaeth a dealltwriaeth o newidiadau hinsawdd a gorchudd tir a achosir yn bennaf gan weithgareddau dynol fel amaethyddiaeth, coedwigaeth fasnachol a seilwaith trefol.

Fodd bynnag, mae mwy o ffocws wedi bod ar gofnodi newid yn hytrach nag ystyried y cysylltiadau rhwng y gwahanol achosion.

Mae'r ymchwil hwn yn cael ei lesteirio gan ddiffyg cysondeb o ran yr iaith a ddefnyddir, felly gall 'anialwch' neu 'ddiraddio' er enghraifft olygu gwahanol bethau i wahanol lywodraethau neu sefydliadau ac mewn gwirionedd gwmpasu ystod amrywiol o newidiadau cyfrannol. Mae hyn yn ei gwneud yn anos cyflawni prosesau llunio polisi a rheoli tir cyson o fewn ac ar draws ffiniau.

Mae'r rhestr newydd o dermau yn nodi 246 o ddsbarthiadau, sy'n gallu dangos sut mae tirweddau presennol wedi esblygu, sut maen nhw wedi newid dros amser a sut gall tirweddau'r dyfodol ymddangos. Mae'r termau a'r ymadroddion yn raddadwy o ran gofod ac amser a gallan nhw ddisgrifio newidiadau o'r arwynebedd lleiaf o orchudd tir i ranbarthau mawr. Mae'r dull hwn hefyd yn darparu tystiolaeth ar gyfer achosion amrywiol y newidiadau hyn.

## New universal language for land changes could explain ecosystem loss

Aberystwyth University scientists have jointly developed a universal language to describe the changing world, which could help uncover what is causing ecosystem loss and environmental degradation.

The Global Change Taxonomy, a project involving researchers from countries including Australia, Italy and Greece in addition to Wales, attempts to unify the different ways of describing land cover change from local areas to globally, and over varying periods of time.

The proliferation in global monitoring satellites in recent decades has helped lead to greater awareness and understanding of climate and land cover changes largely caused by human activities such as agriculture, commercial forestry and urban infrastructure.

However, the focus has been more on documenting change rather than exploring connections between the different causes.

This exploration is hindered by a lack of consistency regarding the language used, so 'desertification' or 'degradation' for example may have different meanings to different governments or organisations and actually encompass a diverse range of contributory changes. This makes it harder to achieve uniform policymaking and land management within and across borders.

The new list of terms features 246 classes, which can illustrate how current landscapes have evolved, how they have changed over time and how future landscapes may appear. The terms and phrases are scalable in both space and time and can describe changes from the smallest area of land cover to large regions. This approach also provides evidence for the various causes of these changes.

The categories can also be used with satellite and airborne sensor data to identify, describe and map changes.

Professor Richard Lucas, from Aberystwyth

Gellir defnyddio'r eirfa hefyd gyda data lloeren a synhwyrdd yn yr awyr i nodi, disgrifio a mapio newidiadau.

Dywedodd yr Athro Richard Lucas, o Adran Daearyddiaeth a Gwyddorau Daear Prifysgol Aberystwyth:

“Mae deall y pwysau gwahanol ar orchudd tir yn hollbwysig os ydyn ni am wrthdroi'r golled a'r difrod a achoswyd i amgylcheddau'r Ddaear hyd yma, hyd yn oed yn fwy felly o ystyried sut mae'r newid hwn yn cael ei yrru gan ffactorau economaidd-gymdeithasol a ffactorau cynyddol gysylltiedig â'r hinsawdd.

“Does dim modd gwneud hynny mewn modd cyson a hygyrch ar hyn o bryd, sy'n rhwystro ein gallu i fynd i'r afael â'r heriau mawr sy'n wynebu bodau dynol a byd natur. Dyw llawer o dermau etifeddol ddim yn darparu digon o fanylion neu gysondeb, sy'n golygu bod llawer o ymdrechion yn aneffeithlon ac yn llai effeithiol nag y gallen nhw fod.

“Mae'r eirfa hon yn rhoi eglurder i reolwyr tir a gwyddonwyr a bydd yn helpu llywodraethau, y tu mewn a thu hwnt i'w ffiniau, i ddatblygu, gweithredu ac asesu polisiau gan gynnwys y rhai sy'n canolbwyntio ar sgwrsio, amddiffyn, adfer a gwella ein byd naturiol.”

Mae'r papur, a gyhoeddir heddiw (1 Medi) yn 'Global Change Biology', yn dilyn gwaith a gynhaliwyd ar y cyd gan Ysgol Busnes Aberystwyth a roddodd werth ar wahanol agweddau o fyd natur.

### **Nodiadau i olygyddion**

Mae'r adroddiad, 'A Globally Relevant Change Taxonomy and Evidence-based Change Framework for Land Monitoring' i'w weld yn llawn yma.

Ceir manylion llawn y 29 awdur a 11 sefydliad a ysgrifennodd y papur yma.

University's Department of Geography and Earth Sciences, said:

“Understanding the different pressures on land cover is critical if we are to reverse the loss and damage that has been inflicted on the Earth's environments to date, even more so given how this change is driven by socioeconomic and increasingly climate-related factors.

“At present there is no means of doing so in a consistent and accessible manner, which hinders our ability to address the major challenges facing both humans and nature. Many legacy terms provide insufficient detail or consistency, meaning many efforts are inefficient and less effective than they could be.

“This taxonomy delivers clarity to land managers and scientists and will help governments, both inside and beyond their borders, develop, implement and assess policies including those with focus on conversation, protection, restoration and recovery of our natural world.”

The paper, which is published today (1 September) in 'Global Change Biology', follows work jointly conducted by the Aberystwyth Business School that placed a value on differing aspects of the natural world.

### **Notes to editors**

The report, 'A Globally Relevant Change Taxonomy and Evidence-based Change Framework for Land Monitoring' can be found in full here.

Full details of the 29 authors and 11 institutions who authored the paper can also be found here.