

**The University of Leeds**  
**EXTERNAL EXAMINER'S REPORT**  
**ACADEMIC YEAR: 2015– 2016**

**Part A: General Information****Subject area and awards being examined**

Faculty / School of:	Earth and Environment
Subject(s):	<i>Environmental Sciences</i>
Programme(s) / Module(s):	BSc Environmental Science (and Industrial/International variants) BSc Meteorology and Climate Science (and Industrial variant) MEnv Environmental Science (International) MEnv Meteorology and Climate Science (International)
Awards (e.g. BA/BSc/MSc etc):	BSc/MEnv

**Name and home Institution / affiliation of Examiner****Completed report**

The completed report should be attached to an e-mail and sent as soon as possible, and no later than six weeks after the relevant meeting of the Board of Examiners, to [exexadmin@leeds.ac.uk](mailto:exexadmin@leeds.ac.uk).

Alternatively you can post your report to: **Head of Quality Assurance**  
Room 12:81, EC Stoner Building  
The University of Leeds, Leeds LS2 9JT

**Part B: Comments for the Institution on the Examination Process and Standards****Matters for Urgent Attention**

*If there are any areas which you think require urgent attention before the programme is offered again please note them in this box*

None

**Only applicable in first year of appointment**

*Were you provided with copies of previous relevant External Examiners' reports and the response of the School to these?*

N/A

**For Examiners completing their term of appointment**

*Please comment on your experience of the programme(s) over the period of your appointment, remarking in particular on changes from year to year and the progressive development and enhancement of the learning and teaching provision, on standards achieved, on marking and assessment and the procedures of the School*

N/A

## Standards

### 1. Please indicate the extent to which the programme Aims and Intended Learning Outcomes (ILOs) were commensurate with the level of the award

- *The appropriateness of the Intended Learning Outcomes for the programme(s)/modules and of the structure and content of the programme(s);*
- *The extent to which standards are appropriate for the award or award element under consideration.*

The aims of the programmes and their intended learning outcomes appear fully appropriate. The programmes are clearly and logically structured and support students' academic development as they progress, incorporating a healthy diversity of content to build both academic knowledge in the field and the wider skills needed to support this.

### 2. Did the Aims and ILOs meet the expectations of the national subject benchmark (where relevant)?

- *The comparability of the programme(s) with similar programme(s) at other institutions and against national benchmarks and the Framework for Higher Education Qualifications.*

The aims and intended learning outcomes are comparable with those at other institutions with which I am familiar, and meet the national benchmarks.

### 3. Please comment on the assessment methods and the appropriateness of these to the ILOs

- *The design and structure of the assessment methods, and the arrangements for the marking of modules and the classification of awards;*
- *The quality of teaching, learning and assessment methods that may be indicated by student performance.*

A wide variety of assessment methods are applied across the modules contributing to these degree schemes, and this is a major strength of the programme, building a diverse range of skills and strengthening the student learning experience. The balance of coursework and exams varies across the modules depending on subject matter and approach, and this is entirely appropriate. I reviewed the marking across a wide range of written coursework and exams, and this appeared appropriate, with helpful feedback provided in most (although not all) cases. Useful feedback was also provided on coursework that was submitted and marked entirely electronically, which was good to see. I believe that the generic feedback sheets provided following exams are particularly helpful given that many students do not otherwise get to see feedback on their exam scripts. The quality of the teaching is clearly high, and the students I spoke to were very positive about their learning experience, singling out the enthusiasm of many lecturers as a particular strength.

### 4. Were students given adequate opportunity to demonstrate their achievement of the Aims and ILOs?

- *The academic standards demonstrated by the students and, where possible, their performance in relation to students on comparable courses;*
- *The strengths and weaknesses of the students as a cohort.*

The academic standards are consistently high, matching or exceeding those elsewhere. I am particularly impressed by the quality of the dissertations, which clearly demonstrate the application and engagement of students with research in the field, and much of this written work is close to the standards expected for publication in the literature. Final year students on both sets of programmes performed well, with a particularly good performance from the MEnv students who all achieved firsts on the back of good work over a range of modules. The current second year are notably weaker as a cohort, and there was a consistent drop in standards compared with last year across a wide range of modules, with both a lower number of firsts and some fails. The School should take note of this as most of these students head into their final year.

### 5. For Examiners responsible for programmes that include clinical practice components, please comment on the learning and assessment of practice components of the curriculum

N/A

### 6. Please comment on the nature and effectiveness of enhancements to the programme(s) and modules since the previous year

*It would be particularly helpful if you could also identify areas of good practice which are worthy of wider dissemination.*

There have been some changes to the programmes that have involved refinements to a number of modules. Issues identified with the coursework burden of the practical weather forecasting module (SOEE3700), a course ranked highly by students but entailing a substantial quantity of work, appear to have been addressed very effectively. The marks distribution for the Terrestrial Biosphere module (SOEE3760) is more balanced this year, suggesting that the module is better calibrated now that it is becoming established. Some changes to the oceanography module (SOEE3610) raised some issues, but these are already being addressed through the module moderation framework; students suggested that a coursework component to the assessment would be valuable for future years, and this seems sensible.

### 7. Please comment on the influence of research on the curriculum and learning and teaching

*This may include examples of curriculum design informed by current research in the subject; practice informed by research; students undertaking research.*

Current research has a substantial influence on the curriculum through the L3 Frontiers module which cuts across topical environmental issues and exposes students to active research in the School directly. This module is rated highly by the students; their only complaint is that it occurs a bit late in their programme, and they would have liked to have gained the insight it provides in the second year, before choosing dissertation topics. The dissertation topics themselves build very strongly on research in the school, and many of the finished dissertations are of excellent quality, falling little short of that needed for publication in the scientific literature. The students relish the opportunity to perform research, although they appreciate early guidance when choosing their topics on which fields they can be well supported in the department. Project supervision is sometime patchy, and students greatly appreciate the involvement of PhD students in providing additional guidance beyond that provided by busy supervisors.

**8. Where the programme forms part of an Integrated PhD, please comment on the appropriateness of the programme as training for a PhD**

N/A

**For Examiners involved in mentoring arrangements**

**9. If you have acted as a mentor to a new External Examiner or have received mentor support please comment here on the arrangements**

N/A

**The Examination/Assessment Process**

**10. The University and its Schools provide guidance for External Examiners as to their roles, powers and responsibilities. Please indicate whether this material was sufficient for you to act effectively as an External Examiner.**

*Whether External Examiners have sufficient access to the material needed to make the required judgements and whether they are encouraged to request additional information.*

The University and School both provided guidance in a timely manner. The School was commendably efficient in providing access to all coursework, exam scripts and module specifications in hardcopy and/or on the VLE, and I had no problem accessing any of the material I needed.

**11. Did you receive appropriate documentation relating to the programmes and/or parts of programmes for which you have responsibility, e.g. programme specifications or module handbooks, marking criteria?**

*The coherence of the policies and procedures relating to External Examiners and whether they match the explicit roles they are asked to perform.*

Programme documentation and module specifications were provided in both hardcopy and electronically via the VLE.

**12. Were you provided with all draft examination papers/assessments? Was the nature and level of the questions appropriate? If not, were suitable arrangements made to consider your comments?**

I was provided with draft examination papers at two points earlier in the year, and I provided feedback on these which was duly reflected in amendments. The questions appeared appropriate in both level and topic.

**13. Was sufficient assessed / examined work made available to enable you to have confidence in your evaluation of the standard of student work? Were the scripts clearly marked/annotated?**

Exam scripts and coursework were made available from all relevant modules, with additional electronic versions available on the VLE. It was good to see that a substantial quantity of feedback is provided to students, both in the form of comments on scripts and through annotation of electronic files online via Turnitin. Detailed marking templates were provided for feedback on the dissertation and Frontiers module literature review (supplemented by interpretive textual comments), ensuring consistency in approach across the range of markers. Generic exam feedback was provided for some modules on the VLE; this is particularly useful, and it would be good to make this available for all modules which have exams.

**14. Was the choice of subjects for dissertations appropriate? Was the method and standard of assessment appropriate?**

Students have a wide choice of dissertation topics that span the range of research interests across the School. As in previous years, many of the final dissertations were excellent, reaching close to publishable quality. There was a high proportion of firsts on this module, but this is a realistic reflection of the quality of the dissertation work performed. Dissertations on the first/2:1 boundary that I was asked to read were clearly worthy of the higher grade.

However, when I met students they raised some concerns over dissertation guidance, as several felt that many supervisors were rather unenthusiastic. Students interacting with PhD research students on their projects tended to have a much more positive experience, suggesting that there might be a more formal role for research students in project support. Students wanted greater guidance in selecting topics, and this has now been introduced through a new element of the Level 2 skills module. The dissertation marking procedure is clear and fair, with a third marker involved where first and second marks differ by more than 11%. However, where a final mark is agreed on through reconciliation, it would be valuable for the markers to provide a clear statement of justification, so that the module moderator and examiners can understand the rationale for the final mark, ensuring transparency.

**15. Were the administrative arrangements satisfactory for the whole process, including the operation of the Board of Examiners? Were you able to attend the meeting? Were you satisfied with the recommendations of the Board?**

Administrative arrangements were excellent, with a clear timetable for our visit and for the board meeting. The meeting itself was run efficiently.

**16. Were appropriate procedures in place to give due consideration to mitigating circumstances and medical evidence?**

Mitigating circumstances were given full consideration following the recommendations of the internal board, and a clear justification was provided for the decisions that were made.

**Other comments**

**Please use this box if you wish to make any further comments not covered elsewhere on the form**

The students I met were extremely positive about their degree experience, and feel that the School listens to their concerns. Students are particularly positive about the field courses, which they described as “amazing”, although they would like to see a greater labwork component in their degrees. This is an ongoing issue and I am aware that the School is continuing to address it. Many of the module feedback forms across the different year groups and programmes specifically comment on the enthusiasm shown by the lecturers, particularly among the junior staff, and this is highly commendable.

**Moderation:** There is really good use of written comment-response exchange between conveners and moderators on the module review form which provides evidence of an effective pathway to module improvement. However, several modules are moderated by people lecturing on them (2210, 2481, 3151, 3190, 3760) which is probably best avoided. Consider including a periodic peer observation element to drive development of innovation in presentation as well as just in module content and level.

**Frontiers Module (SOEE3710):** “Good module, wrong timing”. This wide-ranging module is very well received by students, providing a great insight into current environmental issues and research activity in the School, but they feel that it would be better at L2 level so that they can apply this knowledge when choosing dissertation topic. In addition, the coursework they get is quite late on, and is typically in an area that is tangential to their increasing specialisation at that stage. If the module was at level 2, it would provide a more logical progression towards dissertation preparation while building on the research skills developed in SOEE2700.

**Level 5 courses:** Some students raised concerns about the combined L3/L5 courses. The exams are typically the same, but coursework requirements are different, and it isn't always clear how much extra work is expected of students taking courses at L5 level. Differentiation of expectations for BSc and MEnv students needs to be clear. There are also some issues with the timing of coursework deadlines as these don't always match well at the different levels.

**Exam papers:** Past papers are provided online for some modules but not for others. It would be more appropriate to have a consistent policy across the School (or at least at a programme level) so that students know what to expect (e.g., access to the last 2 or 3 years of exam papers, no access to answers, etc.)

**Modelling:** As a numerical scientist, I am pleased to note modelling components incorporated in a wide range of L3/L5 modules (3410, 3431, 3700, 3760, 5540). It is important to expose students to the numerical approaches that are increasingly used across the sciences (and in a wide range of other fields that students may ultimately enter), and as well as benefitting them directly it constitutes a valuable USP for the degree programme.

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**UNIVERSITY OF LEEDS**

16 December 2016

Dear Dr Wild,

**Re: Response to External Examiner's Report 2015/16**

I would like to thank you for examining our BSc/MEnv Environmental Science and BSc/MEnv Meteorology & Climate Science programmes for the last academic session. We are very grateful for your valuable contribution in maintaining, and further improving, the high academic standards of our programmes.

I am pleased that you are satisfied with the overall standards of our degrees and that our students are receiving a high quality, well-structured and rigorous course. We always highlight the final year dissertation as a key component of our degrees and it is therefore pleasing that the high quality of these dissertations stands out. Finally, it is always pleasing to hear that our students praise the high quality of the teaching they receive and the enthusiasm of our staff.

In response to your specific comments:

- We have worked hard to improve the quality and timeliness of feedback over the last few years, particularly with the introduction of electronic marking and feedback. It is pleasing that most of the feedback you reviewed was useful and of high quality. We realise that there is still a small proportion of staff who do not provide the expected level of feedback and we are working to address this through staff briefings and through the moderation process.
- Your comments on the changes to SOEE3700 (Practical Weather Forecasting) and SOEE3760 (Terrestrial Biosphere) are reassuring. We have made changes to the module assessments this year following feedback from students and from your last examiners report and we are also satisfied that this has addressed the issues from last year. We are also aware of the issues with SOEE3610 (Oceanography). A new teaching team have made changes to the module this year after it being taught primarily by a single member of staff for many years and they plan to refine these changes for next year in light of feedback. There also plan to introduce an element of coursework for next year as the module is clearly unusual in being entirely assessed through an exam. A decision was made not to introduce that for this year as the new teaching team did not want to make too many changes all at once when taking over the module. The changes to the oceanography module are part of a wider review of our water pathway which we have undertaken over the last year. For next year we will be introducing a replacement level 1 module in this pathway with a much broader remit which will introduce some elements of oceanography earlier on. We are also introducing a new level 3 / 5 module on Ice in the Earth System which will be taught jointly with Geography.
- The most appropriate place to put the Frontiers in Research module in the programme is something we have been discussing in our programme delivery team as we also feel that there might be advantages in having it earlier on. There are also questions about where

else there is space in the programme for this module and so this is a discussion we will continue over the next few months as part of a wider review of the programme so that any required changes can be made in time for the next academic year (17/18).

- Ensuring equality in dissertation supervision can be challenging given the wide diversity of projects and the large number of staff involved. We have guidelines on supervision expectations for academic staff and we have reminded all supervisors of these for the new session. This year we have changed the processes for supervisor allocation to bring the BA and BSc Environment programmes into line and ensure a more uniform experience for all the students and a more even spread of students across available supervisors. We hope this will also provide more guidance for students in choosing projects, although we are aware that for the current second year who are the first to use this new scheme the process has not run as smoothly as we might have wished and we have learnt some lessons for next year.

We certainly recognise the benefits of involving PhD students or research staff in the supervision of dissertations. They are often better placed to give more timely day-to-day technical help with projects and it also helps to better integrate dissertation students in with the research groups. This is something we will continue to monitor though as we feel that the overall direction and supervision of projects should remain with experienced academic staff. There is also a danger that less experienced PhD students can end up giving too much support to dissertation students, unfairly disadvantaging those students who do not have a PhD student involved in their project. We will clarify and formalise the role of such PhD co-supervisors, and re-circulate the guidance on expectations of dissertation supervision.

Marking of dissertations is something we have always taken exceedingly seriously and we are happy you recognise the robust and transparent processes we have in place for this. We have also noted the rise in dissertation marks over recent years and we have had internal discussion about whether or not this is justified. Our conclusion was that the rise in quality of students across the board, coupled with our strong focus in research within the programme and the provision of high quality projects by supervisors has led to a rise in the quality of the dissertations produced, and therefore the higher proportion of first class marks was merited. We are glad that you agree with this conclusion. The number of dissertations which lead on to research publications and the number of students we send to present their research at the British Conference of Undergraduate Research and other meetings also stands testament to the quality of the dissertation projects.

- You commented on the benefits of generic exam feedback as many students do not otherwise get any feedback on exams. A number of years ago we trialled drop-in sessions for students to get individual feedback on exams, however take-up was extremely low. Students can still request to go through their exam paper with the module leader, however few take up this offer. The generic exam feedback form was introduced to provide students with some easier-to-access guidance on improving their exam performance. Forms are submitted as part of the moderation and return of marks and so should be available for all modules with an exam. We have not strictly enforced this however. It would be interesting to survey students views on the usefulness of these forms, and if it is of benefit to ensure that all module leaders complete the form and this is something we will investigate.
- We are pleased that students always highlight our fieldwork as a strength of the programmes, and this is something we are hoping to further strengthen with the introduction of a new final year overseas field course. We are well aware students would like to see more lab work in the programme and this is something we are working to expand over the next couple of years, but it is logistically difficult to introduce this all in one go. It remains an important part of our plans for programme development however, and it will build on university-level investments in environmental science facilities.
- We are very pleased that you highlighted the enthusiasm and contribution of some of our newer staff. The school has appointed a number of excellent academic fellows and new lecturers in the last couple of years. Not only are they outstanding researchers, but as a group they are very engaged with teaching and are making a very valuable contribution to our programmes. Several of these staff have been leading developments in the water pathway and in other parts of the programme.
- We are pleased that you recognise the robustness of our moderation processes. We have traditionally tried to ensure moderators have some familiarity with the material in the module to ensure they can make informed comments on the module assessments and delivery, however with a move towards team-teaching and larger modules it has become

harder to ensure the moderator is also independent from the delivery of the module. Where moderators are involved in delivering a component of a module there is always cross-moderation. Typically the module leader would moderate any coursework on that component of the module. We realise that for transparency this is not ideal and it is something we can revisit in assigning module moderators for next year.

- It is always a challenge to ensure that co-taught level 5 modules are sufficiently differentiated from their level 3 equivalents, given the constraints of small student numbers and it is something we continuously monitor. We have made a number of improvements in the last year or so. For example, this year saw the introduction of a new level 5 project for SOEE5680M which taught and tested additional skills in analysing and interpreting ERA-Interim data for a case study. The new 15-credit level 5 Ice in the Earth System module will have an additional set of practical classes and an associated assessment (co-taught with Geography) which will differentiate it from the 10-credit level 3 variant. We will continue to look at the suite of co-taught level 5 modules to see where further changes may need to be made. We will be introducing clear guidelines applicable across the school on how to distinguish level 3 and 5 modules, covering amount of teaching, amount of assessment, and difficulty of assessment.
- A number of modules reuse exam papers from year to year in which case the papers are confidential and do not leave the exam room, so it is not possible to supply recent exam papers. Until recently those papers that were not reused were available via the university library exam paper website. Unfortunately this often caused confusion with students attempting old papers with questions which were no longer relevant due to changes in module content or exam format, and in students complaining if a paper was not available because for example it was reused. Instead, as a school we took the decision that past papers would only be available via the VLE. This makes it easier for module leaders to ensure only relevant papers are available. If no past papers are available for whatever reason there is an expectation that there will be at least one mock paper or sample exam questions instead. In the long run this should make things easier for students but we are aware that a few staff have not ensured that papers are available on the VLE and this is something we will enforce for the next academic year.
- We are pleased you recognise the innovation and value in introducing modelling through the programme. This is something we are keen to develop in coming years, particularly with the support of the newly founded Centre of Excellence for Modelling Atmosphere and Climate (CEMAC) here in Leeds.

Once again we would like to thank you for your detailed and constructive comments. It is pleasing to know that we are doing well and that overall our students are satisfied. We are however always looking to improve and as always your independent perspective is an extremely valuable part of the review and development process.

Yours sincerely,

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