

Geography subject report

2021 cohort

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Introduction

Despite the challenges brought about by the COVID-19 pandemic, Queensland's education community can look back on 2021 with satisfaction at having implemented the first full assessment cycle in the new Queensland Certificate of Education (QCE) system. That meant delivering three internal assessments and one external assessment in each General subject.

This report analyses that cycle — from endorsing summative internal assessment instruments to confirming internal assessment marks, and designing and marking external assessment. It also gives readers information about:

- applying syllabus objectives in the design and marking of internal and external assessments
- patterns of student achievement.

The report promotes continuous improvement by:

- identifying effective practices in the design and marking of valid, accessible and reliable assessments
- recommending where and how to enhance the design and marking of valid, accessible and reliable assessment instruments
- providing examples of best practice where relevant, possible and appropriate.

Audience and use

This report should be read by school leaders, subject leaders and teachers to:

- inform teaching and learning and assessment preparation
- assist in assessment design practice
- assist in making assessment decisions
- help prepare students for external assessment.

The report is publicly available to promote transparency and accountability. Students, parents, community members and other education stakeholders can learn about the assessment practices and outcomes for General subjects (including alternative sequences (AS) and Senior External Examination (SEE) subjects, where relevant) and General (Extension) subjects.

Report preparation

The report includes analyses of data and other information from endorsement, confirmation and external assessment processes. It also includes advice from the chief confirmer, chief endorser and chief marker, developed in consultation with and support from QCAA subject matter experts.



Subject data summary

Subject completion

The following data includes students who completed the General subject or AS.

For the purposes of this report, while the 2021 summative units for the AS are AS units 1 and 2, this information will be included with the General summative Units 3 and 4.

Note: All data is correct as at 17 December 2021. Where percentages are provided, these are rounded to two decimal places and, therefore, may not add up to 100%.

Number of schools that offered the subject: 212.

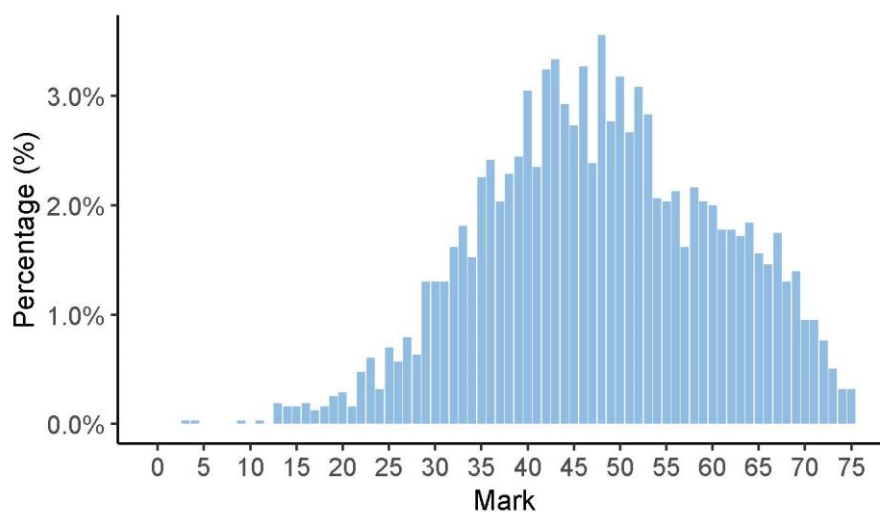
Completion of units	Unit 1	Unit 2	Units 3 and 4
Number of students completed	3444	3365	3114

Units 1 and 2 results

Number of students	Satisfactory	Unsatisfactory
Unit 1	3121	323
Unit 2	3125	240

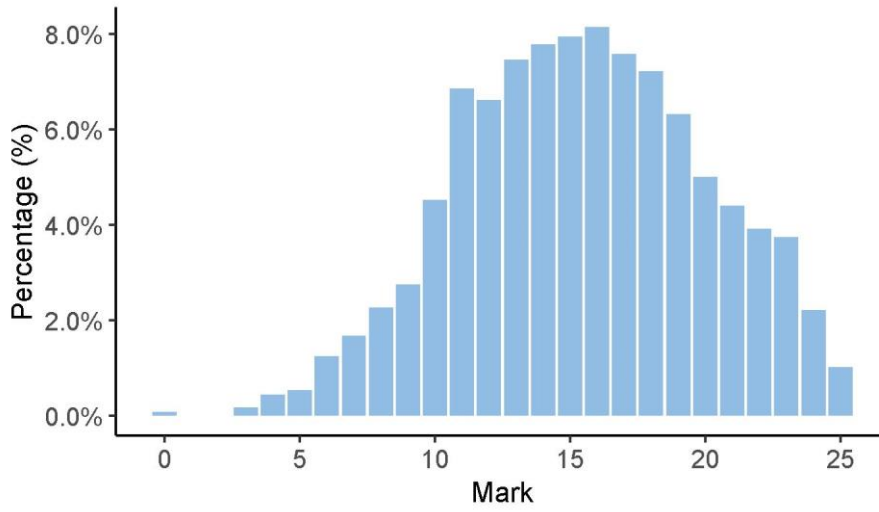
Units 3 and 4 internal assessment (IA) results

Total marks for IA

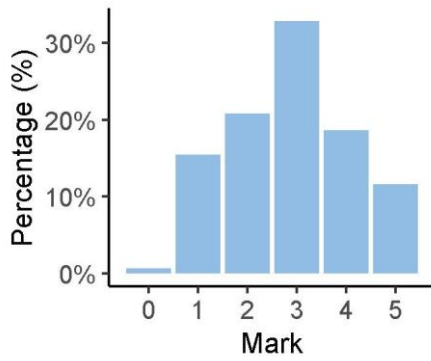


IA1 marks

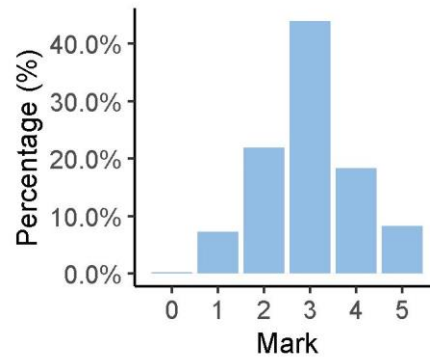
IA1 total



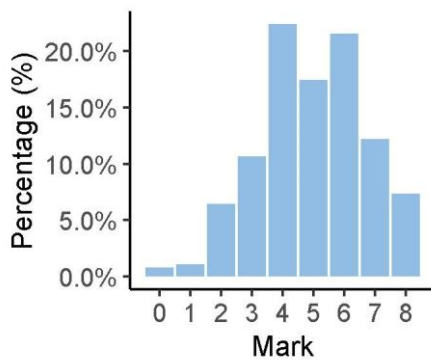
IA1 Criterion: Explaining



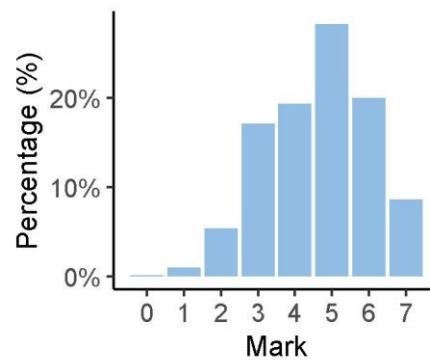
IA1 Criterion: Comprehending



IA1 Criterion: Analysing and Applying

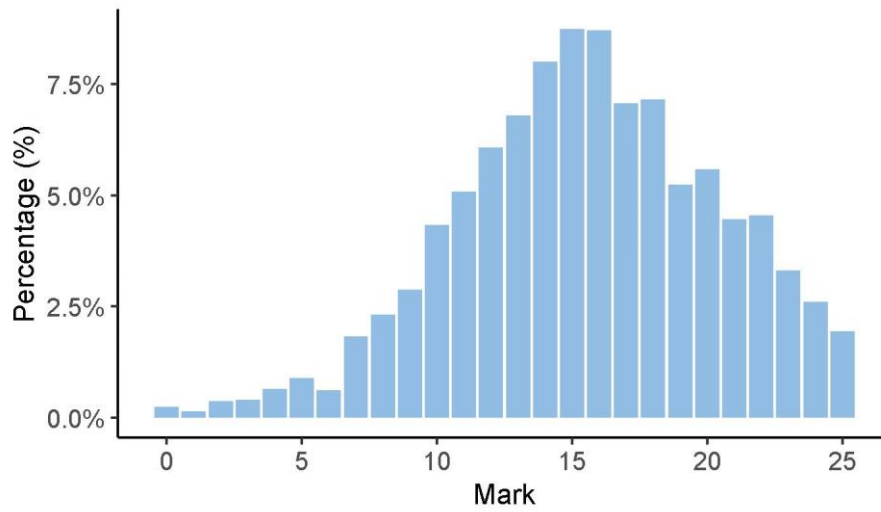


IA1 Criterion: Communicating

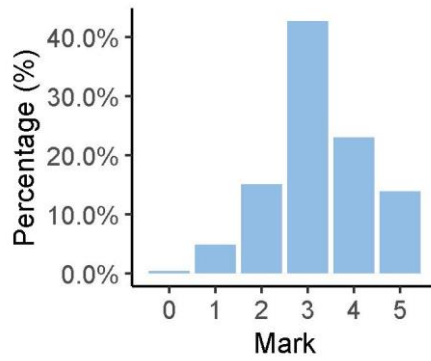


IA2 marks

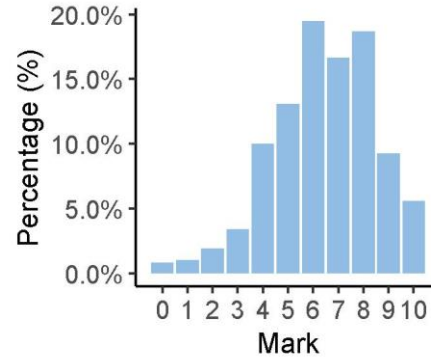
IA2 total



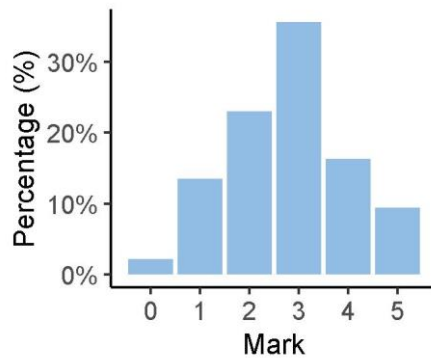
IA2 Criterion: Explaining and Comprehending



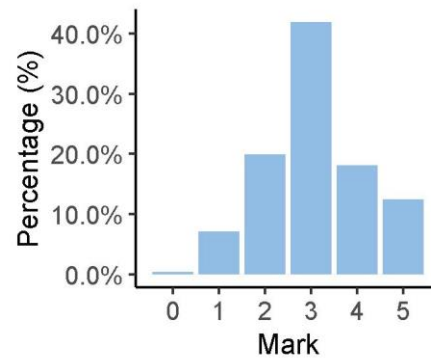
IA2 Criterion: Analysing and Applying



IA2 Criterion: Synthesising

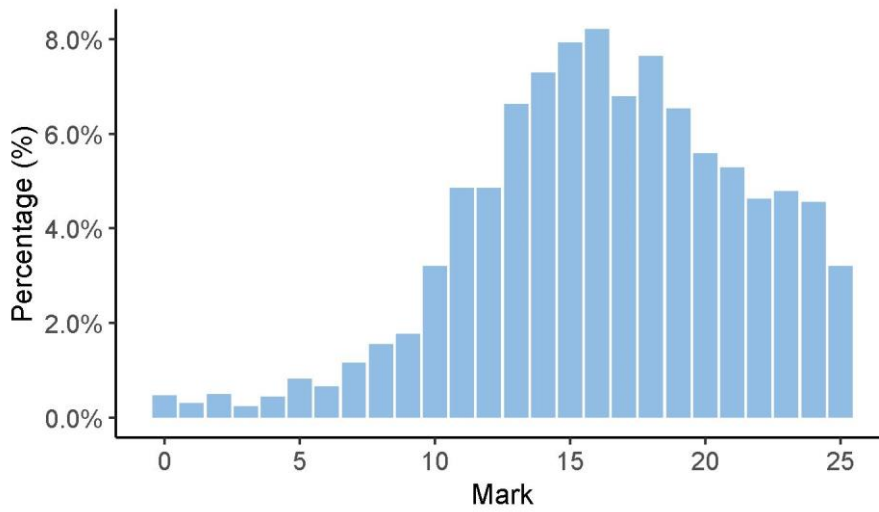


IA2 Criterion: Communicating

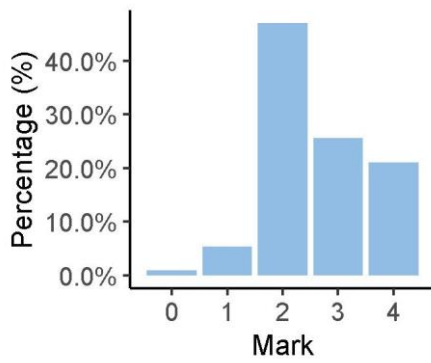


IA3 marks

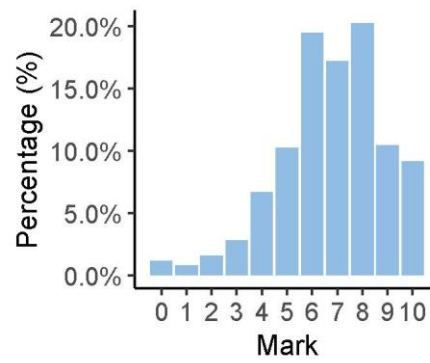
IA3 total



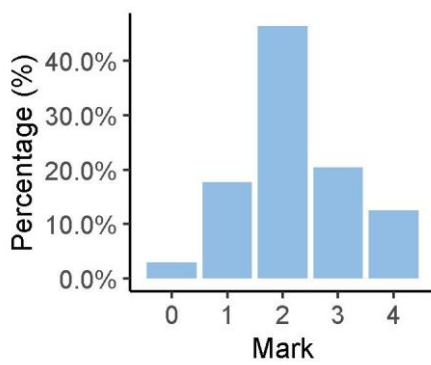
IA3 Criterion: Explaining and Comprehending



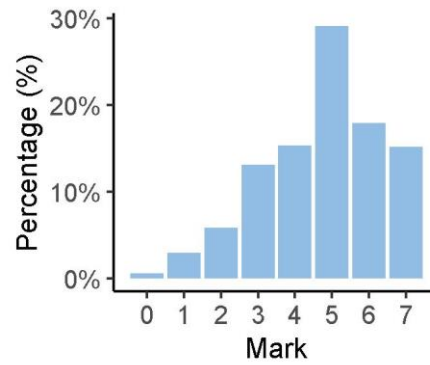
IA3 Criterion: Analysing and Applying



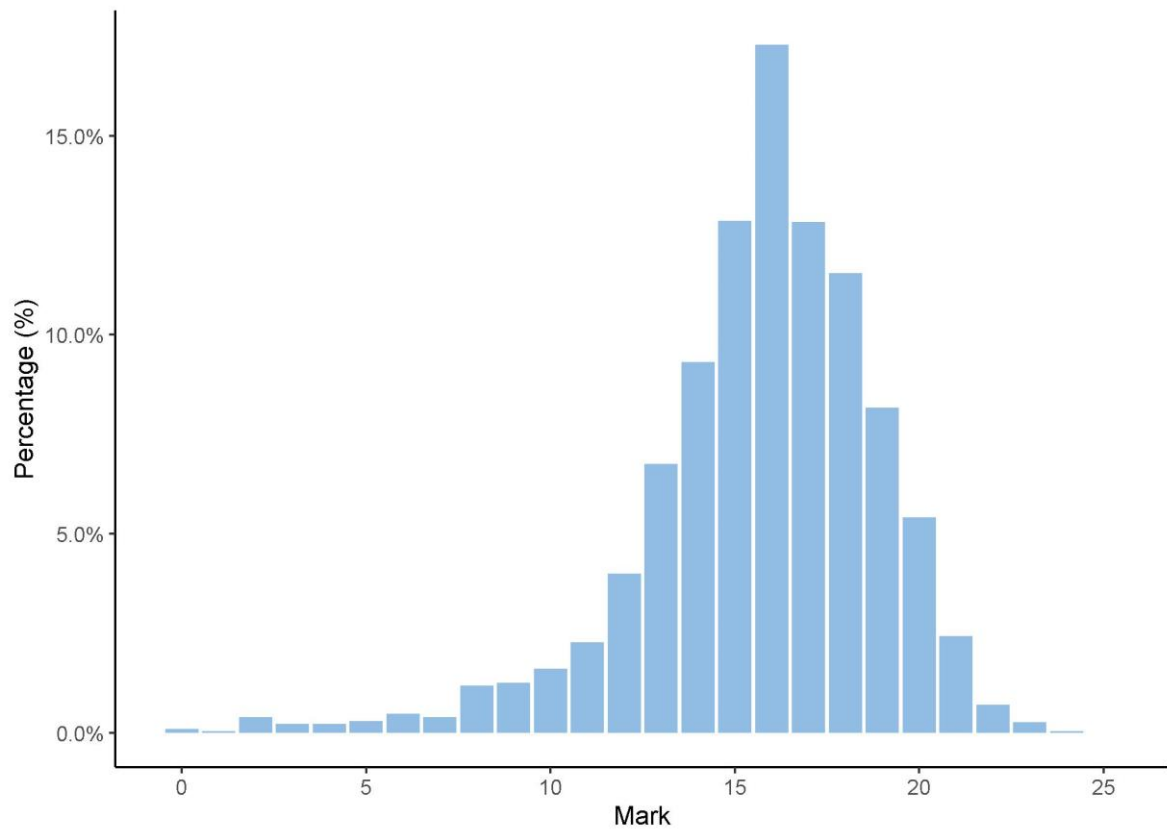
IA3 Criterion: Synthesising



IA3 Criterion: Communicating

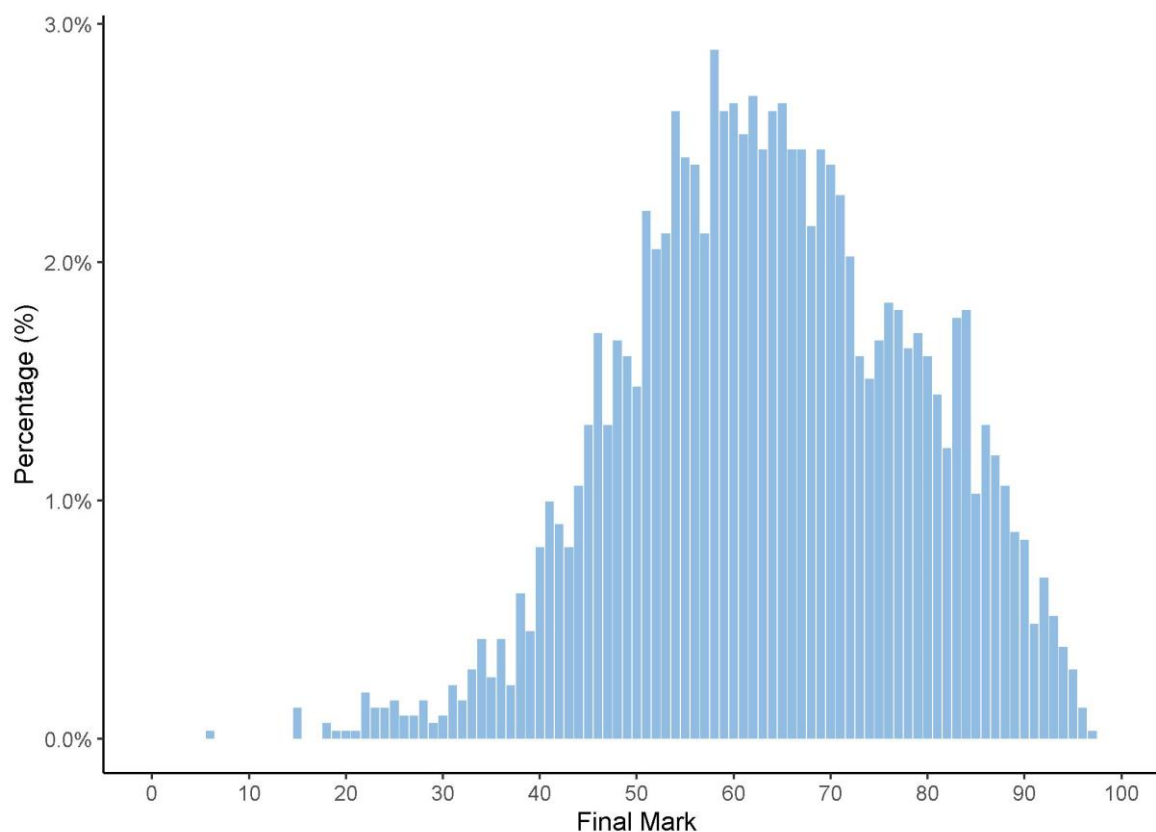


External assessment (EA) marks



Final subject results

Final marks for IA and EA



Grade boundaries

The grade boundaries are determined using a process to compare results on a numeric scale to the reporting standards.

Standard	A	B	C	D	E
Marks achieved	100–81	80–64	63–42	41–16	15–0

Distribution of standards

The number of students who achieved each standard across the state is as follows.

Standard	A	B	C	D	E
Number of students	468	1088	1362	191	5



Internal assessment

The following information and advice pertain to the assessment design and assessment decisions for each IA in Units 3 and 4. These instruments have undergone quality assurance processes informed by the attributes of quality assessment (validity, accessibility and reliability).

Endorsement

Endorsement is the quality assurance process based on the attributes of validity and accessibility. These attributes are categorised further as priorities for assessment, and each priority can be further broken down into assessment practices.

Data presented in the Assessment design section identifies the reasons why IA instruments were not endorsed at Application 1, by the priority for assessments. An IA may have been identified more than once for a priority for assessment, e.g. it may have demonstrated a misalignment to both the subject matter and the assessment objective/s.

Refer to the quality assurance tools for detailed information about the assessment practices for each assessment instrument.

Percentage of instruments endorsed in Application 1

Number of instruments submitted	IA1	IA2	IA3
Total number of instruments	213	213	213
Percentage endorsed in Application 1	9%	63%	48%

Confirmation

Confirmation is the quality assurance process based on the attribute of reliability. The QCAA uses provisional criterion marks determined by teachers to identify the samples of student responses that schools are required to submit for confirmation.

Confirmation samples are representative of the school's decisions about the quality of student work in relation to the ISMG and are used to make decisions about the cohort's results. If further information is required about the school's application of the ISMG to finalise a confirmation decision, the QCAA requests additional samples.

Schools may request a review where an individual student's confirmed result is different from the school's provisional mark in one or more criteria and the school considers this result to be an anomaly or exception.

The following table includes the percentage agreement between the provisional marks and confirmed marks by assessment instrument. The Assessment decisions section of this report for each assessment instrument identifies the agreement trends between provisional and confirmed marks by criterion.

Number of samples reviewed and percentage agreement

IA	Number of schools	Number of samples requested	Number of additional samples requested	Percentage agreement with provisional marks
1	211	1257	481	59.72%
2	211	1178	416	56.87%
3	211	1240	236	69.19%



Internal assessment 1 (IA1)

Examination — combination response (25%)

The IA1, Examination — combination response assesses the application of a range of cognitions in both short response and extended response questions. Part A consists of five to eight short response items that assess breadth of learning, depth of comprehension and the Explaining, Comprehending and Communicating criteria. Stimulus materials may be used, but are not required in Part A (Syllabus section 4.5.1).

Part B consists of one extended response item to unseen stimulus that assesses analytical skills. Stimulus for Part B should be succinct enough to engage with in the planning time and fit on one A3 page or equivalent. It should consist of visual texts (e.g. maps, graphs, statistics, infographics, images, diagrams) and minimal text of no more than 150 words (Syllabus section 4.5.1).

In the General syllabus, the Unit 3 Topic 1 subject matter assessed focused on land cover transformations and climate change (Syllabus section 4.5.1).

In the Alternative Sequence, in 2021, the AS unit 1 Topic 1 subject matter assessed focused on managing challenges facing a megacity (Alternative Sequence section 2.5.1).

Assessment design

Validity

Validity in assessment design considers the extent to which an assessment item accurately measures what it is intended to measure and that the evidence of student learning collected from an assessment can be legitimately used for the purpose specified in the syllabus.

Reasons for non-endorsement by priority of assessment

Validity priority	Number of times priority was identified in decisions*
Alignment	195
Authentication	0
Authenticity	84
Item construction	56
Scope and scale	58

*Each priority might contain up to four assessment practices.

Total number of submissions: 213.

Effective practices

Validity priorities were effectively demonstrated in assessment instruments that:

- demonstrated clear alignment of the questions to criteria, e.g. in Part A, a question assessing the Comprehending criterion explicitly requires students to 'recognise spatial patterns of land cover change and identify the implications of this for people and places'

- provided students with multiple opportunities to demonstrate the assessment objectives across the examination, e.g. using complex questions that allowed for the Explaining and Comprehending criteria to be assessed in one question
- managed the scope and scale of the examination to match the conditions of the technique. This included an appropriate range of items that required calculations, annotations, drawing and labelling maps, diagrams, and graphs
- included stimulus in Part B that provided sources that represented a range of geographical scales (local, regional and global); used minimal text; and presented visual stimulus that allowed students to 'infer how patterns, trends and relationships represent a geographical challenge in relation to climate change for a selected land cover type' and to 'generalise about the impacts of climate change on biophysical and anthropogenic environments.'

Practices to strengthen

It is recommended that assessment instruments:

- adhere to the syllabus specifications by assessing only the Explaining, Comprehending and Communicating criteria in Part A and avoiding questions that require analysis, either explicitly or implicitly, in this part of the examination. If stimulus is used in Part A (either student-generated or teacher-provided), then it must not require analysis to respond to the question
- in Part A, avoid directing students to create a specific type of map or type of graph (e.g. choropleth, multiple line) in questions relating to the transformation of data. Assessment objective 6 includes '*selecting and using* cartographic, graphic, written and mathematical skills'
- in Part A, include the data for transformation that is complex or includes multiple items. This ensures students have the opportunity to demonstrate the top performance level in Communicating by exhibiting *proficient* transformation of data and the creation of *sophisticated* maps and graphs
- elicit a range of unique responses. In Part B, instruments must allow for sufficient breadth and varied responses to allow authentic responses
- ensure context statements, captions and URLs for stimulus do not include information that provides an answer or directs a response
- are of appropriate scope and scale for the syllabus conditions, e.g. for Unit 3 Topic 1 in Part A, a more manageable scale for a question which requires creation of a map may be to focus on a region or a country
- in Part B, if photographs are to be used as stimulus, it must be possible for students to interpret data to infer how patterns, trends and relationships represent a geographical challenge. Appropriate photographs could show change over time or include overlaid data
- include data and stimulus that is directly related to the subject matter and the assessment objectives in both Part A and Part B, e.g. for Unit 3 Topic 1, data used in the mapping and graphing questions that represents population change, GDP, or production value of a commodity does not allow for the recognition of spatial patterns of land cover change or indicators of climate change.

Accessibility

Accessibility in assessment design ensures that no student or group of students is disadvantaged in their capacity to access an assessment.

Reasons for non-endorsement by priority of assessment

Accessibility priority	Number of times priority was identified in decisions*
Bias avoidance	50
Language	31
Layout	81
Transparency	41

*Each priority might contain up to four assessment practices.

Total number of submissions: 213.

Effective practices

Accessibility priorities were effectively demonstrated in assessment instruments that:

- had a clear and structured layout for Part A, where stimulus or data appeared alongside or on the same page as the question and response space
- provided clear instructions using cues that aligned to the specifications and assessment objectives
- used stimulus items that were free from error, legible and easily differentiated between other information on the page, e.g. the Part B stimulus sheet included sufficient white space between stimulus items.

Practices to strengthen

It is recommended that assessment instruments:

- present high-quality stimulus that is clear, relevant and appropriately proportioned to give the stimulus sheet balance so that one stimulus does not appear to be of greater value than another
- include stimulus with minimal distractors, e.g. tables of data for the data transformation questions only contain the data needed to construct the map or graph.

Assessment decisions

Reliability

Reliability is a judgment about the measurements of assessment. It refers to the extent to which the results of assessments are consistent, replicable, and free from error.

Agreement trends between provisional and confirmed marks

Criterion number	Criterion name	Percentage agreement with provisional	Percentage less than provisional	Percentage greater than provisional	Percentage both less and greater than provisional
1	Explaining	79.15%	17.54%	2.37%	0.95%
2	Comprehending	78.67%	17.54%	2.37%	1.42%
3	Analysing and Applying	71.09%	24.17%	2.37%	2.37%
4	Communicating	72.04%	25.12%	0.95%	1.9%

Effective practices

Accuracy and consistency of the application of the ISMG for this IA was most effective when:

- for the Explaining criterion, responses matched to the upper performance level clearly described features and elements of both biophysical and anthropogenic processes that shaped the identity of a place, and comprehensively explained complex interactions that resulted in both land cover change and a changing climate
- for the Comprehending criterion, responses matched to the upper performance level demonstrated comprehensive (detailed and relevant) recognition of spatial patterns of land cover change and climate change evident in the provided data, and identified significant (important) relationships between variables and significant implications for the selected people and places
- for the Analysing and Applying criterion, discrete decisions were made about each of the three descriptors
 - the first descriptor refers to the relevance of the data selected to the geographical challenge. At the upper performance level, students make discerning selections of data and information for their particular relevance to the geographical challenge
 - the second descriptor refers to how this data is interpreted to draw inferences about the geographical challenge. At the upper performance levels, patterns, trends and relationships are identified within and across multiple pieces of data and information, and conclusions are drawn about how they represent a geographical challenge
 - the third descriptor refers to utilising understanding or conclusions arising from the analysis (i.e. extrapolation) to make generalisations about the impacts of the geographical challenge. At the upper performance levels, students demonstrate complex extrapolation from their analysis to make generalisations about the impacts if the challenge is not sustainably managed.

Samples of effective practices

The following are excerpts from responses that illustrate the characteristics for the criteria at the performance level indicated. The samples may provide evidence of more than one criterion. The characteristics highlighted may not be the only time the characteristics have occurred throughout the response.

This excerpt has been included:

- to illustrate comprehensive explanations of the complexity of interactions (Explaining criterion), e.g. how deforestation for urban expansion has impacted the water cycle, changing the climate of Nanjing, China. This excerpt focuses on anthropogenic processes and elsewhere in the response biophysical processes were explained.

<p>Explaining (4–5 marks)</p> <ul style="list-style-type: none"> comprehensive explanations of the complexity of interactions that result in land cover change and a changing climate 	<p>Since 1984 to 2016, anthropogenic activity has permanently changed the land cover of Nanjing, China. Dense forestry and natural vegetation has been transformed into dense settlements and agricultural areas to cater for human habitation. Urban expansion has resulted in the loss of natural environments through deforestation. This affects biophysical systems such as the carbon and water cycle. The implementation of land drainage such as dams (refer to figure 1) alters the natural distribution of water, instead using it for irrigation for housing and agriculture. Consequently, changes in connected inland river systems and estuaries also occur. Although there is some preservation of natural environments, the creation of dense settlements also affects natural precipitation by altering water pathways and heat transfers; been increased buildings and construction can create an urban heat island due to increased albedo effect.</p>
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This excerpt has been included:

- to demonstrate the use of data at a regional scale to recognise spatial patterns of land cover change and identify implications for both people and places (Comprehending criterion). This section of the response provides comprehensive recognition of spatial patterns of land cover change by identifying the predominant pattern for South America, as well as providing specific examples with relevant data to support this pattern. It identifies significant relationships for people (increased food production) and places (habitat and biodiversity loss).

<p>Comprehending (4–5 marks)</p> <ul style="list-style-type: none"> comprehensive recognition of spatial patterns of land cover change identification of significant relationships and implications for people and places 	<p>As seen through Map 1, majority of South America experienced a moderate percentage increase in agricultural land use of 1-41%. Moreover, this moderate land cover change was mainly experienced along the West coast of South America. However, Brazil, and Suriname and Paraguay experienced an increase in agricultural land use of 87-150%. This highlights an evident shift from forest and wild lands to more agricultural based land. This high change - along with the moderate changes increases - impacts people through an increased food production to sustain their growing populations. Albeit, this land cover transformation could result in a loss of animal habitats - resulting in a decrease in biodiversity. Biodiversity is an essential factor in holding together food chains and webs in an ecosystem - which is imbalanced through agricultural land cover change. An anomaly to this trend is Uruguay, which noticeably decreases in agricultural land use by 11.67% - possibly resultant of poor or infertile condition and a greater focus on industrialisation.</p>
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These student response excerpts have been included:

- to demonstrate the explicit use of data and information from the stimulus to infer how patterns, trends and relationships represent a geographical challenge, and extrapolation from the analysis to generalise about the impacts of the challenge
 - Excerpt 1 shows the discerning use of data and information from the stimulus to infer the challenge of eustatic sea level rise for low-lying areas.
 - Excerpt 2 shows extrapolation from the analysis to generalise about the impacts of climate change on biophysical and anthropogenic environments.

Analysing and Applying (4–5 marks)

- discerning selection of data and information
- astute interpretations and inferences that identify how patterns, trends and relationships represent a geographical challenge
- sophisticated extrapolation from the analysis to make generalisations about the impacts of climate change on biophysical and anthropogenic environment

Excerpt 1

Figure 3 shows the global ocean temperature from 1880 to 2015 which has increased 3x the original in 1880, with an increase of 5.9% from 1965 to 2015. Furthermore, Figure 4 shows total ice melt in Antarctic and Greenland sheets which hold most global ice. From 1985 to 2010, both sheets combined lost over 2000 gigatonnes, 50% of recorded loss from 1942 to 2011. This translated to a total 11 mm contribution of sea level rise around the world. In addition, ~~the~~ Figure 8 shows that by 2100, the global eustatic sea level rise may increase by 3.82% of its current rate to 13 mm rise per year which is catastrophic for low lying areas due to 1cm of sea rise equating to approx 300m inland of inundation. These three sources show that in total, the world is experiencing extreme eustatic sea level change by thermal expansion indicated by rise in sea temperatures in Figure 3, significant ice loss in Figure 4 equating to 11 mm of sea level rise over 14 years, and accelerating total sea level rise shown in Source 8. Furthermore, low lying areas are extremely susceptible to eustatic sea level change and its implications.

Excerpt 2

Increasing sea level is catastrophic for Bangladesh. As seen by Figure 9, Bangladesh has ~~lost~~ all agricultural land used for food. As sea level increases at a faster rate and land equivalent to 300m. increase inland, the agricultural sector is at extreme risk. According

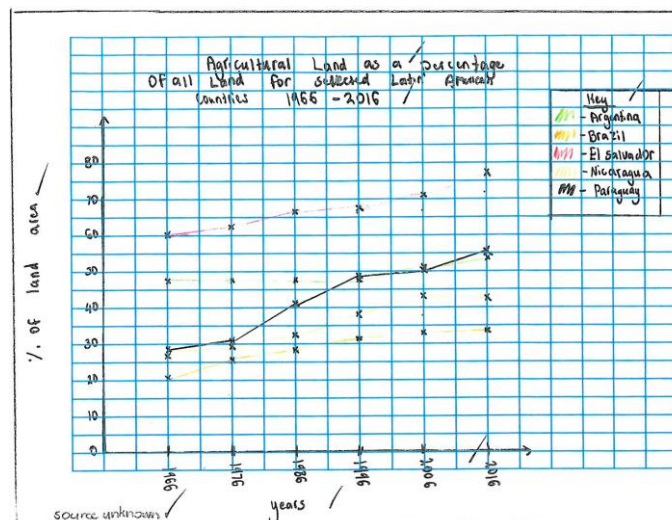
to the United Nations, 33% of Bangladesh's employ ment is in agriculture. With sea rise, soils become inundated and soil salinity increases. This makes farm land non-viable and can lead to famine and food scarcity in addition to an increase in local food prices. As the gross national income is below \$5000 US seen in Figure 2, this could make families go into poverty and experience ~~more~~ famine. Further more, as sea rise inundates low lying lands, people move further inland as seen by projected urbanisation in Figure 1. With low income rates, people may have to live in informal housing as seen in slums such as Dharam in India. This damages local economy as employment becomes irregular, hindering taxation and government expenditure.

This excerpt has been included:

- to demonstrate the proficient creation of a graph which includes complex data. The response provides a multiple-line graph which demonstrates sophisticated creation, and proficient transformation and representation of data using appropriate scales and adherence to recognised geographic conventions.

Communicating (6–7 marks)

- proficient transformation and representation of geographical data and information
- creation of sophisticated graphic forms



Practices to strengthen

To further ensure accuracy and consistency of the application of the ISMG for this IA, it is recommended that:

- for the Analysing and Applying criterion at the upper performance levels
 - interpretations and inferences are made by identifying trends, patterns and relationships across the data and information provided. Simple description of stimulus or reference to individual items of stimulus is insufficient to interpret or infer a trend, pattern or relationship
 - responses make generalisations, that are inferred from the analysis, about the potential impacts on both biophysical and anthropogenic environments based on the main identified causes of the geographical challenge
- for the Communicating criterion at the upper performance level
 - *sophisticated* cartographic and graphic forms represent multiple datasets and are used skilfully to determine relationships between the variables or factors displayed, e.g. scatter, multiple line, compound bar or ternary graphs, choropleth maps or other commonly used maps. 'Sophistication' refers to the intellectual complexity of the data transformation and representation
 - *proficient* transformation of data is data transformed competently and skillfully, including accuracy and adherence to conventions. The data to be transformed should determine the number and size of categories and recognised methods of categorisation (e.g. natural breaks, equal increments) can be used to ensure that data is categorised appropriately with no overlaps or voids between categories
 - if used, choropleth maps use a suitable and monochromatic shading, i.e. shades of one colour darkest to lightest, where highest value is represented by darkest colour with proficient transformation of the data to determine appropriate classes.



Internal assessment 2 (IA2)

Investigation — field report (25%)

The IA2 Investigation — field report assesses a range of cognitions in a particular context including observing, questioning, planning, collecting, recording, representing and analysing primary data and communicating geographical understanding in a field report.

In the General syllabus, this assessment requires students to research a land management or water management challenge at a local scale through a field investigation (Syllabus section 4.5.2).

In the Alternative Sequence, in 2021 the subject matter assessed in the AS unit 1 IA2 field report focused on responding to challenges facing a place in Australia (Alternative Sequence section 2.5.2).

Assessment design

Validity

Validity in assessment design considers the extent to which an assessment item accurately measures what it is intended to measure and that the evidence of student learning collected from an assessment can be legitimately used for the purpose specified in the syllabus.

Reasons for non-endorsement by priority of assessment

Validity priority	Number of times priority was identified in decisions*
Alignment	66
Authentication	10
Authenticity	12
Item construction	10
Scope and scale	35

*Each priority might contain up to four assessment practices.

Total number of submissions: 213.

Effective practices

Validity priorities were effectively demonstrated in assessment instruments that:

- were designed to focus the investigation on an appropriate challenge, e.g. the Unit 3 IA2 tasks were clearly aligned to a land or water management issue
- identified that the fieldwork was carried out at a local scale, within a particular location. A single site allowed for suitable and sufficient fieldwork data to be gathered by students in a school context. A local scale investigation afforded students the opportunity to make realistic proposals for the fieldwork site and respond within the specified word limit.

Practices to strengthen

It is recommended that assessment instruments:

- are built around an accessible fieldwork site where a geographical challenge is evident
- provide clear instructions about the need for data and information to be gathered in the field. Secondary data and information should only be used sparingly. This is necessary as proposals must be based on a student's extrapolation from their analysis, not based on secondary data and information
- ensure appropriate authentication strategies are implemented to provide for unique student responses where data collection has been conducted as a group or fieldwork conducted by a third-party provider.

Accessibility

Accessibility in assessment design ensures that no student or group of students is disadvantaged in their capacity to access an assessment.

Reasons for non-endorsement by priority of assessment

Accessibility priority	Number of times priority was identified in decisions*
Bias avoidance	1
Language	8
Layout	0
Transparency	5

*Each priority might contain up to four assessment practices.

Total number of submissions: 213.

Effective practices

Accessibility priorities were effectively demonstrated in assessment instruments that:

- used clear, concise language that aligned with the assessment objectives
- included succinct context and task statements that made it clear to students the requirements of the task and the link to the subject matter of the topic.

Practices to strengthen

It is recommended that assessment instruments:

- use the relevant geographical terminology aligned with the syllabus, e.g. using 'local scale' not 'local place' because these terms are not interchangeable.

Assessment decisions

Reliability

Reliability is a judgment about the measurements of assessment. It refers to the extent to which the results of assessments are consistent, replicable and free from error.

Agreement trends between provisional and confirmed marks

Criterion number	Criterion name	Percentage agreement with provisional	Percentage less than provisional	Percentage greater than provisional	Percentage both less and greater than provisional
1	Explaining and Comprehending	80.09%	17.06%	2.37%	0.47%
2	Analysing and Applying	65.4%	19.43%	1.9%	13.27%
3	Synthesising	77.25%	21.33%	0.47%	0.95%
4	Communicating	71.56%	27.01%	0.95%	0.47%

Effective practices

Accuracy and consistency of the application of the ISMG for this IA was most effective when:

- for each criterion, there was clear evidence that student responses were based on relevant geographical data and information that was gathered in the field for a land management or water management challenge topic at an appropriate local scale
- for the Explaining and Comprehending criterion, responses at the upper performance level
 - described both the environmental *and* human processes responsible for the land cover change at the study site, and accurately recognised and described significant land cover changes at the fieldwork location
 - explicitly used student generated maps to demonstrate recognition of spatial patterns of land cover change at the fieldwork location and to identify relationships and implications for people and places
- for the Analysing and Applying criterion,
 - responses demonstrating the upper performance level for the Analysing criterion used a discerning selection of primary data and information from the fieldwork to allow students to infer how the patterns, trends and relationships caused the identified geographical challenge at the local study site
 - responses matched to the upper performance level for the Applying criterion made generalisations about the impacts (biophysical and anthropogenic) of land cover change at the fieldwork location, based on extrapolating from the preceding analysis
- for the Synthesising criterion, responses matched to the upper performance level proposed a suitable action to achieve sustainable management of the challenge at the fieldwork location with supporting evidence and justification drawn from the analysis
- for the Communicating criterion, responses matched to the upper performance level transformed primary data gathered in the field into sophisticated maps and graphs.

Samples of effective practices

The following are excerpts from responses that illustrate the characteristics for the criteria at the performance level indicated. The sample may provide evidence of more than one criterion. The characteristics highlighted may not be the only time the characteristics have occurred throughout the response.

This excerpt has been included:

- to demonstrate the Analysing and Applying criterion where relevant links have been drawn between multiple pieces of fieldwork data and information to make inferences about the key geographical challenge evident at the fieldwork site. In this extract, generalisations about the impacts of the land cover change on biophysical environments are explicitly extrapolated from the analysis.

<p>Analysing and Applying (9–10 marks)</p> <ul style="list-style-type: none"> discerning selection of fieldwork data and information astute interpretations and inferences that identify how patterns, trends and relationships represent a geographical challenge for the fieldwork location effective extrapolation from the analysis to make generalisations about the impacts of land cover change on biophysical and anthropogenic environments 	<p>The biotic invasion potential was established from primary biotic condition data. It showed OF lacked biodiversity. The main pattern identified was nine distinct invasive species at OF (Figure 9) (Appendix A). Furthermore, the land cover was mainly comprised of non-native forbs and shrubs (76%). Areas of the site were completely overrun with 100% of the ground covered by invasive species (Figure 10). This was caused by the anthropogenic disturbance, which creates ideal conditions as "lantana readily invades disturbed or neglected areas and where native woodlands have been thinned or cleared for grazing" (NSW Department of Primary Industries, 2008, p. 3). Total invasive cover impacts the entire ecosystem, as native fauna food resources and habitats are destroyed, and flora is unable to compete. At OF, this has resulted in low native species richness (Figure 9) and the destruction of native bushland into a secondary succession environment. ✓</p> <p>The relationship between competition by native species and invasive plant cover is inverse (Figure 7), indicating native canopy/sub-canopy species are an enemy of lantana. Furthermore, where invasive specie cover is reduced, litter becomes the predominant ground cover (Figure 7); which improves the health of the soil and creates a positive feedback loop - healthier soil provides a competitive advantage to native species. ✓ A healthy 12.11.24 ecosystem contains zero invasive species (Figure 9). Therefore, the anthropogenic destruction of the canopy facilitated the invasion of lantana. ✓</p> <p>Additionally, as Figure 11 demonstrates, the OF site has a healthy sub-canopy, compared to the reference site and bio-condition, however, it has no established canopy - due to historical logging of canopy species. ✓ Short sub-canopy heights (Figure 12) (6.9m instead of 10m), indicates competition for resources. Finally, zero recruitment of EDL species was observed (Appendix B), indicating that either the seed bank has been damaged or that competition is too great for these species to establish; implying lantana has outcompeted these native species for essential resources. ✓ Therefore, the lacking biodiversity and specie health, combined with the invasion of lantana, have contributed to main geographical challenge. ✓</p>
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This excerpt has been included:

- to demonstrate the Synthesising criterion where the proposed action is drawn directly from the analysis of fieldwork data in the previous sections of the report. The response uses evidence from the analysis to justify the proposal.

**Synthesising
(4–5 marks)**

- insightful synthesis of information from the analysis
- makes justified proposal/s to manage the impacts of the identified challenge
- uses convincing evidence

4.0 Proposed Action and Conclusion

The ecological hazard of lantana has had widespread impacts at OF. The invasion triangle (Figure 15) identified that lantana has thrived, due to its invasion potential. This was due to two main factors, the anthropogenic disturbance (3.1) and the competitive ability of lantana (3.2.2), which have reduced biodiversity and caused the destruction of the canopy. Native tree species are enemies of lantana (Figure 7); thus, their removal has facilitated lantana's invasion. This has culminated in a 7.5% bio-condition score. The positive feedback loop of lantana spread, and the proximity to tertiary succession forest (Figure 5), indicates the geographical challenge will worsen if not adequately addressed. The long-term goal is to re-establish a 12.11.24 ecosystem across the whole OF site to a bio-condition rank of at least 90% within 10 years. Due to its isolation (Figure 2), a greater bio-condition than the reference site can be sought. The proposal is split into two main branches, which will occur in conjunction, and will proceed until lantana is completely eradicated, given its ability to reproduce in multiple ways (Figure 13). Five 20x20m sections located in the transition zone (Figure 16) will be initially targeted. The sites can be accessed by a private vehicle track, to transport supplies and personnel.

Herbicide Control: In 3.2.2 and 3.2.3, it was identified that the lantana possesses a competitive advantage over native species. The cut stump method of control is to be implemented at OF; the main advantages being germination by native species is uninterrupted and the risk of erosion is reduced as lantana roots remain in the soil (Department of Natural Resources and Water, 2006, p. 9). The invasive attributes of lantana are specifically targeted, as propagation and dispersal cannot occur under the proposed control conditions. The Queensland Government recommends this method. Control practices will occur monthly on all lantana plants within the 20x20m target sections (figure 16). Picloram – herbicidal gel will be used as it is relatively inexpensive at \$104 per kg (approximately 10g per stump) and has no negative effects on the native forest or water sources (Department of Natural Resources and Water, 2006, p.23). This will ensure no contamination of Hinze Dam occurs. The steps of the cut stump method are illustrated in Figure 17. University of Florida research revealed 90% of plants are destroyed after two applications, demonstrating overall effectiveness of the proposed action (Ferrel et al, 2011). Herbicidal control will be discontinued once the ecosystem becomes self-reliant. The main goal is the clearing of land to allow for successful future regrowth of native species.

Establishment of Canopy/Sub-Canopy: As Figure 7 demonstrates, biotic elements can effectively control lantana. Establishing a canopy/sub-canopy of native enemies of lantana, namely Eucalyptus, Grey Iron Bark and Red Ash (3.2.2) - all naturally found at the reference site (Appendix A) – to compete for sunlight. These trees will be planted after the initial herbicidal control. Planting was chosen as, while it is costly, it provides control over tree numbers and positioning. 100 trees will be planted per 20x20m section (Figure 16), ensuring a thick canopy to monopolise light. This will effectively stop regrowth, as it limits lantana seedling development (3.2.1). Additionally, the seed bank should generate other EDL species due to a reduction in competition, although it is noted that damage may have occurred due to historical anthropogenic activity. Furthermore, the creation of the canopy/sub-canopy will increase the areas biodiversity and improve overall native specie health.

These student excerpts have been included:

- to demonstrate the proficient creation of a graph and a map which represent complex data.
 - Excerpt 1 provides a sophisticated graphic representation in the form of a compound column graph which displays a soil profile comparison between soil colour and depth at the fieldwork site. The data has been represented proficiently because it is accurate and adheres to recognised graphic conventions
 - Excerpt 2 provides a sophisticated cartographic representation in the form of a satellite image of the fieldwork location and surrounds, overlaid with multiple layers of data. The complex nature of the map allows relationships between multiple pieces of data to be interpreted to draw inferences about a geographical challenge. The data has been represented proficiently because it is accurate and adheres to recognised cartographic conventions.

Communicating (4–5 marks)

- proficient transformation and representation of geographical data and information
- creates sophisticated cartographic and graphic forms

Excerpt 1

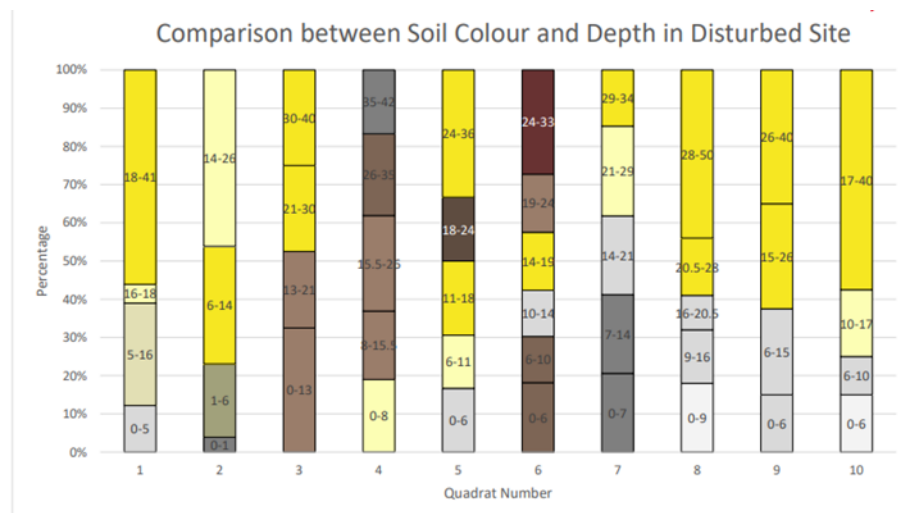
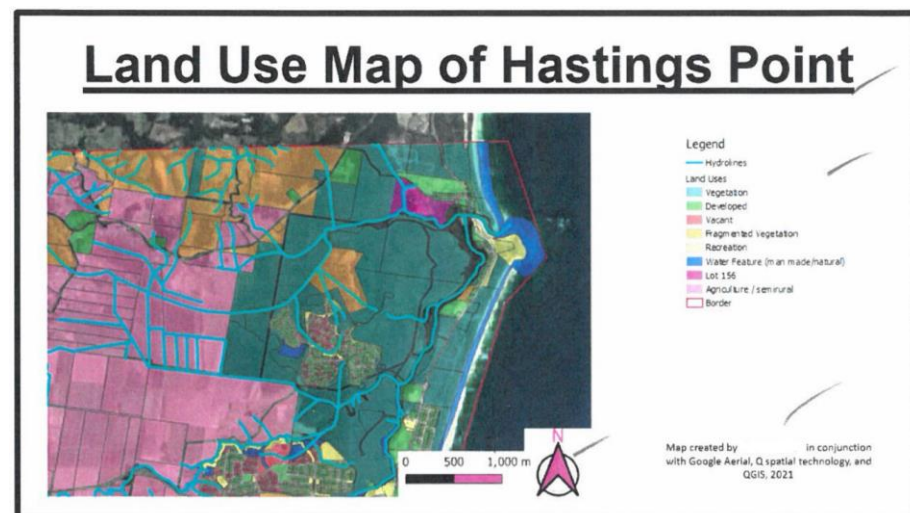


Figure 3.7- "Comparison between Soil Colour and Depth in Disturbed Site".

Excerpt 2



Communicating (4–5 marks)

- proficient transformation and representation of geographical data and information
- creates sophisticated cartographic and graphic forms

Practices to strengthen

To further ensure accuracy and consistency of the application of the ISMG for this IA, it is recommended that:

- for the Analysing and Applying and Communicating criteria, responses matched to the upper and mid performance levels demonstrate use of data gathered in the field (primary data). Any secondary data is only used to value-add to the fieldwork data.

Additional advice

- When making judgments about student responses, schools note that annotations on maps, graphs and diagrams, and information presented in tables (other than raw, unprocessed data) are included when determining word length of a response (refer to Section 8.2.6 *QCE and QCIA policy and procedures handbook*).



Internal assessment 3 (IA3)

Investigation — data report (25%)

In the IA3 Investigation — data report in the General syllabus requires students to respond to an identified population challenge for a selected place in Australia at a local scale (e.g. a city, suburb or rural town) using a fundamental set of raw data provided by the teacher (as a starting point) and additional data researched and gathered by the student. The findings of the geographic inquiry will offer proposals for sustainable management in response to the identified challenge (Syllabus section 5.5.1) .

In the Alternative Sequence, in 2021, the AS unit 2 IA3 subject matter assessed focused on ecological hazard zones (Alternative Sequence section 3.5.1).

Assessment design

Validity

Validity in assessment design considers the extent to which an assessment item accurately measures what it is intended to measure and that the evidence of student learning collected from an assessment can be legitimately used for the purpose specified in the syllabus.

Reasons for non-endorsement by priority of assessment

Validity priority	Number of times priority was identified in decisions*
Alignment	53
Authentication	18
Authenticity	22
Item construction	45
Scope and scale	47

*Each priority might contain up to four assessment practices.

Total number of submissions: 213.

Effective practices

Validity priorities were effectively demonstrated in assessment instruments that:

- started with a fundamental set/s of raw data provided by the teacher. For Unit 4 Topic 1, the fundamental dataset represented a clear demographic challenge for a place at a local scale. There was no other data provided to students other than the initial set
- presented actual (not hypothetical) data to students. This allowed students to locate supplementary data related to the initial dataset.

Practices to strengthen

It is recommended that assessment instruments:

- consider scope and scale. For Unit 4 Topic 1, the fundamental dataset should represent a population with suitable scope for further investigation. The total population for a place must be of a size that allows for a geographical challenge to be identified. For example, a total population of only 500 people means that, for any age group, there will not be enough people to represent a demographic bulge or dip that results in a challenge
- require that all maps and graphs be integrated into the body of the data report and not presented in an appendix. Appendices should contain only supplementary material that will not be directly used as evidence when marking the response
- ensure the relevant topic and assessment objectives are reflected in the task. The Unit 4 Topic 1 task must be focused on population challenges in Australia. The AS unit 2 Topic 1 task must be focused on ecological hazard zones
- ensure the scope and scale of data selected reflects an investigation that can be achieved within the conditions of the syllabus.

Accessibility

Accessibility in assessment design ensures that no student or group of students is disadvantaged in their capacity to access an assessment.

Reasons for non-endorsement by priority of assessment

Accessibility priority	Number of times priority was identified in decisions*
Bias avoidance	0
Language	13
Layout	8
Transparency	2

*Each priority might contain up to four assessment practices.

Total number of submissions: 213.

Effective practices

Accessibility priorities were effectively demonstrated in assessment instruments that:

- used clear and concise language and appropriate geographical terminology to describe the task and the context
- present unambiguous task instructions that added clarity for students, with appropriate cues to the assessment objectives.

Practices to strengthen

There were no significant issues identified for improvement.

Assessment decisions

Reliability

Reliability is a judgment about the measurements of assessment. It refers to the extent to which the results of assessments are consistent, replicable, and free from error.

Agreement trends between provisional and confirmed marks

Criterion number	Criterion name	Percentage agreement with provisional	Percentage less than provisional	Percentage greater than provisional	Percentage both less and greater than provisional
1	Explaining and Comprehending	89.1%	8.06%	2.37%	0.47%
2	Analysing and Applying	74.88%	14.22%	3.32%	7.58%
3	Synthesising	87.2%	10.9%	0.47%	1.42%
4	Communicating	80.09%	17.54%	1.42%	0.95%

Effective practices

Accuracy and consistency of the application of the ISMG for this IA was most effective when:

- for the Explaining and Comprehending criterion, responses matched to the mid and upper performance levels
 - described the population characteristics of the place based on the initial dataset provided and included relevant evidence to explain the processes that contributed to the identified demographic change
 - included a map/s showing specific demographic data for the place and surrounding places, and provided descriptions to demonstrate recognition of spatial patterns of demographic change
 - identified implications of the demographic change for selected people and places. At the upper performance level, responses demonstrated identification of significant implications (positive and/or negative).
- for the Analysing and Applying criterion, responses matched to the upper performance levels demonstrated discerning selection of more in-depth data for the place to infer the main causes of the identified challenge and then made generalisations about the impacts (positive and/or negative) of demographic change in the selected place
- for the Synthesising criterion, responses matched to the upper performance level provided a justified proposal to address the identified impacts with convincing supporting evidence
- for the Communicating criterion, responses matched to the upper performance level used spatial technologies and/or appropriate ICT skills to transform and represent complex datasets as relevant maps and graphs that adhered to conventions.

Samples of effective practices

The following are excerpts from responses that illustrate the characteristics for the criteria at the performance level indicated. The samples may provide evidence of more than one criterion. The characteristics highlighted may not be the only time the characteristics have occurred throughout the response.

This excerpt has been included:

- to demonstrate proficient transformation and representation of data in a sophisticated form. The choropleth map was created through the selection of data on an online platform and additional layers of data were overlaid to increase the complexity of the data representation
- to demonstrate a response at the upper performance level of the Analysing and Applying criterion and the Synthesising criterion. The response shows discerning selection of data from the figure to infer a plausible relationship between aged people, services, and median weekly rental.

<p>Analysing and Applying (9–10 marks)</p> <ul style="list-style-type: none"> discerning selection of demographic data and information astute interpretations and inferences that identify how patterns, trends and relationships represent a geographical challenge for a specific place in Australia <p>Communicating (6–7 marks)</p> <ul style="list-style-type: none"> proficient transformation and representation of geographical data and information creates sophisticated cartographic and graphic forms 	<p>Figure 12: Concentration of Seniors (65+), Median Weekly Rent (\$), and Location of Aged Care and Healthcare Services in HB, 2016 (Idcommunity, 2016).</p> <p>Figure 12 illustrates a sizeable region in the highest rental bracket (\$360 to \$450) exists on HB's northern coast, 4-5km west of Point Vernon and 3km north of 2 of HB's 5 healthcare services, where there also exist 2 small concentrations of seniors (0-499). The other large amassing of regions in the highest rental bracket – with circumbient regions in the second highest bracket (\$305 to \$359) – exists roughly 5km south of Point Vernon; it encompasses 2 of HB's 9 aged care residential homes and HB's only Hospital and is shown to have the second highest concentration of seniors (2558) in HB. A relationship can be inferred: regions with highest weekly rental payment are also regions wherein the highest concentration of seniors and nearby healthcare and aged care facilities exists. This signifies that a high concentration of seniors in an area causes an increase in its median rental price.</p>
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This excerpt has been included:

- to demonstrate the link between the Analysing and Applying criterion and the Synthesising criterion. Excerpt 1 uses a range of data to generalise the impacts of demographic change in West End, i.e. an increase in working-age population has created a shortage of affordable housing, particularly impacting some female residents. Excerpt 2 shows how, based on the analysis and application, action is proposed to manage this impact in the form of targeted public housing.

<p>Analysing and Applying (9–10 marks)</p> <ul style="list-style-type: none"> discerning selection of demographic data and information astute interpretations and inferences that identify how patterns, trends and relationships represent a geographical challenge for a specific place in Australia sophisticated extrapolation from the analysis to make generalisations about the impacts of demographic change for people and places <p>Synthesising (3–4 marks)</p> <ul style="list-style-type: none"> insightful synthesis of information from the analysis makes justified proposal/s to manage the impacts of the identified challenge uses convincing evidence 	<p>Excerpt 1</p> <p>4.1.2 Displacement of low income and homeless populations in West End</p> <p>Market driven demand for properties in West End has resulted in West End being classified as “moderately unaffordable” for dwellings (Figure 17). As over 20% of the population live on less than \$499 a week (Figure 11) household affordability is a significant challenge. A Report by Anglicare Southern Queensland noted that there has been an increase in “overcrowded homes as low-income earners try to reduce the costs of living by sharing a place on short term leases” (Stone, 2019) This results housing vulnerability, particularly for “young people and older women” (Stone, 2019).</p> <p>In addition, there has been significant redevelopment of boarding houses. This has resulted in “pockets... with increasing homelessness at a rate higher than population growth (Stone, 2019). As demand continues to outstrip supply, “battlers in inner-city boarding houses are now paying more rent than those living in government subsidised crisis housing” (Moore, 2014). West End’s population pyramid highlighted the growing number of women over 85 years (over twice that of men). Regarded as the new demographic group who are “retiring into poverty” (Older Women’s Network, 2019) the pressure of community organisations to support the complex needs of an aging and vulnerable female population is a new challenge facing the area.</p> <p>Excerpt 2</p> <p>5.1.2 Targeted public housing</p> <p>West End’s location near primary medical facilities and homeless service effectively caters for the most marginalised in West End. A program targeted at vulnerable women, in the two dominant groups of 20-25 and over 85 is recommended. Females are at significant risk of homelessness and “do not seek help due to the shame associated with their circumstances” (Peterson cited in Queensland Government, 2019). Alarming, compared to 2006, there has been a 97% increase in the number of older women in inner-city Brisbane forced to rent in the private rental market (Queensland Government, 2019). Micah Projects is already the most important service provider for young families in West End. Further government funding, using the Mission Australia Supporting Women initiative, will help secure housing with services that offer financial, emotional and mental health support for older women in West End.</p>
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Practices to strengthen

To further ensure accuracy and consistency of the application of the ISMG for this IA, it is recommended that:

- schools note that IA3 responses require analysis of geographical data using the common formulas for this unit and other mathematical models, including dependency ratio, as specified in the syllabus
- for the Communicating criterion, maps are student-generated using spatial technologies and/or ICT as stated in the syllabus assessment specifications, or maps are downloaded or photocopied and are suitably adapted to the student’s own information by using overlays and annotations. Effective transformation and representation of data can be demonstrated when students create their own maps and graphs using spatial technologies and ICTs, e.g. importing data into an online tool to generate maps, or choosing relevant data or layers in online graphing and mapping applications.

Additional advice

- When making judgments about student responses, schools note that annotations on maps, graphs and diagrams, and information presented in tables (other than raw, unprocessed data) are included when determining word length of a response (refer to Section 8.2.6 *QCE and QCIA policy and procedures handbook*).
- Teachers should ensure that the authentication strategy stated in the IA3 specifications for student-created graphs to be completed under supervised conditions has been implemented.



External assessment

External assessment (EA) is developed and marked by the QCAA. The external assessment for a subject is common to all schools and administered under the same conditions, at the same time, on the same day.

Examination — combination response (25%)

Assessment design

The assessment instrument was designed using the specifications, conditions and assessment objectives described in the summative external assessment section of the syllabus. The examination consisted of one paper:

- Paper 1, Section 1 consisted of 6 short response questions (39 marks)
- Paper 1, Section 2 consisted of 1 extended response question (16 marks)

The examination assessed subject matter from Unit 4. Questions were derived from the context of Topic 2: Global population change.

The assessment required students to:

- respond to short response questions, including the creation of a map, in Section 1
- analyse a range of data (maps and graphs) to make inferences about a geographical challenge arising from the temporary migration of people from the Philippines to work in foreign countries in Section 2
- make generalisations, based on their analysis, about the impacts of the identified challenge on places of origin, focusing on one region.

The stimulus was specific to each question and consisted of maps and graphs, which allowed students to demonstrate the assessment objectives in both Section 1 and Section 2.

The AS assessment instrument was designed using the specifications, conditions and assessment objectives described in the summative external assessment section of the AS.

The AS examination consisted of one paper:

- Paper 1, Section 1 consisted of 5 short response questions (39 marks)
- Paper 1, Section 2 consisted of 1 extended response question (16 marks)

The AS examination assessed subject matter from AS unit 2. Questions were derived from the context of Topic 2: Natural hazard zones.

The AS assessment required students to:

- respond to short response questions, including the creation of a graph, in Section 1
- analyse a range of data (maps and graphs) to make inferences about the wildfire risk in Northern California in Section 2
- make generalisations, based on their analysis, about the impact of the challenges on people or places in the North Bay area.

The AS stimulus was specific to each question and consisted of maps, graphs and diagrams, which allowed students to demonstrate the assessment objectives in both Section 1 and Section 2.

Assessment decisions

Assessment decisions are made by markers by matching student responses to the external assessment marking guide (EAMG). The external assessment papers and the EAMG are published in the year after they are administered.

Effective practices

Overall, students responded well to:

- analysing graphs to explain overall trends. In Question 1, the majority of students accurately explained the overall trend of infant mortality, using evidence to support the explanation. In Question 2, most students accurately explained the trend of world population and the annual growth rate of world population, using evidence to support the explanation
- identifying plausible implications of migration on both places of origin and destination. For the Alternative Sequence, students responded well to making generalisations about the impacts of natural hazards on people and places
- identifying relevant challenges arising from population changes. In Question 3, most students identified a relevant challenge for either Italy or Ireland, based on old age or youth dependency respectively. In Question 7, students used the stimulus to provide an explanation of a geographical challenge relating to the temporary migration of workers from the Philippines.

Samples of effective practices

The following excerpts have been selected to illustrate effective student responses in one or more of the syllabus assessment objectives. The characteristics identified may not be the only time the characteristics have occurred throughout a response.

Short response

Criterion: Explaining

Question 2

This question required students to explain the population trends shown in a graph of world population and annual growth rate of world population from 1700 to 2100 and provide one reason to explain the projected trend beyond 2019.

Effective student responses:

- provided a detailed explanation of the trends
- stated that population momentum is the reason for the population projection.

This student response excerpt has been included:

- to illustrate a high level response for the Explaining criterion that describes both the increase in population and the decrease in population growth rate and states that population will continue to grow after 2019 due to population momentum.

Explaining

The graph demonstrates the change in annual growth rate and world population from 1700 - 2100. The annual growth rate peaked in 1968 (2.1%), followed by a smaller peak in approximately 1990 & then proceeds to rapidly decline to 0.9% in 2100. In contrast, the world population continues to grow, despite a falling growth rate after (2.5 billion), commencing a sharp incline from 1950. The population doubles in size (5 billion) by 1987 and is predicted to reach 10.9 billion in 2100. This effectively represents the concept of population momentum, in direct correlation to as when fertility rate declines below replacement rate, the growth rate of a population will decline. However, the population continues to grow due to the large proportion of child bearing age leading to the projected positive trend beyond 2019.

Criterion: Analysing

Question 3

This question required students to analyse two maps showing age dependency ratios for Europe in 2017 and use the data for Italy and Ireland to explain the concept of age dependency ratios. Students also needed to identify a challenge for Italy or Ireland arising from the evident dependency pattern.

Effective student responses:

- explained the concept of age dependency ratio, identifying that both old and young proportions contribute to overall dependency
- explained old-age dependency, using accurate data for Italy
- explained youth dependency, using accurate data for Ireland
- identified a relevant challenge for Italy or Ireland.

This student response excerpt has been included:

- to illustrate an explanation of the concept of dependency ratios and use of accurate data drawn from the stimulus for both countries to explain old-age and youth dependency. It identifies a relevant challenge for the ageing population of Italy.

Analysing

Dependency ratios compare the percentage of the population that are dependents with those of working age (15-64). Dependents are children under 15 or adults aged 65 or over. As seen in the map provided, Ireland's ~~Age~~ ratio of old people per 100th working age was only 18-22, whereas their ratio of young people was 34-38, therefore suggesting a dependency ratio consisting of mostly children and teenagers. On the contrary, Italy received a ratio of young people to working-age of only 20-21, but instead had a ratio of old people of 34-36. This therefore suggests the presence of an old age dependency ratio in Italy and further, an ageing population. ^{An} ~~An~~ ageing population creates the challenge for working-age people to provide adequate health care and aged-care facilities for their increasingly ageing population.

Criterion: Communicating

Question 5a

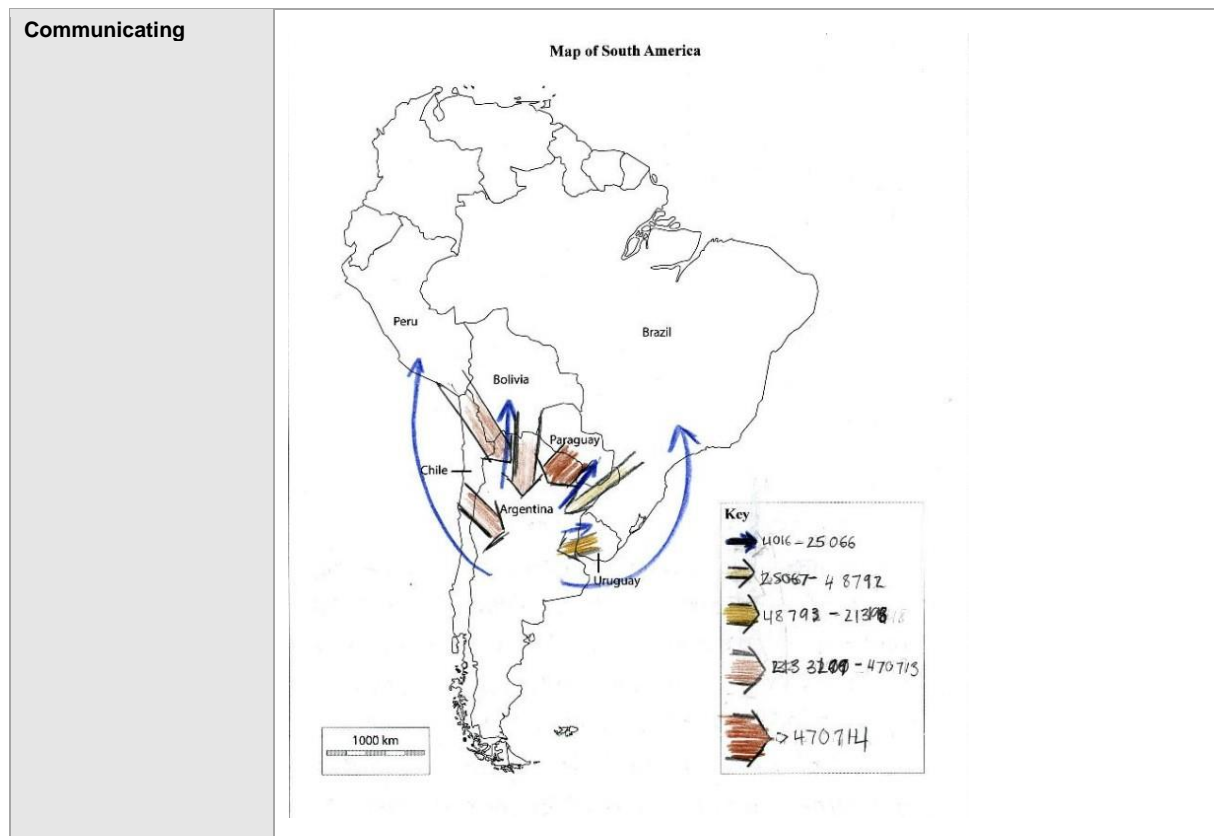
This question required students to represent provided data in a migration flow map.

Effective student responses:

- used natural breaks in the migration data to create five categories with no voids or overlaps
- used relative arrows to represent the data categories
- showed both inward and outward migration.

This student response excerpt has been included:

- to illustrate an appropriate flow map showing both inward and outward migration. It uses relative arrows to represent five categories of data with no voids or overlaps.



Criterion: Communicating

Alternative Sequence

Question 3

This question required students to create a graph showing three sets of data for a tropical cyclone (observed tide, predicted tide and observed storm surge).

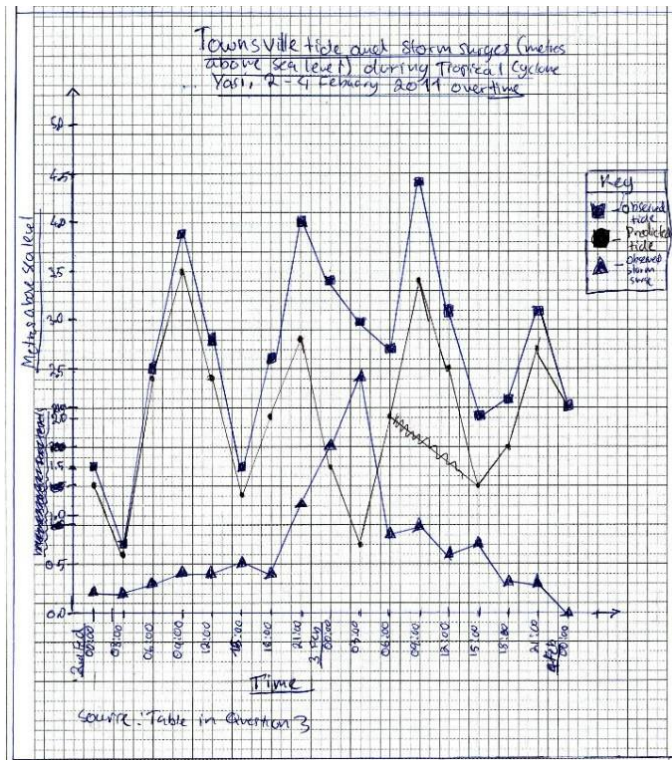
Effective student responses:

- placed the dependent variable (water level (m)) on the vertical axis and placed the independent variable (date and time) on the horizontal axis
- used appropriate scales
- accurately plotted all three sets of data
- included an appropriate key.

This student response excerpt has been included:

- to illustrate a high level response for the Communicating criterion that correctly places water level (m) on the vertical axis and date and time over the whole two-day period on the horizontal axis, with appropriate scales on both axes. The response accurately plots all three sets of data and distinguishes the three lines using an appropriate key.

Communicating



Extended response

Criteria: Analysing, Applying and Communicating

Question 7

This question required students to analyse a range of stimulus to make inferences about a geographical challenge arising from the temporary migration of people from the Philippines to work in foreign countries. Students then had to apply their understanding, from the analysis, to make generalisations about the impacts of the challenge on places of origin, focusing on one region.

Effective student responses:

- provided a detailed explanation of a geographical challenge
- used comprehensive data to support the explanation
- identified complex relationships in the data
- made complex generalisations about the impacts on people or places
- used the analysis to support the generalisations
- organised paragraphs to convey ideas purposefully and fluently in relation to the question
- used correct geographical terminology throughout the response.

This student response excerpt has been included:

- to illustrate a response that makes clear links between the data analysed to explain a relevant geographical challenge on places of origin, i.e. the lack of provision of services such as education

- to demonstrate the use of appropriate data from multiple pieces of stimulus to support the explanation
- to illustrate identification of complex relationships in the data, such as the relationship between the number of OFWs and poverty (the greater the number of OFWs, the more remittances are sent home, thus decreasing the incidence of poverty) and the influence this has on education
- to illustrate the use of the analysis to make generalisations that are complex by explaining more than the primary implication, e.g. in regions with high rates of poverty, such as ARMM, many children are kept out of school for child labour so in the future there will be fewer skilled OFW to send home higher remittances, thus income and education levels will remain low and the poverty cycle will continue
- to show the use of appropriate geographical terminology and purposeful and fluent organisation of ideas using paragraphs.

<p>Analysing</p> <p>Applying</p> <p>Communicating</p>	<p>The geographical challenge arising from the temporary migration of people from the Philippines to work in foreign countries is the lack of provision of services such as education in places of origin. Regions that have the least overseas Filipino workers (OFW) are also the regions with the greatest rates of poverty. For example, the Autonomous Region in Muslim Mindanao (ARMM) has 35 085 to 70 170 OFWs (the lowest distribution) and approximately 55% of the region is living in poverty. Conversely, regions like Calabarzon have between 350 851 workers and 491 190 OFWs and only 4% - 12% of the population lives in poverty. It can be assumed that families living in these</p>
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regions heavily rely on overseas workers for income, thus in regions with small numbers of OFWs, there is not enough money to send children to school or to provide education services).

Stimulus 5 shows that 30% of family income in the Philippines is from remittances (S5), implying a reliance on the migration of OFWs. Such remittances primarily come from workers in elementary occupations where 70% of OFW are employed (S3). While the remittances are valued up to \$3500 000 (USD) (S8), the majority of this - approximately 95% - is spent on food resources whereas only 65% is spent on education (S6). It can be assumed that remittances are not enough to provide education, hence children either do not attend schooling or families must seek other employment. Regions such as ARMM, where the number of OFWs is lowest, have the lowest schooling rates for

children and favour ^{the education of female} ~~male~~ children over females; in ARMM over 14% of male children and approximately 11% of female children aged 5-15 are not in schools. (S7)

The greatest portion of family income (49%) comes from salaries and regions. However, in regions such as ARMM, where there are few OFWs, there is also high levels of unemployment. In ARMM, less than 40% of the population is employed in agricultural, elementary or other services (S6). The combination of minimal remittances and low levels of income implies that education is unaffordable. Rather, children are subjected to child labour, 67% of which is unpaid work in the family homes. Furthermore, 21% of child labour is work in general business, hence it can be expected that children are earning minimal amounts of money or running households rather than receiving education as their regions are not well-enough supported by

remittances from overseas workers.

In places of origin, such as ARMM, where poverty is high and the number of OFWs is low (seen in S1), it can be expected that the poverty cycle will continue. With so many children being kept out of school for child labour, there will be no production of skilled workers to migrate overseas and begin to send back remittances. Thus, income in these regions will remain low along with education levels. Furthermore, unemployment rates will remain the same (or begin to decline) in regions such as ARMM due to the lack of skilled workers who have received education. Places of origin such as ARMM will also experience food insecurity as most remittances are spent on food. Without enough OFWs and remittances, provision of adequate, nutritious food will become unaffordable.

Practices to strengthen

It is recommended that when preparing students for external assessment, teachers consider:

- including activities to build students' understanding of places around the world in the context of learning about places of origin and places of destination of migrants. Students can also be reminded to carefully unpack all aspects of the stimulus to ensure that explanatory statements, such as titles and footnotes that may indicate places, countries or regions, are not overlooked
- including activities to build students' capacity to categorise data using recognised techniques and ensuring that voids and overlaps between categories are avoided, particularly through the incorrect application of less than and greater than symbols
- preparing students to use detailed, relevant data from the stimulus to support explanations, e.g. effective responses to Question 5 used migration and GDP data for countries of origin and destination to support the explanation of international migration for economic reasons
- for the extended response
 - working with students to develop strategies to make effective use of planning time to unpack the stimulus and consider how they will use it in their response. For the Analysing criterion, students identify a geographical challenge and explain this, making clear links between multiple pieces of stimulus. For the Applying criterion, students make generalisations about the impacts on people or places, extrapolated from the preceding analysis. In Question 6 of the 2021 paper, complex generalisations explained more than the primary implication, e.g. children are not attending school and are therefore likely to only be able to access work in elementary occupations (primary implication), which perpetuates the need for unskilled workers to gain employment as OFW, creating a cycle (complex implication)
 - including activities to build students' written communication skills, including use of paragraphing to organise ideas and use of correct geographical terminology throughout responses.