Nanjing weather assignment

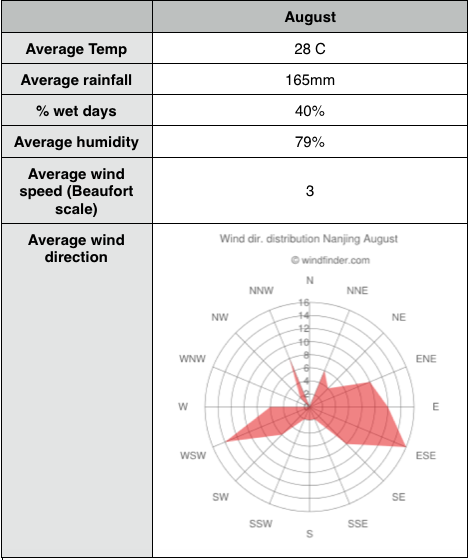
Related Concept: Patterns and Trends

Background

Nanjing has a humid subtropical climate and is under the influence of the East Asia Monsoon. Seasons are distinct in Nanjing, Summers are generally hot with high rainfall, and winters are generally cool and drier. Spring and Autumn tend to be short seasons.

On average it rains about one day in every three, and the average annual rainfall is around 1000mm.

Data relating to the climate in August is shown in the table below.



**Research Question**

**How closely does the weather for a single week in Nanjing in August 2015 reflect the climate for that month?**

**Tasks**

You will answer the research question by completing the following tasks:

**1. Create an action plan to investigate the research question.**

Your action plan must show how you intend to carry out your investigation. It should show how, where and when you plan to record your weather data. It should include the following elements:

The creation of a seven day recording sheet for the following data

temperature

wind speed

wind direction

rainfall

humidity

air pressure

cloud cover

How you plan to record precipitation, cloud cover wind speed and wind direction (you will need to create four instruments or methods to record these).

c) Where you plan to site the instruments near your home, and when you will take your readings.

**2. Record the weather in Nanjing for a seven day period on your recording sheet.**

You will record precipitation (rainfall), cloud cover, wind speed and wind direction each day yourself (primary data), but you can collect data for temperature, humidity and air pressure (secondary data) using this link:

<http://news.bbc.co.uk/weather/forecast/1584>

You must take at least 4 photos on separate occasions during the week to provide evidence of how you collected your primary data. These must be submitted with your final assignment.

**3. Written report**

You will present your information as a written report that includes the following sections:

**Introduction and research question**

This will introduce the project and establish what you were aiming to achieve.

**Method**

Here you will outline the data needed to answer the research question and the methods you used to collect it. You should provide details of what you did, and include reference to primary and secondary sources. Include your photographs in this section.

**Presentation of Results**

You need to:

Make a good copy of your results table

Create a 7 day climate graph for Nanjing (temperature and rainfall)

Produce a wind rose (see above)

Chose one other set of data and devise suitable way of presenting this information in a visual format.

**Analysis and discussion**

You need describe your results and explain how they relate to the research question.

Identify the strengths and weaknesses of the action plan and the methods that you used throughout the research assignment. What **patterns and trends** did you see? Where did you see patterns and trends being broken?

**Conclusions**

You need to:

Summarise your main findings

Answer the research question.

Remember that you are exploring **patterns and trends;** comment on any that you noticed

**Assessment Criteria**

You will be graded using;

Criteria B: Investigating

Criteria C: Communicating

Criteria D: Thinking critically

Please refer to the rubric.

**References**

Nanjing climate data - retrieved from <http://www.nanjing.climatetemp.info>/

Nanjing wind rose - retrieved from <http://www.windfinder.com/windstats/windstatistic_nanjing.htm#>

Rubric:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Criteria B** |  | **Criteria C** |  | **Criteria D** |  |
| **Investigating** |  | **Communicating** |  | **Thinking Critically** |  |
| **0** | The student does not reach a standard described by any of the descriptors below. |  | The student does not reach a standard described by any of the descriptors below. |  | The student does not reach a standard described by any of the descriptors below. |  |
| **1-2** | The student:  ii. formulates a **limited** action plan or does not follow a plan  iii. **collects** and **records limited** or **sometimes irrelevant** information  iv. with guidance, **reflects** on the research process and results in a **limited** way. | You produce a **very basic action plan** that includes **one** of how, where and when you plan to collect your data.  You collect data for **1-3 of the weather elements**, but there is some inconsistency and your **methods are inappropriate**.  Your **data record sheet is incomplete** and not very clear.  You include a small number of **mostly  irrelevant images.** | The student:  i. communicates information and ideas in a style that is **not always** clear  ii. organizes information and ideas in a **limited** way  iii. **lists** sources of information **inconsistently**. | • **tries in a limited way** to communicate information and ideas in a style that is appropriate to the audience and purpose.  • **tries in a limited way** to structure information according to the task instructions  • **tries in a limited way** to create a list of sources of information. | The student:  i. **begins to analyse** concepts, issues, models, visual representation and/or theories in a **limited** way  ii. **begins to identify** connections between information to make **simple** arguments | There are **no graphs or charts,** or else they are **inappropriate.**  **Basic descriptions** of findings are made, but there is **little or no analysis.**  There are **no comparisons** between the two sets of results.  There is either no conclusion or the research question is not answered in the conclusion. |
| **3-4** | The student:  ii. formulates and **occasionally** follows a **partial** action plan to investigate a research question  iii. **uses** a method(s) to collect and record **some relevant** information  iv. with guidance, **reflects** on the research process and results. | You produce a **very basic action plan** that includes **two** of how, where and when you plan to collect your data.  You collect data for **4-5  of the weather elements.**  **Some** of your methods are not appropriate.  Your data record sheet is **almost complete**, but not easy to read.  You include **2 or 3 images** that have **some relevance** to the data collection. | The student:  i. communicates information and ideas in a way that is **somewhat** clear  ii. **somewhat** organizes information and ideas  iii. **creates** an **adequate** reference list and **sometimes** cites sources. | The written report **is somewhat presented** in the format given in the investigation sheets.  There is **some structure** in the written report.  Data is used to create **basic graphs and charts,** and there is **some variety** in how these are presented.  Either the climate graph or wind rose are **presented effectively**.  Sources of data are given in APA format, with **some errors.** | The student:  i. completes a **simple analysis** of concepts, issues, models, visual representation and/or theories  ii. **summarizes** information to make **some adequate** arguments | Data is used to create **appropriate** graphs and charts.  Findings are **described and there is some analysis. Comparisons** are made between both sets of results, but there is l**ittle development.**  There is a **simple conclusion** that either summarises the main findings or attempts to answer the research question **(but not both).** |
| **5-6** | The student:  ii. formulates and **mostly** follows a **sufficiently developed** action plan to investigate a research question  iii. uses methods to collect and record **appropriate relevant** information  iv. with guidance, **evaluates** on the research process and results. | You produce a **basic action plan** that includes **all** of how, where and when you plan to collect your data.  You collect data for **all 7** of the weather elements using **appropriate methods.**  Your data record sheet is **complete and easy to read.**  You include **at least 4 i**mages, but **some** may not be directly relevant. | The student:  i. communicates information and ideas in a style that is **mostly** appropriate to the audience and purpose  ii. **mostly** structures information and ideas according to the task instructions  iii. creates an **adequate** reference list and **usually** cites sources. | The written report is mostly presented effectively in the format given in the investigation sheets.  The structure is mostly appropriate.  Good quality graphs and charts are included that are **generally relevant** to each data set.  **Both** the climate graph and wind rose are presented, though there may be **some errors.**  Sources of data are given in APA format, with **few errors.** | The student:  i. completes a **substantial** analysis of concepts, issues, models, visual representation and/or theories  ii. **summarizes** information in order to make **usually valid** arguments | Data is used to create **appropriate** graphs and charts.  Methods used to present data are **mostly appropriate.** Findings are **described and there is some analysis. Comparisons are made** between both sets of results. but there is **little development.**  There is a **simple conclusion** that summarises the main findings **and** attempts to answer the research question. |
| **7-8** | The student:  ii. formulates and **effectively** follows a **consistent** action plan to investigate a research question  iii. uses methods to collect and record **appropriate** and **varied relevant** information  iv. with guidance, provides a **detailed evaluation** of the research process and results. | You produce a **detailed action plan** that includes how,  where and when you plan to collect your data.  All data is collected and recorded **accurately** on a **well-designed data record sheet.**  You include at least 4 **relevant images** of you collecting data. | The student:  i. communicates information and ideas in a style that is **completely** appropriate to the audience and purpose  ii. structures information and ideas **completely** according to the task instructions  iii. creates a **complete** reference list and **always** cites sources. | The written report is **presented effectively** in the **format given** in the investigation sheets.  There is a **clear structure** in the written report.  **High quality graphs and charts** are included that are relevant to each data set.  **Both** the climate graph and wind rose are presented **effectively.**  Sources of data are given in APA format, with f**ew errors.** | The student:  i. completes a **detailed** analysis of concepts, issues, models, visual representation and/or theories  ii. **summarizes** information to make **consistent**, **well-supported** arguments | Data is used to create **appropriate** graphs and charts.  Methods used to present data are **entirely appropriate.** Findings are **described clearly** and there is **some analysis**. **Comparisons are made** between both sets of results., which are **developed**.  **Convincing reasons** for any differences are proposed.  There is a **detailed conclusion** that summarises the main findings **and** addresses the research question. |