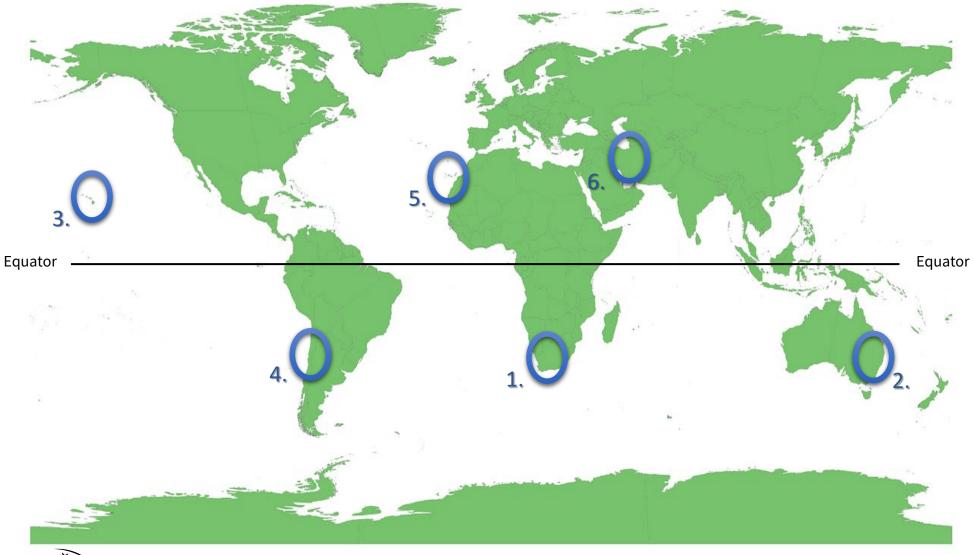
## **DESIGNING A TELESCOPE**

## **ACTIVITY 1: OBSERVING SITE SELECTION**





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Location	1. Sutherland (South Africa)	2. New South Wales (Australia)	3. Hawaii (USA)
Height above sea level:	1798 m	1164 m	4205 m
Risk of Natural Disaster:	Earthquake: Low Wildfire: Moderate	Earthquake: Low – Moderate Wildfire: Moderate	Earthquake: High Wildfire: Low
Clarity of sky: (the lower the better)	1.3	1.1	0.5
Risk of cloud:	20%	30%	25%
Average wind speeds:	4 m/s	3 m/s	5.5 m/s
Accessibility of site:	Good	Good	Medium
Light pollution levels:	Excellent	Excellent	Excellent
Anything you should know:	N/A	The site is within the Warrumbungle National Park which is home to many endangered bird species.	The mountain is considered sacred to the Native Hawaiian population and there are endangered native birds living in the area.
Cost of land rental: (per square metre)	£0.2 million per square metre	£0.2 million per square metre	£0.5 million per square metre

For every 1 meter wide your mirror is, you need 10 square meters of land. E.g., if the widest part of your mirror is 9 metres, then you need 90 square metres of land.



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Location	4. Andean Mountains (Chile)	5. Canary Islands (Spain)	6. Isfahan Province (Iran)
Height above sea level:	2635 m	2396 m	3600 m
Risk of Natural Disaster:	Earthquake: High Wildfire: Low	Earthquake: Low Wildfire: Low	Earthquake: High Wildfire: Medium
Clarity of sky: (the lower the better)	0.7	0.8	0.7
Risk of cloud:	10%	35%	35%
Average wind speeds:	3.5 m/s	6 m/s	4.5 m/s
Accessibility of site:	Medium	Good	Medium
Light pollution levels:	Excellent	Good	Good
Anything you should know:	Some of the sites in this area have ancient archaeological finds such as stone circles and rock engravings.	The site is within the Caldera de Taburiente National Park, home to a species of endangered tree. The site is subjected to 'calima' frequently – dust and sand blown over from the Sahara desert.	This is a very new observatory site with access roads completed in 2016 and the first telescope on site opening in 2018.
Cost of land rental: (per square metre)	£0.4 million per square metre	£0.3 million per square metre	£0.1 million per square metre

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