



**EARTH  
SCIENCE  
WESTERN  
AUSTRALIA**



**AUSTRALIAN  
EARTH  
SCIENCE  
EDUCATION**

**ANNUAL  
REPORT  
2019/2020**



This page is left intentionally blank

## OUR STORY

**Earth Science Western Australia (ESWA) is a not-for-profit organisation incorporated in Western Australia. ESWA was founded in 2003 by a group led by Jim Ross and John de Laeter in response to declining geoscience education in WA and the need to improve the quality of earth sciences and STEM education for our students, teachers and the wider community. After nearly fifteen years of extensive on the ground operations in WA, and eight years of creating resources in support of the Australian Curriculum, ESWA extended its reach into New South Wales and the Northern Territory under Australian Earth Science Education (AusEarthEd)**

## OUR PURPOSE

To **create, produce** and **deliver** innovative, valuable earth sciences education materials and experiences.

To further the **recognition** of earth sciences as an integral part of STEM.

To improve the **quality** of the talent pipeline for industry.

To increase **awareness** of the wide range of career opportunities that earth sciences provide.

To emphasise the **importance** of earth sciences in understanding contemporary issues.

## THE WAY WE WORK

**Supporting** teaching of earth sciences in primary and secondary schools

**Adapting** to embrace changing learning landscapes

**Resources** for teaching and learning

**Professional Development** for teachers

**Hands-On** incursions for students

**Field Experiences** through funding, expertise and field guides

**Connecting** with others to plan and run earth science related events

**Community** of professionals coordinated to be available to schools as guest speakers

'Very gneiss, lava-ed it. Jo was very knowledgeable, friendly and enthusiastic. Great example of a teacher. Awesome to know there is all these free resources.'

Pre-service teacher

## OUR HIGHLIGHTS THIS YEAR

- Launched a new website [www.ausearthed.com.au](http://www.ausearthed.com.au)
- Increased our physical reach into New South Wales and the Northern Territory
- Welcomed a new staff member to the team; NSW Education Officer, Susan Filan
- Responded to a new learning landscape, adapting the way content is structured so that we could continue to offer high quality resources, whilst expanding our delivery model. This includes:
  - Videos of a number of our hands-on activities, that can be conducted anywhere, now available on the [AusEarthEd YouTube channel](#).
  - Blog posts providing background information and links to great resources for our video topics, and more. These can be found on the [AusEarthEd blogspot](#)
  - Learning plans designed to support online and at home learning including:
    - Our PALMS and WASP STEM projects as interactive PDF booklets
  - Offering virtual incursions to schools, where hands-on activities are led via video conferencing
  - Offering virtual professional development sessions to educators
- Supported schools in the Meekatharra region including schools in Cue, Meekatharra and Mount Magnet



Mount Magnet District High School

DELIVERED PROGRAMS  
TO OVER

**10,000**

STUDENTS



WITH MORE THAN

**950**



EDUCATORS

SPENT **20**  
DAYS DELIVERING



TRAINING  
FOR PRE-SERVICE  
TEACHERS  
& TEACHERS

SPENT OVER

**130**

DAYS DELIVERING  
INCURSIONS



SPENT OVER



DELIVERING  
FIELD EXCURSIONS

PRODUCED

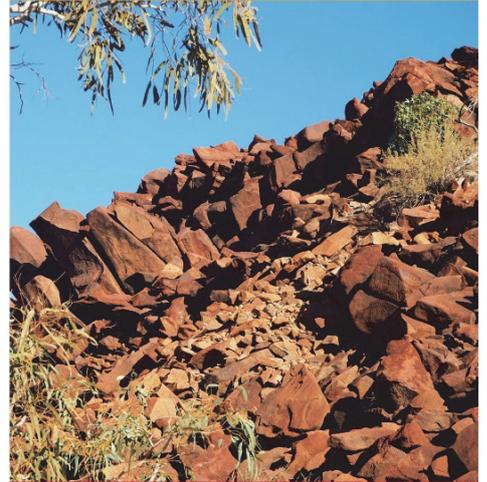
**189**

RESOURCES IN SUPPORT  
OF AT HOME AND  
ONLINE LEARNING



COLLABORATED WITH INDUSTRY AND  
SCHOOLS TO DELIVER ENGAGING EVENTS TO

OVER **3,000** STUDENTS



# OUR REACH

HANDS-ON INCURSIONS AND TEACHER PROFESSIONAL DEVELOPMENT



Cocos Island

Darwin

Karratha

Roebourne

Meekatharra

Cue  
Mt Magnet

Geraldton

Goomalling  
Bullsbrook

Kalgoorlie

Perth

Boddington

Bunbury

Collie

Banora Point

Tamworth

Maitland

Newcastle

Sydney

Moruya



# REPORT FROM THE CHAIR



For the year 1<sup>st</sup> July 2019 to 30<sup>th</sup> June 2020, Earth Science Western Australia (ESWA) has delivered admirably on its core goal to educate students and teachers about Earth and Environmental Science. Our headline key performance indicators for 2019/20 across all programs include:

- Engagement of in excess of 10,000 students and 950 educators.
- 20 days delivering Professional Development tutorials.
- 130 days delivering in-school incursions.
- More than 3,000 students involved in events (of which, the Resources Technology Showcase was a standout).
- 189 newly developed learning resources were produced in support of at home and online learning.

These results have been delivered despite the challenges that first half of 2020 brought. Our headline student engagement numbers are very similar to those in 2018/19 and the number of teachers involved in professional development was down slightly due to school closures and the cancellation of conferences and other events.

To reflect a growing demand for ESWA's learning resources programs across Australia we created, the ASIC registered trading entity, Australian Earth Science Education (AusEarthEd). In addition to a wide range of regional and urban locations throughout Western Australia, elements of our programs were delivered in the Northern Territory and we commenced supporting Year 11/12 students in New South Wales. During the coming year, we will transition ESWA resources across to the AusEarthEd brand and online platform. Significant content has already been migrated to the stunning AusEarthEd website which can be found here <https://ausearthed.com.au/>. If you haven't already paid it a visit, I commend it to you.

Our CEO, Ms Jo Watkins and our staff have exemplified the character traits of adaptability and flexibility in delivering another significant year of outcomes in spite of the challenges faced in 2020 due to Covid-19. Their immediate response and delivery have been impressive, delivering a host of new online videos, experiments and resources developed specifically to support students and teachers working online and from home. The Board acknowledges their creativity and commitment to the success of ESWA and thanks them for their endeavour through the past year.

The Board also acknowledges the role of our generous supporters, donors and sponsors, many of whom have been with us from the start of ESWA's humble beginnings, 15 years ago. We acknowledge your role and importance to the success of ESWA and offer our sincere thanks for enabling us to engage and inspire the next generation of Earth Scientists as they take on increasingly important and globally relevant roles.

Sponsored projects have enabled us to target all school year groups and deliver education products linked to Australian Curriculum, Assessment and Reporting Authority (ACARA) curriculums for Earth Sciences. I would like to acknowledge the importance and generosity of our program donors:

- Woodside through the Woodside Australian Science Project ("WASP" targeting Years 4 to 10).

- Chevron through its Powering Careers in Energy Program “PCiE” and STEM Outreach.
- ConocoPhillips and in 2020 Santos for the Primary Australian Literacy, Mathematics and Science Project (“PALMS” targeting Kindergarten to Year 6), including further support for the NT
- MRIWA who support our programs in the Kalgoorlie region.
- Our Core ESWA supporters.
- The Gold Industry Group for EES Support in NSW

ESWA enjoys the support of a diverse Executive and Board with representatives from key Industry, Secondary and Tertiary education, and State science institutions drawn from the Government and Private sectors. Positions are filled by successful and engaged individuals on a voluntary basis, providing important advisory and governance oversight. My sincere thanks are extended to them for their contributions during 2019/20.

Our customer focus, creativity and delivery focus have resulted in ESWA maintaining a stable organisational position. Our obligation to deliver for our customers, supporters and donors is always foremost in our thinking as we move into the 2020/21 financial year. We look forward to growing and continuing to build ESWA’s 15 years of success during the forthcoming year.

**Mark Thompson, Chair**

# REPORT FROM THE CEO



2019/20 has certainly been a year of successes and challenges.

Late 2019, saw an enormous number of schools engaging us for hands-on incursions across WA and ESWA clocking up some of the largest engagement figures of our history. It was gratifying to see schools we had worked with in previous years engage us to work with their new cohort of students, along with a number of new schools, many of which were referred to us directly by happy teachers.

We were also excited to see our new differentiated earth science focussed STEM packages start to gain traction with schools. This new format is proving to be a hit and something we look forward to continuing to grow and innovate.

2020 was set to be a big year for our organisation. One in which we grew our support for primary schools in the Northern Territory and moved into supporting Year 11 and 12 Earth and Environmental Science (EES) in New South Wales. Both of which, and more, to be undertaken under the exciting new brand, Australian Earth Science Education.

Little did we know in early 2020, when we were taking more school bookings for the year and getting off to a flying start on incursions and teacher PD in WA, that things were about to change dramatically. As it became clear that moving from school to school would not be possible and that schools were very likely heading into a learn from home scenario, the team pivoted to support teachers and students wherever we could. I am exceptionally proud of the team for the speed at which they identified the issue, workshopped what was needed most and then set about doing everything they could at this time. This resulted in a vast suite of videos featuring our many hands-on activities that can be conducted just about anywhere. These videos were supported by blog posts that also pointed teachers and students to the many relevant and engaging resources available.

Although our launch of support into NSW was not as we had planned, our timing was fortuitous. Susan Filan, our new Education Officer for NSW and an experienced and well connected EES teacher, got to work rapidly, creating much needed resources, developing and growing networks and providing virtual incursions for schools. All of which have been warmly welcomed, confirming the enormous need for EES support in NSW.

Our successful end to 2019 and the creative and well received start to 2020, would not have been possible without the unwavering support of our volunteer Board and sponsors. Many of which have been working with us for more than 10 years, showing an incredible commitment to enriching and growing earth science and STEM education across Australia.

As we look to return to face to face engagement in schools in the future, we will also strive to find the balance between our pre and post-COVID-19 offerings as we continue to see both warmly welcomed by schools. In a constantly changing environment, I am proud of our team who time and time again prove their creativity, flexibility and passion which have been invaluable to our growth.

**Joanne Watkins, CEO**



# OUR CORE OPERATIONS

**Strongly Supporting the Teaching of Earth and Environmental Science  
in our Primary and Secondary Schools**

## Teaching and Learning Resources

Sales for Exploring Earth and Environmental Science Year 11 = **187**

Sales for Exploring Earth and Environmental Science Year 12 = **134**

Sales for A Field Guide to Perth and Surrounds = **30**

Sales for A Geological Field Guide to the Capes Region of Southwest WA = **14**

Sales for A Geological Field Guide for Kalgoorlie and Surrounds = **25**

Resources at [www.earthsciencewa.com.au](http://www.earthsciencewa.com.au)

**27,575** Page Views

**8,615** Users

**1.30** Average Minutes per Session

## Top Countries outside Australia

**UNITED STATES**

**UNITED KINGDOM**

'Best PD for education....and I will definitely use these when I have my own classroom, it is very comforting to know that there are resources out there for the classroom that are educational, fun and affordable!!!'

Pre-service teacher

## Professional Development for Teachers

**11** educators supported

## Hands on Incursions for Students

Incursions for nearly **3,200** students

## Engagement figures for Field Experiences for Students through Funding, Expertise and Field Guides

Field trip funding for **3** schools

Field trips for **165** students



Bunbury Catholic College



## Our Value Add to events across Australia

ESWA strongly supports a large number of events each year, through the provision of hands-on activities, exhibition booths and other engagement with participants. Unfortunately, some of the regular events that occur in 2020 were cancelled or postponed.

- [Chevron's Powering Careers in Energy \(PCiE\) LNG Exploration Day](#)
  - [CME Women in Resources Awards](#)
- [Conference of the Australian Science Teachers' Association](#)
  - [Earth Connections WA](#)
  - [Future Minds Innovation Workshop](#)
    - Karratha Science Fair
  - [Meet the Markers \(STANSW Conference\)](#)
    - [Next Generation Schools Expo](#)
    - [Peel Bright Minds eSTEAM Event](#)
  - [Resources Education Collaboration Summit](#)
  - [Resources Technology & Innovation Showcase](#)
  - [STANSW Online Teaching and Learning Series](#)
- Climate across the Curriculum: Educational Resources for Teachers
  - [WIMWA Summit](#)



Next Generation Schools Expo

# MAJOR FUNDING PARTNERS AND PROGRAMS

ESWA is proud of the relationships that it continues to build with major funding partners, to develop relevant programs for delivery. Below is an overview of our current programs, we welcome enquiries related to the growth of our programs and our reach.



## Woodside Australian Science Project (WASP)

AN INITIATIVE SUPPORTED BY WOODSIDE AND ESWA SINCE 2012

The Woodside Australian Science Project (WASP) produces teaching support packages for the Earth and Space Science component of the Australian Curriculum, as well as unique differentiated STEM projects, for Years 4 - 10. These packages are full of support materials for teachers, including hands-on activities for students. Each package is trialed within a variety of classroom environments, and once packages are released professional development sessions and hands-on incursions are made available to schools, free of charge. In 2020, we adapted and expanded upon our learning platforms to provide more online learning options including virtual incursions and professional development.



WASP augmented reality field app launch at Resources Technology Showcase

## New Resources

This year we made significant additions to our suite of differentiated, real-world STEM projects, following positive feedback from earlier releases.

- [Year 7](#)
  - [Designing a Passive Building](#)
    - [Making an Orrery](#)
    - [Recycling Water](#)
  - [Year 6](#)
    - [Flooding](#)
  - [Landslide Engineering](#)
  - [Monitoring a Volcano](#)
  - [Year 5](#)
    - [Solar Oven](#)
    - [Life on Mars](#)
  - [Solar Car Challenge](#)
  - [Year 10](#)
    - [Carbon Capture Utilisation and Storage \(added to the already available Farming for Food and Sea Level Rise Mitigation\)](#)
- Development of new activities for Woodside's STEM in Schools' initiative
- [WASP Teacher Online training website released, with content for Years 7 and 8](#)
  - [Earthquake Animation released](#)
  - [Release of the WASP Field Experience for schools](#)



## New Online Resources

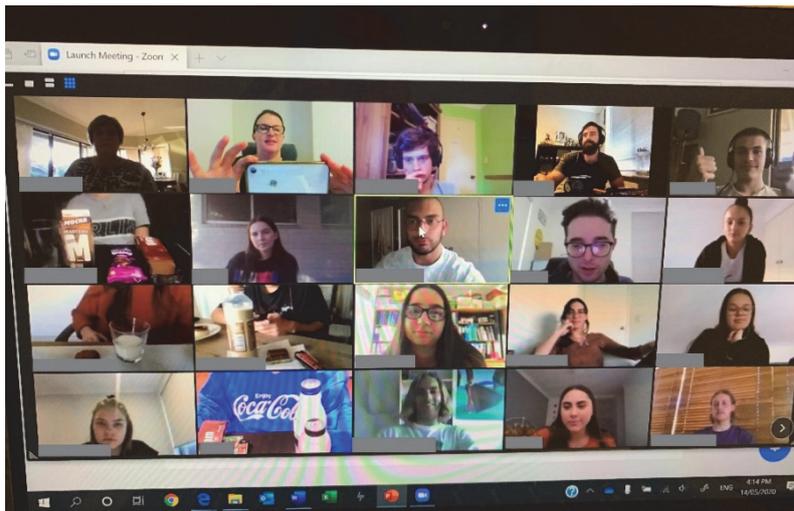
 **17** Videos of hands on activities available at [AusEarthEd YouTube channel](#)

 **17** [Blog posts](#)



## Professional Development for Teachers

**321** teachers supported



ECU pre-service teachers engage in WASP PD virtually

## Classroom Trials and Presentations (including virtual)

Presentations to nearly **2,700** students



Karratha STEM Club

Cecily was great in engaging the students, considering it was all through Teams.....Would highly recommend this incursion to other teachers!

Teacher from virtual incursion

## Teaching and Learning Resources



[www.wasp.edu.au](http://www.wasp.edu.au)

**4,480** users

More than **9,260** page views

Email subscriptions reached over **1,260**

**1,259,825** animation views via YouTube (all time)



Belridge Senior High School

## Events

### CONASTA 2019

Booth and workshops at the Conference of the Science Teachers' Association of Australia in Darwin.

### Karratha Science Festival

Showcased WASP resources and conducted an oil drilling activity in conjunction with local Woodside staff

### Resources Technology Showcase

Official launch and showcasing of WASP Field Experience AR App

'Thank you so much for coming to visit us and bringing activities, it was a great day and I will definitely be booking you in again!'

Teacher



## STEM Outreach

CHEVRON and ESWA SUPPORTING EARTH SCIENCE and STEM EDUCATION SINCE 2018

Chevron Australia is proudly partnering with Earth Science WA to improve the quality of earth sciences and increase STEM interest and outreach amongst Western Australian students, teachers and the wider community. The partnership aims to engage students in STEM and introduce them to possible career pathways in the energy industry.

### Classroom presentations (including virtual)

Trials and development of LNG based STEM careers and earth science activities with nearly **1,100** students (including virtual incursions)

[Earth Sciences Based Careers Incursions](#)

### The Science Behind LNG

Development and trialling of many activities to support the teaching of the Science behind LNG, now available on a dedicated section of the ESWA website. These include new online resources for students and educators:

#### Blogs

Posted on our [AusEarthEd blogspot](#)

[Datasets and GIS](#)

[Hydrocarbon Traps](#)

[Oil and Gas Migration](#)

[Reservoir Rocks](#)

#### Videos

Posted on [YouTube](#) and [Facebook](#)

[Exploration Drilling](#)

[Using Geoview](#)

[Oil Migration](#)

[Sedimentary Basins](#)

[The Science behind LNG learning packages](#)

'An excellent incursion. Very well organised and accommodating for our needs. Fabulous and knowledgeable presenters who were right on level with our students. Engaging and relevant resources used. Portable and flexible equipment so we didn't have to go out of our way to rearrange classrooms or students. .... We will definitely be taking Jo and her presenters into our classrooms again.'

Teacher

## STEM support for schools in Chevron's areas of operation

- Multiple incursions provided to students at Onslow Primary School and Karratha Senior High School
- Delivered LNG activity stations at the Karratha Science Fair

## Support for Chevron led programs

- LNG Exploration Day, delivering LNG activity stations. We were also pleased to take over the administration of the Powering Careers in Energy program (as of May 2020)
- Resources Technology & Innovation Showcase, delivering an LNG pipeline activity as part of the Chevron booth
- Next Generation Schools Expo, delivering an LNG pipeline activity
- Online workshop for teachers of the Powering Careers in Energy (PCiE) program



Onslow Primary School



LNG Exploration Day



Resources Technology Innovation Showcase

# Santos

## Primary Australian Literacy Mathematics and Science (PALMS) Program

SANTOS (2020), CONOCOPHILLIPS (2014-2019) and ESWA  
SUPPORTING EARTH SCIENCE EDUCATION SINCE 2014

The Primary Australian Literacy Mathematics & Science (PALMS) Program aims to enrich and support the teaching of earth sciences from Kindergarten to Year 6 across Australia. This is achieved by providing, within the mandated Earth and Space Science curriculum, hands-on activities integrating aspects of Chemical Science, Physical Sciences and Biological Sciences as well as relevant components of English, Mathematics and other subjects into teaching packages that can be easily accessed by teachers of Kindergarten to Year 6. Packages of materials are supported with teacher training and hands-on trials, free of charge. In 2020, we partnered with Santos to continue to deliver this program and adapted and expanded upon our learning platforms to provide more online learning options including virtual incursions, STEM projects and professional development.



Balga Primary School

### Packages Released

[Year 4 STEM Project launched](#)

[Year 5 STEM project launched](#)

[Landscapes, Life & Fire interactive PDF booklets \(Year 4 STEM\)](#)

[Earth & Beyond interactive PDF booklets \(Year 5 STEM\)](#)

[International Space Farm interactive PDF booklets \(Year 6 STEM\)](#)

## Online Resources

Dinosaur Eggs [video](#) and [blog](#) post  
Dust - Earth & Beyond [blog](#) post  
Flooded Landscapes blog and video post  
International Space Farm [blog](#) post  
Investigating Shadows [blog](#) and [video](#) post  
Make Your Own Sundials videos ([1](#), [2](#), [3](#)) and [blog](#) post  
Making an Impact [blog](#) and [video](#) post  
Measure the Weather [video](#) and [blog](#) post  
Night and Day [video](#) and [blog](#) post  
Soil Components [video](#) and [blog](#) post  
Sun Changed Paper [video](#) and [blog](#) post  
Water Treatment [video](#) and [blog](#) post  
[Volcanoes Live! blog post](#)  
Weathering videos ([1](#), [2](#), [3](#)) and [blog](#) post

'Thanks for two awesome, engaging lessons last Thursday. The children were all talking about it the following day and I have had so much good feedback from parents.....I had a talk with my class afterwards about how that demonstrates they can achieve anything if they are engaged and work hard at school!'

Teacher

## Professional Development for Teachers

Nearly **70** teachers supported

## Classroom Trials and Presentations (including virtual)

Classroom presentations to **1,130** students

## Teaching and Learning Resources



[www.palms.edu.au](http://www.palms.edu.au)

Over **2,090** users

More than **11,820**-page views

Email subscriptions reached over **250**

‘The presenter (Cecily) was amazing with the PP/Y1 students. The lessons were hands on, engaging and exciting.’

Teacher

## Events

### CONASTA 2019

Showcased PALMS resources via a booth and workshop and took registrations for incursions around Darwin



Booth at CONASTA, Darwin

# Santos

## N.T. Bound

ESWA has had a booth and presented workshops at the Conference of the Australian Science Teachers' Association (CONASTA) for many years, allowing us to converse with science teachers from many different states. A repeated conversation had with teachers from the Northern Territory was that there was little support for teachers in the area of earth science and they requested us to visit. As CONASTA was held in Darwin in 2019, we took the opportunity to speak with NT primary teachers to gauge interest in us running some incursion visits and we were enthusiastically encouraged to 'make it happen'.

At the end of August 2019, incursion visits were held at seven primary schools across Darwin. There was a waiting list of eight schools who unfortunately could not be fit into the visit schedule. A very successful teacher professional development workshop was held also. School staff indicated in a post visit survey that they would like ongoing support in the form of incursions and teacher workshops. Plans have been made to visit again in 2020 and establish a local support position, based in the NT.

Despite current border restrictions, ESWA is actively working with Northern Territory schools and educators to support and value add to the teaching of earth sciences. We are working on providing customised resources with a local context and updates can be found at [AusEarthEd NT](#)

### Professional Development for Teachers

**13** teachers

### Classroom Trials and Presentations

Classroom presentations to **880** students, across **7** schools supported by **62** teachers

'Thank you for Tuesday. The children are still talking about the day which makes me very happy. There needs to be more science in Primary Schools. Hope you had a good day and we hope to see you back in the NT at SFAS.'

Teacher NT

'It was an excellent and engaging presentation and my class thoroughly enjoyed it. Our presenter Cecily delivered the lesson with great skill, answering children's questions and acknowledging the different learning styles of children. I would love another visit next year.'

Teacher NT



## Kalgoorlie Outreach

SUPPORTED by the MINERALS RESEARCH INSTITUTE of WESTERN AUSTRALIA (MRIWA) since 2016

Members of an advisory committee for the Minerals Research Institute of Western Australia (MRIWA) have kindly donated their sitting fees in order to provide targeted support for both primary and high schools in the Kalgoorlie region. This support enables visits by ESWA staff to run hands-on incursions for students targeted at year groups from Kindergarten to Year 12, free professional development to teaching staff (using the WASP and PALMS materials), ongoing support of teachers in the region, via email and phone contact, and donation of physical resources to schools to assist with the teaching of this subject.

'The incursion was enjoyed by students, which are all on the hunt for handheld lenses. The activity engaged students, with students bringing in rocks from home to test with vinegar. The activity was hands on and students enjoyed participating. Thank you for allowing NKPS the opportunity to participate.'

Teacher

### Professional Development for Teachers

Training and support for **35** teachers

### Classroom Presentations

Presentations to more than **700** students



South Kalgoorlie Primary School



MRIWA kits

## Resources

Donation of physical resources to schools to assist with the teaching of this subject including delivery of a digital weather station and junior weather station for **10** primary schools and deposition and stratigraphy teaching kits to **3** high schools



Boulder Primary School



Kalgoorlie Primary School



## Murchison Support

In 2019, Sandfire Resources and ESWA worked together to enrich earth science education around the Meekatharra area through:

- Visits by ESWA staff to run hands-on incursions for students, targeted at groups from Kindergarten to Year 10
- Donation of materials to support the teaching of earth science



### Professional Development for Teachers

Training and support for **9** teachers

### Classroom Presentations

Presentations to **146** students and **31** teachers



Meekatharra DHS staff and students, ESWA staff and Sandfire Resources staff

<sup>1</sup> <https://earth.google.com/web/@-27.64594622,119.46117666,603.45045296a,508548.2087253d,35y,0h,0t,0r>

## Resources

Donation of physical resources to schools to assist with the teaching of this subject including:

- Kindergarten to Year 6 resource books from ESWA's PALMS Program
  - Year 4-6 resource books from ESWA's WASP initiative
    - TESEP plate tectonics poster
      - 3 x TESEP rock kits
- Year 7-10 resource books from WASP were posted up to the Science Specialist at Mount Magnet District High School following the visit, by request.



Teachers at Mount Magnet District High School

"It was fantastic"

"The kids were really engaged"

"They can come back anytime!"

"We would love to have you again - engaged both students and staff."

Principals



# Supporting EES Education in New South Wales

RESOURCED by ESWA and the GOLD INDUSTRY GROUP since 2020

In 2020, AusEarthEd launched resources to support the teaching of the EES curriculum for [NSW](#). Student activities, presentations, case studies and readings are currently available on the site, with more to follow.

ESWA was also proud to assist with the development and delivery of the Gold Industry Group's National Education Program, providing guest speakers for schools across Australia and kits of rocks and resources for these schools.



Various virtual incursions across New South Wales schools

## Events

Hosted [Meet the Markers \(STANSW Conference\)](#) EES online session

Presented at STANSW Online Teaching and Learning series about creating engaging online learning videos

## Resources

[Aboriginal Resource Management in NSW blog](#)

[Convection blog](#)

[Convection video](#)

[Elastic Earthquakes blog](#)

[Elastic Earthquakes video](#)

[FAQs - Technologies to predict natural hazards blog](#)

[Fossil Formation blog](#)

[Fossil Formation video](#)

[Geologic Time blog](#)

[Introduced Species blog](#)

[Introduced Species Field Study video](#)

[Lahars blog](#)

[Lahar in a Jar video](#)

[Meteorites and the history of Earth blog](#)

[Mine Site Rehabilitation](#)

[Mine Site Rehabilitation video](#)

[Modelling Fossilisation video](#)

[Modelling Metamorphism blog](#)

[Modelling Metamorphism video](#)

[Origin of Life blog](#)

[Origin of the Solar System blog](#)

[Oxygen Isotopes and Temperature blog](#)

[Oxygen Isotopes and Temperature video](#)

[Plate Boundary Model video](#)

[Preventing Erosion blog](#)

[Preventing Erosion video](#)

[Reading Rocks: Fossils blog](#)

[Reading Rocks: What type of plate boundary?](#)

[Scrumptious Soil video](#)

[Solar System Formation video](#)

[What lies beneath? Mapping the seafloor video](#)

[Mapping the seafloor blog](#)

[Wonderful Water blog](#)

[Wonderful Water 1 video](#)

[Wonderful Water 2 video](#)

[World Ocean Day blog](#)

'I think the lessons were very very good, the students are academically weak so despite being taught have little recall. Susan was able to simplify major concepts and ideas in an hour. I cannot recommend her highly enough. I have forwarded AusEarth details to two teachers in other schools I was that impressed!'

Teacher

## Professional Development for Teachers

More than **55** teachers supported

## Classroom Trials and Presentations (including virtual)

Classroom presentations to **216** students and **15** teachers



Al Noori Muslim School



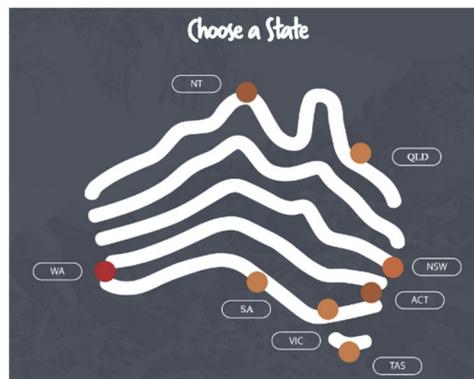
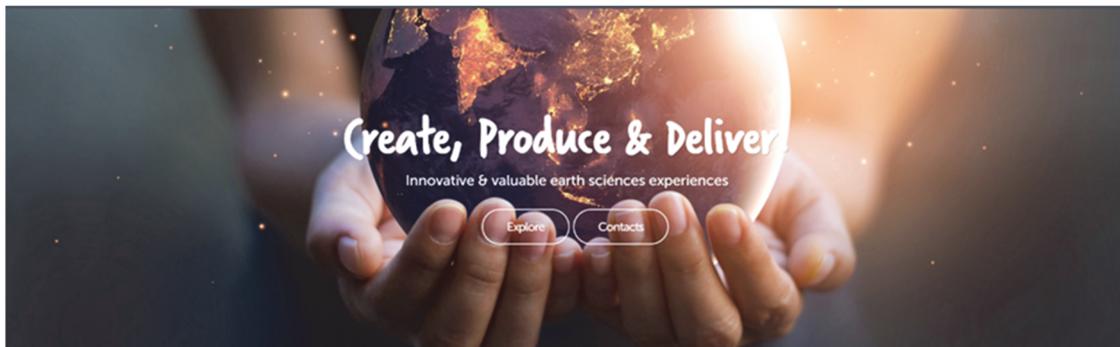
Fairvale High School

# WHAT IS ON OUR HORIZON



AUSTRALIAN  
EARTH  
SCIENCE  
EDUCATION

In 2020, our new AusEarthEd branding and [website](#) to support the teaching of Earth Science was launched, to service the teaching of Foundation to Year 10 Earth and Space Science and Year 11/12 Earth and Environmental Science across Australia. Our AusEarthEd website also links and highlights the important continued work by ESWA and our supporters.



## Resources

[Earth and Environmental Science](#)

[Earth and Space Science](#)

[STEM](#)

Hands-on activities that can be conducted anywhere on the [AusEarthEd](#) YouTube channel.

Posts that provide background information and links to great resources for our video topics, and more, can be found on the [AusEarthEd blogspot](#)

# OUR FUTURE TOGETHER

Thus far, 2020 has seen unprecedented changes in the way that ESWA delivers content. We are proud of the way that we have adapted to the changing learning environment to seamlessly offer the same quality of service whilst expanding our delivery model. The team has worked hard over the last six months to support students and teachers across Australia in this new learning landscape.

## How people and organisations can help ESWA grow regarding donations, funding, volunteering and collaborating:

### Corporate Supporters Program

Supporters can choose from a range of annual contribution categories on a financial or calendar year basis: Bronze, Silver, Gold, and Platinum

### Special Project Opportunities

We are always looking for opportunities to work with our supporters to engage with schools on another level. Special projects may be negotiated with our friendly team, these usually focus on particular resources and/or areas and typically cost \$10,000 or more, depending on the scope of the project. Some current opportunities and suggestions:

- Provide a portion of ESWA's schools' field trip support fund
- Targeted regional outreach



Boulder Primary School

'Our students loved the interactive lessons and we are very grateful that you were willing to accommodate our whole school. Thank you!'

Teacher

## Volunteering

ESWA works with schools and students (Kindergarten to Year 12) across WA. As part of our work to support Earth and Environmental Science education we have a volunteers list. Anyone working within the Earth and Environmental Sciences and/or the resources industry that is passionate about enthusing the next generation is welcome to be part of this list which receives communications regarding opportunities to be a guest speaker at schools and how to volunteer at events for students. You may also be interested in a more active role, such as volunteering in the development of resources or assisting on field experiences. To be placed on this register simply email Joanne Watkins at [ceo@ausearthed.com.au](mailto:ceo@ausearthed.com.au).



Wilson Park Primary School, Collie

# FINANCIAL OVERVIEW 19/20



ESWA has been very well supported for another year by our sponsors and program partners, and whilst many of our sponsors were challenged by COVID-19 by working closely together we were able to adjust programs and commitments to create win-win arrangements. This ability to work seamlessly together is a testament to the long-standing relationships and trust we share with our sponsors.

We have maintained our strong balance sheet and it continues to provide us with a platform to recruit and retain top talent who deliver innovative and inspiring high-quality education programs to teachers and students of earth and environmental science.

During the period ESWA transitioned a number of functions from under the CSIRO umbrella to ESWA management, including payroll and a number of insurances. This transition of ownership places ESWA in a good position to manage our own responsibilities and obligations as an independent entity, as we progress towards our vision.

**Funding:** In the coming pages you will find a number of graphics outlining how ESWA is funded. The Oil and Gas Sector continues to underpin our funding, contributing 78% in 2019/20. We achieved some diversification in funding sources in 2019/20 through the new funds from Gold Industry Group in support of our work in NSW, this increases our resilience to specific industry pressures or fluctuations.

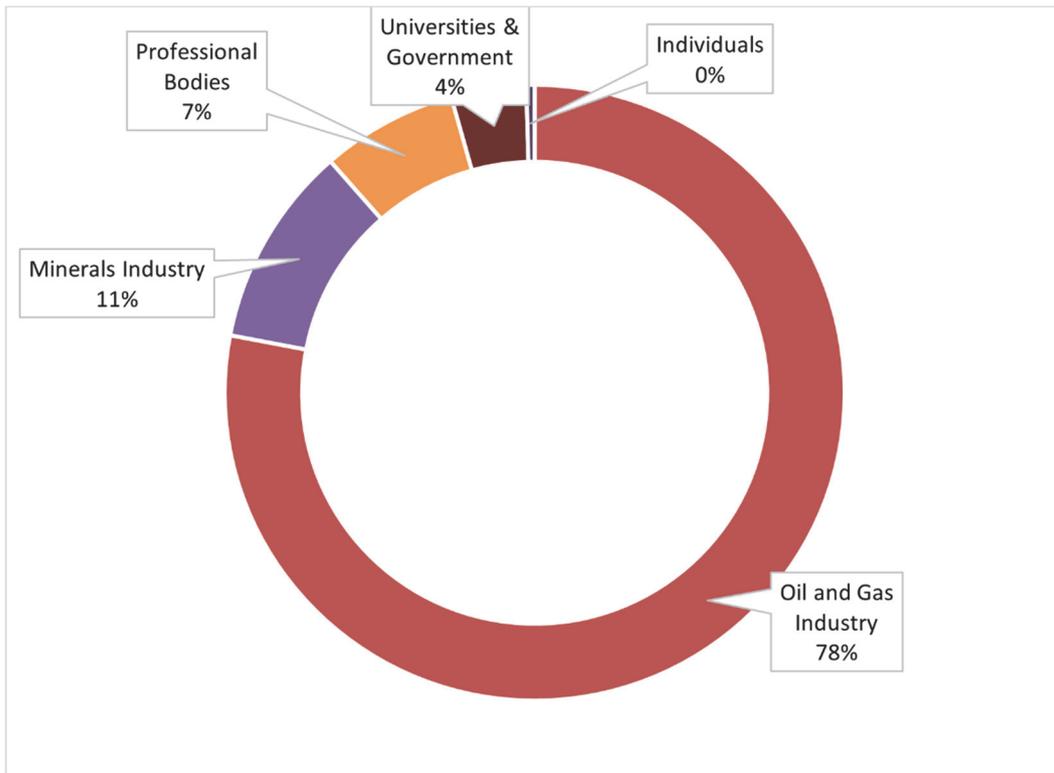
**Costs:** Our staff are the backbone of ESWA and our most valuable asset. Our support of them in the form of fair remuneration levels and job security (as far as practicable) is key to our ongoing delivery. In response to COVID-19 we were able to reduce our discretionary expenditure and utilise the government COVID-19 cash flow boosts, and ultimately closed the financial year with a surplus.

**Growth:** We have always contemplated growth opportunities where they both fit our strategic vision and could be financially self-sustaining. During this year we were able to realise the opportunity of expanding into NSW, with the support of new sponsors and the recruitment of additional NSW - based teaching capability into our team. We shall continue to assess new opportunities to consider their alignment with our goals and values, along with the impact to our balance sheet.

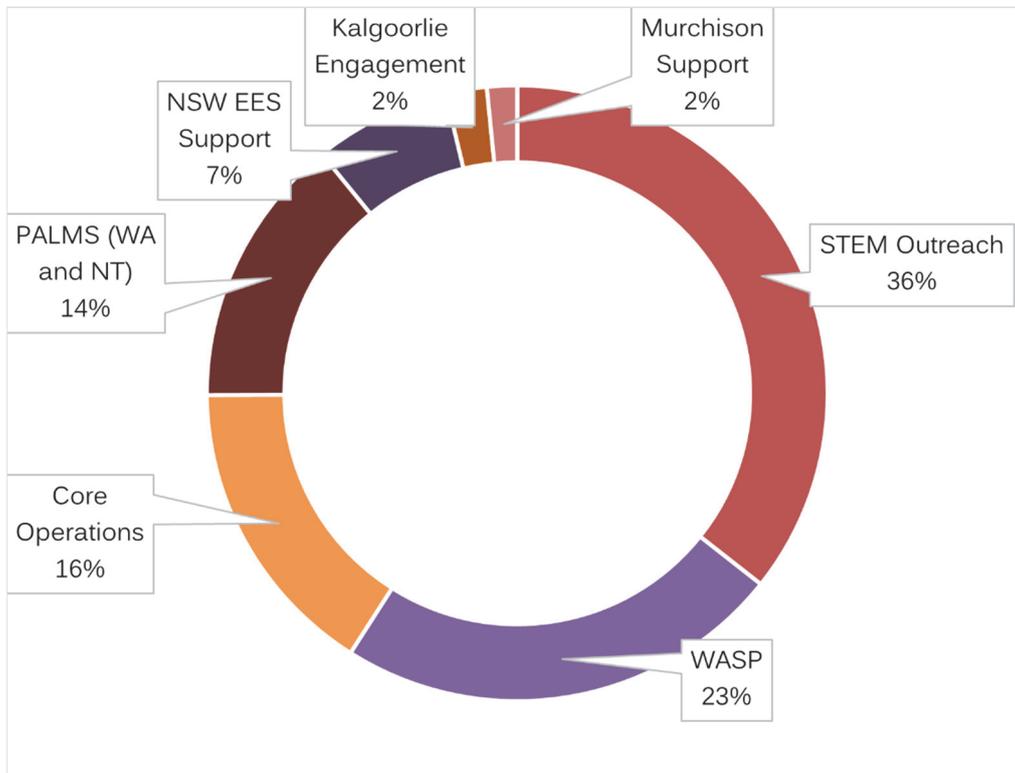
Should any supporters wish to view our audited accounts for the year I invite them to contact our CEO ([ceo@ausearthed.com.au](mailto:ceo@ausearthed.com.au)) so that these may be provided, when available.

**Sandy Sibenaler, Treasurer**

## Funding by Sector



## Funding by Projects



# SUPPORTERS

AS AT 30 JUNE 2020

## Platinum

Chamber of Minerals and Energy of WA  
Chevron Australia  
Gold Industry Group  
Santos (ConocoPhillips since 2016)  
CSIRO  
Curtin University  
Sandfire Resources NL  
Woodside Energy Ltd

## Gold

AusIMM (WA)  
Australian Geoscience Council  
BP Developments Australia Pty Ltd  
Minerals Research Institute of WA

## Silver

Alkane Resources Ltd  
AngloGold Ashanti  
Geoconferences (WA) Inc  
Peter Moore

## Bronze

Australian Institute of Geoscientists  
Australian Society of Exploration  
Geophysicists  
Finder Energy  
Jim Ross  
PESA  
Peter Moore  
SRK Consulting  
Western Mining Services  
Whythenshawe Pty Ltd

## In-Kind

Digirock Pty Ltd  
Geological Survey of WA  
Portable XRF Services  
Scitech  
STAWA  
Western Australian Museum

# EXECUTIVE, BOARD, PATRON AND STAFF

## BOARD EXECUTIVE AS AT 30 JUNE 2020

An Executive team leads Earth Science Western Australia. This team is led by a Chair and comprises nominated representatives from the Board.

**CHAIR** Mark Thompson

Woodside Energy Ltd

**VICE CHAIR** Meryl Jones

St Barbara Ltd

**SECRETARY** Ryan Noble

CSIRO

**TREASURER** Sandy Sibenaler

Woodside Energy Ltd

Sophie Hancock

AIG

**ESWA EXECUTIVE MEMBERS**

John Clarke Science Teachers' Association of  
Western Australia

Susan Cull Chamber of Minerals and Energy of  
WA

Paula Dewhurst North Metropolitan TAFE

Peter Downes WA Museum

Dr Sophie Hancock AIG

Angela Riganti Geological Survey of WA

Chris Yeats Geological Survey of NSW

**Patron** Our co-founder and long-term Chair, **Dr Jim Ross**, is the official patron of ESWA.

## STAFF AS AT 30 JUNE 2020

**CEO** Joanne Watkins

2011 - present

**EDUCATION OFFICER (WA)** Fiona  
Mochrie

2017 – present

**EDUCATION OFFICER (WA)** Cecily  
Arkell

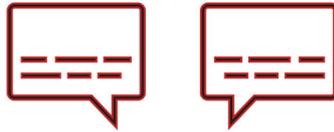
2018 – present

**OPERATIONS OFFICER** Marie Rodger

2018 – present

**EDUCATION OFFICER (NSW)** Susan  
Filan

2020 – present



EARTH SCIENCE WESTERN AUSTRALIA trading as Australian Earth Science Education



26 Dick Perry Avenue, Kensington PO Box 1130, Bentley WA 6102



[www.ausearthed.com.au](http://www.ausearthed.com.au)



[ceo@ausearthed.com.au](mailto:ceo@ausearthed.com.au)

Earth Science Western Australia Inc.

ABN 42 929 288 903

Earth Science Western Australia Annual Report

First published November 2020

© 2020 Earth Science Western Australia Inc. (unless indicated otherwise)

Use of this Annual Report

You are free to copy, communicate and adapt this annual report provided that on any copy, communication or adaptation you attribute Earth Science Western Australia Inc. using the following statement:

Copied from Earth Science Western Australia Annual Report 2019/20 or Adapted from Earth Science Western Australia Annual Report 2019/20

In this Annual Report, 'Earth Science Western Australia' and 'ESWA' each mean Earth Science Western Australia Inc.



**AUSTRALIAN  
EARTH  
SCIENCE  
EDUCATION**

