

*Come explore Arizona in Spring and
learn about Astronomical Wonders & More!*

Arizona Skies

& New Discoveries • April 19-26, 2020

Dear Members & Friends:

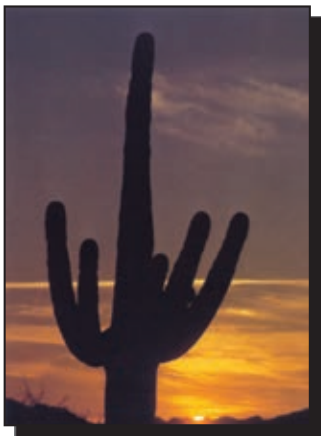
We invite you to join us to explore natural and astronomical wonders of this desert paradise on our **Arizona Skies & New Discoveries Adventure**.

We'll gather in **Tucson, Arizona**, to begin our exploration.

At the **Arizona-Sonora Desert Museum**, which is surrounded by **Saguaro National Park**, there is a fascinating exhibit on the origin of life on earth. You will also have an opportunity to see spectacular desert plants and wildlife, including the iconic desert bird, the roadrunner!

We'll have the extraordinary opportunity to visit the **Caris Telescope Mirror Lab** on the University of Arizona campus where the largest world class mirror lens are fabricated and polished.

On the north edge of the Santa Catalina Mountains, we will visit **Biosphere 2** where scientists spent two years living under conditions similar to a space station or orbiting satellite. See the living and work spaces and the areas used for food production. Much of the facilities are now an ecological research living laboratory



supervised by the University of Arizona.

Our adventure will continue to **Kitt Peak** which has a large collection of optical telescopes. We'll learn about their amazing research on the sun and then return to Tucson via the 300-year-old **Mission San Javier del Bac**, which beautifully represents the Spanish heritage of Tucson.

We will have a special lecture by the scientist who was in charge of the **Phoenix Mars Lander** (that completed its mission in 2008) which found water ice at the north Martian pole and compounds that have the ability to support life.

From Tucson, our adventure will next take us north to **Sedona**, where we will see the red rock formations.

Near Flagstaff, we will visit the famous **Meteor Crater**. Walk to the edge and imagine the crater-pocked surface of the Moon, Mars, and other planets. Then enjoy an evening visit to **Lowell Observatory** where dark skies make the Milky Way a wonder to see!

We invite you to explore the extraordinary wonders in Arizona this year and hope you will join us!

Sincerely,

Handwritten signature of Margaret M. Betchart.

Margaret M. Betchart
President, Betchart Expeditions Inc.
For AAAS Travels & Sigma Xi Expeditions

ITINERARY

Day 1 Home to Tucson, Arizona

Expedition members will fly from their nearest airport to Tucson, Arizona. Transfer by taxi to our *Hotel (4 nights)*. Welcome social, orientation, and dinner. (D)

Day 2 Arizona-Sonora Desert Museum & Mirror Lab

This morning, we will have an introduction to the desert as we travel through Saguaro National Park to the Arizona-Sonora Desert Museum. This world-renowned zoo, natural history museum, and botanical garden has exhibits in the natural landscape of the Sonoran Desert. You may find yourself eye-to-eye with mountain lions, prairie dogs, Gila monsters, and more. There is also a superb exhibit of the origin of life on earth. We'll have lunch at the Museum and then visit the Caris Mirror Lab where scientists have developed innovations in constructing large lightweight mirrors with unprecedented surface accuracy. Learn about their current work on the Giant Magellan Telescope project. (B,D)

Day 3 Sabino Canyon & Biosphere 2

This morning, we will explore the Sonoran desert with a tram ride and walk through Sabino Canyon in the Santa Catalina Mountains. For hikers, there are diverse habitats with elevation change, and sweeping views of the desert landscape. The cliffside river provides a well-watered and shaded habitat for wildlife and many opportunities for observations and photography. We will depart in late morning for DeGrazia's Gallery in the Sun for a chance to see an authentic old homestead and an introduction to southwestern art.

We will continue north along the Santa Catalina Mountains (which are the center of an ancient volcano) to tour Biosphere 2, a self-contained complex from 1991 to 1994 that tried to duplicate what astronauts would encounter living in a different world. We will walk through the living quarters, and then enter the savanna wilderness and see a 40-foot ocean cliff by a tropical ocean. We will continue through the mangrove habitat, tropical thorn forest, and coastal fog desert environments. The rainforest has over 150 different species of plants with some 80 feet tall. We will conclude with a walk to the lungs of the Biosphere. (B)

Day 4 Kitt Peak

This morning, we will drive southwest of Tucson to Kitt Peak, situated in Tohono O'odjam Reservation. Here there is one of the highest concentrations of telescopes



in the world, including the largest solar telescope. Visit the National Optical Astronomy Observatory and the National Solar Observatory. Learn about their newest discoveries that unlock the mysteries of the universe. Picnic lunch on the mountain top, then depart for Mission San Javier del Bac for a glimpse of Tucson's early Spanish heritage.

Later, meet scientists from the Phoenix Mars Lander Mission that discovered water on Mars in 2009. Learn about their Mars discoveries and current NASA research projects. (B,L)

Day 5 Phoenix Space Displays & Flagstaff

After breakfast we will drive north through the Sonoran Desert to the capital of Arizona, Phoenix. Then visit the Arizona State University's School of Earth and Space Exploration. We will meet a faculty member for a lecture and tour of the space displays. Exhibits include the history of space exploration, large-format, high definition monitors that display videos of earth-observing satellites

CANYONLANDS ADVENTURE!

May 29-June 6, 2020



Join us as we explore the spectacular National Parks in the Canyonlands! With the superb leadership by national park expert and naturalist, **Ellis Richard**, we will explore the dramatic wonderlands of **Zion National Park**, **Bryce Canyon National Park**, and the **Grand Canyon**, including a half-day float trip on the Colorado River.

For a detailed brochure, please contact Terri:

betcharterterri@gmail.com

Phone: (800) 252-4910 (USA) or (408) 252-4910 (Int'l)



and robotic probes of other worlds. We will continue north through the spectacular red rock country of Sedona and Oak Creek Canyon to Flagstaff and check in at our *Hotel (3 nights)*. (B)

Day 6 Meteor Crater & Lowell Observatory

This morning we will drive to Meteor Crater to see the impact of the large meteor 50,000 years ago. It displaced 300-400 million tons of rock and created a crater 4,100 feet wide and 571 feet deep. You may also see an Apollo test capsule and displays on meteors, asteroids, and space equipment. This will be an interesting tie-in to the many observations of craters on the Moon, Mars, and other planets. Afternoon visit to the Museum of Northern Arizona for a chance to see superb Native American and natural history exhibits.

Evening visit to the Lowell Observatory to see the astronomy displays and then view the night sky through the same telescope where Percival Lowell viewed Mars and postulated the infamous canals made by intelligent life. (B,D)

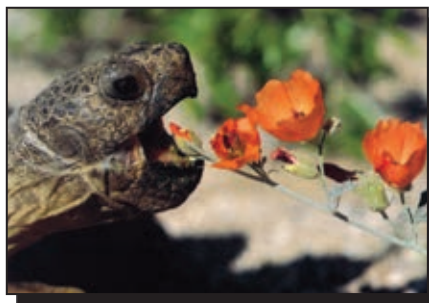
Day 7 Sunset Crater & Wupatki

This morning we will explore Sunset Crater. At 900 years old, this is one of the youngest volcanos in the lower 48 states. Legend says that the famous explorer of the southwest and the Grand Canyon, John Wesley Powell, named the crater for its red and yellow ash and cinders lining the crater rim. Walk in the area and see plants that thrive in this area of little soil, little water, and intense radiation. Then visit Wupatki Pueblo, a 100 room

pueblo built in the 1100's that was the center of a population of a few thousand in the surrounding region. The window openings give insight to the seasonal calendar of these ancient people and their knowledge of the night sky and the annual pattern of the Sun. Enjoy a festive farewell dinner in celebration of our journey. (B,D)

Day 8 Flagstaff to Phoenix & Home

After breakfast transfer to the Phoenix airport for afternoon flights home. (B)



LEADERSHIP

Leading this expedition will be **Bryan Bates**.

Bryan has a BA in Native American Studies and an MA in Environmental Sciences, and taught biology and geology at the Coconino Community College in Flagstaff. Bryan has a special interest in archaeoastronomy and events in the sky. He is



on the Board of Directors of the Flagstaff Science Festival and is a founding member of the Conference of Archaeoastronomy of the American Southwest. Bryan looks forward to sharing his years of travel, study, teaching, and exploring Arizona and the night skies with you.

Responsibility: Betchart Expeditions Inc., AAAS, Sigma Xi, ACS, and The Planetary Society act only as agents for the passenger with respect to transportation and hotels and exercise every care possible. We can assume no liability for injury, damage, delay, loss, accident, or irregularity in connection with the services of any airplane, ship, motorcoach, or any other conveyance used in carrying out the arrangements of the tour. We cannot accept any responsibility for losses or additional expenses due to delay or changes in air or other services, sickness, weather, strike, war, quarantine, acts of God, terrorism, or other causes beyond our control. All such losses or expenses will have to be borne by the passenger, as tour rates provide for arrangements only for the time stated. We reserve the right to substitute another leader of similar expertise or to cancel any tour prior to departure in which case the entire payment will be refunded with no further obligation on our part. The right is also reserved to decline to accept or retain any person as a member of the tour. No refund will be made for the unused portion of any tour unless arrangements are made in sufficient time to avoid penalties. The price of the program is based on current tariffs and rates, and is subject to change. Any tariff, exchange rate, or fuel increases will be passed on to participants. Baggage is carried at the owner's risk entirely. It is understood that the air ticket when issued shall constitute the sole contract between the passenger and the airline concerned. The airlines concerned are not to be held responsible for any act, omission, or event during the time passengers are not on board their plane or conveyance.

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Map & illustration by April Milne.

CST# 2036304-40

RESERVATIONS

#1574

Yes! I/We want to join the **Arizona Skies Expedition, April 19-26, 2020**, offered by **Betchart Expeditions Inc.** Please reserve _____ space(s) on the expedition. As a deposit, I/we have enclosed a check for \$ _____ (\$500 per person), payable to Betchart Expeditions Inc. Trust Account.

Name(s) _____ Age _____

_____ Age _____

Address _____

City _____ State _____ Zip _____

Phone: Home (_____) _____

Work (_____) _____

Email Address _____

Membership (please circle):

Planetary Society AAAS Sigma Xi ACS

Accommodations Preference:

____ Twin ____ Single ____ Share (with a friend)

____ Share (assign a roommate)

____ Nonsmoker ____ Smoker

Signature _____ Date _____

Signature _____ Date _____

**Mail To: Arizona Skies 2020
Betchart Expeditions Inc.
17050 Montebello Road
Cupertino, CA 95014-5345**

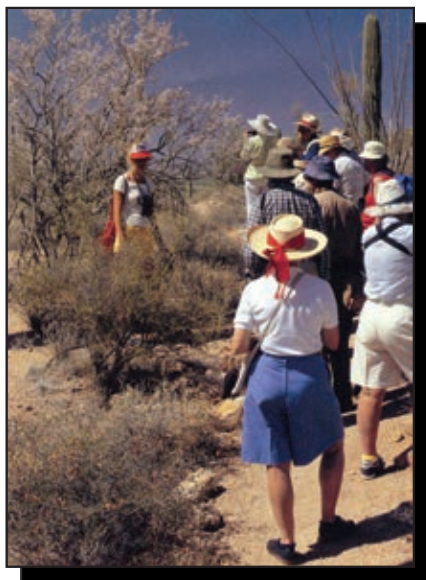
**AAAS, Sigma Xi, ACS
& The Planetary Society**



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17050 Montebello Road, Cupertino, CA 95014-5435

**One of Your
Best Trips Ever!**
- Past Participant

FIRST CLASS



Learn about astronomical wonders and more!
ARIZONA SKIES & New Discoveries
April 19-26, 2020

COSTS & CONDITIONS

Expedition Fee: \$3,295 per person twin share + air fare to Tucson with return from Phoenix.

Single Supplement: We encourage all singles to bring a roommate. If you prefer a single or do not have a roommate, the single supplement is \$795 per person.

Expedition Fee Includes: Transportation by 15-passenger vans or coach; accommodations in first class lodges twin share with private bath; meals and activities as indicated; tour leadership by an excellent naturalist and local guest experts; administration.

Expedition Fee Does Not Include: Air fare; independent arrival or departure transfers; some meals; beverages at meals; alcoholic beverages, snacks, sodas, bottled water, laundry, or other personal expenses.

What to Expect: This expedition is for the travel enthusiast who would like to explore Arizona, with a special focus on science and astronomy, natural history of the spectacular desert and its Native American heritage. Led by an excellent naturalist, we will also have lectures from Mars and NASA experts, explore superb natural areas and museums, see observatories, visit Biosphere 2, and visit historic Spanish and ancient Anasazi cultural sites. Typically, it will be in the 70's to 80's, with great spring weather. (No smoking in vans or coach, during lectures or meals, please.)

Accommodations: We will stay in comfortable first class lodges and hotels.

Air Fare & Airline Ticketing: Please book your flights directly with the airlines to arrive in Tucson by 4 pm on April 19, 2020, and to depart after 2 pm on April 26th from Phoenix. We will coordinate group arrival transfers. Individual arrivals will transfer on their own.

Cancellations & Refunds: The initial deposit is refundable up to 60 days before departure less a handling fee of \$100 per person.

There is no refund for any cancellation within 60 days of departure. Trip cancellation insurance will be offered. No refunds are made for unused services.

Reservations, Deposits & Payments: To reserve a place on this expedition, please mail a deposit of \$500 per person with the completed reservation form to:

**Arizona Skies 2020
Betchart Expeditions Inc.
17050 Montebello Road
Cupertino, CA 95014-5435**

Final payment is due 60 days before departure (February 14, 2020).

Questions? Please call **Terri or April,**
Betchart Expeditions Inc.,

Telephone: (800) 252-4910 or (408) 252-4910

Fax: (408) 252-1444

Email: betchartterri@gmail.com

Look on the Web: www.betchartexpeditions.com

