

Mammoth Mountain Ski Area's Response to Climate Change

By Greg Dallas

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Our Operations

- Winter Operations
 - Downhill Skiing and Riding, Cross-Country Skiing, Snowmobiling, Lodging, Food and Beverage, Retail, Ski and Board Rentals, Day Care, Events, Catering
- Summer Operations
 - Mountain Biking, Golf, Zip Lines, Climbing Walls, Fishing Guides, Bike Rentals
- Skier Visits
 - Over the last five year the average skier visit (including the last two drought years) was 1.25 million
 - Second behind Vail and Breckenridge
- The Mountain (Big)
 - 150 Trails
 - 30 lifts
 - 3,100 feet of vertical
 - 3,500 acres of terrain
 - 300 day of sunshine
- Snowfall Summary
 - 400” annual snowfall
 - Nov through May



Our Business Model

- Provide a world class, four season “California Lifestyle” recreation to our Guests
 - “Innovative” cutting edge products that reflect our “Play Big” brand
 - Exceptional consistent, replicable service
- We have a large infrastructure for providing recreation experiences
 - 30 Lifts: 3 gondolas, 6 carpets, 3 Pomas, 10 high speed, 8 fixed grip
 - Buildings: Lodges (400,000 sq. ft.), Hotel (700 units)
 - General Infrastructure: snowmaking, sewer, water, power, fiber, waste
 - Equipment: light vehicles (100+), snowmobiles (100+), snowcats (52), buses (30), heavy equipment (blowers, loaders, plow trucks, rock trucks, cement trucks, cranes)
- Our infrastructure goes unused a greater part of the year!
 - 95% of our revenue comes from Southern California during peak winter operations Dec-April
 - We have assets that are depreciating but not generating revenue
- Our business strategy is to fill unused capacities
 - Low demand periods are mid-week winter, summer, spring and fall
 - We have to figure out who can come at these times
 - We must determine what products and services or experiences will attract guests at these times
 - Destination travelers, European, Groups and meetings



The Threats

- There are many threats to the business
 - The Economy. In particular the increasing cost of labor, energy, and health care
 - Law suits
 - **Lack of snow/water**
 - “Hotter and Drier” by Saunders, Montgomery, & Easley is pretty scary reading
- We “recognize” the problem
 - Seasons are changing
 - Shorter winter means longer summer
 - Snow levels are moving higher
 - Europe is an example
- Pitztal and Zermatt are suffering from receding glaciers
 - The summer ski area at Zermatt, which used to reach the mid-station tram of the Klein Matterhorn lift two decades ago can, when it's hot, leave skiers with over 1,500 feet of soggy glacial run-off to walk across while carrying their gear in mid-summer
 - “We definitely saw a decrease in bookings for the usually very popular ski tests that take place between October and December (last year)“, said Zermatt Tourism Director Daniel Luggen **
 - “Reliable snow cover at all ambient temperature is becoming more and more of an issue for our area,” says Willi Krueger, marketing manager of the Pitztal Glacier Resort **

*(Snowmaking At 90 Degrees Fahrenheit? Global What-ing? By Patrick Thorne)

The Threat



Mammoth.

How Real is the Threat?

Years 68-81

	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76	76-77	77-78	78-79	79-80	80-81	81-82
Preseason	5.0	22.0	60.0	22.0	4.0	45.0	15.0	27.0	4.0	6.0	6.0	23.0	4.0	
Oct														
Nov	38.0			9.0	57.0		13.0			26.0	29.5			9.0
Dec	86.0	41.0	109.0	139.8	64.5	45.0	58.5	14.5		98.0	51.5	56.0	19.0	29.5
Jan	0.0	78.0	29.0	32.2	84.9	87.5	26.0	13.5	26.0	95.5	102.5	100.0	71.5	130.5
Feb	156.0	30.5	19.5	11.0	103.0	9.0	101.0	54.0	27.0	97.0	96.0	133.5	17.5	28.5
Mar	36.0	46.0	24.0	1.0	43.0	82.0	90.0	50.0	37.0	85.5	78.0	66.5	98.0	139.0
Apr	21.0	27.0	14.0	53.5	10.0	38.0	75.0	38.5	0.0	78.5	11.5	38.0	15.0	74.5
May		0.0			4.0	0.0				1.0	11.5	26.5	5.0	6.5
Jun										0.0		1.0	0.0	
Jul												0.0		
Season Total	345.0	244.5	255.5	268.5	370.5	306.5	378.5	197.5	94.0	487.5	386.5	444.5	230.0	502.5

**Snowfall History based on MMSA Ski Patrol measurement

MMSA Snowfall (cont.)

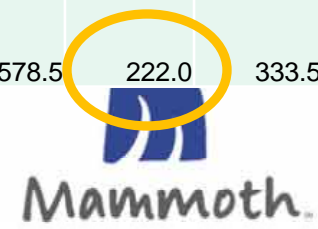
Years 82-94

	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95
Preseason	13	19.0	6.0		5.0					17.0			
Oct								16.0			23.5		
Nov	42	60.4	51.5	94.2		27.0	34.2	17.9	6.8	24.2	0.5	19.2	87.3
Dec	105.5	101.6	43.1	45.1		66.1	74.7	2.0	27.8	45.1	102.1	27.2	53.7
Jan	118.5	7.3	25.6	35.8	54.7	76.7	10.2	62.5	11.4	16.7	161.5	27.8	182.0
Feb	97.7	32.2	45.0	168.8	69.9	9.3	35.8	71.8	6.3	94.9	134.5	118.4	17.7
Mar	112.25	21.8	65.6	68.4	58.0	11.1	67.0	23.0	176.0	24.0	38.3	25.3	139.7
Apr	52	28.4	0.0	15.3	8.2	33.1	12.7	17.1	5.9	4.1	11.9	39.4	34.0
May	5.3	2.5		5.0	0.0	6.7	16.8	4.0	7.8	0.0	0.2	17.8	25.8
Jun													
Jul													
Season Total	546.25	273.3	236.7	432.6	190.8	230.0	251.4	214.2	241.9	226.0	472.4	275.1	540.2

MMSA Snowfall (cont.)

Years 94-07

	94-95	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08
Preseason			5.0	1.0	5.0				3.0	6.0				10.0
Oct			25.5				38.0	6.0			85.6		4.0	1.0
Nov	87.3		33.4	36.5	40.5	21.5	22.8	43.8	25.0	23.0	28.3	23.4	5.5	4.5
Dec	53.7	52.7	130.2	41.7	37.0	3.1	9.0	97.1	134.4	124.9	109.3	107.8	56.5	65.5
Jan	182.0	76.6	121.6	98.2	78.5	121.4	68.8	37.4	8.6	51.6	127.0	112.4	11.0	126.5
Feb	17.7	106.4	6.5	159.3	73.8	136.1	124.1	28.1	33.9	108.6	72.9	48.1	100.5	89.0
Mar	139.7	41.7	0.1	58.7	42.5	48.6	60.3	45.5	30.3	20.9	85.6	164.1	13.0	16.5
Apr	34.0	40.1	1.5	35.0	55.1	41.0	70.9	25.9		13.7	35.5	118.4	26.5	2.5
May	25.8	5.7		21.0	0.0	11.0	0.0	15.3		0.2	25.1	4.3	5.0	18.0
Jun										0.0	0.8	0.0		
Jul											0.0	0.0		
Season Total	540.2	321.2	323.8	451.4	332.4	382.7	393.9	299.6	356.0	348.9	570.1	578.5	222.0	333.5



Unpredictable

- Most believe that our snowfall is “unpredictable” but don’t necessarily see the “Hotter and Drier” trend
- Too little snow, too much snow – this is not new to us
- “Unpredictable” snow and “less” snow share many of the same strategies and tactics
- We are already thinking about how to address variability in snow conditions with new “*innovative*” ways to “*weatherproof*” our business for non-snow activities during non-snow periods of the year
- Snowfall was a huge problem in the late 80s as Mammoth saw its skier visits decline from 1.5M to 500,000 visits
 - We invested in snowmaking in 1991 which enable us to “*weatherproof*” our opening day to some degree
- New innovative products such as our pipes and parks address the needs of the Youth Action Segment
 - The park and pipes are “*weatherproof*” in that they don’t require regular snowfall. New snow actually harms the pipes and park which need to be rebuilt after each storm
- Our most innovative marketing program, the Value Pass Program, “*weatherproofs*” our business by incenting guests to commit to Mammoth prior to the season



Innovation

- Being a safe, reliable ski area operator isn't enough for our guests as most ski areas provide this experience
- We are in the outdoor entertainment business! Not just the ski business
- Our guests want to be entertained and are constantly looking for new experiences
 - Our Southern California market is well traveled and has many vacation options.
 - They have very high expectations
 - Vail spent \$20 million last year on a new “kids only” teaching facility
- Dave McCoy the founder of Mammoth was an innovator
 - He designed and built the first winch cat to groom steep terrain
 - He designed and built a snowcat out of which came many ideas for pipe and park specific snowcats



The
Millennium
Falcon



First Winch Cat

The Improbable

- Snowmaking at 90 degF
- This innovative technology is being installed at Zermatt, Switzerland and Pitztal, Austria enabling year-around skiing on glaciers
- The technology was developed by IDE (www.ide-tech.com), based in Tel Aviv, Israel
- IDE first made snow in the 1990s in the arid conditions of a South African gold mine
- No one expected the mine shaft's cooling system used to bring down heat to start churning out volumes of snow
- The "All Weather Snowmaker" uses vacuum technology and water as a refrigerant
- Vacuum induces the phenomenon of the triple point of water where vapor, liquid, and ice coexist. Some of the water evaporates while the remaining water freezes and the ice-water slurry is pumped out
- Although, making snow at high temps is not new, IDE technology makes lots of snow - 950cubic meters per day
- The machinery is large and care has to be taken to minimize its visual impact on the mountain. It meets "environmental friendliness" criteria in that it uses only water, with no chemical additives, and its power costs are low – about the same as running an average home for a year
- IDE flew members of the Norwegian ski team to Israel to test the quality of snow and they pronounced, "This is good snow!"



All Weather Snowmaker

We Need Flexibility to Innovate

- Our guests want to be outdoors in the mountains and as such the USFS needs to grant us more flexibility with activities going forward
 - The **“Udall Bill”** drafted by U.S. Rep. Mark Udall, D-Eldorado Springs, is aimed at updating the 1986 law to reflect the changing nature of ski resorts operating on U.S. Forest Service land
 - "The act no longer reflects what is going on at resorts," said Geraldine Link, policy director for the Lakewood, CO - based National Ski Areas Association
 - "My bill would make it clear that activities like mountain biking, concerts and other appropriate uses can be allowed at these ski areas," Udall said in a statement
- Rusty Gregory, CEO, Mammoth Mountain Ski area testified in front of the House of Representatives Resource Committee in Sept 08
 - This draft bill is drawing concern from environmental groups that say they are worried that the language in the draft is too broad
 - "The concern is that this will open the door for things like water parks or roller coasters," said Ryan Bidwell, executive director of Colorado Wild
 - The bill needs to be explicit that when it comes to summer activities, ski resorts have to meet the same rules and standards as an outfitter or any other permit applicant



Alpine Slide

Company Strategies

- **Guest Insight**
 - Understand the guest better than anyone else; create the right products and services to meet the most important needs, and communicate in ways that are relevant and timely
- **Product & Service Innovation and Fulfillment**
 - Develop “Game Changing” products and services that drive revenues.
- **Brand Delivery**
 - Bring the brand to life for our guests, partners, and employees in a way that is emotional compelling, and “Live the Brand” by pushing it through Precision Performance in each area of the company.
- **Resort Community**
 - We will advocate for the creation of a community plan for the development of transient and resident bed base, along with associated resort amenities and community facilities that will minimize environmental impact and maximize the quality of life.
- **Scalability**
 - Consistently, quickly, and easily replicate our core competencies in order to take advantage of growth opportunities.
- **Access**
 - Make access to the resort, around the resort and to its experiences easy.
- **Food and Beverage**
 - Great concepts, great food, great après ski, great experiences resulting in being the best in the industry and a cornerstone of our brand by 2013.
- **Real Estate**
 - Maximize return for our real estate investors. Create products which drive incremental earnings for MMSA.

Moving Forward

- Facts:
 - The climate will change
 - Our guests want to enjoy the outdoors
- Implication:
 - Without consistent snowfall, we must find new innovative ways to “entertain” our guest in the outdoor, alpine environment
 - If we don’t innovate then the company is not sustainable
- Strategy
 - Mammoth must foster a culture that rewards and capitalizes on innovation
 - No idea is too nebulous nor too small
 - We must be agile and able to adapt to changing business conditions

