California Institute of Technology

Financial Statements

For the Years Ended September 30, 2020 and 2019

	Page(s)
Report of Independent Auditors	1
Financial Statements:	
Balance Sheets	2
Statements of Activities	3
Statements of Cash Flows	5
Notes to Financial Statements	6

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Report of Independent Auditors

To the Board of Trustees of California Institute of Technology

We have audited the accompanying financial statements of California Institute of Technology (the "Institute"), which comprise the balance sheets as of September 30, 2020 and 2019, and the related statements of activities and of cash flows for the years then ended.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on the financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the Institute's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Institute's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of California Institute of Technology as of September 30, 2020 and 2019, and the changes in its net assets and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

PricewaterhouseCoopers LLP

January 27, 2021

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California Institute of Technology
Balance Sheets
At September 30, 2020 and 2019
(Dollars in Thousands)

	2020	2019
Cash and cash equivalents (Notes B and D)	$ 46,908	$ 6,510
Accounts and notes receivable, net		
United States government	257,618	330,288
Other	38,339	44,558
Contributions receivable, net	159,458	148,314
Investments	3,971,621	3,426,502
Prepaid expenses and other assets	215,234	206,499
Deferred United States government billings	395,130	362,768
Property, plant, and equipment, net	1,168,276	1,070,767
Total assets	$ 6,252,584	$ 5,596,206
LIABILITIES and NET ASSETS		
Liabilities:		
Accounts payable and accrued expenses	$ 399,792	$ 412,728
Accrued compensation and benefits	308,548	269,881
Deferred revenue and refundable advances	54,121	31,836
Annuities, trust agreements, and agency funds	89,498	88,896
Bonds and notes payable, net	1,668,052	1,176,092
Accumulated postretirement benefit obligation	455,016	421,899
Total liabilities	2,975,027	2,401,332
Net assets:		
Without donor restrictions	430,676	486,982
With donor restrictions:		
Time or purpose	959,583	876,456
Perpetual	1,887,298	1,831,436
Total net assets with donor restrictions	2,846,881	2,707,892
Total net assets	3,277,557	3,194,874
Total liabilities and net assets	$ 6,252,584	$ 5,596,206

The accompanying notes are an integral part of these financial statements.

California Institute of Technology
Statement of Activities
For the Year Ended September 30, 2020
(with summarized financial information for the year ended September 30, 2019)
(Dollars in Thousands)

	Without Donor Restrictions	With Donor Restrictions	2020 Total	2019 Total
Operating revenues:				
Tuition and fees, net of student financial aid	$ 40,926	$ -	$ 40,926	$ 44,379
Endowment spending, distributed	33,304	123,401	156,705	149,770
Gifts and pledges	33,843	49,346	83,189	72,230
Grants and contracts:				
Jet Propulsion Laboratory operations	2,615,146	-	2,615,146	2,682,020
United States government, Campus - direct	208,195	-	208,195	183,748
Other Campus - direct	30,974	3,610	34,584	37,084
Recovery of indirect costs and allowances	151,901	-	151,901	141,862
Sales and services	47,056	-	47,056	50,363
Other	16,709	-	16,709	9,741
Net assets released from restrictions	145,385	(145,385)	-	-
Total operating revenues and other support	3,323,439	30,972	3,354,411	3,371,197
Operating expenses:				
Compensation and benefits	431,751	-	431,751	403,072
Supplies and services	126,531	-	126,531	139,783
Subcontracts	41,675	-	41,675	28,352
Depreciation, accretion, and amortization	77,336	-	77,336	74,117
Utilities	16,690	-	16,690	15,780
Interest	31,672	-	31,672	29,628
Jet Propulsion Laboratory operations	2,615,146	-	2,615,146	2,682,020
Total operating expenses	3,340,801	-	3,340,801	3,372,752
Results of operations	(17,362)	30,972	13,610	(1,555)
Non-operating changes:				
Investment return in excess (deficit) of endowment spending	12,380	33,208	45,588	(2,642)
Endowment spending, undistributed	3,228	9,731	12,959	10,397
Gifts and pledges	6,856	71,179	78,035	59,523
Changes in fair value of interest rate swap	(13,561)	-	(13,561)	(27,545)
Changes in benefit obligations and related recoveries, net	(17,821)	-	(17,821)	(22,844)
Interest expense	(25,301)	-	(25,301)	(13,037)
Redesignations, reclassifications and other	(4,725)	(6,101)	(10,826)	(13,453)
Total non-operating activities	(38,944)	108,017	69,073	(9,601)
(Decrease)/increase in net assets	(56,306)	138,989	82,683	(11,156)
Net assets at beginning of year	486,982	2,707,892	3,194,874	3,206,030
Net assets at end of year	$ 430,676	$ 2,846,881	$ 3,277,557	$ 3,194,874

The accompanying notes are an integral part of these financial statements.

California Institute of Technology
Statement of Activities
For the Year Ended September 30, 2019
(Dollars in Thousands)

	Without Donor Restrictions	With Donor Restrictions	2019 Total
Operating revenues:			
Tuition and fees, net of student financial aid	$ 44,379	$ -	$ 44,379
Endowment spending, distributed	33,764	116,006	149,770
Gifts and pledges	23,194	49,036	72,230
Grants and contracts:			
Jet Propulsion Laboratory operations	2,682,020	-	2,682,020
United States government, Campus - direct	183,748	-	183,748
Other Campus - direct	30,721	6,363	37,084
Recovery of indirect costs and allowances	141,862	-	141,862
Sales and services	50,363	-	50,363
Other	9,741	-	9,741
Net assets released from restrictions	149,610	(149,610)	-
Total operating revenues and other support	3,349,402	21,795	3,371,197
Operating expenses:			
Compensation and benefits	403,072	-	403,072
Supplies and services	139,783	-	139,783
Subcontracts	28,352	-	28,352
Depreciation, accretion, and amortization	74,117	-	74,117
Utilities	15,780	-	15,780
Interest	29,628	-	29,628
Jet Propulsion Laboratory operations	2,682,020	-	2,682,020
Total operating expenses	3,372,752	-	3,372,752
Results of operations	(23,350)	21,795	(1,555)
Non-operating changes:			
Investment return in (deficit) excess of endowment spending	(13,073)	10,431	(2,642)
Endowment spending, undistributed	3,239	7,158	10,397
Net assets released from restrictions	-	-	-
Gifts and pledges	11,454	48,069	59,523
Changes in fair value of interest rate swap	(27,545)	-	(27,545)
Changes in benefit obligations and related recoveries, net	(22,844)	-	(22,844)
Interest expense	(13,037)	-	(13,037)
Redesignations, reclassifications and other	(11,231)	(2,222)	(13,453)
Total non-operating activities	(73,037)	63,436	(9,601)
(Decrease)/Increase in net assets	(96,387)	85,231	(11,156)
Net assets, beginning of year	583,369	2,622,661	3,206,030
Net assets, end of year	$ 486,982	$ 2,707,892	$ 3,194,874

The accompanying notes are an integral part of these financial statements.

California Institute of Technology
Statements of Cash Flows
For the Years Ended September 30, 2020 and 2019
(Dollars in Thousands)

	2020	2019
Cash flows from operating activities:		
Increase/(decrease) in net assets	$ 82,683	$ (11,156)
Adjustments to reconcile change in net assets to net cash used in operating activities:		
Depreciation, accretion, and amortization	77,336	74,117
Changes in postemployment benefit obligations	60,885	95,220
Contributions restricted for long-term investment and capital projects	(67,421)	(37,377)
Realized and unrealized gains on investments and swap	(148,851)	(68,590)
Other non-cash items	(16,715)	(11,087)
Changes in assets and liabilities:		
Accounts and notes receivable, net	73,018	505
Contributions receivable, net	(11,564)	(13,045)
Prepaid expenses and other assets	(15,476)	(5,875)
Deferred United States government billings	(32,362)	(45,949)
Accounts payable and accrued expenses	(36,234)	(14,517)
Accrued compensation and benefits	38,667	12,579
Deferred revenue, refundable advances, and agency funds	22,830	(3,373)
Accumulated postretirement benefit obligation	(27,768)	(30,853)
Net cash used in operating activities	(972)	(59,401)
Cash flows from investing activities:		
Purchases of investments	(1,078,791)	(797,922)
Proceeds from sales and maturities of investments	706,596	964,447
Purchases of property, plant, and equipment	(161,456)	(139,386)
Proceeds from sale of property, plant, and equipment	10,308	4,905
Net cash provided by (used in) investing activities	(523,343)	32,044
Cash flows from financing activities:		
Contributions restricted for long-term investment and capital projects	69,045	92,941
Investment return restricted for long-term investment and capital projects	710	632
Cash received under annuity and trust agreements	10,007	6,034
Cash payments made under annuity and trust agreements	(6,766)	(6,204)
Net repayments of short-term debt	(2,643)	(65,710)
Proceeds from issuance of bonds	494,360	-
Net cash provided by financing activities	564,713	27,693
Net change in cash and cash equivalents	40,398	336
Cash and cash equivalents at beginning of year	6,510	6,174
Cash and cash equivalents at end of year	$ 46,908	$ 6,510

The accompanying notes are an integral part of these financial statements.

A. Description of California Institute of Technology

California Institute of Technology (the "Institute") is a private, not-for-profit institution of higher education based in Pasadena, California. Founded in 1891, the Institute provides education and training services, primarily for students at the undergraduate, graduate, and postdoctoral levels, and performs research, training, and other services under grants, contracts, and similar agreements with sponsoring organizations, primarily departments and agencies of the government of the United States of America.

B. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying financial statements include the accounts of the Institute's main campus and satellite facilities ("Campus"), as well as the Jet Propulsion Laboratory ("JPL"), a Federally Funded Research and Development Center managed by the Institute for the National Aeronautics and Space Administration ("NASA").

The Institute manages JPL under a cost-reimbursable contract with NASA. JPL's land, buildings, and equipment are owned by the United States government and are excluded from the Institute's financial statements. Receivables and liabilities arising from JPL's operations are reflected in the Institute's balance sheets. The direct costs of JPL's operations and the related reimbursement of those costs are reflected separately in the statements of activities.

The Institute's financial statements have been prepared on the accrual basis of accounting, in accordance with accounting principles generally accepted in the United States of America ("GAAP").

Net Assets

Under GAAP, the Institute classifies its resources for reporting purposes in two categories based on the existence or absence of donor-imposed restrictions. Those categories, and descriptions of the types of transactions affecting each category, follow:

- The category "Net assets without donor restrictions" consists of those net assets not subject to donor-imposed restrictions. Activities that affect this category generally consist of fees for services, research revenues, and related expenses associated with the Institute's operating activities, as well as activities related to funds functioning as endowment and certain philanthropic support. Contributions not subject to donor-imposed restrictions and donor-restricted contributions that are received and either spent, or deemed spent, for the restricted purpose within the same year are reported as increases to net assets without donor restrictions.

  "Net assets without donor restrictions" include certain funds that are board-designated as functioning as endowment. There are no other board-designated funds.

- The category "Net assets with donor restrictions" includes both net assets that are subject to donor-imposed time or purpose restrictions that are expected to be met and those subject to donor-imposed perpetual restrictions. Net assets with donor-imposed restrictions that are expected to be met include endowment investment returns that have not yet been appropriated for expenditures, certain funds restricted for capital projects, and certain life income and annuity funds. The Institute meets such donor restrictions through the passage of time, the appropriation of endowment earnings, placing gift-funded capital projects into service, and/or the Institute's incurrence of expenditures or other payments. When such restrictions are met, the related net assets are released to net assets without donor restrictions.

Net assets with donor restrictions that are subject to perpetual restrictions include endowment gifts, related contributions receivable, and certain charitable life income and annuity funds for which donors have stipulated that the original value of their contributions and, if applicable, certain subsequent accumulations, be held in perpetuity.

For additional disclosures of the Institute's net assets, refer to Note H.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Reclassifications

Certain prior year amounts for the year ended September 30, 2019 have been reclassified to conform to the current year presentation.

Cash and Cash Equivalents

Cash and cash equivalents include bank account balances, investments in money market funds, and direct short-term investments that have remaining maturities of three months or less when purchased. Bank account balances at September 30, 2020 and 2019 were $46,908 and $6,510, respectively. The Institute classifies cash equivalents held as part of the investment portfolios as short-term investments. Such investments are not included in the line item “Cash and cash equivalents” in the Statements of Cash Flows. At September 30, 2020 and 2019, short-term investments, as disclosed in Note D, included $293,777 and $347,271, respectively, in cash equivalents. Carrying amounts of cash equivalents approximate fair value due to the relatively short maturities of these instruments.

Accounts and Notes Receivable

Accounts receivable under contracts and grants are carried at cost, less an immaterial allowance for doubtful accounts. Net accounts receivable under contracts and grants totaled $273,899 and $344,834 at September 30, 2020 and 2019, respectively. Activity in the allowance accounts was not significant during the years ended September 30, 2020 and 2019. The carrying value of net accounts receivable approximates fair value.

At September 30, 2020 and 2019, the Institute held aggregate accounts receivable from students and employees of $828 and $2,582, respectively, and loans receivable from students of $5,388 and $5,718, respectively. Both accounts and loans receivable are carried at cost, and only minor amounts of these receivables are expected to become uncollectible.

Investments
Investments are carried at fair value as discussed in Note K. Purchases and sales of securities are recorded on trade dates, and realized gains and losses are determined based on the average cost of securities sold. Accounts receivable included $15,843 and $21,712 and accounts payable included $1,045 and $602 related to investment transactions not yet settled at September 30, 2020 and 2019, respectively.

Short-term investments included $55,799 and $46,109 held by the counterparty to the Institute's interest rate swap at September 30, 2020 and 2019, respectively, as collateral in accordance with the terms of the swap agreement.

The Institute also directly transacts in options to manage equity and foreign exchange risks of certain investments. The fair value of options is included in the line item "Investments" in the balance sheets and is classified as derivatives in disclosures of investments. Changes in the fair value of options are reported in investment return. The Institute does not designate any of these derivative instruments as hedging instruments under GAAP. Further disclosure of the fair value of derivatives is reported in Note K.

Property, Plant, and Equipment
Property, plant, and equipment is recorded at the cost of construction, acquisition, or fair value of contributed assets at the date of gift. Interest costs related to debt used for construction of assets are capitalized and included in the cost of construction. Depreciation on all assets subject to depreciation is calculated over the estimated useful lives as defined for each class of depreciable asset, which range from three to fifty years, using the straight-line method. Depreciation on buildings and building improvements is calculated based on the useful lives of each major building component. The Institute provides for the renewal and replacement of assets from various sources set aside for this purpose.

The Institute routinely acquires or constructs equipment under federally and non-federally funded research awards. The costs of such assets for which title does not ultimately transfer to the Institute are charged to expense.

The Institute's conditional asset retirement obligations are primarily related to removal and disposal of asbestos and removal of buildings and improvements from leased property. Asset retirement cost, net of accumulated depreciation, was $10,648 and $11,042 at September 30, 2020 and 2019, respectively, and is included in the line item "Property, plant, and equipment, net" in the balance sheets. Conditional asset retirement obligations were $27,293 and $26,664 at September 30, 2020 and 2019, respectively, and are included in the line item "Accounts payable and accrued expenses" in the balance sheets.

Annuities, Trust Agreements, and Agency Funds
The Institute's split-interest agreements with donors consist primarily of charitable gift annuities and charitable remainder trusts for which the Institute serves as trustee. For irrevocable agreements, assets contributed are included in investments at fair value and totaled $116,763 and $114,188 at September 30, 2020 and 2019, respectively. Contribution revenue is recognized at the date each trust is established after recording liabilities for the actuarially-determined present value of the estimated future payments to be made to beneficiaries. Actuarial liabilities are discounted at an appropriate credit risk-adjusted rate determined at the inception of each agreement. Discount rates on split-

interest agreements range from 0.6% to 10.6% per annum. The liabilities are adjusted during the terms of the agreements for changes in the fair value of the assets, accretion of discounts, and other changes in the estimates of future benefits. The 2012 Individual Annuity Reserving (IAR) table was used for the years ended September 30, 2020 and 2019. Split-interest agreement liabilities totaled $66,404 and $66,305 at September 30, 2020 and 2019, respectively, and are included in liabilities for “Annuities, trust agreements, and agency funds” in the balance sheets and classified in Level 3 of the valuation hierarchy described in Note K.

The Institute is also the trustee for certain revocable agreements. Assets contributed are included in Institute investments at fair value, and amounts equal to the value of assets are included in liabilities for “Annuities, trust agreements, and agency funds” in the balance sheets. Total assets and liabilities for revocable agreements were $6,639 and $6,680 at September 30, 2020 and 2019, respectively.

The Institute held assets totaling $16,455 and $15,911 in agency funds on behalf of other entities at September 30, 2020 and 2019, respectively. The assets held are primarily included in the line item “Investments” in the balance sheets. The corresponding liability, which is equal to assets held, is included in “Annuities, trust agreements, and agency funds” in the balance sheets.

Beneficial Interests

The Institute is the beneficiary of both charitable remainder and perpetual trusts held and administered by others and interests in certain estates bequeathed by donors. The fair value of the Institute’s interests in charitable and perpetual trusts is estimated by multiplying the Institute’s percentage interest by the fair value of trust assets at the time that receipt of such interests is both probable and reasonably estimable. The value of the Institute’s interests in such trusts is adjusted for changes in the fair values of the underlying assets. Distributions from perpetual trusts are recorded as revenue when contributed by the trustee. Interests in estates are recognized based on estimates of cash flows from estate settlements at the time such cash flows are probable and reasonably estimable. Beneficial interests totaled $27,077 and $29,639 at September 30, 2020 and 2019, respectively, and are included in the line item “Prepaid expenses and other assets” in the balance sheets.

Compensated Absences

Institute employees are entitled to paid vacation based upon length of service and other factors. Certain employees also accrue benefits related to sick leave. The Institute records a liability for these benefits that employees have earned but not yet taken. At September 30, 2020 and 2019, accrued compensated absences of $120,408 and $99,230, respectively, are included in the line item “Accrued compensation and benefits” in the balance sheets. Other compensated absences do not accumulate and are treated as current-period costs.

Workers’ Compensation Insurance

The Institute provides workers’ compensation insurance to its employees. Liabilities for the Institute’s retained risk related to such coverage are determined by an actuary and are included in the line item “Accrued compensation and benefits” in the balance sheets. At September 30, 2020 and 2019, liabilities for workers’ compensation were $13,047 and $12,446, respectively.

Revenue Recognition

The Institute's revenue recognition policies are as follows:

- *Investment return* - Investment transactions are recorded on the trade date. Investment income and realized and unrealized gains and losses, net of investment fees, are reported as increases or decreases to the appropriate net asset category.

- *Gifts* - Unconditional contributions, including promises to give, are recorded as revenues in the year received. Noncash gifts are recorded at fair value using quoted market prices, market prices for similar assets, independent appraisals, or as estimated by Institute management. Gift revenue from contributions to be collected in the form of securities or other investments is adjusted at each year end to reflect the year-end value of securities and/or investments to be contributed.

  Conditional contributions, which are characterized by both the presence of one or more donor-imposed barriers to the Institute’s entitlement to promised resources and the donor’s right of return of funds or the right to be released of obligations to transfer assets in the future, are recorded when the Institute overcomes such barriers. Barriers may include performance-related stipulations, limitations on the Institute’s discretion over the use of awarded funds, and/or other stipulations related to the purpose of the contribution. Conditional contributions, undiscounted, totaled $57,326 and $67,394, and advance payments on such contributions totaled $3,274 and $4,250, at September 30, 2020 and 2019, respectively. Substantially all conditional contributions include educational and research donor-imposed purpose or time restrictions. Advance payments are recorded in deferred revenues.

- *Grants and Contracts, Campus* – Revenues from grants and cooperative agreements designated for research generally are accounted for as contributions due to the lack of a commercial objective on the part of the sponsor. Such contributions generally are considered conditional due to the inclusion of barriers requiring adherence to specific costing principles and return-of-funds provisions. Generally, barriers to entitlement are removed, and revenue recognized, as allowable expenditures are incurred under such agreements. Cash and other assets received in excess of such expenditures or otherwise subject to conditions are recorded as deferred revenue. Conditional contributions related to sponsored research, undiscounted, totaled $220,546 and $224,225 at September 30, 2020 and 2019, respectively, and are not recorded in the financial statements. The Institute includes in conditional contributions only the unexpended portions of sponsored awards that the Institute has the right to expend without further action from the sponsor and/or a funding agency. Advance payments related to sponsored research totaled $10,277 and $10,156 at September 30, 2020 and 2019, respectively.

- *Recovery of indirect costs and allowances* – Substantially all Campus United States government grants and contracts provide for the reimbursement of indirect facilities and administrative costs and the recovery of graduate student tuition remission based on rates negotiated with the Office of Naval Research, the Campus’ federal cognizant agency for negotiation and approval of such rates. Such reimbursements generally are recognized as related direct costs are incurred on applicable awards. Recoveries of such facilities and administrative costs were $92,867 and $90,974 for the years ended September 30, 2020 and 2019, respectively.

- *Other* – Rental revenues from leased properties and miscellaneous gains and losses are recognized as earned. See Note L for additional information on leases.

Recognition of revenue from contracts with customers occurs as the Institute satisfies one or more performance obligations, which are promises in a contract to transfer a distinct good or service to a customer. The timing of billings, cash collections, and revenue recognition may result in contract assets and contract liabilities (deferred revenues) in the balance sheets. A description of the Institute's revenues from contracts with customers and contract assets and liabilities follows:

- *Tuition and fees* – All student tuition and fees and undergraduate room and board charges are recorded, net of applicable financial aid, as revenues during the year the related academic or other services are rendered. Such charges totaled $127,918 and $127,613, and financial aid totaled $86,992 and $83,234 for the years ended September 30, 2020 and 2019, respectively.

  Payments received in advance of academic terms are recorded as deferred revenue. Total deferred revenue related to tuition, fees, room, and board was $8,226 and $10,669, and accounts receivable related to tuition, fees, room, and board was $494 and $1,779 at September 30, 2020 and 2019, respectively. Substantially all deferred revenue balances at September 30, 2019 were recognized as revenue during the fiscal year ended September 30, 2020, as performance obligations to provide instruction, room, and board were satisfied.

- *Jet Propulsion Laboratory operations* - The Institute's performance obligations under its cost-reimbursable contract with NASA for JPL (the "JPL Contract") are contained within separately identifiable, individually NASA-approved task orders created under the JPL Contract. The task order is NASA's stipulated method of planning, funding, and monitoring costs under the JPL Contract. The various task orders specify distinct scientific, engineering, and research scopes, from which NASA benefits directly or in combination with other work performed under the JPL Contract.

  The Institute satisfies its performance obligations under the JPL Contract on an over-time basis as it incurs allowable direct costs under authorized funded task orders, and therefore recognizes revenue as such costs are incurred. All goods and services furnished under the JPL Contract, which are measured by allowable costs incurred, immediately accrue to the benefit of NASA. NASA simultaneously receives and consumes the benefits of any services provided, obtains title to any assets purchased, and, by contract, prohibits the Institute from directing any alternative use of assets created under the JPL Contract.

  The Institute has a right to immediate reimbursement from NASA when allowable incurred costs are paid. The Institute collects its reimbursements under the JPL Contract through a letter of credit arrangement. JPL accounts receivable totaled $229,279 and $305,060 at September 30, 2020 and 2019, respectively.

  The Institute records contract assets equal to costs incurred under, but not yet billed to, the JPL Contract. Such costs, which are not billable to NASA until paid, are equal to the total of the unfunded portion of the accumulated postretirement benefit obligation, accrued vacation, and accrued workers' compensation liabilities and are described further in Note E. At September 30, 2020 and 2019, there were no deferred revenue or other contract liability balances related to JPL.

Under the JPL Contract, the Institute also receives an annual negotiated reimbursement in lieu of indirect costs ("lump sum") and an annual fixed performance fee, which totaled $59,034 and $50,888 for the years ended September 30, 2020 and 2019, respectively. These recoveries are recorded on an over-time basis ratably over each fiscal year and are included in the line item "Recovery of indirect costs and allowances" in the statements of activities. The JPL Contract has no material variable consideration and no significant financing component.

The current JPL Contract began October 1, 2018, and has a five-year term. At September 30, 2020, reimbursements of all costs under the contract over the five-year term were subject to an aggregate total of fifteen billion dollars. The Institute may be awarded up to five additional years under the contract based upon annual NASA evaluations of its performance. The first evaluation is complete and JPL earned two option years. NASA has not yet formally extended the contract.

The value of the Institute's future performance obligations under the JPL Contract is subject to change according to NASA's priorities and the results of JPL's scientific and engineering initiatives. Such performance obligations are subject to the availability of future NASA funding and, in certain cases, the future renewal or extension of the JPL Contract. Based upon the JPL Contract's maximum cost limit, the maximum remaining obligation to potentially be authorized under the JPL Contract was $9,562,765 and $12,249,006 at September 30, 2020 and 2019, respectively.

- *Sales and services* - Ancillary inflows from graduate housing, royalties, non-degree-granting educational activities, retail operations, and other agreements with customers are recorded as the Institute satisfies the related performance obligations. Generally, payment is due at the time goods or services are provided. There were no material deferred revenue or accounts receivable balances related to sales and services revenues at September 30, 2020 and 2019.

Campus recorded $47,585 and $29,115 in direct revenues from sponsored research activities accounted for as contracts with customers for the years ended September 30, 2020 and 2019, respectively. Those direct revenues are combined with conditional contribution revenues from either United States government or other Campus grants in the statements of activities. Related recoveries according to applicable indirect cost rates of $11,448 and $8,419 are included in the line item "Recovery of indirect costs and allowances" in the statements of activities for the years ended September 30, 2020 and 2019, respectively. There were no material deferred revenue or accounts receivable balances related to these contracts at September 30, 2020 and 2019.

(Dollars in Thousands)

Expenses

Campus expenses are reported in the statements of activities by natural classification. Institute expenses by functional classification were as follows for the years ended September 30, 2020 and 2019:

September 30, 2020	Campus Program Activities: Instruction and Academic Support	Campus Program Activities: Organized Research	Campus Program Activities: Auxiliary Enterprises	Institutional Support	JPL Operations	Total
Operating expenses:						
Compensation and benefits	$ 208,163	$ 145,358	$ 11,686	$ 66,544	$ 1,267,668	$ 1,699,419
Supplies and services	55,903	48,238	11,178	11,212	349,924	476,455
Subcontracts	2,041	39,634	-	-	984,341	1,026,016
Depreciation and amortization	27,637	37,671	8,449	3,579	-	77,336
Utilities	6,258	8,785	613	1,034	13,213	29,903
Interest	12,098	13,710	5,043	821	-	31,672
Total functional expenses	$ 312,100	$ 293,396	$ 36,969	$ 83,190	$ 2,615,146	$ 3,340,801
Non-operating expenses:						
Interest				$ 25,301		$ 25,301
Net periodic benefit costs				593	$ (9,148)	(8,555)

September 30, 2019	Campus Program Activities: Instruction and Academic Support	Campus Program Activities: Organized Research	Campus Program Activities: Auxiliary Enterprises	Institutional Support	JPL Operations	Total
Operating expenses:						
Compensation and benefits	$ 197,812	$ 133,570	$ 12,036	$ 59,654	$ 1,191,476	$ 1,594,548
Supplies and services	60,315	43,790	13,514	22,164	389,356	529,139
Subcontracts	1,686	26,666	-	-	1,089,198	1,117,550
Depreciation and amortization	28,992	33,465	8,014	3,646	-	74,117
Utilities	6,383	7,877	563	957	11,990	27,770
Interest	11,283	12,615	5,025	705	-	29,628
Total functional expenses	$ 306,471	$ 257,983	$ 39,152	$ 87,126	$ 2,682,020	$ 3,372,752
Non-operating expenses:						
Interest				$ 13,037		$ 13,037
Net periodic benefit costs				(172)	$ (9,271)	(9,443)

Institutional Support expenses include certain costs related to the administration of the Institute's contract with NASA for the operation of JPL. NASA reimbursed Caltech $28,034 and $19,888 for the years ended September 30, 2020 and 2019, respectively, related to such costs. These amounts represent the annual negotiated reimbursement in lieu of indirect costs ("lump sum") as described in the NASA Contract.

Auxiliary Enterprises expenses include the costs associated with revenue-generating supporting services, including undergraduate room and board, graduate and faculty housing, retail stores, and dining facilities.

Facilities operation and maintenance costs incurred centrally are allocated back to the functional expense classifications as follows: Depreciation related to buildings and improvements and other central facilities' operating costs are allocated based on square footage occupancy of Institute facilities, equipment depreciation is allocated based on average equipment purchases attributed to each classification, and interest expense on external debt, net of amounts capitalized, is allocated to categories that benefit from the proceeds of such debt based on occupancy.

Operating and Non-operating Activities

The statements of activities report the changes in net assets from the Institute's operating and non-operating activities. Operating activities exclude investment return in excess/deficit of endowment spending; endowment spending available but not distributed to operations; revenues and releases from restrictions related to gifts for construction, endowments, and annuity and trust agreements; changes in postemployment benefit obligations that are not otherwise recognized in operating expenses and related reimbursements; changes in fair value of interest rate swaps; interest expense related to any bonds issued for which the proceeds have not yet been used for capital projects, for refunding of other bonds, and for operating purposes; net gains or losses on nonrecurring transactions; actuarial adjustments related to annuity and trust agreements; gains and losses on retirement of indebtedness; and donor redesignations and other reclassifications of net assets.

Tax Status

Except as noted below, the Institute is generally exempt from federal taxes on income related to its charitable purpose under the provisions of IRC Section 501(c)(3) and from California and other state income taxes under corresponding state laws. The Institute is subject to both federal and state income taxes on income from certain activities not substantially related to its exempt purpose. At September 30, 2020 and 2019, the Institute maintained a full valuation allowance on its deferred tax assets. The valuation allowance reduced net deferred tax assets, which are primarily due to tax losses from certain investment activities, to a value of $0. Based on its analysis of the uncertainties surrounding both the timing and amounts of potential future net taxable income, the Institute has assumed that it is more likely than not that the Institute will not realize the deferred tax assets. The Institute has not provided for any uncertain tax positions at September 30, 2020 and 2019.

The Federal Tax Cuts and Jobs Act ("TCJA") of 2017 includes several provisions that impact the Institute, including an excise tax on net investment income and revised methods for calculating unrelated business income. Based on its understanding of the TCJA and available guidance, the Institute had no material deferred tax liabilities or income taxes payable at September 30, 2020 and 2019.

(Dollars in Thousands)

Related Party Transactions
Members of the Institute's Board of Trustees and senior management may, from time to time, be associated, either directly or indirectly, with entities doing business with the Institute. These transactions are conducted in the normal course of business and in accordance with the Institute's policies and procedures governing potential conflicts of interest.

Accounting Pronouncements Adopted
During the year ended September 30, 2020, the Institute adopted Accounting Standards Update ("ASU") 2016-15, *Classification of Certain Cash Receipts and Cash Payments*, and ASU 2016-18, *Restricted Cash: a Consensus of the FASB Emerging Issues Task Force*. The adoption of these ASU's had no material changes to the presentation of the Institute's financial statements.

Effective at the beginning of the fiscal year ended September 30, 2020, the Institute also adopted ASU 2017-07, *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost*. ASU 2017-07 resulted in the bifurcation of net periodic cost related to postretirement benefits into service costs, which is reported within operations, and other components, which must be reported outside of operations. The adoption of ASU 2017-07 had no effect on changes in the Institute's net assets.

The Institute implemented ASU 2017-07 on the required retrospective basis. The impact of the adoption of ASU 2017-07 on changes in the net asset classification "Net assets without donor restrictions" in the financial statements for the year ended September 30, 2019 is as follows:

	Originally Reported	ASU 2017-07 Adjustments	Other Reporting Reclassifications	As Reported
Operating revenues:				
Jet Propulsion Laboratory operations	$ 2,744,953	$ -	$ (62,933)	$ 2,682,020
Total operating revenues and other support	3,412,335	-	(62,933)	3,349,402
Operating expenses:				
Compensation and benefits	402,900	172	-	403,072
Jet Propulsion Laboratory operations	2,744,953	9,271	(72,204)	2,682,020
Total operating expenses	3,435,513	9,443	(72,204)	3,372,752
Results of operations	(23,178)	(9,443)	9,271	(23,350)
Non-operating changes:				
Changes in benefit obligations and related recoveries, net	(23,016)	9,443	(9,271)	(22,844)
Total non-operating activities	(73,209)	9,443	(9,271)	(73,037)

In connection with the implementation of ASU 2017-07, the Institute reclassified the presentation of certain JPL-related postretirement benefit costs and related recoveries in the Statement of Activities for the year ended September 30, 2019 in order to enhance the usefulness and comparability of the financial statements. The Institute reclassified the presentation of non-periodic changes in benefit obligations related to JPL from the expense line item "Jet Propulsion Laboratory operations" to the non-operating line item "Changes in benefit obligations and related recoveries, net." The Institute also reclassified both recoveries related to those non-periodic changes in benefit obligations and those recoveries related to net periodic benefit costs other than service costs from the revenue line item "Jet Propulsion Laboratory operations" to the non-operating line item "Changes in benefit obligations and related recoveries, net," as any such costs related to JPL are recoverable from NASA. Further information regarding the components of non-operating changes in benefit obligations are disclosed in Note I to these financial statements.

In accordance with a practical expedient offered by ASU 2017-07, the Institute used components of net periodic benefit cost and other changes in benefit obligations originally disclosed in the September 30, 2019 financial statements to prepare the retrospective disclosures of prior-year information in these financial statements.

New Accounting Pronouncements
In February 2016, FASB issued ASU 2016-02 regarding accounting for leases. ASU 2016-02 requires recognition of rights and obligations arising from lease contracts as assets and liabilities on the balance sheets. ASU 2016-02 is effective for the Institute's fiscal year ending September 30, 2021. The Institute does not expect the adoption of this standard to result in material changes to its financial statements or disclosures.

In August 2018, FASB issued ASU 2018-13 regarding certain changes to the disclosure requirements for fair value measurements. ASU 2018-13 is effective for the Institute's fiscal year ending September 30, 2021. The Institute is evaluating the impact this standard may have on its financial statements and disclosures.

Other Reporting Matters
In March 2020, the World Health Organization declared a pandemic, the United States declared a national emergency, and both the State of California and the County of Los Angeles ordered significant restrictions on businesses and the public in response to the emergence of a novel coronavirus (COVID-19). As a result, the Institute suspended many Campus and JPL activities and instituted remote instruction and work arrangements for a significant portion of its students, faculty, and staff. The Institute continues to focus its pandemic response, planning, and decision-making processes on the Institute's top priorities of health and safety, continuity of research and instruction, and faculty and student recruitment and retention. Pandemic-related facilities closures and remote work and instruction have caused reductions in auxiliary revenues, and increased health and safety measures have increased certain expenses. In response, the Institute has reduced the size of its workforce, restricted hiring of new positions, and restricted faculty and staff travel. The full extent of the impact of COVID-19 on the Institute's finances is uncertain and will depend on the duration and depth of the pandemic and therefore cannot be determined at this time.

C. Contributions Receivable, net

Contributions receivable consists of unconditional promises to give to the Institute in the future. Individual contributions receivable are initially recorded at fair value, including discounts to present values of the future cash flows at appropriate credit risk-adjusted rates, and are classified in Level 3 of the valuation hierarchy described in Note K. Discount rates on outstanding contributions receivable at September 30, 2020 and 2019 range from 0.74% to 3.53%.

(Dollars in Thousands)

Collections of contributions receivable were expected as follows at September 30, 2020 and 2019:

	2020	2019
Within one year	$ 43,514	$ 37,013
Between one year and five years	102,300	98,258
More than five years	22,100	20,213
Gross contributions receivable	167,914	155,484
Less:		
Unamortized discounts	8,215	7,028
Allowance for uncollectible contributions	241	142
Net contributions receivable	$ 159,458	$ 148,314

Net contributions receivable carried the following donor-imposed restrictions at September 30, 2020 and 2019:

	2020	2019
Endowment	$ 61,170	$ 73,403
Building and building improvements	14,055	-
Other purpose and/or time restrictions	84,233	74,911
Net contributions receivable	$ 159,458	$ 148,314

At September 30, 2020 and 2019, net promises totaling $84,949 and $106,029, respectively, were due from Institute trustees, their estates, and charitable entities founded by Institute trustees.

(Dollars in Thousands)

D. Investments

Investments consisted of the following at September 30, 2020 and 2019:

	2020	2019
Short-term investments	$ 295,037	$ 348,320
Fixed-income securities	162,102	119,746
Equity securities	1,631,221	1,216,463
Alternative investments:		
Alternative securities	912,146	827,156
Private equity	623,861	528,937
Real assets	346,804	379,139
Derivatives, net	450	6,741
Total investments	$ 3,971,621	$ 3,426,502

The Institute engages a number of outside investment managers to manage portions of its investment portfolios, which include an investment pool and other separately managed portfolios.

Below is a description of the holdings included within each investment classification:

- *Short-term investments* consist primarily of cash equivalents invested in prime, U.S. government, and government agency money-market funds.

- *Fixed-income securities* consist primarily of debt instruments issued by corporate or sovereign entities in both U.S. and foreign markets and investments in funds that hold such instruments.

- *Equity securities* consist primarily of investments in publicly traded corporate equities in globally diversified public markets, including domestic markets, developed international markets, emerging markets, and investments in funds that hold such investments. Investment managers invest according to each manager's particular investment strategy.

- *Alternative securities* consist primarily of investments other than private equity funds and real assets funds in which redemption options and/or distributions are determined by the respective investment managers. Alternative securities managers pursue returns through a variety of strategies, such as high yield and distressed credit, long/short equity, event-driven, and relative value. Managers invest and trade in various securities and financial instruments, including publicly traded and privately issued common and preferred shares of domestic and foreign companies, corporate debt, bonds, swaps, options, futures contracts and commodities.

(Dollars in Thousands)

- *Private equity* consists primarily of investments in limited partnership interests that invest primarily in the securities of privately held companies. Investment managers utilize leveraged buyout and venture capital strategies in a wide variety of industries and company sizes. Distributions from these investments are made either in-kind as distributions of publicly tradeable equity securities after initial public offerings, or in cash after liquidation of the underlying securities by the investment managers.

- *Real assets* consist primarily of investments in limited partnerships that invest in foreign and/or domestic real estate and/or energy sectors and/or domestic timber industries. Real estate consists primarily of illiquid investments in residential and commercial real estate assets, projects or land, and notes receivable secured by real estate. Such holdings are either held directly or in partnership funds. Energy holdings consist primarily of illiquid investments in oil and gas exploration and production or materials mining businesses, as well as related oil and gas services businesses, held in limited partnerships. Timber holdings consist primarily of illiquid investments in timber land and harvesting businesses held in limited partnerships.

- *Derivatives, net* consist of options and futures in which the Institute directly transacts to manage equity and foreign exchange risks of certain investments.

Investments were held as follows at September 30, 2020 and 2019:

	2020	2019
Investment pool	$ 3,062,568	$ 2,970,917
Separately invested endowments	45,681	30,610
Trusts, annuities, and other	863,372	424,975
Total investments	$ 3,971,621	$ 3,426,502

At September 30, 2020 and 2019, endowment investments were $3,085,500 and $2,987,001, respectively. At September 30, 2020 and 2019, other investments included $16,544 and $7,620, respectively, held in separately invested accounts as required by donors and/or sponsors.

Investment return, which consists of interest and dividend income and net realized and unrealized gains and losses, net of fees, was $215,252 and $157,525 for the years ended September 30, 2020 and 2019, respectively.

E. Deferred United States Government Billings

The Institute's contract with NASA provides for the reimbursement of certain employee benefit costs incurred but not yet billed to the JPL contract. Therefore, the Institute has recorded deferred United States government billings related to the unfunded postretirement benefit obligation, accrued vacation, and workers' compensation liabilities attributable to JPL, as the Institute is able to recover these amounts through future charges to JPL contracts. Although these deferred billing amounts may not be currently funded, and therefore may need to be funded as part of future NASA budgets, the Institute has the contractual right to require that such funding be made available at the time these employee benefit liabilities become payable by the Institute.

(Dollars in Thousands)

Deferred United States government billings related to deferred reimbursements of the following liabilities at September 30, 2020 and 2019:

	2020	2019
Unfunded postretirement benefit obligation	$ 291,982	$ 277,522
Accrued vacation	99,006	81,322
Accrued worker's compensation expense	4,142	3,924
Total deferred United States government billings	$ 395,130	$ 362,768

F. Property, Plant, and Equipment, net

Property, plant, and equipment consisted of the following at September 30, 2020 and 2019:

	2020	2019
Land and land improvements	$ 83,950	$ 73,256
Buildings and building improvements	1,294,631	1,271,906
Equipment	650,183	600,825
Construction in progress	278,969	193,459
Less: accumulated depreciation	(1,139,457)	(1,068,679)
Total property, plant, and equipment, net	$ 1,168,276	$ 1,070,767

Depreciation expense for the years ended September 30, 2020 and 2019 was $75,947 and $72,805, respectively.

(Dollars in Thousands)

G. Bonds and Notes Payable

Bonds and notes payable are uncollateralized, general obligations of the Institute and consisted of the following at September 30, 2020 and 2019:

		Maturity	Interest rate 2020 / 2019	Outstanding 2020	Outstanding 2019
Bonds payable:					
Taxable bonds (interest rates listed at coupon):					
Series 2019		2119	3.65%	$ 500,000	$ -
Series 2016		2116	4.28%	150,000	150,000
Series 2015		2045	4.32%	400,000	400,000
Series 2011		2111	4.70%	350,000	350,000
California Educational Facilities Authority (CEFA) tax-exempt revenue bonds, with variable rates (prior to being synthetically fixed through swap agreements, where applicable):					
2006 Series A		2036	0.11% / 1.33%	82,500	82,500
2006 Series B		2036	0.12% / 1.34%	82,500	82,500
Series 1994		2024	0.12% / 1.34%	30,000	30,000
Total bonds payable, gross				1,595,000	1,095,000
Unamortized original issue premiums/discounts and issuance costs, net				(15,948)	(10,551)
Total bonds payable, net				1,579,052	1,084,449
Notes payable:	**Maximum**				
Variable rate facilities:					
General working capital and capital projects:					
JPMorgan Chase revolving bank credit facility	$ 100,000	2022	0.53% / 2.17%	14,000	20,000
U.S. Bank revolving bank credit facility	100,000	2023	0.64% / 2.56%	25,000	25,800
U.S. Bank revolving bank credit facility	50,000	None	0.54% / -	50,000	-
JPMorgan Chase revolving bank credit facility	50,000	2021	-	-	-
City National Bank revolving bank credit facility	50,000	2021	-	-	-
Wells Fargo revolving bank credit facility	50,000	2020	- / 2.37%	-	45,843
Bank of New York Mellon money market loan program	50,000	2020	-	-	-
Supplemental liquidity for variable rate debt:					
Northern Trust revolving bank credit facility	50,000	2022	-	-	-
Northern Trust revolving bank credit facility	50,000	2020	-	-	-
TD Bank revolving bank credit facility	50,000	2022	-	-	-
Total notes payable				89,000	91,643
Total bonds and notes payable, net				$ 1,668,052	$ 1,176,092

(Dollars in Thousands)

As of September 30, 2020, the Institute had eight unsecured revolving lines of credit available (collectively, the "Lines of Credit"). Maturity dates for individual advances made under the Lines of Credit are determined at the time advances are made. At September 30, 2020 and 2019, the Institute had internally-mandated aggregate borrowing limits for the Lines of Credit as follows: $100,000 for borrowings to finance working capital, $100,000 for borrowings to finance acquisitions of real estate and temporary funding for capital projects, and $200,000 for borrowings to preserve liquidity.

The $50,000 line of credit from U.S. Bank is uncommitted.

The Wells Fargo revolving line of credit with a permitted maximum draw of $50,000 expired on June 30, 2020. In addition, the $50,000 Bank of New York Mellon unsecured revolving money market loan program was terminated on April 15, 2020.

During the year ended September 30, 2020, the Institute established two new revolving bank credit facilities: One with JPMorgan Chase, with a permitted maximum draw of $50,000 and another with City National Bank, with a permitted maximum draw of $50,000. Both facilities mature in 2021.

Subsequent to September 30, 2020, the Institute extended its $50,000 revolving line of credit with Northern Trust originally maturing in 2020 to mature in 2021 and extended its $50,000 revolving line of credit with Northern Trust originally maturing in 2022 to mature in 2023.

The Institute is required to comply with financial covenants in certain line of credit agreements, including maintaining minimum ratios of unrestricted cash and investments to total adjusted debt outstanding. As of September 30, 2020, the Institute was in compliance with all of its required financial covenants.

Under certain circumstances, the CEFA Series 1994, 2006 Series A, and 2006 Series B variable rate revenue bonds, which have contractual maturities commencing in 2024, could fail to be remarketed, requiring the Institute to repurchase the outstanding bonds totaling approximately $195,000. Therefore, those bonds have been classified as repayable in the year ending September 30, 2020 in the following table.

Future principal repayments on bonds and notes payable were as follows at September 30, 2020:

Year Ending September 30	Amount
2021	$ 284,000
2022	-
2023	-
2024	-
2025	-
Thereafter	1,400,000
Total	$ 1,684,000

(Dollars in Thousands)

The Institute uses an interest rate swap to manage the interest rate exposure of the 2006 Series A and B variable rate revenue bonds. Under the terms of the agreement, which expires October 1, 2036, the Institute pays the counterparty a fixed interest rate of 3.549% and receives a variable rate, equal to 67% of one-month LIBOR (resulting in a rate of approximately 0.10% at September 30, 2020), on a $165,000 underlying notional principal amount.

The interest rate swap is recorded at fair value, which is the estimated amount that the Institute would receive or pay to terminate the agreement, taking into account current interest rates. The fair value of the swap was a liability of $76,091 and $62,530 at September 30, 2020 and 2019, respectively, and is included in the line item "Accounts payable and accrued expenses" in the balance sheets. Costs of regular settlements with the counterparty of $4,787 and $3,202 during the years ended September 30, 2020 and 2019, respectively, are included in the expense line item "Interest" in the statements of activities. Changes in the swap's fair value during the years ended September 30, 2020 and 2019 resulted in unrealized losses of $13,561 and $27,545, respectively, which are included in non-operating changes in net assets in the statements of activities.

H. Net Assets

Net Assets with Donor Restrictions

The Institute's net assets with donor restrictions were held as follows at September 30, 2020 and 2019:

	2020	2019
Time or purpose:		
Endowment	$ 674,849	$ 637,888
Contributions receivable	98,288	74,910
Education and research funds	156,080	134,121
Life income and annuity funds	30,366	29,537
Total net assets with time or purpose restrictions	$ 959,583	$ 876,456
Perpetual:		
Endowment	$ 1,763,554	$ 1,693,783
Contributions receivable	61,170	73,404
Life income and annuity funds	43,234	45,221
Student loan funds	19,340	19,028
Total net assets with perpetual restrictions	$ 1,887,298	$ 1,831,436
Total net assets with donor restrictions	$ 2,846,881	$ 2,707,892

Endowment Net Assets (including Funds Functioning as Endowment)

Endowment net assets constitute the largest component of the Institute's net assets and are comprised of more than 1,000 donor-restricted and board-designated funds held primarily for long-term investment that supports educational, research, and general operating activities of the Institute. All endowment assets are held in a consolidated investment pool unless special considerations or donor stipulations require that they be invested separately. Gift annuities, beneficial interests, contributions receivable, and unexpended endowment distributions are not considered endowment net assets.

Pursuant to its interpretation of the Uniform Prudent Management of Institutional Funds Act ("UPMIFA") as enacted in California, the Institute classifies the following as net assets with donor restrictions that are perpetual in nature: the original value of initial gifts to permanent endowments, the original value of subsequent gifts to permanent endowments, and the value of accumulations to permanent endowments made in accordance with the applicable donor gift instrument at the time the accumulation is added to the fund. The remaining portions of donor-restricted endowment funds for which the remaining donor restrictions are not perpetual in nature, and which consist primarily of accumulated investment return, are considered donor-restricted as to purpose until those amounts are appropriated for expenditure by the Institute in a manner consistent with the standard of prudence prescribed by UPMIFA and by Institute policies, and are expended accordingly.

The Institute's endowment (including funds functioning as endowment) spending policy includes a Board of Trustees-approved endowment spending formula that takes into consideration the prior year's allowed formulaic spending, inflation factors, and endowment growth. In accordance with UPMIFA, the policy also includes the following factors for consideration by the Board of Trustees when determining the annual amount to be made available for distribution to the operating budget each year:

- The purposes of donor-restricted endowment funds
- The duration and preservation of such funds
- General economic conditions
- Possible effects of inflation and deflation
- The expected total return from investment income and the appreciation of investments
- Other resources of the Institute
- The investment policies of the Institute

Any excess of endowment spending over current-year investment income and gains/(losses) is funded by prior years' accumulated investment return. The Institute appropriates endowment funds for expenditures based on authorized spending rates and, if applicable, the incurrence of specific expenditures in accordance with donor-imposed purpose restrictions.

The Institute invests endowment assets targeted to earn an average annual total return that exceeds inflation by at least the amount required to support the endowment spending. Total return includes both capital appreciation/depreciation (realized and unrealized gains/losses) and investment income (including interest, dividends, and royalties). The Institute targets a diversified asset allocation, including, but not limited to, investments in public markets, private equity, real assets, and alternative investments, within risk constraints deemed to be prudent.

The portion of endowment available for spending that is transferred to operating accounts each year is shown as "Endowment spending, distributed" in the statements of activities. Any endowment spending available for expenditure but not distributed remains invested in the Institute's endowment and is included in non-operating changes to net assets in the statements of activities.

(Dollars in Thousands)

Endowment net assets consisted of the following at September 30, 2020 and 2019:

September 30, 2020	**Without Donor Restrictions**	**With Donor Restrictions**	**Total**
Donor-restricted endowment funds	$ -	$ 2,435,809	$ 2,435,809
Board-designated endowment funds	662,188	2,594	664,782
Total endowment net assets	$ 662,188	$ 2,438,403	$ 3,100,591
September 30, 2019			
Donor-restricted endowment funds	$ -	$ 2,329,077	$ 2,329,077
Board-designated endowment funds	654,989	2,594	657,583
Total endowment net assets	$ 654,989	$ 2,331,671	$ 2,986,660

Changes in endowment net assets for the years ended September 30, 2020 and 2019 were as follows:

	Without Donor Restrictions	**With Donor Restrictions**	**Total**
October 1, 2018	$ 678,678	$ 2,227,520	$ 2,906,198
Investment return, net	15,955	133,403	149,358
Contributions and pledge payments	-	93,949	93,949
Additions to board-designated endowments	35,347	-	35,347
Available for expenditure	(37,003)	(123,164)	(160,167)
Redesignations, reclassifications, and other	(37,988)	(37)	(38,025)
September 30, 2019	$ 654,989	$ 2,331,671	$ 2,986,660
Investment return, net	46,581	166,941	213,522
Contributions and pledge payments	-	66,725	66,725
Additions to board-designated endowments	10,387	-	10,387
Available for expenditure	(36,532)	(133,132)	(169,664)
Redesignations, reclassifications, and other	(13,237)	6,198	(7,039)
September 30, 2020	$ 662,188	$ 2,438,403	$ 3,100,591

The line item “Redesignations, reclassifications, and other” in the table above includes the effects of changes in donor-imposed restrictions or Institute designations and certain endowment management costs.

(Dollars in Thousands)

Under Accounting Standards Codification 958, for accounting purposes the Institute must maintain the historical values of underwater donor-restricted endowment funds as net assets subject to donor restrictions that are perpetual in nature. Deficiencies in fair value of such funds relative to their historical values reduce the portion of net assets with donor restrictions that is subject to time and/or purpose restrictions, and diminish with fair value appreciation. The aggregate deficiencies in fair value relative to historical cost for underwater endowments at September 30, 2020 and 2019 were as follows:

	2020	2019
Aggregate historical value	$ 226,303	$ 249,575
Aggregate fair value	213,840	234,883
Aggregate deficiency	$ (12,463)	$ (14,692)

The Institute's endowment spending policy and applicable laws permit the appropriation of endowment spending from underwater funds unless prohibited by donor-imposed restrictions. During the years ended September 30, 2020 and 2019, the Institute appropriated spending of $12,052 and $12,291, respectively, from certain underwater funds in accordance with the policy, so as not to suspend certain Institute programs. The policy requires the Institute's management to monitor and approve spending from underwater funds annually on a fund-by-fund basis and to report annually to the Board of Trustees regarding underwater funds.

I. Postretirement and Postemployment Benefits

Postretirement Health and Life Insurance

The Institute provides postretirement health and life insurance benefit plans to eligible retirees and their dependents. The Institute's obligation related to these benefits is actuarially determined based on a September 30 measurement date. The Institute also provides defined contribution retirement plans, which are described at the end of this note.

(Dollars in Thousands)

Components of the funded status of postretirement benefits reported in the Institute's balance sheets and changes therein were as follows for the years ended September 30, 2020 and 2019. Additional detail regarding the JPL and Campus-related portions of the funded status of postretirement benefits is provided at the end of this note.

	2020	2019
Change in the accumulated postretirement benefit obligation:		
Benefit obligation at beginning of year	$ 545,658	$ 455,830
Service cost	16,285	12,625
Interest cost	17,795	19,627
Benefits paid	(14,142)	(14,258)
Actuarial loss	51,496	71,834
Benefit obligation at end of year	617,092	545,658
Changes in plan assets:		
Fair value of plan assets at beginning of year	123,759	98,298
Return on plan assets	16,961	5,684
Employer contributions	35,498	34,035
Benefits paid	(14,142)	(14,258)
Fair value of plan assets at end of year	162,076	123,759
Funded status	$ (455,016)	$ (421,899)

Benefits for campus retirees and their dependents are funded on a pay-as-you-go basis. Benefits for JPL retirees and their dependents are funded by NASA according to an accrual accounting approach based on the Federal Acquisition Regulation. JPL-related contributions in excess of benefits paid are held in a trust for the benefit of JPL retirees and are invested according to the related plan's investment policies. At September 30, 2020 and 2019, trust investments consisted of short-term investments and non-publicly traded collective trust funds and mutual funds. Short-term investments are classified in level 1 of the valuation hierarchy described in Note K, and the collective trust funds and mutual funds, which have readily determinable fair values, are classified within level 2 of that hierarchy.

Trust investments were held as follows at September 30, 2020 and 2019:

	2020	2019
Short-term investments	$ 2,138	$ 271
Collective trust funds	47,840	36,693
Mutual funds	112,098	86,795
Total investments	$ 162,076	$ 123,759

(Dollars in Thousands)

Net periodic postretirement benefit cost ("NPBC"), or the amount recorded as expense related to postretirement health and life insurance benefits attributable a particular year, was as follows for the years ended September 30, 2020 and 2019:

	2020	2019
Components of net periodic postretirement benefit cost:		
Service cost	$ 16,285	$ 12,625
Other components:		
Interest cost	17,795	19,627
Expected return on plan assets	(7,650)	(5,897)
Amortization of prior year service credit	(26,305)	(26,305)
Amortization of loss	7,605	3,132
Total other components	(8,555)	(9,443)
Net periodic benefit cost	$ 7,730	$ 3,182

The statements of activities include both the components of NPBC and the effects of changes in funded status that are not otherwise recognized in NPBC. For the years ended September 30, 2020 and 2019, service costs related to Campus totaling $4,441 and $3,562, respectively, are included in the financial statement line item "Compensation and benefits," and service costs related to JPL totaling $11,844 and $9,063, respectively, are included in the financial statement line item "Jet Propulsion Laboratory operations."

For the years ending September 30, 2020 and 2019, the following are included in the non-operating statement of activities line item "Changes in benefit obligations and related recoveries, net":

	2020	2019
Other components of NPBC, Campus	$ (593)	$ 172
Other components of NPBC, JPL	9,148	9,271
Non-periodic changes in obligation, Campus	(17,228)	(23,016)
Non-periodic changes in obligation, JPL	(43,657)	(72,204)
JPL Contract recoveries	34,509	62,933
Changes in benefit obligation and other recoveries, net	$ (17,821)	$ (22,844)

Non-periodic changes in the benefit obligation for both Campus and JPL represent changes in the benefit obligation not otherwise recognized in NPBC. JPL contract revenue equal to the sum of JPL's other components of NPBC and non-periodic changes in the benefit obligation related to JPL is included as an offsetting recovery, as any costs associated with JPL are contractually recoverable from NASA.

(Dollars in Thousands)

At September 30, 2020 and 2019, the differences recognized in net assets without donor restrictions between cumulative net periodic postretirement benefit cost, less cumulative contributions, and funded status were as follows:

	2020	2019
Prior service credit	$ (18,876)	$ (25,253)
Net loss	50,591	39,740
Cumulative amounts recognized in net assets without donor restrictions	$ 31,715	$ 14,487

Any actuarial deferrals resulting from changes in the accumulated postretirement benefit obligation are amortized over the average future working lifetime of Institute employees. An estimated prior service credit of $26,305 and estimated actuarial loss of $9,247 will be amortized into net periodic benefit cost during the year ending September 30, 2021.

The following weighted-average assumptions were used to determine the Institute's net periodic benefit cost under the plans for the years ended September 30, 2020 and 2019:

	2020	2019
Discount rate	3.30%	4.40%
Discount rate for service cost	3.40%	4.40%
Expected return on plan assets	5.75%	5.50%
Health care cost trend rate	7.00%	7.25%

To develop the expected long-term rates of return on assets noted above, the Institute considers the historical returns and future expectations for each asset class, as well as the asset allocation of the retirement plan's investment portfolio. Estimated future returns are based on expected returns for various asset categories. The evaluation of the historical and future returns resulted in the selection of 5.75% and 5.50%, respectively, for the years ended September 30, 2020 and 2019.

The following weighted-average assumptions were used to determine the Institute's obligation under the plans at September 30, 2020 and 2019:

	2020	2019
Discount rate	3.00%	3.30%
Discount rate for service cost	3.30%	3.40%
Health care cost trend rate	6.75%	7.00%

(Dollars in Thousands)

The Institute's postretirement medical benefit plans provide a substantial portion of the Institute's retirees and their eligible dependents annual awards of defined-dollar credits that are available to be used by retirees for medical premiums and other eligible medical expenses. The defined dollar credits may be changed in future years at the Institute's discretion. Certain grandfathered retirees and eligible dependents remain eligible for future medical benefits at no cost through an Institute-sponsored plan. The cost of these benefits is expected to increase in the future based on health care cost trend rates. The assumed health care cost trend rate is a 7.00% increase in 2020, after which annual rates of increase are assumed to decrease approximately 0.25% per year until 2030, after which healthcare cost is assumed to increase 4.25% annually in all future years. The effects of changes in these rates are not expected to be material to the benefit obligation or to related amounts recoverable from NASA.

At September 30, 2020, the estimated future benefit payments are as follows:

Year Ending September 30	Campus	JPL	Total
2021	$ 4,773	$ 13,737	$ 18,510
2022	5,036	14,172	19,208
2023	5,299	14,658	19,957
2024	5,589	15,170	20,759
2025	5,916	15,725	21,641
2026-2030	34,164	87,714	121,878

Additional detail regarding the JPL and Campus-related portions of the funded status of postretirement benefits and changes therein for the years ended September 30, 2020 and 2019 is as follows:

	Campus	JPL	Total
September 30, 2020			
Benefit obligation at end of year	$ 163,034	$ 454,058	$ 617,092
Fair value of plan assets at end of year	-	162,076	162,076
Funded status	$ (163,034)	$ (291,982)	$ (455,016)
September 30, 2019			
Benefit obligation at end of year	$ 144,377	$ 401,281	$ 545,658
Fair value of plan assets at end of year	-	123,759	123,759
Funded status	$ (144,377)	$ (277,522)	$ (421,899)

Defined Contribution Program

The Institute provides a defined contribution retirement program for eligible academic and administrative employees. Contributions to Internal Revenue Code "IRC" Section 403(b) defined contribution plans for the years ended September 30, 2020 and 2019 were $29,220 and $27,410, respectively, for the Campus and $100,104 and $95,709, respectively, for JPL. The Institute has no assets or liabilities related to these plans.

(Dollars in Thousands)

At September 30, 2020 and 2019, the balance sheet line item "Prepaid expenses and other assets" included $115,459 and $104,003, respectively, in assets held pursuant to IRC section 457 defined contribution retirement plans. These assets are invested with external investment managers and are stated at fair value as further described in Note K. The Institute's liabilities related to these funds were $114,775 and $103,432 at September 30, 2020 and 2019, respectively, and are included in the line item "Accrued compensation and benefits" in the balance sheets.

J. Liquidity and Funds Available for General Expenditure

The Institute manages its financial assets and liquidity resources in order to provide cash for payment of general expenditures, such as operating expenses, construction costs, and principal payments on debt. Financial assets classified below as available for general expenditure within one year, computed in accordance with Accounting Standards Codification 958, are those that are considered both convertible to cash and free of donor-imposed and/or contractual restrictions that would limit or prevent the use of such cash to fund general expenditures.

At September 30, 2020 and 2019, the Institute's financial assets and liquidity resources available for general expenditure within one year were as follows:

	2020	2019
Financial assets available within one year:		
Cash and cash equivalents	$ 46,908	$ 6,510
Accounts and notes receivable, net	290,556	368,827
Expected pledge payments available for operations	23,687	19,962
Other investments	619,160	239,234
Investments and gains subject to subsequent year's endowment spending	167,556	161,455
Total	1,147,867	795,988
Liquidity resources:		
Committed lines of credit	$ 450,000	$ 400,000
Less: current borrowings under lines of credit	(89,000)	(91,643)
Total	361,000	308,357
Total financial assets and liquidity resources available within one year	$ 1,508,867	$ 1,104,345

As detailed in Note G, the Institute maintains certain internally imposed limits on the use of its lines of credit for operating, liquidity, and construction purposes. Those limits may be changed with the concurrence of the Institute's Board of Trustees and therefore, such internally imposed limits have been omitted from the Institute's determination of available liquidity resources.

Under the Institute's cash management policies, cash received from endowment spending related to either funds functioning as endowment or donor-restricted endowments is available for appropriate general expenditure. Endowment spending distributed from donor-restricted endowments is reflected in the Institute's records as net assets with donor restrictions until the expenditures actually are incurred; such expenditures are funded by available financial assets and/or liquidity resources at the time they are paid.

Although the Institute does not normally intend to use endowment resources in excess of amounts appropriated annually according to its endowment spending policy, at September 30, 2020 and 2019, the Institute had $662,188 and $654,989, respectively, in funds functioning as endowment and included in net assets without donor restrictions that were available for general expenditure, subject to the concurrence of the Board of Trustees. Various redemption restrictions on underlying endowment investments could reduce the amount of cash immediately available from a redemption of a significant amount of funds functioning as endowment.

As noted in Note L, the Institute was committed to fund certain construction and services contracts from available financial assets and liquidity resources in the amount of $111,483 at September 30, 2020.

K. Fair Value

Fair value under GAAP is defined as the price that the Institute would receive upon selling an asset or would pay to settle a liability in an orderly transaction between market participants. The Institute evaluates the fair value of financial instruments using an established hierarchy that ranks the inputs to valuation techniques used to measure fair value. Inputs refer broadly to the assumptions that market participants would use in such fair value determinations, including assumptions regarding various risks. A financial instrument's level within the fair value hierarchy is based on the least-transparent level of any input that is significant to the fair value measurement. The classification of financial instruments within the hierarchy is based upon the transparency of the inputs to valuation techniques used to measure fair value and does not necessarily correspond to the Institute's perceived risk of those instruments. The three levels of the fair value hierarchy are described below.

Level 1 fair value measurements are based upon unadjusted quoted prices for identical assets or liabilities in active, accessible markets. Market price data is generally obtained from exchange dealer markets.

Level 2 fair value measurements are generally based on quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant assumptions are observable in the market or can be corroborated by observable market data for substantially the full term of the instruments. Inputs to Level 2 measurements include, but are not limited to, interest rates, credit risk adjustments, and prices for similar instruments, and are obtained from various sources, including market participants, dealers, and brokers.

Level 3 fair value measurements are those that use significant inputs that are unobservable. Assets and liabilities included in Level 3 primarily consist of investments in real assets that are valued by investment managers or the Institute using industry-standard methodologies, independent appraisals, and Institute models. The Institute regularly monitors the adequacy of these fair value measurements. Fair value measurements derived using specific unobservable quantitative inputs developed by the Institute were not significant for the years ended September 30, 2020 and 2019.

The Institute generally uses net asset value ("NAV") as a practical expedient to determine the fair value of investments in funds that do not have readily determinable fair values and either have certain specific attributes of investment companies or prepare their financial statements consistent with the measurement principles of investment companies. For these funds, NAVs are determined by each fund's general partner or investment manager and are based on appraisals or other estimates that include considerations such as the cost of the fund's securities, prices of recent significant placements of securities of the same issuer, and subsequent developments concerning the companies to which the securities relate. The fair value of investments valued at NAV as a practical expedient are excluded from the fair value hierarchy.

(Dollars in Thousands)

The following is a summary of the fair value of the Institute's financial instruments according to fair value level or NAV at September 30, 2020 and 2019:

	Level 1	Level 2	Level 3	NAV	2020 Total
September 30, 2020					
Investments:					
Short-term investments	$ 295,037	$ -	$ -	$ -	$ 295,037
Fixed-income securities	104,324	57,778	-	-	162,102
Equity securities	520,904	509,645	40,309	560,363	1,631,221
Alternative investments:					
Alternative securities	-	-	-	912,146	912,146
Private equity	-	-	50,008	573,853	623,861
Real assets	-	585	151,067	195,152	346,804
Derivative assets	450	-	-	-	450
Total investments	$ 920,715	$ 568,008	$ 241,384	$ 2,241,514	$ 3,971,621
Other assets and liabilities:					
Beneficial interests	$ -	$ -	$ 27,077	$ -	$ 27,077
Defined contribution plan assets	48,921	33,368	33,170	-	115,459
Defined contribution plan liabilities	(48,370)	(33,271)	(33,134)	-	(114,775)
Interest rate swap	-	(76,091)	-	-	(76,091)

	Level 1	Level 2	Level 3	NAV	2019 Total
September 30, 2019					
Investments:					
Short-term investments	$ 348,320	$ -	$ -	$ -	$ 348,320
Fixed-income securities	29,138	90,608	-	-	119,746
Equity securities	487,254	300,147	36,798	392,264	1,216,463
Alternative investments:					
Alternative securities	-	-	-	827,156	827,156
Private equity	-	-	56,890	472,047	528,937
Real assets	-	15,312	148,894	214,933	379,139
Derivative assets	6,741	-	-	-	6,741
Total investments	$ 871,453	$ 406,067	$ 242,582	$ 1,906,400	$ 3,426,502
Other assets and liabilities:					
Beneficial interests	$ -	$ -	$ 29,639	$ -	$ 29,639
Defined contribution plan assets	41,625	29,756	32,622	-	104,003
Defined contribution plan liabilities	(41,173)	(29,672)	(32,587)	-	(103,432)
Interest rate swap	-	(62,530)	-	-	(62,530)

The fair value of assets held in trust for postretirement benefit plans, as disclosed in Note J, is excluded from the tables above.

(Dollars in Thousands)

At September 30, 2020 and 2019, additional detail regarding the Institute's investments valued using NAV by major investment category was as follows:

	Fair Value	Unfunded Commitments	Normally Allowable Redemption Frequency	Redemption Notice Period in days	Lives in years
September 30, 2020					
Equity securities:					
Quarterly or less	$ 171,689	$ -	Quarterly or less	60 to 180	-
Greater than quarterly	388,159	-	Annually to triennially	60 to 120	-
Not actionable	515	-	Not actionable	-	-
Alternative investments:					
Alternative securities					
Quarterly or less	197,354	-	Quarterly or less	30 to 150	-
Greater than quarterly	465,556	-	Semi-annually to triennially	60 to 180	-
Not actionable	249,236	161,961	Not actionable	-	up to 16
Private equity					
Greater than quarterly	26,501	719	Every four years	270	-
Not actionable	547,352	199,372	Not actionable	-	up to 10
Real assets	195,152	140,583	Not actionable	-	up to 12
Total	$ 2,241,514	$ 502,635			

	Fair Value	Unfunded Commitments	Normally Allowable Redemption Frequency	Redemption Notice Period in days	Lives in years
September 30, 2019					
Equity securities:					
Quarterly or less	$ 71,871	$ -	Quarterly or less	90 to 180	-
Greater than quarterly	320,393	-	Annually to triennially	60 to 120	-
Alternative investments:					
Alternative securities					
Quarterly or less	154,091	-	Quarterly or less	60 to 90	-
Greater than quarterly	447,855	-	Semi-annually to triennially	60 to 180	-
Not actionable	225,210	147,415	Not actionable	-	up to 16
Private equity					
Greater than quarterly	10,694	8,503	Every four years	270	-
Not actionable	461,353	187,594	Not actionable	-	up to 10
Real assets	214,933	125,205	Not actionable	-	up to 12
Total	$ 1,906,400	$ 468,717			

(Dollars in Thousands)

In addition to the unfunded commitments noted above, at September 30, 2020 and 2019, the Institute was committed to invest an additional $34,569 and $38,396, respectively, in investments classified within the fair value hierarchy over approximately the next ten years. All such investment commitments are expected to be funded from existing or forecasted investment assets.

The methods described above may produce fair value calculations that might not be indicative of net realizable value or reflective of future fair values and do not include potential transaction costs or discounts or premiums, if any. Alternative investments may not be readily marketable or redeemable, and may contain penalties for early withdrawal from the related funds. Furthermore, while the Institute believes its valuation methods are appropriate and consistent with those of other market participants, the use of different methodologies and/or assumptions to determine fair values of certain financial instruments could result in different estimates of fair value.

The following table is a summary of changes in the fair values of the Institute's Level 3 assets for the years ended September 30, 2020 and 2019:

	Beginning Balance	Gifts and Purchases	Sales and Maturities	Realized Gain/(Loss)	Unrealized Gain/(Loss)	Ending Balance
September 30, 2020						
Investments:						
Equity securities	$ 36,798	$ 2,847	$ (205)	$ (4,622)	$ 5,491	$ 40,309
Alternative investments:						
Private equity	56,890	262	(12,680)	10,905	(5,369)	50,008
Real assets	148,894	4,966	(6,753)	49	3,911	151,067
Total investments	$ 242,582	$ 8,075	$ (19,638)	$ 6,332	$ 4,033	$ 241,384
Other assets:						
Beneficial interests	$ 29,639	$ 11,420	$ (13,849)	$ -	$ (133)	$ 27,077
Defined contribution plans	32,622	3,908	(4,143)	-	783	33,170

	Beginning Balance	Gifts and Purchases	Sales and Maturities	Realized Gain/(Loss)	Unrealized Gain/(Loss)	Ending Balance
September 30, 2019						
Investments:						
Equity securities	$ 35,053	$ 5,000	$ (92,034)	$ 74,491	$ 14,288	$ 36,798
Alternative investments:						
Private equity	53,360	-	(239)	-	3,769	56,890
Real assets	164,833	8,065	(18,827)	959	(6,136)	148,894
Total investments	$ 253,246	$ 13,065	$ (111,100)	$ 75,450	$ 11,921	$ 242,582
Other assets:						
Beneficial interests	$ 32,114	$ 5,832	$ (8,722)	$ -	$ 415	$ 29,639
Defined contribution plans	30,621	2,564	(1,511)	-	948	32,622

The Institute classifies defined contribution plan liabilities in the fair value hierarchy based upon the investments of the related plan assets. Accordingly, liabilities classified within Level 3 approximate the value of plan investments that also are classified within Level 3, and increase or decrease in value according to contributions, withdrawals, vesting, and investment performance.

The Institute records transfers into the fair value hierarchy and/or between levels therein in the current fiscal year when there is a change in circumstances that affects the liquidity of the assets and/or the ability to observe and measure the fair value. The Institute records such transfers based on the market value at the beginning of the reporting period. During the years ended September 30, 2020 and 2019, there were no material transfers in or out of Level 3. During the years ended September 30, 2020 and 2019, there were transfers of $0 and $127,143, respectively, into Level 2 from the NAV classification. All of these transfers are included in Gifts and Purchases in the tables above.

During the years ended September 30, 2020 and 2019, unrealized losses of $173 and unrealized gains of $523, respectively, related to Level 3 assets were recorded in the non-operating line item “Gifts and pledges” in the statement of activities. All other realized and unrealized gains related to Level 3 investments were recorded in the non-operating line item “Investment return in excess (deficit) of endowment spending” in the statement of activities. Unrealized gains included in the statements of activities related to those Level 3 assets held at September 30, 2020 and 2019 were $7,477 and $12,221, respectively.

The Institute uses an interest rate swap to manage the interest rate exposure of a portion of its variable rate debt. The value of the interest rate swap depends upon the contractual terms of, and specific risks inherent in, the instrument, as well as the availability and reliability of observable inputs. The interest rate swap is valued using observable inputs, such as quotations received from counterparties, dealers, or brokers, market prices for reference securities, credit curves, and assumptions for nonperformance risk, whenever available and considered reliable, and is therefore classified in Level 2 of the fair value hierarchy.

(Dollars in Thousands)

During the years ended September 30, 2020 and 2019, the Institute used exchange-traded equity derivatives and foreign currency derivatives, including put and call options, to manage its market and currency exposures related to certain equity investments. Balances and activities related to equity and foreign currency derivatives for the years ended September 30, 2020 and 2019 were as follows:

	2020			2019
	Equity	Foreign Currency	Total	Total
Investments:				
Gross derivative assets	$ -	$ 450	$ 450	$ 6,741
Gross derivative liabilities	-	-	-	-
Derivatives, net	$ -	$ 450	$ 450	$ 6,741
Notional value: assets	$ -	$ 50,000	$ 50,000	$ 50,000
Notional value: liabilities	-	-	-	-
Investments pledged	-	-	-	-
Investment return:				
Net income/expense	$ 468	$ -	$ 468	$ -
Realized gain/(loss)	706	4,020	4,726	35
Unrealized gain/(loss)	-	(5,196)	(5,196)	3,313
Net investment return	$ 1,174	$ (1,176)	$ (2)	$ 3,348

L. Contingencies and Commitments

Contingencies

The Institute receives funding or reimbursement from agencies of the United States government for various activities that are subject to audit, and is a defendant in various legal actions incident to the conduct of its activities. Except as specifically discussed below, management does not expect that liabilities, if any, related to these audits or legal actions will have a material impact on the Institute's financial position. However, the settlement of audits or legal actions is subject to inherent uncertainties, and it is possible that such liabilities, if any, will differ materially from management's current expectations.

In 1997, the Institute was named as a potentially responsible party ("PRP") by NASA under the Comprehensive Environmental Response, Compensation, and Liability Act, as amended. As a PRP, the Institute may be jointly liable for contribution towards clean-up costs of the NASA/JPL Superfund site, estimated to be in excess of $100,000. Officials of the Institute presently are not able to predict the impact, if any, that final resolution of this matter will have on the Institute's financial position or changes in its net assets. However, the Institute believes that it will have recourse to the United States government for any liabilities it may incur in connection with being named a PRP for that site.

(Dollars in Thousands)

Commitments
The Institute was committed under certain construction and services contracts in the amounts of approximately $111,483 and $174,062 at September 30, 2020 and 2019, respectively.

The Institute is a member of an international consortium that was organized to construct and operate an advanced telescope. In addition to the above, at September 30, 2020 and 2019, the Institute was committed to provide cash totaling approximately $47,000 and $49,000, respectively, to the consortium over approximately the next two years. Payments and other transfers related to this commitment are subject to certain contingencies.

The Institute's workers' compensation insurance carrier requires that the Institute maintain an unsecured letter of credit for claims that do not exceed certain deductible amounts. At September 30, 2020 and 2019, the amounts of the letter of credit facility were $8,694 and $8,093, respectively. The letter of credit was not used during the years ended September 30, 2020 and 2019, and therefore no liability has been recorded in the balance sheets.

The Institute is currently providing funding for the operation of certain local water treatment facilities, subject to reimbursement from NASA. Current annual costs are not expected to exceed $9,000. The expected duration of such annual payments is not determinable.

The Institute leases equipment and buildings, primarily for JPL, under operating leases expiring at various dates through 2024. Rent expense incurred under operating lease obligations was $5,350 and $6,257 for the years ended September 30, 2020 and 2019, respectively.

At September 30, 2020, future minimum payments under operating leases of greater than one year in duration were as follows:

Year Ending September 30	Amount	
2021	$	2,851
2022		2,126
2023		1,159
2024		-
2025		-
Total	$	6,136

Approximately $6,065 of the future minimum lease payments listed above is expected to be recoverable from NASA under the Institute's cost-reimbursable contract with NASA.

The Institute rents housing, equipment, and building space to students, faculty, and other organizations under operating leases expiring at various dates through 2025. Rental income under operating leases was $3,768 and $3,510 for the years ended September 30, 2020 and 2019, respectively.

(Dollars in Thousands)

At September 30, 2020, minimum future rental revenues from operating leases of greater than one year in duration were as follows:

Year Ending September 30		Amount
2021	$	3,591
2022		3,100
2023		3,066
2024		2,894
2025		2,614
Total	$	15,265

M. Supplemental Cash Flow Information

The following are additional supplemental disclosures related to the statements of cash flows:

		2020		2019
Cash paid during the year for interest, net of amounts capitalized	$	55,413	$	42,264
Income and excise tax paid		1,861		1,443
Non-cash investing and financing activities:				
Securities received to satisfy pledge payments		14,280		15,346
In-kind receipt of securities, property, plant, and equipment		18,851		11,431
Increase/(decrease) in accrued purchases of property, plant, and equipment		8,150		(4,580)
Decrease in net amounts receivable for pending investments transactions		6,312		21,797

N. Subsequent Events

Subsequent events were evaluated through January 27, 2021, which is the date the financial statements were issued.